NEXTera ENERGY SEABROOK

December 6, 2010

Docket No. 50-443

Docket No. 72-63

SBK-L-10215

United States Nuclear Regulatory Commission
Attn.: Document Control Desk
Washington, D.C. 20555-0001

Seabrook Station
Emergency Response Manual, Revision 119 and Radiological Emergency Plan, Revision 59

Enclosed are the Seabrook Station Emergency Response Manual (SSER), Revision 119 and the Seabrook Station Radiological Emergency Plan (SSREP), Revision 59. The changes contained in these revisions were reviewed per the criteria of 10CFR50.54(q) and determined to not decrease the effectiveness of the SSREP. The SSREP continues to meet the standards of 10 CFR 50.47(b) and 10 CFR 50, Appendix E. These changes are submitted per the requirements of 10 CFR 50, Appendix E, 10 CFR 50.4 and 10 CFR 72.44(f). The Resident Inspector copy is provided directly through the NextEra Energy Seabrook, LLC records management system.

Enclosure 1 is a summary of changes to the SSER and SSREP. Enclosure 2 provides copies of the revised manuals.

Should you have any questions regarding the enclosed revisions, please contact me at (603) 773-7745.

Sincerely,

NextEra Energy Seabrook, LLC

Michael O'Keefe

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Licensing Manager

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Enclosure 1 to SBK-L-10215
Summary of Changes

Seabrook Station Emergency Response Manual (SSER) Revision 119

Procedure ER 1.1, Classification of Emergencies, Rev. 49

- In §1.1, Discussion, added a paragraph to clarify the expectation that for initiating conditions that specify the duration of the off-normal condition (e.g., 15 minutes), an emergency declaration is required when the time threshold for the off-normal condition is exceeded. An additional 15 minutes is not allowed for assessment of the condition. (AR#215364)

- In §1.1, Discussion, in the paragraphs pertaining to undeclared events, revised the instructions for reporting an unclassified event to the NRC to read "within 1 hour of the discovery of the undeclared event" to be consistent with the NRC reporting guidance in NUREG-1022. (AR#218018).

- In Figure 1, Initiating Conditions SU1, SA5, SS1, CU3 & CA3, added a note to evaluate ICs SU3, SA4 and SS6 if approximately 75% or more of UA annunciators, MCB indications and/or radiation monitor indications are lost. (AR#393422)

- In Figure 1, Initiating Condition SA5, in the NOTE, 3rd bullet, changed the name of the Tewkesbury 345 KV line to Ward Hill/Amesbury. (AR#580867)

Procedure ER 1.2, Emergency Plan Activation, Rev. 55

- In §1.1, Discussion, added guidance (4th, 5th and 6th paragraphs) concerning notification of the states for events that escalate from a lesser emergency classification to a higher emergency classification before notifications to the states can be completed for the lesser (first) emergency declaration. The added guidance is taken from NRC Regulatory Issue Summary 2007-02.

Procedure ER 2.0, Emergency Notification Documentation Forms Procedure, Rev. 33

- On Figure 2, moved the NOTE re: entering time notification is initiated to precede step 7 where it is positioned immediately prior to contact with the offsite warning points. (AR#220968)

- In §5.0, Actions, deleted §5.2 instructions for using 3 part speed messages because they are no longer available and have been replaced by capability to use e-mail via the LAN.

- On form ER 2.0E updated state agency initials.

Procedure ER 3.1, Technical Support Center Operations, Rev. 49

- On form ER 3.1S, Operations Technician Checklist, added guidance on how to obtain via SDS information on containment spray and filter status and on steam flow rate that may be requested by dose assessment personnel in the TSC. (AR#571247)

- On form ER3.1D made minor corrections.

Procedure ER 3.2, Operational Support Center Operations, Rev. 44

- On Figure 1, OSC Staffing Chart, added positions of Mechanical/Valve Maintenance Work Planner and Electrical Maintenance/I&C Work Planner. (AR#004611).

- On Figure 4, OSC Tagboard Assignments, corrected the order of actions for RP Technician #1, revised the Chemistry Technician #1 actions to correspond better to PASS sample procedures, and added place keeping spaces on the figure. Removed references to specific brand of radiation monitor extender. AR#215219 and AR#216597)

- On form ER 3.2B, Radiological Controls Coordinator Checklist, revised the NOTE re: location of radios for use outside of the PA to identify their location in the Assembly Area. Also changed reference to location of the radios in Figure 6, §B.1. (AR#219941)

- On form ER 3.2C, revised the Chemistry Coordinator Checklist to add references to applicable Chemistry Department procedures and to address various WRGM operational and contingency actions. (AR#392135)

- On form ER 3.2E, added guidance to the Technical Specialist Coordinator Checklist for providing direction to the new OSC Work Planner positions. (AR#004611)

Procedure ER 3.3, Emergency Operations Facility Operations, Rev. 46

- In Figures 1 and 2, and throughout the procedure, replaced references to AREVA radiological support services personnel with Radiation Safety & Control Services (RSCS) support personnel for purposes of providing environmental sample analysis capability in the EOF. (AR#571263)

- On form ER 3.3D, Response Manager Checklist, reordered §1 activation steps to facilitate timely activation of the EOF. (AR#3220062)

- On form ER 3.3F, Dose Assessment Specialist, replaced references to AREVA with RSCS support for environmental sample analysis and added a new §7 titled Environmental Sample Analysis that contains guidance for designating laboratories for sample analysis and for notifying GEL Labs if needed for augmented sample analysis. (AR#571263)

Procedure ER 3.3, Emergency Operations Facility Operations, Rev. 46 (Continued)

- On form ER 3.3H, Technical Assistant, added a step 2.d under §2 Accident Assessment that alerts the Technical Assistant to potential requests for containment spray status, status of plant vent filters, and steam flow and refers to guidance in ER 3.3LL for obtaining this information. (AR#571247)

- On form ER 3.3H, Technical Assistant, deleted action to assign Training Center Staff to manually start the EOF diesel if a power outage occurs. (AR#218978)

- On form ER 3.3I, Offsite Monitoring Coordinator, revised environmental sampling guidance in §2.ii to replace references to AREVA Westborough Lab with GEL Labs and added guidance to §4, Environmental Sample Analysis, for segregating samples in accordance with preparation requirements for shipping and for arranging for transport of samples to GEL Labs. (AR#571263)

- On form ER 3.3K, Radiological Assistant, added new steps d. and m. to §3, Radiation/Contamination Controls, that directs posting a restricted area sign on the exterior door next to Emergency Services Room and informing Security when release conditions require full implementation of contamination controls for the EOF and requesting a public address announcement of implementation of the contamination controls. (AR#222758)

- On form ER 3.3K, §5, changed references to AREVA radiological analysis support in the EOF to RSCS and added guidance in §6, Environmental Sample Preparation, for segregating samples for designated laboratory analysis and for shipping preparation requirements. Changed references to AREVA Westborough Lab to GEL Labs. (AR#571263)

- On form ER 3.3L, Administrative Services Coordinator, replaced references in §4. step a (1) to AREVA support personnel with RSCS support personnel (2nd shift staffing). (AR#571263)

- On form ER 3.3M, ERO Staff Planning, added to the list of OSC positions Work Planner – Mechanical/Valve Maintenance and Work Planner – Electrical/I&C Maintenance. (AR#4622)

- On form ER 3.3R, Industry Liaison, §2 replace references to AREVA with RSCS, provide direction to confirm deployment of RSCS support personnel to the EOF and, at request of the Dose Assessment Specialist, to contact GEL Labs and make arrangements for receipt of environmental samples. (AR#571263)

- On form ER 3.3W, EOF Support Staff, corrected obsolete references (e.g., NHBEM).

Procedure ER 3.3, Emergency Operations Facility Operations, Rev. 46 (Continued)

- On form ER 3.3AA, Material and Logistics Coordinator, corrected references (e.g., FPL).
- On form ER 3.3DD, Dosimetry Records Personnel, replaced references to AREVA TLD support services to Mirion Technologies Dosimetry Services Division (GDS) and in step 2.e.(3)(c) added guidance to use PADS if applicable (e.g., contractors) to determine current year exposure for personnel who may have been monitored by other plant programs. (AR#216054)
- On form ER 3.3KK, ERO Technical Liaison, updated title references (Seabrook Station State EOC Technical Representative to State EOC Technical Liaison, MEMA Nuclear Engineer to MEMA Nuclear Preparedness Manager). (AR#572010)
- On form ER 3.3LL, Training Center Staff, added to §2, Accident Assessment, new step i with guidance for obtaining via SDS information for dose assessment staff on status of containment sprays, status of plant vent filters, and steam generator steam flow data. (AR571247)

Procedure ER 3.5, Media Center Operations, Rev. 32

- In §2.2, §5.5, Figure 6, form ER 3.5E and form ER 3.5F, added qualifying statements concerning briefing outlines indicating that they would be prepared only if requested by the Emergency News Manager for reference during media briefings. In Figure 9, Media Center Document Distribution Matrix, removed distribution requirements for briefing outlines.
- In Figure 8, Media Monitoring Checklist, added a sentence to record on a continuous basis the selected stations via the Media Monitoring System for the duration of the event. (AR#216885).
- Throughout, corrected references to position titles and agency names.
- On form ER 3.5F, Media Center Support Staff Checklist, added a caution statement prior to the step to update the Employee Information Line to emphasize that the Employee Information Line message is different from the Information/Media Line message in that it is intended to provide information and instructions to Seabrook Station employees only.

Enclosure 1 to SBK-L-10215
Summary of Changes

Procedure ER 5.2, Site Perimeter and Offsite Monitoring and Environmental Sampling, Rev. 38

- In §5.1.2 and §5.1.3 consolidated pre-deployment actions from form ER 5.2A and simplified ER 5.2A entries. (AR#219241)
- In §5.1.2.3, corrected reference to supplemental material for conducting radio checks.
- On forms ER 5.2C and ER 5.2D, corrected entry items. (AR#219241)
- On form ER 5.2E, replaced the AREVA sample submission form with the GEL Labs form and revised Figure 2 instructions for completing the form accordingly. (AR#571263)

Procedure ER 5.3, Operation of the Raddose-V, Rev. 28

- Added a new precaution 3.20 that says that if a radiation monitor goes into alarm between the times the 15-minute average printouts are available, the user can enter manually the monitor data obtained from the MPCS. (AR#527003)In §4.0, identified the steam generator MSLs (A & B) that feed the turbine driven EFW pump. (AR#393055)
- In §5.2, Network Data Entry, in the NOTE preceding step 7, added a statement that says the user should monitor MPCS release data and manually enter data that may differ from the Network entry to ensure the accurate PAR is obtained. (AR#393055)
- On Figure 1, corrected reference to T drive to read P:/Saved Raddose Data. (AR#219941)
- On Figure 2, added instructions for using the GRAB sample method, incorporated flow rate for waste gas system fan and referenced the instructions in appropriate steps of forms ER 5.3A, 5.3B, 5.3C, 5.3D, 5.3E, 5.3F and 5.3G. (AR#571247)
- On forms ER 5.3A, 5.3C, 5.3D, 5.3E, and 5.3G, added to the NOTE preceding step 4, added direction for TSC users on how to obtain status of containment sprays and filters.(AR#393055)
- On form ER 5.3D, Unmonitored Release Data Entry Actions, added a CAUTION statement that if the release is via the waste gas system to select YES for sprays running. (AR#393055)

Procedure ER 5.4, Protected Action Recommendations, Rev. 32

- On form ER 5.4A, made listing of ERPAs and Beaches consistent with listing of ER 2.0B. (AR 222060)

Procedure ER 5.7, Initial Offsite Dose Projection, Rev. 33

- In §3.0, Precautions, added a new precaution 3.4 that informs the user that the preferred MPCS and RDMS data are 15-minute averages and that if a monitor alarms between the times 15-minutes average data reports are available the user should manually enter the value from the monitor in alarm. (AR#527003)

- In §4.0, identified the steam generator MSLs (A & B) that feed the turbine driven EFW pump. (AR#393055)

- In §5.1, Network Data Entry, in the NOTE preceding step 9 that directs the user to enter a release time at least 15 minutes prior to the time release prerequisites are met, added a statement that says the user should monitor MPCS release data and manually enter data that may differ from the Network entry to ensure the accurate PAR is obtained. (AR#393055)

- In §5.2, clarified action steps and corrected the directions and order of steps 23 through 25. (AR#527003).

- On forms ER 5.7A, 5.7C, 5.7D, 5.7E, and 5.7G, added to the NOTE preceding step 4, added direction for TSC users to obtain status of containment sprays and filters from the Operations Technician.(AR#393055)

- On form ER 5.7D, Unmonitored Release Data Entry Actions, added a CAUTION statement that if the release is via the waste gas system to select YES for sprays running. (AR#393055)

- On form ER 5.7F, Steamline Release Manual Data Entry Actions, added to the NOTE preceding step 3 that references SDS data that RDMS data may also be used, but the nomenclature will be different. Also clarified several action steps on form ER 5.7F. (AR#527003)

Procedure ER 6.0, Recovery Planning, Rev. 02

- Revised procedure to reference NextEra Energy resources in lieu of FPL resources.

Seabrook Station Radiological Emergency Plan, Revision 59

- In §2, Definitions, deleted description of AREVA as a provider of radiological support services in the EOF and added a description of Radiation Safety & Control Services (RSCS) and GEL Laboratories as contracted services for analysis of environmental samples.

- In §3, Radiological Emergency Plan Summary, deleted reference to AREVA as provider of radiological services in the EOF and added reference to RSCS for analysis of environmental samples in the EOF.

- In §4, The Area, replaced references to FPL with NextEra Energy.

- In §6, Emergency Facilities and Equipment, re-titled §6.1.4 from AREVA NP to Support for Radiological Analysis of Environmental Samples and replaced the description of AREVA radiological support services with descriptions of support provided by RSCS in the EOF and by GEL Laboratories for augmented environmental sample analysis services.

- In §9.0. Emergency Response Outline, replaced reference to AREVA support personnel responding to the EOF at an Alert or higher emergency classification with reference to RSCS personnel response to the EOF at an Alert or higher emergency classification level.

- In §10.0, replaced references to support provided by AREVA Environmental Lab with references to GEL Labs and Mirion Technologies for radiological services support.

- In §11. Public Information, updated state agency titles.

- In §12, Maintaining Emergency Preparedness, replaced reference to AREVA as a support organization and replaced it with reference to RSCS.

- In §12, changed the description of the requirement for SORC review of changes to emergency plan implementing procedures and replaced with the requirement for review of emergency plan implementing procedures per the Station Qualified Reviewer program. SORC review is retained for changes to the Radiological Emergency Plan (SSREP).

- In Appendix A, added position descriptions for a Mechanical/Valve Maintenances Work Planner and for an Electrical Maintenance/I&C Work Planner.

- In Appendix D, incorporated updated the emergency preparedness letter of agreement between the State of New Hampshire, Commonwealth of Massachusetts and NextEra Energy Seabrook and renewed leases with PSNH for the EOF at Newington Station and the remote monitoring and decontamination facility at Schiller Station.

Enclosure 2 to SBK-L-10215

TIBCK02

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CHANGE INSTRUCTIONS

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SEABROOK STATION

PROGRAM MANUAL

Seabrook Station
Radiological Emergency Plan

Approved: _____

Site Vice President

SSREP
Rev. 59

Manual Owner:
D. Currier

SEABROOK STATION
RADIOLOGICAL EMERGENCY PLAN
(SSREP)

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2.0 DEFINITIONS

Alert - Events are in process or have occurred which involve an actual or potential substantial degradation in the level of safety of the plant or a security event that involves probable life threatening risk to site personnel or damage to site equipment because of HOSTILE ACTION. Any releases are expected to be limited to small fractions of the E PA Protective Action Guideline exposure levels.

Assembly Area - The Assembly Area for backup response personnel and maintenance technicians is located in the Seabrook Station Conference Center at the rear of Warehouse #1. Personnel reporting to this facility include White Team and Blue Team ERO secondary responders and maintenance technicians. This facility would be activated only during the period from 0700 to 1630, Monday through Friday, except during planned outages when it would be opened on any shift. Activation is required at an Alert or higher emergency classification level.

Assessment Actions - Actions which are taken to effectively define the emergency situation necessary for decisions on specific emergency measures.

Backup Responders - Personnel who do not initially report to an emergency response facility but are available for subsequent staffing duties (e.g., second shift). They include all White and Blue Team personnel. During a daytime plan activation, these personnel report to the Assembly Area.

Blue Team - The pre-assigned group of responders that are available to fill staffing deficiencies in the Red or White Teams.

Committed Dose Equivalent (CDE) - The dose equivalent to an organ from an intake of radioactive material during the 50 year period following the intake.

Committed Effective Dose Equivalent (CEDE) - The sum of the products of the weighting factors applicable to each of the body organs that are irradiated and the CDE to these organs.

Corrective Actions - Emergency measures taken to ameliorate or terminate an emergency situation.

Deep Dose Equivalent (DDE) - The external dose equivalent to the whole body at a tissue depth of 1 cm.

Dose - A general term referring to the quantity of absorbed energy in tissue. In the SSREP, dose is used for irradiation of the whole body, unless otherwise indicated.

Dose Equivalent (DE) - The product of absorbed dose in tissue and the quality factor.

Emergency Action Level (EAL) - A pre-determined, site-specific, observable threshold for an Initiating Condition that places the Station in a given emergency class.

Emergency Classifications - One of a minimum set of names or titles, established by the Nuclear Regulatory Commission (NRC), for grouping off-normal nuclear power plant conditions according to (1) their relative radiological seriousness, and (2) the time-sensitive onsite and off-site radiological emergency preparedness actions necessary to respond to such conditions. The radiological emergency classes, in ascending order of seriousness, are as follows:

- Unusual Event
- Alert
- Site Area Emergency
- General Emergency

Emergency Operating Centers (EOCs) - Areas designated by the State and local authorities as Emergency Plan facilities for their respective staffs.

Emergency Operating Procedures - The outline of specific corrective actions to be taken by Station operators in response to abnormal operating conditions.

Emergency Operations Facility (EOF) - A center established at the Newington Generating Station where Seabrook Station emergency management directs the actions of the emergency response organization, coordinates the evaluation of offsite radiological conditions with offsite authorities, arrives at protective action recommendations, and establishes a recovery organization.

Emergency Planning Zones (EPZ) - The areas for which planning is recommended to assure that prompt and effective actions can be taken to protect the public in the event of an accident. The two zones are the plume exposure pathway zone (about 10 miles in radius) and the ingestion exposure pathway zone (about 50 miles in radius).

Emergency Response Organization (ERO) - The Seabrook Station personnel assigned and trained to implement this emergency plan.

Emergency Response Procedures - Procedures that outline specific actions to be taken by the Seabrook Station ERO to activate and implement this emergency plan. These procedures are contained in the Station Emergency Response Manual (SSER).

GEL Laboratories – A contracted service for emergency environmental sample analysis.

General Emergency - Events are in process or have occurred which involve actual or imminent substantial core degradation or melting with potential for loss of containment integrity or HOSTILE ACTION that results in an actual loss of physical control of the facility. Releases can be reasonably expected to exceed EPA Protective Action Guideline exposure levels offsite for more than the immediate site area.

HOSTILE ACTION - An act toward a nuclear power plant or its personnel that includes the use of violent force to destroy equipment, take hostages, and/or intimidate the licensee to achieve an end. This includes attack by air, land, or water using guns, explosives, projectiles, vehicles, or other devices used to deliver destructive force. Other acts that satisfy the overall intent may be included. HOSTILE ACTION should not be construed to include acts of civil disobedience or felonious acts that are not part of a concerted attack on the nuclear power plant. Non-terrorism-based EALs should be used to address such activities (e.g., violent acts between individuals in the owner controlled area).

HOSTILE FORCE - One or more individuals who are engaged in a determined assault, overtly or by stealth and deception, equipped with suitable weapons capable of killing, maiming, or causing destruction.

Ingestion Exposure Pathway - The pathway in which individuals receive a radiation dose due to internal deposition of radioactive materials from ingestion of contaminated water, foods, or milk.

Initiating Condition - One of a predetermined subset of nuclear power plant conditions where either the potential exists for a radiological emergency or such an emergency has occurred.

Media Center - A facility where news media representatives can obtain emergency news information.

NextEra Energy Seabrook, LLC– Managing agent of Seabrook Station.

Non-essential Personnel - Onsite personnel who are not assigned to the Seabrook Station ERO. These personnel are evacuated from the site at an Alert or higher emergency classification.

Operational Support Center - An emergency center established for the assembly and dispatch of available skilled emergency personnel (e.g., additional Station operations and support personnel) in support of onsite emergency operations.

Plume Exposure Pathway - The pathway in which individuals receive a radiation dose due to (a) whole body external exposure due to gamma radiation from the plume and from deposited material, and (b) inhalation exposure from the passing radioactive plume.

Primary Responders - The eight ERO positions that are staffed on a rotating duty basis. These positions are notified by pager and the RapidNotify emergency notification service, respond to any emergency, and include the Site Emergency Director, Operations Technician, Technical Services Coordinator, Health Physics Coordinator, Response Manager, EOF Coordinator, ERO Technical Liaison and Emergency News Manager.

Projected Dose - The amount of radiation dose estimated at the onset of the accident. It includes all the dose an individual would receive for the duration of the accident assuming no protective measures were undertaken.

Protective Actions - Emergency measures to be taken by the public to mitigate the consequences of an accident by minimizing the radiological doses that may occur if such actions were not undertaken. Protective actions would be warranted provided the reduction in the individual dose is not offset by excessive risks to individual safety in implementing such actions.

Protective Action Guides (PAG) - Pre-established radiological dose values to the public which warrant protective actions following an uncontrolled release of radioactive material.

Radiation Safety & Control Services (RSCS) – Contracted service that provides radiological analysis of environmental samples at the Seabrook Station Emergency Operations Facility.

RapidNotify Emergency Notification Service - A commercial, computer-based call-out service used to notify Secondary Responders during backshifts, weekends and holidays. RapidNotify is activated by Security personnel when directed by the Control Room.

Recovery Actions - Actions taken once the emergency condition has been controlled in order to restore stable Station conditions.

Red Team - The pre-assigned group of responders who initially report for emergency response duties.

Remote Monitoring and Decontamination Area - This area is located at PSNH's Schiller Station in Newington, NH. Schiller Station is adjacent to PSNH's Newington Station. It will be activated in the event that a radiological release occurs prior to the evacuation of site personnel, and that the prevailing wind conditions at the time make it possible for site evacuees to be contaminated.

Secondary Responders - ERO positions that are not staffed on a rotating duty basis. These positions are activated at an Alert or higher emergency classification. Off-hours notification is accomplished by the RapidNotify emergency notification service. Subject –to-call secondary responders are notified by pager as well as by RapidNotify.

Site - Seabrook Station property situated on a 900-acre tract of land on the western shore of Hampton Harbor in Rockingham County.

Site Area Emergency -Events are in process or have occurred that involve actual or likely major failures in plant functions needed for protection of the public or HOSTILE ACTION that results in intentional damage or malicious acts; (1) toward site personnel or equipment that could lead to the likely failure of or ; (2) prevent effective access to , equipment needed for the protection of the public. Any releases are not expected to result in exposure levels which exceed the EPA Protective Action Guideline exposure levels beyond the site boundary.

Station Emergency Response Manual (SSER) - The manual containing all Emergency Response Procedures.

Subject-to-Call Responders - ERO positions that are not staffed on a rotating basis, are activated at Alert or higher emergency classification levels, and are notified by pager and the RapidNotify emergency notification service to report to their emergency response facilities.

Technical Support Center (TSC) - An in-station emergency center established in close proximity to the Control Room that has the capability to acquire parameters for post-accident evaluation by technical and recovery assistance personnel. Onsite emergency response activities are directed from the TSC.

Total Effective Dose Equivalent (TEDE) - The sum of the deep dose equivalent (DDE) for external exposures and the committed effective dose equivalent (CEDE) for internal exposures.

Unusual Event -Events are in process or have occurred which indicate a potential degradation in the level of safety of the plant or indicate a security threat to facility protection has been initiated. No releases of radioactive material requiring offsite response or monitoring are expected unless further degradation of safety systems occurs.

White Team - The pre-assigned group of responders that are available for second shift duties or to fill staffing deficiencies in the Red Team.

3.0 RADIOLOGICAL EMERGENCY PLAN SUMMARY

3.1 Introduction

The Seabrook Station Radiological Emergency Plan (SSREP) has been developed to ensure the safety of Station staff and the public in the event of degraded or failed Station safety systems. The SSREP identifies the emergency response organization, the planned actions of that organization, and the coordination of activities with local, state and federal agencies. The Station Emergency Response Manual contains emergency response procedures that implement the responsibilities and actions described in the SSREP.

3.2 Station Emergency Response

Once a potential emergency condition has been identified, the Unit Supervisor notifies the Shift Manager. The Shift Manager categorizes the emergency condition into one of four emergency classifications by use of the emergency classification procedure.

Once an emergency has been declared, the Shift Manager assumes the role of Short Term Emergency Director (STED). The STED is responsible for directing activation and notification of the emergency response organization (ERO). The extent of organization and facility activation varies with the severity and classification of the emergency. The STED will insure that an emergency classification announcement is made over the Station public address system and that Primary Responders are notified via a pager system.

The STED will ensure that notifications to New Hampshire and Massachusetts state authorities are initiated within 15 minutes of the emergency declaration. Notification arrangements are shown in Figure 3.1.

During an Unusual Event, the Primary Responders will be notified. Primary Responders are the Site Emergency Director, Operations Technician, Technical Services Coordinator, Health Physics Coordinator, Response Manager, EOF Coordinator, ERO Technical Liaison and Emergency News Manager. (Protected: Ref. NRC Inspection Report 50-443/98-03)

Activation of any emergency response facility at this level is at the discretion of the STED or Site Emergency Director.

Following an Alert or higher emergency declaration, both Primary and Secondary Responders will be notified, and all emergency response facilities are activated. Secondary Responders include the balance of positions within the ERO.

If an Alert or higher emergency is declared during a backshift, weekend or holiday, the STED will direct Security to initiate notification of Secondary Responders via the RapidNotify emergency notification service. Secondary Responders who are subject-to-call personnel will be notified by pager and by RapidNotify.

The Technical Support Center (TSC) will be staffed by personnel needed to provide operational and engineering support to control room personnel. The Operational Support Center (OSC) is the location from which support personnel such as maintenance, health physics, operations, chemistry, instrumentation and control, and radwaste operations are dispatched to implement actions directed by the TSC. The Emergency Operations Facility (EOF) serves as the location where offsite consequences of the accident are assessed. At the EOF, dose projections will be made, field monitoring teams will be dispatched, and protective action recommendations made to state authorities. This location also serves as the headquarters for the recovery organization. The Media Center serves as the facility where joint utility, state and federal press briefings will be coordinated and held to assure timely and complete accident information is made available to the public via the news media.

Personnel support for radiological analysis of environmental samples will be provided to the Seabrook Station EOF from Radiation Safety & Control Services (RSCS).

The following response arrangements apply only in the event that an Alert or higher emergency is declared during an outage, i.e., the Station is in Modes 5 or 6. The goal is to keep key outage personnel readily available to return inoperable systems to service if the availability of those systems would lessen or terminate the emergency conditions.

1. Due to their outage assignments, some Seabrook Station personnel may not be readily available to report for their respective Emergency Response Organization (ERO) assignments. Depending upon which is more effective, these individuals may be directed to respond to the emergency in either their ERO role or outage assignment role.

2. Provided he or she has the necessary ERO qualifications, the on-duty Outage Control Center (OCC) Manager will assume the position of Site Emergency Director.

3. All non-ERO personnel with outage assignments, including outage workers who are not Seabrook Station employees, will assemble in the Seabrook Station Conference Center.

4. The onshift Outage Coordinator will confer with the Technical Services Coordinator concerning the status of outage-related work and what jobs, if any, will be resumed. The Outage Coordinator will continue to interface primarily with the Technical Services Coordinator.

5. The onshift Outage Coordinator will dispatch an outage management representative to the Seabrook Station Conference Center. This individual will ensure that an accountability listing is generated for the assembled personnel. Personnel needed to resume outage-related work will be directed to proceed to the OSC (or the work scene) and all others to evacuate the site.

6. Following emergency termination or declaration of Recovery, the OCC Manager will coordinate with the Site Emergency Director (if not the OCC Manager) and the Response Manager to determine the ways to communicate return-to-work instructions to outage workers (e.g., press release, vendor site managers, etc.).

In the event an emergency classification is declared based on a security event, actions will be taken per other station procedures maintained in compliance with NRC security orders. These actions may deviate from actions prescribed for radiological emergencies that are not related to security events in order to protect the health and safety of station personnel and the public. Deviations for security related events may affect the call-out of emergency response personnel, method of offsite notifications, timing and extent of emergency facility activation, directions provided to station personnel, conduct of personnel accountability, and responses of federal, state and local support organizations.

As warranted by emergency conditions and by agreement with offsite authorities, a recovery organization will be established to conduct recovery operations. Reentry into offsite areas which had been subject to radiological effects will be coordinated between the recovery organization and offsite authorities. Public information releases regarding reentry will also be coordinated.

3.3 Local and State Government Responses

The SSREP is designed to interface with the state emergency response plans and implementing procedures of Massachusetts and New Hampshire. Local governments, in coordination with the emergency management agencies of these states, have plans which, should the need arise, contain instructions to carry out specific protective measures, dependent upon various emergency conditions.

Seabrook Station is responsible for determining and conveying specific accident information, dose assessment information and protective action recommendations to the State of New Hampshire and Commonwealth of Massachusetts. It is the responsibility the States to evaluate this information, and then determine and implement appropriate protective actions in accordance with their plans and procedures. The local governments will provide the resources needed to implement these actions. Should local resources be exhausted or additional resources needed to accomplish actions in a timely manner, state governments will provide any additional support needed.

3.4 Federal Government Response

Once notified of an emergency, the NRC will evaluate the situation and determine the appropriate NRC response. Depending on the severity of the accident, the NRC will activate all or part of the federal emergency response organization in accordance with the National Response Framework, Nuclear/Radiological Incident Annex (NRF). The NRF makes available the resources and capabilities of numerous federal agencies. Principal participants will be the NRC, Department of Energy, Environmental Protection Agency and Department of Homeland Security. Should the federal agencies respond to the site vicinity, they will establish a Federal Radiological Monitoring and Assessment Center to monitor and assess the radiological consequences and a Federal Response Center to coordinate the federal support provided during the emergency. Expected Time of Arrival of the NRC Region I response would be approximately 6 hours.

Expected federal resources are specified in NUREG-0728, Revision 4, NRC Incident Response Plan. NRC Region 1 will deploy resources in accordance with the response modes described in NUREG-0728, Revision 4.

Space is designated for the NRC in the Emergency Operations Facility (EOF) in Newington, NH. FTS-2001 communications links are installed for NRC use in the Technical Support Center and the EOF (see Section 7.2). Four airfields are within a one-hour drive of Seabrook Station and the EOF: Logan Airport, Boston, MA; Manchester-Boston Regional Airport, Manchester, NH; Portland Jetport, Portland, ME; and Pease International Tradeport, Newington, NH.

4.0 THE AREA

4.1 The Site

Seabrook Station is situated on a 900 acre tract of land on the western shore of Hampton Harbor in Rockingham County, near the northern boundary of the Town of Seabrook, New Hampshire. The site is located approximately eight miles southeast of the Exeter, New Hampshire, five miles northeast of Amesbury, Massachusetts, and two miles west of the Hampton Harbor Inlet. The site is bordered on the east by an extensive saltwater marsh and is located on a point of land called "the Rocks," between two small tidal estuaries; the Brown's River and the Hunt's Island Creek. The City of Portsmouth is located approximately eleven miles north of the site while the Boston, Massachusetts metropolitan area is located approximately forty miles south-southwest of the site.

Seabrook Station consists of a four-loop pressurized water reactor. The Station exclusion area can generally be described as a circle of 3000 foot radius, as shown in Figure 4.1, Site Boundaries. All the area within the site boundary is controlled by NextEra Energy Seabrook, LLC.

4.2 Area Characteristics, Land Use and Demography

4.2.1 Area Characteristics

Figure 4.2, Major Routes in 10 Mile Study, shows the major transportation arteries within 10 miles of the site. The location and orientation of principal structures within the site are shown on Figure 4.3, Station Layout. The control of traffic in case of an emergency on those portions of the Brown's River and Hunt's Island Creek that fall within the site boundary comes under the authority of the State of New Hampshire.

A seasonal, overnight and daily transient population during the summer period is associated with the beaches and other recreational facilities in the vicinity of the Seabrook Station. The coastal beaches within 10 miles of Seabrook Station extend from Plum Island beach in Newbury, Massachusetts to Wallis Sands Beach in Rye, New Hampshire. Table 4.1, Summary of Peak Population Estimates of Communities within 0 to 10 Miles of the Site, summarizes peak transient population estimates within 0 to 10 miles of the site.

Information on the location of major medical related facilities, including hospitals and nursing homes, has been compiled for the area within 10 miles of Seabrook Station. Supporting documents to the Massachusetts and New Hampshire Radiological Emergency Response Plans contain listings and populations of medical-related facilities within the Seabrook Station EPZ.

The Pow Wow River State Forest occupies approximately 48 acres in the town of South Hampton, NH, approximately seven miles west of the site. The Parker River National Wildlife Refuge is located in the town of Newbury, Massachusetts, approximately nine miles south of the site, and has a total area of 6,403 acres.

4.2.2 Uses of Adjacent Lands and Waters

The Seabrook Station site is bordered on the north, east and south by marsh land extending to estuaries, streams and Hampton Harbor. The land to the west is characterized as a mix of residential, commercial, industrial and agricultural. Approximately 1.5 percent of the Town of Seabrook is designated as industrial.

Water uses in the area of the plant site are mainly recreational, including the beaches in Salisbury, Seabrook, Hampton, and North Hampton, and boat docks in Hampton Harbor. Boating activity on the Hampton and Black Water Rivers, within a 2-mile radius of Seabrook Station, is concentrated within their lower stretches, in the Hampton Harbor area. Boating activity in the Atlantic Ocean is largely concentrated within two or three miles of Hampton Harbor inlet. Provisions with the U.S. Coast Guard are made by State of New Hampshire authorities to alert and control boating traffic in this area in the event of a radiological emergency at Seabrook Station.

4.2.3 Population Distribution

Data from numerous sources were used in developing distributions and projections of permanent resident and transient populations within 10 miles of the Seabrook Station site. This area includes portions of New Hampshire and Massachusetts. The resident population distribution is shown in Figure 4.4, Resident Population Distribution within a 0 - 10 Mile Radius of Seabrook Station.

During the summer period, a transient population is associated with the beaches and other recreational facilities in the vicinity of Seabrook Station. Figure 4.6 represents an estimate of the peak transient population during summer months within a 0-10 mile radius of Seabrook Station.

4.3 Emergency Planning Zones

In accordance with the requirements specified in 10 CFR 50.33(g), emergency planning zones have been selected based upon the knowledge of the potential consequences, timing and release characteristics of a spectrum of accidents, including core melt scenarios, regardless of their extremely low probability of occurrence. As a result, an emergency planning zone concept was developed, both for the short-term plume exposure and for the longer-term ingestion exposure pathways.

Emergency Planning Zones (EPZs) are defined as the areas for which planning is needed to assure that prompt and effective actions can be taken to protect the public in the event of an accident. The choice of the size of the Emergency Planning Zones represents a judgement on the extent of detailed planning which should be performed to assure an adequate response. Dependent upon the severity of the accident, protective actions will generally be limited to only portions of the designated EPZs, but should the need arise, actions can be undertaken for the entire zone.

In accordance with the recommended planning bases, two EPZs have been defined. The plume exposure pathway EPZ, shown in Figure 4.7, is an area designated by the jurisdictional boundaries of those communities which are within a radial distance of about 10 miles from the Station site. Table 4.4 lists communities in each state that are within the plume exposure pathway EPZ. The size of the zone is based primarily on the following considerations:

1. that the projected doses estimated for most accidents would not exceed plume exposure protective action guide (PAG) levels outside the zone;

2. that detailed planning within this area would provide a substantial base for expansion of response efforts in the unlikely event that this proved necessary; and

3. that planning within this area recognizes all the jurisdictional restraints imposed by the zone designation.

The ingestion exposure pathway EPZ, shown in Figure 4.8, is an area extending radially outward from the Station site to a distance of about 50 miles. The size of the zone is based primarily on the consideration that the downwind range within which significant contamination could occur would generally be limited to this distance because of wind shifts and travel periods. In addition, projected doses from contamination outside this zone would not exceed ingestion exposure pathway Protective Action Guide levels. Precautionary control measures relative to livestock feeds, milk products, garden produce and potable water supplies will be implemented in this area to the extent dictated by the release conditions. The State of New Hampshire will notify the State of Maine to coordinate ingestion exposure pathway emergency response actions.

Table 4.1
Summary of Peak Population
Estimates of Communities within 0 to 10 Miles of the Site

Communities	Summer Weekend
Amesbury	18963
Brentwood	3262
East Kingston	2132
Exeter	15882
Greenland	3405
Hampton	19121
Hampton Beach South	19611
Hampton Falls	2410
Kensington	2112
Kingston	5996
Merrimac	6565
New Castle	1178
Newbury	10829
Newburyport	22055
Newfields	1655
Newton	4475
North Hampton	5892
Portsmouth	24802
Rye	9897
Salisbury	27466
Seabrook	18747
South Hampton	1382
Stratham	6643
West Newbury	4819

NOTE

Figures are derived from 2000 United States Census data, and data compiled by Avis Airmap (July, 1987). These figures are subject to update as part of the continuous planning process.

Table 4.4
Communities within the Seabrook Station
Plume Exposure Pathway Emergency Planning Zone

Communities Involved	Affected by Winds Blowing from
Brentwood, NH	ESE
East Kingston, NH	E-ESE
Exeter, NH	SE
Greenland, NH	S
Hampton, NH	SW-SSE
Hampton Falls, NH	ESE-SE
Hampton Beach, NH	W-WNW
Kensington, NH	ESE-E
Kingston, NH	ESE-E
Newfields, NH	SSE-SE
New Castle, NH	SSW
Newton, NH	E-ENE
North Hampton, NH	S-SSW
Portsmouth, NH	SSW
Rye, NH	SSW
Seabrook, NH	NNW-E
South Hampton, NH	E-ENE
Stratham, NH	SSE-S
Amesbury, MA	ENE-NE
Merrimac, MA	ENE
Newbury, MA	NNE-NNW
Newburyport, MA	N-NNE
Salisbury, MA	ENE-NNW
West Newbury, MA	NNE-NE

6.0 EMERGENCY FACILITIES AND EQUIPMENT

Following the declaration of an emergency, the activation of the Emergency Response Organization (ERO) will be accomplished within a number of dedicated emergency facilities. Figure 4.3 indicates the relative locations of Station facilities within the site. Figure 6.1 represents the locations of offsite support organization emergency operations centers relative to the Seabrook Station site. Descriptions of Seabrook Station facilities follow in Section 6.1. A description of emergency equipment and inventories is found in the Emergency Preparedness Department Facility Inventory Manual (EPFI).

6.1 Emergency Centers

6.1.1 Technical Support Center

A Technical Support Center (TSC) has been established in the Control Building to direct post-accident evaluation and assist in recovery actions. The TSC is habitable to the same degree as the Control Room for postulated accident conditions. The TSC has the capability to access and display Station parameters, including the Safety Parameter Display System (SPDS), independent from actions in the Control Room. The TSC is included in the Station emergency communications network. The TSC has access to the Seabrook Updated Final Safety Analysis Report (UFSAR), the Seabrook Station Radiological Emergency Plan (SSREP) and procedures, and a selected set of system prints, system flow diagrams, cable/wiring diagrams and equipment specifications. The TSC has the capability to assess radiological habitability conditions by monitoring for direct radiation and airborne particulates, and sampling for airborne radioiodines. Figure 8.6 defines the TSC organization. The TSC and TSC Document Control Center are depicted in Figure 6.2.

6.1.2 Operational Support Center

The Operational Support Center (OSC), located on the first floor of the Administration and Service Building, provides a general assembly/dispatch area for assigned Station manpower needed to effect protective and corrective actions in support of the emergency situation. The OSC is included in the Station emergency communications network. Emergency equipment is provided at the Radiological Controlled Area (RCA) access point located within the OSC. Tools required by repair teams are provided at tool cribs maintained by the Maintenance Department in the RCA and other locations in the plant. Should conditions warrant evacuation of this center, the TSC will assume OSC functions; otherwise the OSC will remain active and staffed until terminated by the Site Emergency Director. Figure 8.5 defines the OSC organization. A layout of the OSC is provided in Figure 6.5.

6.1.3 Emergency Operations Facility

An Emergency Operations Facility (EOF) is located at the Public Service of New Hampshire generating station known as Newington Station on Gosling Road in Newington, New Hampshire. The EOF shown in Figure 6.6 serves as a base of operations for radiological assessment, overall emergency response organization management and recovery activities. The State of New Hampshire Incident Field Office is physically co-located with the EOF. This arrangement ensures close coordination with State emergency response staff.

The EOF is included in the Station emergency communications network, as described in Section 7.0, which links all emergency response facilities, monitoring and assistance teams dispatched from the EOF, and offsite agencies. The EOF has the capability to access and display Station parameters, including the Safety Parameter Display System, independent of both the TSC and Control Room. Backup power to the EOF is available.

Radiological assessment, monitoring and evaluation, and protective action recommendation formulation are directed from the EOF. The EOF organization shown in Figure 8.4 is responsible for continuous evaluation and coordination of all Seabrook Station activities related to an emergency having, or potentially having, adverse radiological consequences. Copies of selected building prints and general building layouts are available via the LAN and CD Rom disk and can be printed out at the EOF. Emergency planning documents applicable to Seabrook Station, including area maps, emergency response procedures, State and local emergency plans are available in the EOF. The Seabrook Station updated FSAR is available via the LAN. A backup CD version is maintained at the EOF.

The EOF has sufficient assembly space and is designed to accommodate responding representatives from government and industry. The EOF serves as the base of operations for Station material control, coordination of industry support, and establishment of a long-term organization to recover from the accident conditions and results. The EOF can serve as a centralized meeting location for key representatives from offsite authorities and Station management. The EOF can also act as a focal point for the coordination and acquisition of company resources and liaison with the Seabrook Station Joint Owners, American Nuclear Insurers and Institute of Nuclear Power Operations (INPO).

Emergency equipment maintained at the EOF includes gear necessary to assess radiological habitability. This consists of monitoring for direct radiation, and sampling for airborne radioparticulates and radioiodines. The EOF provides information needed by Federal, State and local authorities for implementation of offsite emergency plans.

6.1.4 Support for Radiological Analysis of Environmental Samples

Radiation Safety and Control Services (RSCS) support personnel will be activated at an Alert, Site Area and General Emergency to provide radiological analysis of environmental samples in the EOF. Two RSCS support personnel will respond to the EOF to utilize radio-analysis equipment maintained in the EOF to analyze silver zeolite cartridges and particulate filters used by field monitoring and environmental sampling teams to collect air samples in the field.

More definitive analysis of environmental samples will be available from GEL Laboratories. GEL is capable of providing on a continuous basis a full spectrum of radio-analysis of environmental samples which includes identification of principal accident radio-nuclides and their evaluation against EPA dose guidelines for relocation and FDA derived intervention levels associated with consumption of contaminated foods.

6.1.5 Media Center

This center is co-located with the EOF at Newington Station, Newington, New Hampshire. The center will be activated in order to provide a centralized location for holding joint utility, State, and Federal emergency news briefings. The Emergency News Manager will coordinate activities at this center. Emergency information will be obtained from the EOF and disseminated to the news media at the Media Center.

This center will accommodate the media by providing

1. a media relations telephone service for news media to call for information;
2. a media briefing room with a public address system and graphics;
3. a media work area with multiple telephone lines;
4. accommodations for video and audio equipment and media vans; and
5. station background information.

It is expected that State and Federal public information personnel will operate from the Media Center. New Hampshire Homeland Security & Emergency Management (NHHSEM) and Massachusetts Emergency Management Agency (MEMA) operate a rumor control telephone service for their respective states. Rumor trends will be reported to the NHHSEM and MEMA representatives in the Media Center where they can be addressed in joint news briefings.

6.1.6 Federal Radiological Monitoring and Assessment Center

The Federal Radiological Monitoring and Assessment Center (FRMAC) will be established by the US Department of Energy (DOE) at a suitable facility in proximity to the EOF in response to a request from either State or Federal authorities. The DOE and Environmental Protection Agency (EPA) are prepared to deploy specialized resources and establish a base of operations for offsite radiological monitoring and assessment activities. Environmental data obtained by an array of technical experts operating out of this center will be used by governmental officials in determining the hazard associated with the incident and the appropriate protective actions. DOE is responsible for the coordination of FRMAC emergency activities as described in the National Response Framework, Nuclear/Radiological Incident Annex .

6.2 Assessment Capability

The activation of this plan and the continual assessment of accident conditions require extensive monitoring and assessment capabilities. The essential monitoring systems needed to allow recognition of abnormal events by the Station operators was used in the accident classification methodology. This section briefly describes these monitoring systems as well as other assessment capabilities.

6.2.1 Process Monitors

Station process monitoring capability includes many process monitor indications provided from various sensors located throughout Station systems. Parameters monitored include pressure, temperature, flow, level and equipment operating status. These monitoring systems are described in the Seabrook Station UFSAR.

6.2.2 Radiation Data Management System

The Radiation Data Management System (RDMS) provides operators with the ability to assess Station radiological conditions during normal operations, as well as radiological emergency conditions. The RDMS is a microprocessor-based acquisition and display system. Field mounted detectors communicate individually to their own microprocessor which in turn communicates to two central processing units (CPU) on a redundant communication loop. The various parameters monitored include general area radiation, process radioactivity levels, airborne contamination levels, and effluent radioactivity levels. The quantity and diversity of the parameters monitored, along with the display capabilities of the RDMS, provide the operator with sufficient warning of accident conditions as well as continual accident assessments. However, the primary means of quantitatively evaluating system and plant radioactivity levels will be through a program of collecting physical samples and subjecting these physical samples to laboratory analysis to identify specific isotopes and their relation to the RDMS. A contingency capability has been established to measure accident dose rates in the reactor coolant system and to correlate the dose rates to reactor coolant activity. This capability provides the operators with fuel defect information that would be used to classify fuel damage events. This contingency capability includes the ability to collect an archive sample from either the reactor coolant system or the containment sump for laboratory analysis.

Each of the RDMS monitors alarms in the Control Room and Operational Support Center for a variety of alarm conditions (e.g., alert level, high level, power failure, etc.). This system is described in the Seabrook Station UFSAR.

6.2.3 Geophysical Phenomena Monitors

1. Meteorological

Seabrook Station maintains a 210-foot-high meteorological tower located near the south edge of Brown's River, as shown in Figure 4.3. The parameters monitored include wind speed and direction at 43 feet and 209 feet above ground level, and vertical temperature difference (delta-T) between 43 feet and 150 feet and between 43 feet and 209 feet. The meteorological data from the tower are scanned and recorded as 15-minute averages by the Main Plant Computer System (MPCS). These averages are available for on-demand display on MPCS terminals located in the Control Room, TSC, and EOF. Strip chart recorders located in the instrument shed at the base of the tower serve as backup recording mechanisms. (Protected: Ref. NRC IR 85-32(19))

A freestanding 53' backup meteorological tower is located adjacent to the settling basin outlet structure. The meteorological data from the backup tower are scanned and recorded as 15-minute averages by an independent computer system. These averages for wind speed, wind direction and calculated equivalent delta temperature are available for on-demand display on MPCS terminals located in the Control Room, TSC and EOF. (Protected: Ref. NRC IR 85-32(20))

Additional sources of meteorological information include various National Weather Service (NWS) Offices, and the PSNH Electrical System Control Center.

A dispersion model, Raddose-V, produces plume transport and diffusion estimates for the plume exposure pathway Emergency Planning Zone. The model produces plume dimensions, position, and relative concentrations at several downwind locations. Using effluent release information and a finite cloud external gamma dose model, estimates of near real-time dose rates will also be available. The model has the graphics capability of drawing plume position over a background map of the site. More information on these calculation techniques is given in Section 10.1.1 of this plan.

2. Seismic

Seabrook Station has installed seismic monitoring equipment with alarms indicated in the Control Room. The equipment consists of Triaxial Time History Accelerographs capable of measuring and permanently recording the absolute acceleration versus time for both horizontal and vertical motion.

The Control Room alarms will indicate the following:

a. Seismic event in progress; and/or

b. Seismic monitor loss of AD/DC.

3. Hydrologic

Seismic Category I structures that house safety-related equipment have been designed to withstand a depth of still water on the Station grade (+20.6 ft. MSL) of 0.6 feet. Access openings in exterior walls that are below the design flood level consist of a railroad door in Unit 1 Fuel Storage Building and man doors in other structures. Flood protection has been provided by means of water-tight doors or curbs around the door openings. In the case of the Fuel Storage Building, curbs have been constructed around vulnerable equipment. All below-grade structures are waterproofed on the exterior face, and sumps have been installed in all buildings. Because of the general design, it was not necessary to install hydrologic monitors, nor will it be necessary to bring the reactor to a cold shutdown for the most severe flood anticipated for the Station.

6.2.4 Fire Detection Systems

Seabrook Station maintains an extensive fire detection network which utilizes a combination of smoke detectors, thermal detectors and rate-of-rise detectors as means of providing Station operators with complete fire status information.

The fire protection system is comprised of the following basic systems:

1. A pumped water system providing a complete underground looped station fire main with hydrants, hose houses and hose carrier for yard and building exterior protection, and internal sprinklers, hose stations and deluge systems for specific building applications.

2. Portable halon extinguishers in the Control Room complex, and all battery rooms.

3. Portable C02 fire extinguishers for use in relay room and switchgear areas.

4. Portable C02 and dry chemical fire extinguishers located throughout the Station for immediate use on small fires.

5. Fire pump house ventilation system.

6. Fire pump house and fire tank heating system.

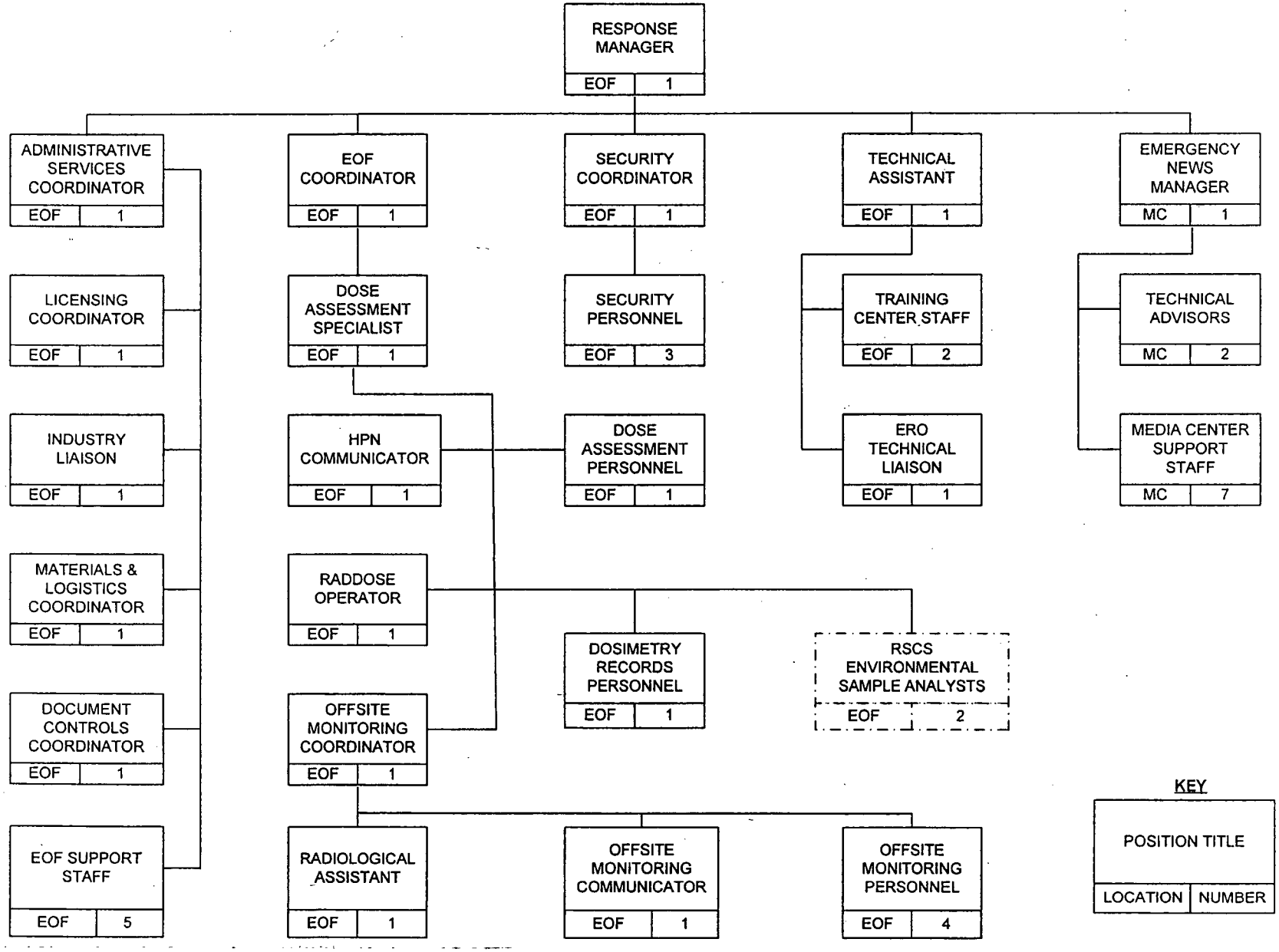
7. Standpipes with hose stations in the containment, control building, primary auxiliary building, fuel storage building, waste processing building and equipment vaults.

6.2.5 Facilities and Equipment for Offsite Monitoring

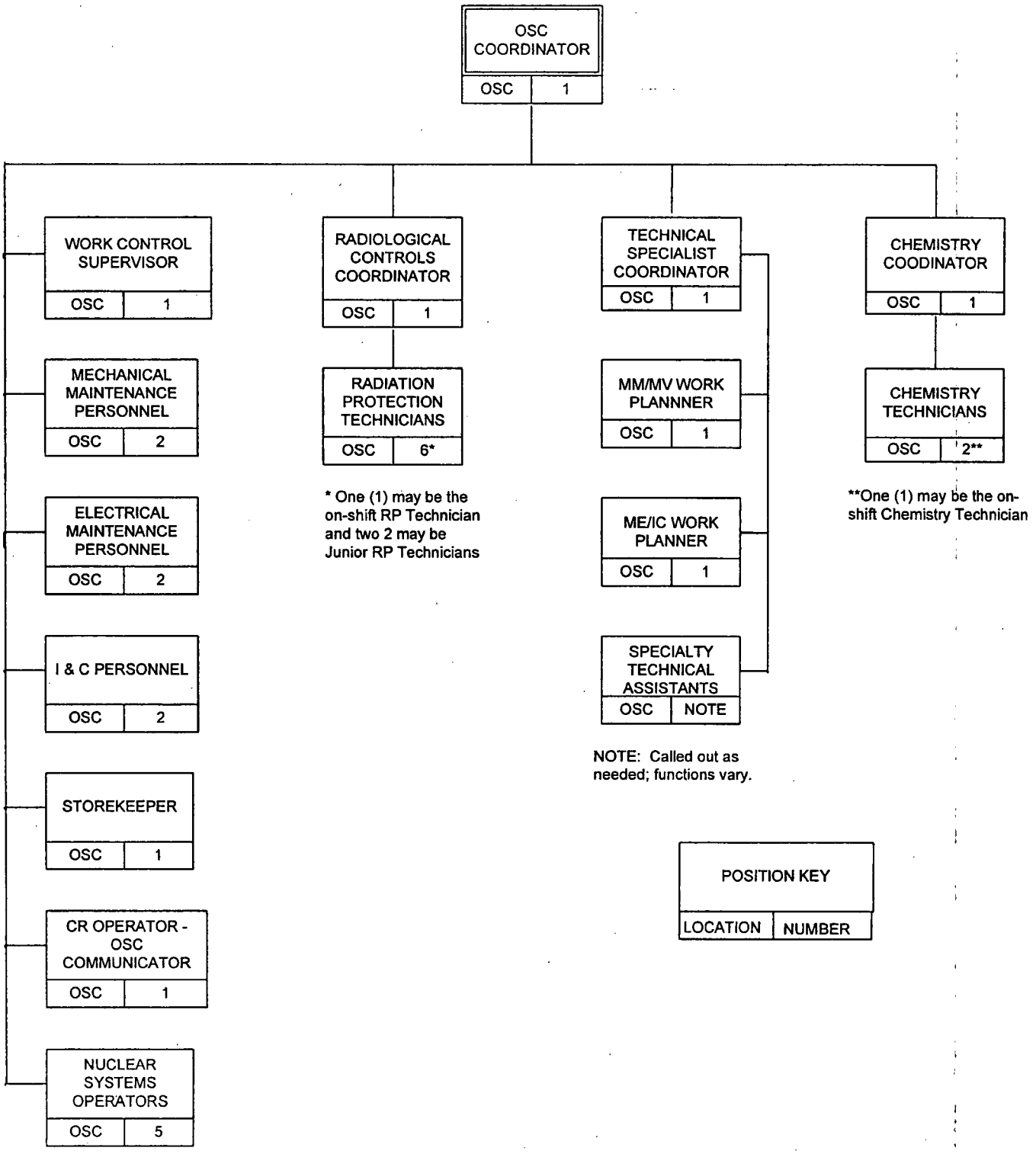
In addition to offsite monitoring equipment and maps at the EOF as described in Section 6.1.3, Seabrook Station conducts an offsite radiological environmental surveillance program. This program has been established for the site and surrounding area to monitor the environment under normal and accident conditions. Details of the requirements of this program are contained in the Station Technical Specifications.

The EOF is equipped with a gamma spectroscopy system with GeLi detector and data processing computer and a high pressure ion chamber for direct gamma measurements. GEL Laboratories is available on a continuous 24 hour, seven days a week basis to provide a full spectrum of radio-analytical measurements on environmental sample media.

If mobilized, additional offsite monitoring and analysis capability will be provided by Federal agencies in accordance with the National Response Framework, Nuclear/Radiological Incident Annex, as discussed in Section 6.1.6. This additional capability would be integrated with the efforts underway in a coordinated manner.



Seabrook Station Radiological Emergency Plan	Emergency Operations Facility Staff	
	SSREP Rev. 59	Figure 8.4



SEABROOK STATION RADIOLOGICAL EMERGENCY PLAN	OPERATIONAL SUPPORT CENTER STAFF	
	SSREP REV. 59	FIGURE 8.5

9.0 EMERGENCY RESPONSE OUTLINE

9.1 Initiation

Upon the recognition of abnormal Station conditions either through initiation of Emergency Operating Procedures (EOPs) or other sources of information, the condition will be classified in accordance with the method described in Section 5.0. Once an emergency is classified, the response actions are directed by Emergency Response (ER) procedures contained in the Emergency Response Manual (SSER). Procedures exist that direct the appropriate response for each of the four emergency classifications.

9.2 Activation of the Emergency Organization

The Unit Supervisor is responsible for recognizing potential emergency conditions and notifying the Shift Manager. The Unit Supervisor will assume the duties and responsibilities of the Short Term Emergency Director (STED) until the Shift Manager responds to the Control Room. With an emergency declared in accordance with Procedure ER 1.1, Classification of Emergencies, the Shift Manager assumes the role of STED and ensures the activation of the Emergency Response Organization (ERO) according to Section 8.0.

Upon declaration of an emergency, the STED will direct implementation of Procedure ER 1.2, Emergency Plan Activation. The STED will relinquish direction of the ERO upon the arrival and briefing of the Site Emergency Director.

9.2.1 Unusual Event Response

Upon the declaration of an Unusual Event, the STED will direct the notification of Station personnel (via the Station public address system) and the Primary Responders (via a digital paging system). The Primary Responders are shown in Figure 8.2, "Augmented Emergency Response Organization (ERO)-Unusual Event" and are the supplementary personnel designated to assist the on-shift staff in an Unusual Event. Offsite emergency organizations are notified and assistance from offsite fire, medical and law enforcement organizations will be requested, as necessary.

During an Unusual Event, the Site Emergency Director, Operations Technician, Health Physics Coordinator, Technical Services Coordinator and ERO Technical Liaison respond to the Control Room or Technical Support Center. The Site Emergency Director will relieve the STED of emergency response command and control duties. The Response Manager will contact the Control Room to obtain a briefing prior to or after reporting to an appropriate onsite or offsite reporting location. The Response Manager will notify Seabrook Station executive management. The EOF Coordinator and the Emergency News Manager will obtain a briefing from the Response Manager. The Emergency News Manager reports to the Seabrook Station site to coordinate public information needs.

No Station emergency response facilities are automatically activated during an Unusual Event, although the Site Emergency Director may, at his discretion, activate any or all facilities.

The response required as a result of this declaration varies according to the specific event, but a general summary of actions taken is described below:

1. On duty operating and selected Station personnel will assume the duties specified in Section 8.0;

2. The STED will ensure that New Hampshire State Police and Massachusetts Emergency Management Agency have been notified. In turn, the offsite warning points will notify the appropriate authorities designated in their plans;

3. The STED will ensure that the NRC has been notified and that a communication channel remains open until the condition has been terminated (unless permission is granted to establish a callback time);

4. The STED will direct the activities of the On-Shift Emergency Response Organization;

5. The STED will ensure activation of the digital paging system to initiate emergency notification;

6. The Primary Responders will respond as discussed above;

7. Should it be necessary, the Site Emergency Director would direct additional notifications by telephone to augment the existing ERO to the level required by the nature of the emergency condition;

8. If necessary, appropriate emergency medical, fire department or law enforcement agencies will be notified and requested to respond;

9. The Emergency News Manager will direct preparation of public information releases appropriate to the event; and

10. The Site Emergency Director will close out the event with a notification to offsite authorities or escalate to a more severe class.

9.2.2 Alert Response

Upon the declaration of or escalation to an Alert, offsite emergency organizations are notified in accordance with Procedure ER 1.2, Emergency Plan Activation. The Station emergency response organization becomes fully activated and the following actions are taken in addition to those described in Section 9.2.1. An overview of reporting locations for site personnel is presented in Figure 9.1, Reporting Instructions for Onsite Personnel.

An Augmented ERO, consisting of both Primary and Secondary Responders, is activated. This Augmented ERO is shown in Figure 8.3. Additional details regarding this organization are provided in Figures 8.4 through 8.6 and Figure 8.9.

Primary Responders and Subject-to-Call Responders are personnel required to meet ERO staff augmentation goals or who should be present for activation of emergency response facilities. These responders are instructed to report to their assigned emergency facilities when their pagers are activated for an Alert or higher classification level.

During normal work hours, Secondary Responders are notified by the Station public address system, an onsite siren or security personnel. During backshifts, weekends, and holidays, Secondary Responders are notified via the RapidNotify emergency notification service, a commercial computer-based callout system, which is activated by Security personnel.

The Technical Support Center (TSC), Operational Support Center (OSC), Emergency Operations Facility (EOF), and the Media Center (MC) will be activated and staffed. Staffing assignments for the ERO are described in Appendix A.

The Assembly Area for backup emergency response organization personnel is located outside the Protected Area in the Seabrook Station Conference Center. For emergencies declared during normal working hours, this facility is activated at an Alert or Site Area Emergency or General Emergency, depending upon event meteorological and radiological conditions. The purpose for this facility is to (1) ensure that adequate manpower exists for the staffing of all emergency facilities, (2) develop a roster of available second shift personnel and (3) disseminate reporting information to second shift personnel (e.g., when and where to report).

Maintenance technicians (mechanics, electricians, I&C technicians) will assemble at the Assembly Area if an Alert or higher emergency classification is declared during normal daytime working hours. Maintenance technicians working on swing or mid-shifts when an Alert or higher emergency classification is declared will report to the Operational Support Center. During outages when the station is in Mode 5 or 6, non-ERO assigned personnel working outage assignments on any shift will assemble at the Assembly Area. ERO and outage management will determine what outage personnel are needed to resume outage related work. Other personnel will be directed to leave the site.

The following additional actions will be completed in the event of an Alert classification:

1. The Response Manager will report to the EOF and assume responsibility for providing overall emergency response organization direction to restore Station stability;

2. The Massachusetts and New Hampshire state emergency response teams are alerted, and specific representatives will be dispatched to the Station EOF;

3. The Radiation Safety & Control Services support personnel will report to the EOF to provide radiological services support;

4. The EOF Coordinator will provide offsite authorities with periodic meteorological assessments and, if releases are occurring, projected dose estimates (NOTE: If radiological releases are occurring, monitoring teams will be dispatched to determine actual area dose rates);

5. Information will be coordinated, as necessary, with ANI and INPO; and

6. The Response Manager or designee will close out the event. The Site Emergency Director will either downgrade the classification or escalate it to a Site Area or General Emergency.

9.2.3 Site Area Emergency Response

Upon the declaration of or escalation to a Site Area Emergency offsite emergency organizations are notified in accordance with procedure ER 1.2, Emergency Plan Activation, or if the EOF is activated, procedure ER 3.3, Emergency Operations Facility Operations. The Station emergency response organization takes the following actions in addition to those described in Sections 9.2.1 and 9.2.2.

1. Offsite monitoring teams will be dispatched from the EOF;

2. The Response Manager's staff will notify contracted service organizations, sponsor utilities and other industry resources which will be requested to render assistance, as appropriate;

3. State resources will be fully mobilized in accordance with planning arrangements set forth in Massachusetts and New Hampshire State Radiological Emergency Response Plans. Included in these planning arrangements is the activation of the Public Alert and Notification System (PANS);

4. Station conditions will be continually assessed and protective action recommendations to offsite authorities will be made on the basis of this assessment according to procedure ER 5.4, Protective Action Recommendations. This could involve Station conditions related to the potential for radiological impact prior to the occurrence of actual releases; and

5. The Response Manager or designee will close out the event. The Site Emergency Director will either downgrade the classification or escalate it to a General Emergency.

9.2.4 General Emergency Response

Upon the initial declaration of or escalation to a General Emergency, offsite emergency organizations are notified in accordance with procedure ER 1.2, Emergency Plan Activation, or, if the EOF is activated, procedure ER 3.3, Emergency Operations Facility Operations. The Station emergency response organization will promptly notify offsite authorities of the General Emergency status, informing them of accident conditions and coordinating a continuous flow of accident diagnosis and prognosis information.

The Public Alert and Notification System (PANS) will be activated. Offsite authorities will fully activate emergency response resources and implement appropriate protective measures. These measures may be based on meteorological information, radiological dose projections or Station indications of the potential for significant releases of radioactive material. The Response Manager and the Seabrook Station ERO will evaluate Station accident parameters and indications, and will continually advise offsite authorities of the type of protective actions most appropriate to the observed situation. This would include advice on the question of shelter vs. evacuation.

Additional responses taken in a General Emergency condition include activation of the NRC Incident Response Plan per NUREG-0748, Revision 4.

9.3 Emergency De-escalation, Termination and Recovery

The emergency classification system defined in Section 5.0 of this plan provides the flexibility needed to both escalate or de-escalate the emergency level dependent upon the severity of the event. De-escalation criteria associated with making a transition between emergency classes will require a review of plant parameters and offsite radiological conditions in conjunction with the pre-established Emergency Action Levels (EALs).

When the risk posed by the emergency is clearly decreasing or has ceased, de-escalation or closeout of the emergency is appropriate. A combination approach is used and summarized in the table below.

	Downgrading Allowed	Closeout via Termination	Closeout via Recovery
Unusual Event	N/A	Yes	No
Alert	Yes	Yes	No
Site Area Emergency with no long-term Station damage	Yes	Yes	No
Site Area Emergency with long-term Station damage	Yes	No	Yes; may occur after downgrading
General Emergency	Yes	No	Yes; may occur after downgrading

After the emergency has been terminated, efforts will be focused on restoring the Station to a normal operating condition. If this is not possible, long-term decommissioning, dismantling, storage and disposal issues will be addressed.

General planning guidance for recovery from emergency conditions, including reentry into affected areas of the Station, is contained in emergency response procedure ER 6.0. Termination of the emergency phase and initiation of the recovery phase will require satisfying the following criteria appropriate to the emergency condition:

1. Radiation levels of in-Station areas are stable or are decreasing with time;

2. The reactor is shut down and criticality controls are in effect (only if reactor shutdown was required by the emergency condition);

3. The core is being adequately cooled;

4. Control has been established over containment pressure and temperature;

5. An adequate heat transfer path to an ultimate heat sink has been established;

6. Primary system pressure is under control;

7. Any fire, flooding, earthquake or similar initiating events are either under control or have ceased;

8. Releases of radioactive material to the environment are either under control or have ceased;

9. Specified corrective emergency actions have been completed and the Station is in the appropriate operating mode, and notifications are complete.

When transitioning to a recovery phase, the Response Manager and the Site Emergency Director shall perform the following actions:

1. Confer with key ERO managers to determine whether actual/potential conditions warrant entry into a recovery mode.

2. If recovery is appropriate, direct key ERO managers to confer with their respective staffs and determine whether any radiological and/or operational conditions exist which would preclude entry into a recovery mode.

3. Direct key ERO managers to develop a recovery organization and shift schedule. The organizational structure will take into account incident specifics and availability of outside support organizations.

4. Direct key recovery organization members to prepare written prioritized recovery work plans in accordance with the guidance in emergency response procedure ER 6.0.

5. Submit the recovery organization and action plans to the Site Vice President (Recovery Manager) for approval.

Prior to declaring recovery in effect, the Response Manager shall perform the following actions:

1. Review the proposed recovery organization, action plans, and the date and time for entry into the recovery mode with the following:

   a. NRC personnel

   b. Other federal representatives (e.g., DHS, DOE, EPA)

   c. State emergency response officials.

2. Brief key ERO managers on the recovery organization, action plans, and date and time for entry into recovery mode.

3. Direct the Emergency News Manager to issue a news release concerning entry into the recovery mode.

4. Provide recovery assistance to State authorities, as requested.

5. Direct the administrative, financial and legal support necessary for the recovery organization.

When the Site Emergency Director determines that recovery prerequisites have been met and the Response Manager declares recovery in effect, the Site Vice President becomes the Recovery Manager and assumes overall management of Seabrook Station recovery activities. The Response Manager will announce through ERO organizational and communication channels when recovery has been entered. During the recovery transition phase, the Recovery Manager will designate a Response Manager position holder as the EOF Recovery Coordinator who will remain in charge of recovery activities designated for the EOF and who will report to the Recovery Manager. Recovery activities performed at the EOF will be consistent with the principle of minimizing the offsite impact on station recovery operations. These activities may include media relations, financial and insurance related activities, and maintenance of long-term governmental and regulatory affairs. The Recovery Manager will determine when to phase out EOF support activities. This would normally be done upon completion of any required clean-up activities outside of the owner-controlled area. The Recovery Manager will designate a senior plant management position holder as the Onsite Recovery Coordinator who will be in charge of recovery activities directed at restoring the plant, to the extent possible, to pre-emergency conditions. The onsite recovery organization will originate in the TSC and will subsequently operate from a site facility designated by the Recovery Manager. The Recovery Manager will report to the Chief Nuclear Officer who will remain responsible for overall nuclear plant safety. The Chief Nuclear Officer will coordinate corporate support activities and resources with site recovery operations.

10.0 EMERGENCY MEASURES

10.1 Radiological Accident Assessment Systems and Techniques

The two monitored effluent pathways for accidental releases of radioactive material at Seabrook Station are the plant vent stack and the main steam lines (through the lifting of the safety relief valves or the throttling of the atmospheric steam dump valves). Each of these effluent pathways contains a monitor. The monitor responses can be correlated to the effluent radioactivity concentration. In addition to these monitored pathways, high-range containment area monitors are capable of measuring the exposure rate within the containment, which can be correlated to the radioactivity concentration within the structure. Each of the above systems may be considered as separate release pathways which can be assessed with its associated monitor. Containment leakage is also considered as a possible effluent pathway for dose assessment.

The containment monitoring system consists of redundant ionization chambers and instrumentation channels with a range of 10^0 to 10^8 R/hr (gamma). The system is Class 1E qualified. A time-dependent conversion factor has been calculated which will enable conversion of the monitor's response (R/hr) to the total noble gas concentration (μCi/cc) in the containment building at a given time after shutdown assuming that the concentration within the containment is uniform. This conversion factor is calculated based on the assumption that a core equilibrium mixture of fission products exists at t=0. It should be noted, however, that the intent of this system is not to correlate this monitor response to core conditions or damage but to estimate the concentration in the containment building. The only relationship that can be readily made from this monitor to core conditions is a minimum core damage level since the amount of diluted or undiluted primary coolant leakage into the containment building may be a major unknown variable. If available, the minimum core damage level indicated by this monitor will be used as an indication of the type of fission product mixture being released through the effluent pathways.

The Wide Range Gas Monitor (WRGM) is used to continuously monitor the gaseous activity released to the environment through the plant vent stack. Its monitoring range is large enough to encompass low level releases using a beta scintillation detector with a range of 4.0E-8 to 1.0E-1 μCi/cc and two mid to high range solid-state beta/gamma detectors of 7.0E-5 to 1.0E+3 μCi/cc and 2.0E-2 to 1.0E+5 μCi/cc, respectively. The WRGM was designed and installed to minimize personnel exposure while obtaining particulate and iodine grab samples. The WRGM also calculates a release activity in μCi/sec in the range of 1.0E+2 to 1.0E+14 μCi/sec.

A backup monitor is available in the event of a WRGM failure. This monitor consists of an ionization chamber type detector, viewing a prescribed geometrical container in which the stack exit gas flows. The detector and associated remote universal digital rate meter are capable of monitoring dose rates from 0.1 mR/hr to 10,000 R/hr.

The main steam line monitors consist of a G-M detector placed adjacent to each of the four (4) main steam lines (several inches) with remote readout modules. This monitor response (mR/hr) is used to estimate offsite doses.

10.1.1 Estimation of Offsite Dose Rates

Seabrook Station maintains a computerized dose projection system, utilized in the Control Room, TSC and EOF, which is capable of providing real time and forecast offsite dose estimates for actual meteorological and radiological accident conditions. The system is referred to as Raddose-V.

Raddose-V uses a variable trajectory, puff advection model of dispersion to predict the position of the radioactive plume. A ground level plume is modeled. The model uses a finite cloud technique to estimate external exposure received from the plume, while the standard concentration χ/Q methodology is used to estimate doses received from inhalation of radioisotopes and external exposure over a four day period from material deposited on the ground. In addition, the model incorporates routines for computing deposition, as well as the current dose rate from radioactive material deposited on the ground, out to 50 miles.

The Raddose-V calculation considers source term and plume decay, as well as the effects of wet and dry deposition of iodines and particulates. The model also includes predefined protective action recommendations to alert users of the program to any exceedances of the EPA-400 Protective Action Guides (PAGs). The EPA-400 PAGs used are 1 Rem TEDE and 5 Rem CDE-Thyroid.

The five main tasks of the Raddose-V program are:

1. Determine the source term (release rates) of airborne radioactive material, based on current, plant-specific accident data.

2. Model the atmospheric transport and diffusion of the released material, based current, local meteorological conditions.

3. To calculate TEDE, estimate the sum of exposure from the plume, inhalation of radioisotopes, and four day exposure from material deposited on the ground.

4. Calculate committed dose equivalent (CDE) to the thyroid.

5. Estimate integrated deposition of radioactive material and corresponding dose rates from deposited material.

6. Provide dose and deposition results for both real-time and forecast periods.

Raddose-V performs all calculations in discrete 15-minute "advection time steps'. The model allows up to 200 advection steps (50 hours) to be modeled. The model requires relevant meteorological and radiological information for each time step. The program data input screens allow for direct entry of Main Plant Computer System (MPCS) meteorological and radiological parameters, or the user can enter this data manually. Raddose-V then calculates plume position, and dose and deposition information, for each step, according to the meteorological and radiological data entered. New real-time calculations are conducted every 15 minutes, based on the new position of the plume at the end of the 15 minute advection step.

Once calculations are completed, users of the program are given the opportunity to print results following each 15 minute step.

For each time step, Raddose-V calculates dose rates and integrated doses at 80 radial-grid positions within the Plume Exposure Pathway Emergency Planning Zone (EPZ). Results are also provided at 77 predetermined receptor locations. Maximum dose rates by distance, based on plume position at the end of each advection time step, are calculated for each reporting location. The model also has the ability to calculate dose rates at any user-defined receptor location by entering the position's distance and bearing from the plant.

Further, the model calculates ground deposition at the 144 radial-grid receptors in the 50 mile Ingestion Pathway EPZ. These receptor locations include the same locations for which dose rates and doses are calculated in the Plume Exposure Pathway EPZ, plus receptors located at 20, 30, 40 and 50 miles at each of the sixteen (16) compass directions. TEDE and CDE-Thyroid doses are also given out to 50 miles.

Raddose-V also provides the ability to project doses (using a standard 4-hour default release duration) for the present incident without affecting the calculation results of real-time doses. Forecast results are based on "avoided" dose consistent with EPA-400 philosophy. Output reports available for real-time dose assessment are also available for the forecast calculations.

10.1.2 Evaluation of Field Environmental Samples

When Seabrook Station monitoring teams have determined the approximate plume centerline (i.e., maximum radiation level) in the field, they will take air samples at various intervals downwind from the station. These samples will be analyzed on a gross (beta, gamma) basis in the field and, if elevated levels are observed, returned to the EOF. At the EOF they will be referred to an appropriate laboratory facility to be analyzed to determine radionuclide concentrations.

Particular attention will be directed to observed iodine concentrations. The air samples will be analyzed in a two-step process. The first step involves a field analysis of the sample which measures the gross radioactivity collected on the silver zeolite cartridge and filter paper samples using a Pancake G-M detector. If the sample analysis shows a relatively high amount of radioactivity, a second analysis will be performed at an appropriate laboratory facility. The sample will be delivered to a laboratory facility for gamma spectroscopic analysis with greater sensitivity. Procedure ER 5.2, Site Perimeter and Offsite Monitoring and Environmental Sampling, also describes air sampling methods. Projected thyroid committed dose equivalent (CDE) will be determined from measured I-131 concentrations by multiplying by an estimate of the duration of the exposure and a dose conversion factor.

In addition to the measurement and evaluation of offsite direct dose rates and air samples for radioiodine, the offsite radiological impact assessment will include the identification of all principal radionuclides potentially released from the accident in all potentially significant exposure pathways. This will be accomplished through an offsite monitoring and sampling program in which environmental samples of media (water, air, soil, etc., as appropriate) will be collected and subjected to detailed radionuclide analysis. This analysis can be performed by the GEL Laboratories, Charleston, South Carolina. The radionuclide results of any such analysis would be interpreted in terms of radiation exposure to the public by the use of the comprehensive dose calculation programs available at the EOF. The results of environmental sample analyses will be evaluated in relation to US Environmental Protection Agency dose guidelines for relocation and to the US Food and Drug Administration (FDA) derived intervention levels for the radionuclides identified in FDA guidance for limiting consumption of radioactively contaminated foods.

10.1.3 Evaluation of Post Accident Samples

When an emergency condition results in core damage, an in-station (e.g., containment) source term that could be subsequently released, or a release, station emergency response personnel will obtain and analyze various post accident samples. Potential sampling points include containment atmosphere, gas spaces in other plant areas, and the plant vent stack. Per the Seabrook Station Post Accident Assessment Program, archive samples of the reactor coolant system and containment sump can also be obtained and analyzed. Source-term components, including radioiodine, would be quantified and evaluated in terms of actual or potential impact.

10.1.4 Severe Accident Management Guidance

Guidance for responding to severe accident conditions has been established and appropriate improvements have been implemented in accordance with Chapter 5 of NEI 91-04, Revision 1, Severe Accident Issue Closure Guidelines. Appropriate Severe Accident Management (SAM) references have been incorporated into applicable Seabrook Station emergency response (SSER) procedures. Severe accident management training requirements for TSC personnel are documented in the Emergency Preparedness Training Program Description. The Operations Training Department tracks SAM Implementor Training for Operations personnel.

10.2 Protective Action Recommendation Criteria

Seabrook Station will issue protective action recommendations (PARs) based on the emergency class and several factors which vary with each emergency class. No protective actions will be recommended at the Unusual Event or Alert emergency classes. At a Site Area Emergency, PARs for beach areas may be issued based on the time of year and selected plant status indicators. At a General Emergency, PARs will be issued based on selected plant status indicators, dose projections and field monitoring results.

For any General Emergency, Seabrook Station will automatically recommend (1) evacuation of towns within 2 miles of the Station, (2) evacuation of towns 5 miles downwind of the Station, (3) sheltering of the remaining towns within the EPZ, (4) evacuation of Hampton and Seabrook Beaches and (5) closure of Massachusetts beach areas. PARs may be expanded based on further assessments of plant and radiological conditions.

For accidents that result in airborne radioactivity releases, projected dose and dose rate estimates at the site boundary and distances out to 10 miles will be issued to those offsite authorities responsible for protective action decision making. Based on offsite field monitoring results and dose projections, Seabrook Station will recommend protective actions in accordance with the criteria set forth in the EPA Protective Action Guidelines, Table 10.1.

Seabrook Station will also perform ingestion pathway sampling and analysis, and assist offsite authorities in determining protective actions for the ingestion exposure pathway Emergency Planning Zone.

10.3 Radiological Exposure Control

During a Station emergency, abnormally high levels of radiation and/or radioactivity may be encountered. These levels may range from slightly above those experienced during normal station operation to life-endangering levels of several hundred rem in a short period of time. Under all situations, whether it is immediate action to regain control of the emergency or for life-saving purposes, measures will be taken to minimize personnel doses from external and/or internal sources of radiation.

Specific dose guidelines for entry or re-entry into areas in order to (1) remove injured persons, and (2) undertake corrective actions, are defined in Table 10.2 of the plan. The Site Emergency Director will authorize, with Health Physics Coordinator or Radiological Controls Coordinator concurrence, emergency dose guidelines consistent with these or more restrictive guidelines dependent upon emergency conditions. The Radiological Controls Coordinator will discuss the hazards involved in rescue procedures with the members of the response team prior to undertaking any health-threatening mission.

Considerations to be made prior to allowing personnel to accept risks associated with rescue operations are defined in Table 10.2, Emergency Dose Limits.

Dose to individuals providing other emergency functions will be consistent with the limits specified in Table 10.2 with every attempt being made to keep personnel dose as low as reasonably achievable (ALARA).

The Health Physics Coordinator, or a designated alternate, is responsible for maintaining the emergency radiological protection programs developed for station staff and support personnel. A supply of electronic dosimeters will be stored at the Health Physics Control Point for distribution and assignment to the Technical Support Center. An emergency tote of electronic dosimeters is stored at the EOF to ensure immediate deployment of offsite monitoring teams with dosimetry and to support entry of offsite personnel to the site. Electronic dosimetry readers and program software have been added to the EOF inventory to ensure dosimetry activation.

Each emergency response organization member reporting to the site will be provided a TLD badge and an electronic dosimeter. Dose records based upon the results of these dosimeters will be maintained at each center. This information will be cross-referenced with and replaced by TLD badge data when available. Should the station exhaust its supply of TLD badges, the station TLD vendor, Mirion Technologies (GDS) will supply TLD badges. Offsite authorities responding onsite will be provided dosimetry.

10.4 Protective Measures

10.4.1 Personnel Accountability

The determination of station personnel accountability is facilitated by the use of a computer-assisted accountability system. The goal of this system is to generate an initial list of missing individuals within 30 minutes of the declaration of an Alert or higher emergency classification level.

Upon declaration of an emergency and activation of station emergency alarms, station personnel assigned specific emergency responsibilities will proceed to their designated emergency center location. If an Alert or higher emergency classification level is declared, non-assigned personnel (e.g., station visitors, contractor and other station personnel) will return their dosimetry to the designated normal storage racks, if appropriate, and leave the protected area through the Guard Island. There, non-assigned personnel will receive instructions concerning station egress measures. Security will generate computer reports of personnel entering and evacuating through Guard Island. All emergency response personnel reporting to emergency centers will log in on card readers and accountability rosters associated with each center.

Station security personnel will be responsible for reviewing computer results and reporting these results to the Security Shift Supervisor who, in turn, will make the final determination of station personnel accountability and report the results to the STED or Site Emergency Director. Search and rescue procedures will be implemented if any persons have been identified as missing.

10.4.2 Station Access/Egress Control Methods

Under all Station emergency conditions, public address announcements, made by control room personnel, will provide emergency notification and instruction to those personnel within the Protected Area. Individuals in the balance of the owner-controlled area will be alerted by an onsite siren. Visitors or those in transit within the owner-controlled area will be advised by the most appropriate means. The complete warning and advisement process will be accomplished in a rapid manner to ensure personnel safety.

When an Alert, Site Area Emergency or a General Emergency has been declared, all non-assigned station personnel will be directed to proceed to either the remote monitoring area (Schiller Station) for monitoring and decontamination or directly home (except during outages when the station is in Mode 5 or 6 – see Chapter 3, section 3.2). Unless directed otherwise, non-assigned personnel will use their personal vehicles to leave the site.

In the event that station conditions may produce or have produced a release, traffic control measures will be established to direct unassigned personnel off site via the most appropriate exit (the North Access Road or the South Access Road). The Security Shift Supervisor will be informed by the Short Term Emergency Director or by the Site Emergency Director which access road to use for site evacuation traffic in order to minimize the potential for radiation exposure or contamination by radioactive material.

If a radioactive release has occurred which might result in the contamination of Station evacuees, personnel trained in contamination monitoring techniques will proceed to the remote monitoring area (Schiller Station) to perform contamination monitoring of evacuated vehicles and personnel. All evacuating personnel will be instructed to report to the remote monitoring area to be surveyed for contamination levels. If contamination is detected, actions will be implemented that appropriately correspond to the type and degree of contamination and that are consistent with the priorities of the emergency actions and conditions underway.

The radiological monitoring personnel will contact (via radio or telephone) the Radiological Assistant at the EOF and report contamination survey results. Appropriate personnel and vehicle decontamination techniques will be used as necessary.

Upon being released, station evacuees will be advised of area evacuation routes by security. Site evacuation routes are noted in Figure 10.2, Seabrook Station Evacuation Routes. Appendix C provides evacuation time estimates of the public within the plume exposure pathway EPZ and also summarizes the major evacuation routes which will be utilized if necessary.

The Security Coordinator will make arrangements for station badging necessary to support incoming emergency response personnel. All incoming responders will be directed to report to the EOF where they will be briefed and provided with the necessary equipment.

10.4.3 Decontamination Capability

Station decontamination facilities are located in the Operational Support Center, specifically at the Radiologically Controlled Area HP Control Point. The RCA shower is available for personnel decontamination purposes. Soap, brushes, etc., are available to aid in decontamination efforts. Survey instrumentation for personnel monitoring is available here. If necessary, internal contamination can be assessed with the use of whole body count equipment (FASTSCAN) or its backup. All waste generated through the use of the decontamination facilities is collected and processed by the station liquid radwaste system.

Decontamination capability exists at the EOF including that required to support operations at the remote monitoring area (Schiller Station). At the remote monitoring area, initial decontamination methods will involve the use mild soap and water in conjunction with a soft brush. All radwaste generated as a result of this procedure will be disposed of by normal radwaste procedures. All personnel with detectable skin contamination will be detained for decontamination purposes; otherwise, they will be released. Radiation Protection Department procedures for personnel surveys and decontamination techniques prescribe progressive techniques for skin decontamination, including techniques applicable to removal of radioiodine contamination. The procedures and supplies for implementing them are maintained at the EOF. At the EOF, personnel decontamination can be accomplished with the use of a shower station, with wash water collected into 55-gallon drums that shall be transferred to the site for processing. If required, vehicle decontamination will be accomplished via dry decontamination methods.

10.4.4 Use of Onsite Protective Equipment and Supplies

The station supplies of personnel radiation protection equipment will be used as necessary to support the emergency response effort. Respiratory protection equipment, protective clothing, and potassium iodide will be assigned to the onsite emergency response organization members in accordance with Procedure ER 4.3, Radiation Protection During Emergency Conditions. Respiratory protection qualifications for personnel assigned to OSC positions, Offsite Monitoring Team positions, On-shift Electricians, On-shift Mechanics, and On-shift I&C Technicians will be tracked by Emergency Preparedness. Respiratory protection qualifications for Plant Engineering engineers who could be assigned to corrective action teams will be tracked by Plant Engineering. Radiological monitoring equipment will be stocked and available for use at established emergency centers. Seabrook Station documents containing detailed lists of dedicated equipment available to support radiological emergency response efforts are referenced in Appendix F.

10.4.5 Radiation Guideline Action Levels

Radiation guideline action levels for emergency center habitability are shown on Tables 10.1 and 10.3. These tables describe the actions of station staff in response to a range of station radiological conditions.

10.5 Aid to Affected Personnel

10.5.1 Medical Treatment

Station medical facilities are provided in the first aid station located in proximity to the Radiologically Controlled Area HP Control Point. Seabrook Station also maintains a site medical office located in the Operations Support Building. The first aid station and medical office are equipped and supplied to implement the requirements of the Medical Program. (Protected: Ref. NRC IR 85-32[10])

Specific station personnel have been trained as Emergency Medical Technicians (EMTs). One Emergency Medical Technician, supplemented by at least one additional individual trained in first aid and cardio-pulmonary resuscitation, will be on site at any one time to provide 24-hour emergency response coverage.

10.5.2 Medical Transportation

Arrangements have been made with Exeter Hospital to provide care for contaminated injured patients. In addition, Wentworth-Douglass Hospital located in Dover, NH, will provide care for these individuals on a backup basis. Both hospitals participate in medical emergency drills as a portion of emergency plan training.

The Seabrook Fire Department ambulance will be used for medical transportation of injured and contaminated personnel. The ambulance is capable of radio communications with the hospital while en route with a patient. (Protected: Ref. NRC IR 85-32[12])

Ambulance personnel are provided with specific training by Seabrook Station staff on the radiation protection considerations associated with radiologically contaminated personnel.

Table 10.1
EPA Protective Action Guidelines

Applicable to Seabrook Station Protective Action Recommendation Procedures

PAG	PROTECTIVE ACTION	COMMENTS
1 rem TEDE[a]	Evacuation	Evacuation of the general public should be initiated at 1 rem.
5 rem CDE[b] - thyroid	Evacuation	Evacuation of the general public should be initiated at 5 rem.

Potential State Considerations

PAG	PROTECTIVE ACTION	COMMENTS
5 rem TEDE	Evacuation	Special situations include severe weather, competing disasters, evacuation impediments or institutionalized persons not readily mobile.
25 rem CDE - thyroid	Evacuation	Special situations include severe weather, competing disasters, evacuation impediments or institutionalized persons not readily mobile.
>25 rem CDE - thyroid	Administer KI	Offsite Emergency workers and institutionalized persons.

[a]Total Effective Dose Equivalent - see Definitions

[b]Committed Dose Equivalent - see Definitions

Table 10.2
Emergency Dose Limits

Dose Limit[a] [b] (rem)	Activity	Condition
5	All activities	
10	Protecting valuable property	Lower dose not practicable
25	Lifesaving or protection of large populations	Lower dose not practicable
>25	Lifesaving or protection of large populations	Only on a voluntary basis to persons fully aware of the risks involved.

[a]TEDE to non-pregnant emergency workers.

[b]Emergency dose limits for the lens of the eye and for any other organ (including skin and extremities) are three and ten times listed values, respectively.

Table 10.3
Emergency Center Protection

1. Center habitability actions shall be as indicated on Figure 10.1.

2. The need to dispense potassium iodide (KI) tablets to emergency response personnel is based upon a projected or actual thyroid committed dose equivalent (CDE) $\geq$5 rem*. Administering KI after an uptake may limit thyroid CDE depending on time after exposure.

3. Protective clothing (lab coats, shoe covers, cotton gloves) will be required when indicated by RP survey results.

* Based on most limiting FDA recommended threshold for pregnant and lactating women per "Guidance, Potassium Iodide as a Thyroid Blocking Agent in Radiation Emergencies," U.S. Department of Health and Human Services, Food and Drug Administration, Center for Drug Evaluation and Research (CDER), November 2001.

11.0 EMERGENCY NOTIFICATION AND PUBLIC INFORMATION

11.1 Emergency Notification

Upon classification of accident conditions at the Station, the Short Term Emergency Director ensures that the New Hampshire State Police and Massachusetts Emergency Management Agency are notified. This notification is initiated within 15 minutes of emergency classification and is the initial link to the offsite governmental emergency network for the activation of offsite emergency response plans, including emergency public notification if the emergency condition warrants it. The format and contents of the initial message between the Station and the offsite warning point dispatchers are specified in notification procedures that are reviewed and agreed upon by state authorities.

Having been notified through State channels, the Massachusetts Department of Public Health and the New Hampshire Division of Public Health Services will call Seabrook Station and request the following information:

- Verification of the information provided during initial notifications
- A brief description of events and any prognosis

When requested, additional follow-up information will be provided to State agencies. This information includes

- prevailing weather conditions (e.g., wind velocity, direction, atmospheric stability, precipitation, etc.),
- release magnitude, duration and impact,
- actual or projected dose rates at the Station boundary; projected dose rates at various distances from the Station (2, 5, and 10 miles), and
- emergency response actions underway.

Follow-up reports will be provided to the state personnel when requested.

11.2 Public Notification

Public alerting and notification within the Seabrook Station plume exposure pathway EPZ will be accomplished through the use of the equipment and systems described in Appendix E.

11.3 Public Information

Any emergency will generate a continuous and intensive demand for up-to-date public information. This is best accomplished if each organization involved is aware of what the others are saying. Consequently, Seabrook Station has planned for the establishment of a Media Center for the purpose of providing coordinated dissemination of information to the media.

At an Unusual Event declaration, the Seabrook Station News Service staff will coordinate public information inquiries in accordance with Procedure ER 3.4, Seabrook Station News Services Operations. However, under an Alert, Site Area Emergency or General Emergency, the Media Center, co-located with the EOF in Newington, New Hampshire, will be activated. It will be staffed and operated by designated public information personnel from Seabrook Station in accordance with Procedure ER 3.5, Media Center Operations. Personnel with nuclear expertise will be responsible for media contact and interfacing with public information representatives for the States of New Hampshire and Massachusetts, the NRC and other Federal agencies.

An Emergency News Manager from Seabrook Station will manage the Media Center and coordinate Media Center activities with representatives from state and federal agencies at the Media Center. The Emergency News Manager will be supported by technical advisors and other Media Center support staff. The Media Center Technical Advisors will obtain emergency information in the EOF and communicate this information to the Emergency News Manager. The Emergency News Manager will designate support staff to draft news statements, to staff record approved information on public and media information telephone lines, to monitor news media broadcasts, and to assist news media representatives present in the Media Center briefing area. The Emergency News Manager will coordinate joint news conferences conducted by utility, state and federal personnel at the Media Center.

The Emergency News Manager is the primary spokesperson for the Seabrook Station ERO at the Media Center. A senior company official, designated in accordance with Seabrook Station Communications policies, may support the Emergency News Manager as a spokesperson for the company.

State and federal public information personnel are provided work space and communications equipment in the Media Center. Emergency information obtained from the Seabrook Station EOF and the State Emergency Operations Centers will be coordinated by utility and state personnel at the Media Center. Public inquiries will be dealt with by rumor control personnel who staff designated toll-free telephone lines at the New Hampshire and the Massachusetts Emergency Operations Centers. Utility and state staff at the Media Center will coordinate addressing rumor trends identified by state rumor control personnel and utility media monitoring personnel.

Public information materials are available at the Media Center. The materials include information on radiation, Seabrook Station operations, the Seabrook Station emergency planning zone, the emergency classification system, and other general emergency plan information.

As part of normal Station operations, the Seabrook Station Science and Nature Center staff maintains supplies of public information materials and provides educational programs for the general public upon request.

Public information materials specific to emergency plans of New Hampshire and Massachusetts have been developed. The materials have been distributed to residents and made available to transients in New Hampshire and Massachusetts who are located within the plume exposure pathway Emergency Planning Zone (EPZ). Materials distributed include the following:

- Resident population: emergency information calendars and special needs survey cards are distributed yearly to plume exposure pathway EPZ households.

- Beach/Transient population: signs posted at beaches, parks and state forest recreation areas

- Commercial establishments (restaurants, businesses, health care facilities, etc.) and schools: emergency information calendars

- Farmers, farm workers, food processors and food distributors: a brochure containing information on protection of the food chain. This brochure is made available to farmers and food processors within the ingestion exposure pathway EPZ.

These materials contain facts about the emergency plans, information on potential protective actions (such as sheltering and evacuation), listings of EAS radio stations, emergency bus routes and evacuation routes, considerations for school children and persons with special needs, names and locations of reception centers and host facilities, contacts for additional information and educational material on radiation.

In addition to the printed emergency plan public information materials, the states have developed broadcast messages consistent with Seabrook Station's emergency classification and protective action recommendation schemes. The messages are intended to be used as part of the Emergency Alert System to provide information to the public when needed.

Seabrook Station Communications personnel are in daily contact with local and regional media, and annually coordinate a program to acquaint the news media with information concerning radiation, emergency public information procedures, general Station characteristics, the emergency classification system and other pertinent facts.

12.0 MAINTAINING EMERGENCY PREPAREDNESS

12.1 Drills and Exercises

Emergency exercises and drills shall be conducted to test and evaluate the adequacy of emergency facilities, equipment, procedures, communication channels, actions of emergency response personnel, and coordination between Seabrook Station and offsite agencies. A summary of exercises and drills, and associated elements are presented below.

As used for emergency preparedness drills and exercises, "annual" means that the event shall be conducted once within a calendar year. For "semi-annual," the event shall be conducted once within the first 6 calendar months of a year and once again within the second 6 calendar months. "Biennial" means the event will be conducted within a two-year period.

12.1.1 Radiological Emergency Plan Exercises

An exercise tests the execution of the overall Station emergency response and its integration with responding offsite organizations. In order to test and evaluate the Station emergency response, an exercise shall be conducted every two years. Consistent with the regulatory requirements for offsite exercise participation, Federal, State and local agencies shall be notified of intended exercises and their conduct shall be coordinated with offsite authorities as appropriate.

12.1.2 Emergency Plan Drills

A drill is a supervised instruction period aimed at testing, developing and maintaining skills in a particular emergency response function. The frequency of drills is dependent upon the function to be tested.

1. Combined Functional Drills

   To ensure that adequate emergency response capabilities are maintained during the interval between biennial exercises, at least one annual drill will be conducted involving a combination of some of the principal functional areas of the onsite emergency response capabilities. The principal functional areas of emergency response include activities such as management and coordination of emergency response, accident assessment, protective action decision making, and plant system repair and corrective actions. Activation of all of the emergency response facilities will not be necessary during these drills. State and local governments within the plume exposure pathway EPZ may participate in these drills at their request.

2. Communication Drills

   To ensure that emergency communications equipment is operable, communication drills shall be conducted as outlined below. Included in the scope of these drills is the aspect of understanding message content. Paragraphs c, d, e, and h below may be performed as part of annual combined functional drills and the required biennial exercise.

a. Communication channels with State governments within the plume exposure pathway shall be tested monthly;

b. The pager system for the notification of the Primary Responders of the Emergency Response Organization (ERO) shall be tested weekly;

c. The notification method of Radiation Safety & Control Services support personnel shall be tested annually;

d. Data transmission capability between Station emergency centers shall be tested annually;

e. EOF communications to State Emergency Operation Centers and to Station field assessment teams shall be conducted annually;

f. Communications between the Control Room and the NRC Headquarters Operations Center shall be tested weekly or as otherwise directed by the NRC;

g. Communications between the EOF, TSC and the NRC Headquarters Operations Center shall be tested monthly or as otherwise directed by the NRC; and

h. Notification of the Secondary Responders of the ERO via the RapidNotify emergency notification service shall be tested at least annually.

3. Fire Drills

To evaluate the response and training of the Station fire brigade and coordination of same with offsite fire support, a number of fire drills are conducted annually with at least one drill being conducted with offsite fire support. The drills shall be conducted in accordance with the Seabrook Station Fire Protection Manual (SSFP).

4. Medical Drills

To evaluate the response and training of the Station medical response and offsite hospital personnel, a medical drill shall be conducted annually involving a simulated contaminated individual. Although the Station medical response may be tested more frequently, the offsite response portion of medical drills may be performed as part of the biennial exercise.

5. Radiological Monitoring Drills

Plant environs and radiological monitoring drills (onsite and offsite) shall be conducted annually. These drills shall include collection and analysis of airborne sample media, communications, recordkeeping and, if feasible, interface with other offsite monitoring efforts. In addition, a drill will be conducted on the collection of other sample media (e.g., soil, water and vegetation). Radiological monitoring drills may be performed as part of a training activity, another drill or the biennial exercise.

6. Health Physics Drills

Health Physics drills shall be conducted semiannually which involve response to, and analysis of, simulated elevated airborne and liquid samples and direct radiation measurements. These drills may be performed as part of a training activity, another drill or the biennial exercise. Additionally, Chemistry personnel shall be drilled annually on obtaining and analyzing post-accident samples.

12.1.3 Drill and Exercise Scenarios

The Emergency Preparedness Manager is responsible for coordinating preparation for and implementation of drills and exercises with the exception of fire and medical emergency drills. Operations Support staff are responsible for coordinating preparation for and implementation of fire and medical emergency drills. For exercises that include offsite participation, the scenario shall be submitted to FEMA for agency review in accordance with regulatory guidance. All exercise scenarios shall be submitted to the NRC prior to implementation.

Within a six-year period, drill and exercise scenario content shall be varied to test all the major elements of the emergency preparedness program. These major elements correspond to the objectives presented in the Emergency Preparedness Drill and Exercise Manual (EPDE). Within a six-year period, one scenario shall include the states' response within the ingestion pathway EPZ. In general, the scenario shall simulate a sequence of emergency conditions that would call for the mobilization of the offsite authorities, require recommendations of offsite protective measures, and allow for evaluation of offsite plans and their integration with the Station response. The scenario shall include, as a minimum, the following:

1. Date, time period, locations and participating organizations;

2. Basic objectives and specific elements that are to be tested;

3. Guidelines and extent of play;

4. Controller instructions, and a list of controllers and evaluators;

5. A narrative summary of the exercise scenario and expected responses; and

6. Time schedule of real and simulated events.

Seabrook Station cannot commit other organizations to conduct an exercise during off-hour times. Outside organizations shall be encouraged to participate in exercises, but starting times and pre-notification for exercises have to be agreed upon by participating offsite organizations. Exercises will be conducted in different seasons of the year, to the extent practicable, depending on circumstances such as scheduled refueling outages and exercise schedules for other sites affecting the availability of NRC and FEMA evaluators.

The exercise shall be structured with sufficient flexibility to allow free play for decision-making processes. The exercise scenario package shall describe a specific accident sequence, contain a set of input messages, and list anticipated response actions which parallel the accident sequence. The exercise controller organization shall receive instructions to recognize areas where ERO responses may deviate from anticipated responses. The exercise controller organization may (1) restrict player action if the response threatens the approved time sequence; (2) restrict player action if the response circumvents a required exercise objective; and (3) introduce "free play" items to the scenario sequence if player actions become stagnant.

Exercise elements which may allow free play in the decision-making process include the following:

1. Exposure control actions;

2. Manpower augmentation actions;

3. Emergency classification actions, particularly the de-escalation process;

4. Recommendation of protective actions; and

5. Coordination and communication with offsite authorities.

12.1.4 Evaluation of Exercises

To evaluate the performance of participating facility personnel and the adequacy of emergency facilities, equipment and procedures used during an exercise, the Exercise Manager shall arrange for qualified controllers and evaluators to evaluate and critique the exercise.

A critique shall be conducted as soon as feasible following the conclusion of the exercise with player personnel as designated by the Exercise Manager. After the critique, the controllers and evaluators shall provide drill/exercise-related documentation and performance reports to the Drill/Exercise Manager. The Drill/Exercise Manager shall use this information to determine whether, and to what extent, drill/exercise objectives were demonstrated.

The exercise documentation shall be submitted to the Emergency Preparedness Manager who shall assign responsibility and deadlines for corrective actions. Individuals assigned this responsibility shall be required to document actions taken to improve the Station's emergency preparedness.

12.1.5 Credit for Response to an Actual Emergency

Demonstration of exercise or drill objectives scheduled for evaluation in accordance with Figure 3-1-3 of the Emergency Preparedness Drill and Exercise (EPDE) Manual may be satisfied by the effective response and documentation of designated key ERO staff to an actual emergency. Credit will be given for this objective when the following provisions are met in response to an actual emergency.

1. The emergency required a prompt and timely response and mobilization of key ERO staff responsible for the implementation of RERP emergency functions;

2. The emergency resulted in the establishment of communications links among responding organizations;

3. The following documentation, describing the level of response and involvement of key ERO staff to the emergency, is available:

   Type of emergency;
   Period of response;
   Arrival times of responders;
   Communications logs;
   Emergency decisions made and implemented;
   Emergency plan resources used; and
   List of staff involved.

4. The event is evaluated in accordance with Emergency Preparedness Department procedures for Post Event Reviews and Evaluations to determine if the actions taken were appropriate or the response warrants implementation of future corrective measures.

12.2 Emergency Plan Training

The following sections describe the various types of Emergency Plan Training.

12.2.1 Emergency Response Organization (ERO)

Training for ERO personnel is conducted in accordance with the ERO Training Program Description. Changes to this document shall be reviewed to ensure that (1) they do not decrease the effectiveness of the SSREP, the SSER or Seabrook Station emergency response capabilities, and (2) when implemented, the emergency preparedness program will continue to meet the applicable standards of 10 CFR 50.47(b) and the requirements of 10 CFR 50, Appendix E. (Protected: Ref. NRC Inspection Report 50-443/93-03)

Major elements of the program are discussed below.

Seabrook Station personnel with specific positions in the ERO shall receive training to initially qualify them for a response position. ERO assignments shall, as much as possible, parallel normal job knowledge, skills and abilities.

Initial training shall consist of an overview course and other courses that are appropriate to the individual's response position. The required initial courses are specified in the ERO Training Program Description.

Selected ERO members shall receive annual re-qualification training to maintain their level of emergency response knowledge. The required re-qualification training courses are also specified in the ERO Training Program Description. Re-qualification training courses are conducted throughout the year. The ERO Training Program Description contains a generic annual schedule which is used to ensure that re-qualification training occurs at about the same time period each year. Re-qualification courses may be scheduled up to three months away from the generic schedule to accommodate plant events such as outages.

Annual re-qualification training courses shall be completed within 15 months. Validation, exemption and deferral from this annual training requirement are discussed in the ERO Training Program Description.

Training other than that shown in the ERO Emergency Preparedness Training Program Description may be given to address specific needs.

12.2.2 Support Groups

Personnel from support groups who report to Seabrook Station shall be offered training designed to aid them in performing their emergency response function. These support groups include Radiation Safety & Control Services support personnel and the Town of Seabrook Fire Department. This training shall be offered annually.

Support groups that do not report to Seabrook Station shall also be offered training designed to aid them in performing their emergency response function. These personnel include NH Homeland Security & Emergency Management, NH Department of Health and Human Services, Massachusetts Emergency Management Agency, Massachusetts Department of Public Health, Maine Emergency Management Agency, Wentworth-Douglass Hospital and Exeter Hospital. (Protected: Ref. NRC IR 86-18[03]) This training shall be offered annually.

12.2.3 Station Personnel with No ERO Assignment

Station personnel with no ERO assignment shall be trained in their proper response to an emergency during Plant Access Training. This training shall be given on an annual basis.

12.2.4 Emergency Preparedness Department Personnel

Emergency Preparedness Department personnel receive plant access training and training specific to their individual ERO assignments. In addition, the Emergency Preparedness Manager schedules personnel participation in specialized emergency planning training, participation in EP related conferences, and as technical specialists for EP audits at other sites.

12.2.5 Records

Documentation of training conducted in support of emergency planning is maintained in accordance with appropriate nuclear training procedures.

12.3 Review and Updating of Plan and Procedures

Independent reviews of the Seabrook Station emergency preparedness program shall be conducted every 12 months. The reviews shall include the emergency plan, its implementing procedures, training, equipment, readiness testing and State and local government planning interfaces. Management controls shall be implemented for evaluation and correction of review findings. The result of the review, along with recommendations for improvements, shall be documented and retained for a period of five years.

Intent revisions to the SSREP and to SSER emergency plan implementing procedures ER 1.2, Classification of Emergencies; ER 1.2, Emergency Plan Activation; and ER 5.4, Protective Action Recommendations, shall be submitted to the Station Operation Review Committee (SORC) for review and approval before implementation. Intent revisions of other emergency plan implementing procedures contained in the SSER shall be reviewed by a station qualified reviewer per the Station Qualified Reviewer program and approved by the Emergency Preparedness Manager prior to implementation. On an annual basis, written agreements with outside support organizations and government agencies shall be evaluated to determine if such agreements are still valid. (Protected: Ref. FPL Common Letter L-2005-214)

If not, then these agreements shall be renewed and updated; otherwise, the agreements shall be considered current. Telephone number listings associated with the Station emergency response facilities shall be reviewed quarterly and updated if necessary. Revisions shall be made in accordance with current regulations and guidelines on a continuing basis, as applicable. Revisions and changes to the plan and procedures shall be forwarded to all document control list recipients. (Protected: Ref. NRC IR 86-18[31])

12.4 Maintenance and Inventory of Emergency Equipment and Supplies

Emergency equipment and supplies are maintained as indicated in the Emergency Preparedness Facility Inventory Manual. Emergency portable survey instruments and dosimetry will be calibrated in accordance with applicable health physics programs and procedures. Along with requirements for calibration, the instruments shall be source-checked before each use. There are sufficient reserve instruments and equipment to replace those that are removed from emergency kits for calibration purposes. An inventory of the emergency storage locations shall be made, and discrepancies shall be noted and corrected.

12.5 Emergency Preparedness Manager

The Emergency Preparedness Manager is the emergency planning coordinator with overall authority for radiological emergency response planning for Seabrook Station. The Emergency Preparedness Manager has the following responsibilities:

1. Maintain the Seabrook Station Radiological Emergency Plan (SSREP).
2. Maintain the Emergency Response Manual (SSER).
3. Ensure the conduct of drills and exercises.
4. Track identified drill and exercise deficiencies, and associated corrective action.
5. Maintain Emergency Response Organization staffing.

6. Maintain Emergency Response Organization pager assignments and publish schedules.

7. Maintain the Emergency Response Organization notification system data base.

8. Maintain the emergency response facilities as described in the Seabrook Station Radiological Emergency Plan and Emergency Response Manual.

9. Obtain and track the availability of facilities and equipment required to maintain the Seabrook Station emergency response in a continuous state of readiness.

10. Ensure implementation of the communications and equipment test program.

12.6 Technical Training Supervisor

Ensures the conduct and documentation of emergency preparedness training.

12.7 Operations Support Manager

1. Maintains Operations Department fire response and medical emergency response procedures.

2. Ensures the conduct of fire and medical emergency response drills.

13.0 SUMMARY OF CHANGES

Rev. 59:

In §2, Definitions, deleted description of AREVA as a provider of radiological support services in the EOF and added a description of Radiation Safety & Control Services (RSCS) and GEL Laboratories as contracted services for analysis of environmental samples.

In §3, Radiological Emergency Plan Summary, deleted reference to AREVA as provider of radiological services in the EOF and added reference to RSCS for analysis of environmental samples in the EOF.

In §4, The Area, replaced references to FPL with NextEra Energy.

In §6, Emergency Facilities and Equipment, re-titled §6.1.4 from AREVA NP to Support for Radiological Analysis of Environmental Samples and replaced the description of AREVA radiological support services with descriptions of support provided by RSCS in the EOF and by GEL Laboratories for augmented environmental sample analysis services.

In §9.0. Emergency Response Outline, replaced reference to AREVA support personnel responding to the EOF at an Alert or higher emergency classification with reference to RSCS personnel response to the EOF at an Alert or higher emergency classification level.

In §10.0, replaced references to support provided by AREVA Environmental Lab with references to GEL Labs and Mirion Technologies for radiological services support.

In §11. Public Information, updated state agency titles.

In §12, Maintaining Emergency Preparedness, replaced reference to AREVA as a support organization and replaced it with reference to RSCS.

In §12, changed the description of the requirement for SORC review of changes to emergency plan implementing procedures and replaced with the requirement for review of emergency plan implementing procedures per the Station Qualified Reviewer program. SORC review is retained for changes to the Radiological Emergency Plan (SSREP).

In Appendix A, added position descriptions for a Mechanical/Valve Maintenances Work Planner and for an Electrical Maintenance/I&C Work Planner.

In Appendix D, incorporated updated the emergency preparedness letter of agreement between the State of New Hampshire, Commonwealth of Massachusetts and NextEra Energy Seabrook and renewed leases with PSNH for the EOF at Newington Station and the remote monitoring and decontamination facility at Schiller Station.

Rev. 58:

In Figure 4.3, revised the site layout drawing to update identification of site structures and to show location of the vehicle barrier system. (CR 08-16142 and 08MMOD502)

In Figure 8.6, Technical Support Center Staffing, showed new TSC Security Leader position. (AR#6162)

In §12.1.2.3, Fire Drills, removed the reference to conducting fire drills in accordance with Technical Specifications with reference to conducting them in accordance with the Station Fire Protection Manual. (AR#202829)

In Appendix A, Rev. 57, added a description of the TSC Security Leader position. (AR#6162)

Rev. 57:

In §7.5, Station Radio System, revised the description of the radio system used by Offsite Monitoring and Sampling Team personnel to describe use of the UHF siren system frequencies for field team communications. (CR 08-17391)

In Figure 7.3, revised the Radio Communications System Overview drawing to depict the details of the system used by Offsite Monitoring and Sampling Team personnel (CR 08-17391)

Added a new Figure 7.5, UHF Radio Communications Systems Overview, to depict the components of the station UHF radio system. (CR 08-17391)

In Appendix A, removed course EO6000I, Overview of Emergency Operating Procedures, as a prerequisite for the Emergency Operations Manager position and corrected position titles for the Junior Radiation Protection Technicians and the Raddose Operator. (CR 08-12932)

In Appendix G, updated the listing of supporting plans and procedures, specifically to remove the obsolete reference to the Framatome Support Plan.

Rev. 56:

Throughout, changed references to the National Response Plan to read National Response Framework.

Throughout, changed references to Community Alert Network (CAN) to read RapidNotify.

In §4.0, revised Figure 4.1, Site Boundaries, and Figure 4.3, Site Layout, to show locations of the Dry Fuel Storage facility, Condensate Polisher Building, Alternate HP Checkpoint, and Supplemental Emergency Power System (SEPS).

In §5.0, revised description of the Seabrook Station emergency classification system and associated emergency classification chart to incorporate NEI 99-01, Rev. 4, emergency action levels in lieu of NUREG-0654/FEMA-REP-1, Rev. 1, Appendix 1 emergency action levels. (CR 07-07969)

In §6.2.3, replaced description of the METPAC dose assessment model with description of the Raddose-V dose assessment model. (CR 07-00229)

In §6.0, updated Figure 6.1, Location of Emergency Operations Centers Around the Seabrook Station Site, to remove the reference to Framatome offices and revised Figure 6.6, EOF Layout, based on a redesign of the operations area to improve integration of offsite responders.

In §8.0, updated Figure 8.3, Augmented Emergency Response Organization, to replace reference to Framatome Support Personnel with AREVA Support Personnel.

In Figure 8.4 changed METPAC to Raddose.

In §10.1.1, replaced description of the METPAC dose assessment model with description of the Raddose- V dose assessment model. (CR 07-00229)

In §12.0, replaced references to Framatome with AREVA and replaced New Hampshire Bureau of Emergency Management references with New Hampshire Homeland Security and Emergency Management.

In Appendix E, corrected references to New Hampshire Bureau of Emergency Management to read New Hampshire Homeland Security & Emergency Management and recognized the 24 hour siren control capability at New Hampshire State Police Communications Center.

(CR 07-08911)

APPENDIX A

EMERGENCY RESPONSE ORGANIZATION POSITION DEFINITIONS

(Protected: Ref. NRC IR 85-32[15b])

APPENDIX A

INDEX

NOTE

The prerequisites and backgrounds prescribed for ERO positions in Table 1 will apply to position holders assigned to the ERO. Under extraordinary conditions, the Emergency Preparedness Manager may make exceptions to Table 1 requirements to ensure that an emergency response organization is maintained. Exceptions to training requirements shall be processed in accordance with the requirements of the Training and Qualification Manual (NAQM).

TABLE 1
ERO ASSIGNMENT PREREQUISITES and BACKGROUND (Protected: Ref. NRC IR 85-32 [15b])

POSITION TITLE	PREREQUISITES	POTENTIAL CANDIDATES BACKGROUND
Administrative Services Coordinator	No specific position prerequisites	Appropriate management or supervisory experience as determined by EP management
Assembly Area Coordinator	No specific position prerequisites	An available backup Security Coordinator or other trained personnel
BOP Support Engineer	Engineering background or degree. Applicable NUC GET RWT initial & requal, GT4000I	Routinely engaged in engineering-related activities
Chemistry Coordinator	Applicable NUC GET RWT initial & requal, GT4000I, GT1002I /GT1002C, RESPFIT12, MEDPFT	Chemistry Department personnel (except bargaining unit)
Chemistry Technician	Completed appropriate department qualification program. Applicable NUC GET RWT initial & requal, GT 4000I, GT1070I/GT5004C (Protected: Ref. SEP911077), GT1002I /GT1002C, GT1074J, RESPFIT12, MEDPFT	Chemistry Technician

PREREQUISITE COURSE NUMBERS

CH1210I = Release Permits
CH1206I = Gamma Spectrometry
EO6000I = Overview of Emergency Operating Procedures
GT1070I = Supplemental Radiation Worker
GT5004C = WBT Supplemental Radiation Worker Requalification
MEDPFT = Pulmonary Function Test
RESPFIT12 = Respirator Fit Test
GT1002I = Respiratory Protection Initial Training
GT1002C = WBT Respiratory Protection Requalification
GT1074J = FIREHAWK SCBA Use
HP 1044Z = HP Fundamentals
HP1066Z = HP Fundamentals for Junior HP Technicians
HP1067Z = OSC Junior HP Technician
HP1075I = Response to Contaminated Injured Person
NUC GET RWT 005, 006, & 007 = Radiation Worker Initial Training
NUC GET RWT 009 or 003 & 004 = Radiation Worker Requal Training
RW1032Z = HP Fundamentals for Radwaste
TS1003C = Mitigation of Core Damage
TS8072I-TS8081I = Plant Operations Course
HP6002I = VSDS Workshop
GT4000I = Enhanced Rad Worker
(an exemption to GT4000I may be made per SSRP, Procedure 3.1, §4.2)

TABLE 1
ERO ASSIGNMENT PREREQUISITES and BACKGROUND (Protected: Ref. NRC IR 85-32 [15b])

POSITION TITLE	PREREQUISITES	POTENTIAL CANDIDATES BACKGROUND
Control Room Communicator	Applicable NUC GET RWT initial & requal, GT4000I	Fire Brigade Leader
Control Room Operators	Licensed Reactor Operator. Applicable NUC GET RWT initial & requal, GT4000I, GT1002I/GT1002C, RESPFIT12, MEDPFT	Individuals assigned by Operations
Document Control Center Coordinator	Working knowledge of Records Management Department (RMD) manuals & procedures	RMD personnel
Dose Assessment Personnel	No specific position prerequisites	No specific background requirement
Dose Assessment Specialist	Assigned from the Health Physics Department or working knowledge of Station HP programs (e.g., dosimetry, access controls) and of radiological consequence assessment (e.g., core damage, effluent pathways, release components). (Protected: Ref. NRC IR 98-03 and CR 98-1743).	Personnel with appropriate technical skills and experience as determined by HP management.
Dosimetry Records Personnel	Knowledge of or training in the station dosimetry records program	Personnel with appropriate knowledge of the station dosimetry program as determined by Radiation Protection Department management.

PREREQUISITE COURSE NUMBERS

CH1210I = Release Permits
CH1206I = Gamma Spectrometry
EO6000I = Overview of Emergency Operating Procedures
GT1070I = Supplemental Radiation Worker
GT5004C = WBT Supplemental Radiation Worker Requalification
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GT1002I = Respiratory Protection Initial Training
GT1002C = WBT Respiratory Protection Requalification

GT1074J = FIREHAWK SCBA Use
HP 1044Z = HP Fundamentals
HP1066Z = HP Fundamentals for Junior HP Technicians
HP1067Z = OSC Junior HP Technician
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NUC GET RWT 005, 006, & 007 = Radiation Worker Initial Training
NUC GET RWT 009 or 003 & 004 = Radiation Worker Requal Training
RW1032Z = HP Fundamentals for Radwaste
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(an exemption to GT4000I may be made per SSRP, Procedure 3.1, §4.2)

TABLE 1
ERO ASSIGNMENT PREREQUISITES and BACKGROUND (Protected: Ref. NRC IR 85-32 [15b])

POSITION TITLE	PREREQUISITES	POTENTIAL CANDIDATES BACKGROUND
Electrical Maintenance Personnel	Completed appropriate department qualification program. Applicable NUC GET RWT initial & requal, GT4000I, GT1002I/GT1002C, RESPFIT12, MEDPFT	Electrical Maintenance Department personnel (except bargaining unit), or Training Department personnel for this discipline.
Electrical Support Engineer	Engineering background or degree. Applicable NUC GET RWT initial & requal, GT4000I	Routinely engaged in engineering related activities.
Electricians	Applicable NUC GET RWT initial & requal, GT4000I, GT1002I/GT1002C, RESPFIT12, MEDPFT	Station Electricians
Emergency News Manager	Personnel assignments must receive concurrence from the Seabrook Station Communications Department	Personnel with appropriate knowledge of communications activities as determined by the Communications Dept. management.
Emergency Operations Manager	Currently licensed SRO, supervisor or higher (Protected: Ref. NRC IR 98-03 and CR 98-1743). Applicable NUC GET RWT initial & requal, GT4000I, TS1003C – Mitigation of Core Damage (Protected: Ref. NRC IR 86-18 (4) and ISEG # R8905-003)	Shift Managers or Assistant Operations Managers jointly assigned by Operations and Emergency Preparedness.

PREREQUISITE COURSE NUMBERS

CH1210I = Release Permits
CH1206I = Gamma Spectrometry
EO6000I = Overview of Emergency Operating Procedures
GT1070I = Supplemental Radiation Worker
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MEDPFT = Pulmonary Function Test
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GT1002I = Respiratory Protection Initial Training
GT1002C = WBT Respiratory Protection Requalification
GT1074J = FIREHAWK SCBA Use
HP 1044Z = HP Fundamentals
HP1066Z = HP Fundamentals for Junior HP Technicians
HP1067Z = OSC Junior HP Technician
HP1075I = Response to Contaminated Injured Person
NUC GET RWT 005, 006, & 007 = Radiation Worker Initial Training
NUC GET RWT 009 or 003 & 004 = Radiation Worker Requal Training
RW1032Z = HP Fundamentals for Radwaste
TS1003C = Mitigation of Core Damage
TS8072I-TS8081I = Plant Operations Course
HP6002I = VSDS Workshop
GT4000I = Enhanced Rad Worker
(an exemption to GT4000I may be made per SSRP, Procedure 3.1, §4.2)

TABLE 1

ERO ASSIGNMENT PREREQUISITES and BACKGROUND (Protected: Ref. NRC IR 85-32 [15b])

POSITION TITLE	PREREQUISITES	POTENTIAL CANDIDATES BACKGROUND
Engineering Coordinator	Engineering background or degree, supervisor or higher. Applicable NUC GET RWT initial & requal, GT4000I, TS8072I-TS8081I (Protected: Ref. NRC IR 98-03/CR 98-1743)	Routinely engaged in engineering-related activities
ENS Communicator	Applicable NUC GET RWT initial & requal, GT4000I	Current or past experience in Operations, Operations Training, Engineering, or Licensing
EOF Coordinator	Knowledge of Station HP programs (e.g., dosimetry, access controls) and radiological consequence assessment (e.g., core damage, effluent pathways, release components).	Personnel with appropriate technical skills and experience as determined by Emergency Preparedness Department management.
EOF Support Staff	No specific position prerequisites	No specific background requirement
ERO Technical Liaison	Working knowledge of Seabrook Station (construction and system features)	No specific background requirement
Health Physics Coordinator	HP experience. Applicable NUC GET RWT initial & requal, GT4000I	Present or past experience with Radiation Protection-related duties

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TABLE 1

ERO ASSIGNMENT PREREQUISITES and BACKGROUND (Protected: Ref. NRC IR 85-32 [15b])

POSTION TITLE	PREREQUISITES	POTENTIAL CANDIDATES BACKGROUND
HPN Communicator	No specific position prerequisites	Personnel with appropriate knowledge of nuclear power plant operations as determined by EP Department management.
I&C Personnel	Completed appropriate department qualification program. Applicable NUC GET RWT initial & requal, GT4000I, GT1002I/GT1002C, RESPFIT12, MEDPFT	I&C Department personnel (except bargaining unit), or Training Department personnel for this discipline.
I&C Support Engineer	Engineering background or degree. Applicable NUC GET RWT initial & requal, GT4000I	Routinely engaged in engineering related activities.
I&C Technicians	Applicable NUC GET RWT initial & requal, GT4000I, GT1002I/GT1002C, RESPFIT12, MEDPFT	Station I&C Technicians
Industry Liaison	No specific position prerequisites	No specific background requirement
Junior Radiation Protection Technician	Applicable NUC GET RWT initial & requal, GT4000I, GT1002I/GT1002C, RESPFIT12, MEDPFT, HP1066Z, HP1067Z, HP6002I	Personnel with appropriate experience and training as determined by Radiation Protection Department management.
Licensing Coordinator	No specific position prerequisites	Routinely engaged in licensing-related activities

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GT4000I = Enhanced Rad Worker
(an exemption to GT4000I may be made per SSRP, Procedure 3.1, §4.2)

TABLE 1

ERO ASSIGNMENT PREREQUISITES and BACKGROUND (Protected: Ref. NRC IR 85-32 [15b])

POSTION TITLE	PREREQUISITES	POTENTIAL CANDIDATES BACKGROUND
Maintenance Coordinator	Applicable NUC GET RWT initial & requal, GT4000I	Appropriate management or supervisory experience as determined by Maintenance Group management
Material and Logistic Coordinator	Ability to use the current corporate purchasing system.	Routinely engaged in purchasing and procurement-related activities
Mechanical Maintenance Personnel	Completed appropriate department qualification program. Applicable NUC GET RWT initial & requal, GT4000I, GT1002I/GT1002C, RESPFIT12, MEDPFT	Mechanical Maintenance Department personnel (except bargaining unit), or Training Department personnel for this discipline.
Mechanics	Applicable NUC GET RWT initial & requal, GT4000I, GT1002I/GT1002C, RESPFIT12, MEDPFT	Station Mechanics
Media Center Support Staff	No specific position prerequisites	No specific background requirement
Media Center Technical Advisors	Working knowledge of Seabrook Station (construction and system features)	No specific background requirement

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(an exemption to GT4000I may be made per SSRP, Procedure 3.1, §4.2)

TABLE 1
ERO ASSIGNMENT PREREQUISITES and BACKGROUND (Protected: Ref. NRC IR 85-32 [15b])

POSTION TITLE	PREREQUISITES	POTENTIAL CANDIDATES BACKGROUND
NSSS Support Engineer	Engineering background or degree. Applicable NUC GET RWT initial & requal, GT4000I	Routinely engaged in engineering related activities.
Nuclear Safety Advisor	Engineering background, degree, or PRA experience. Applicable NUC GET RWT initial & requal, GT4000I	Routinely engaged in engineering or PRA activities.
Nuclear Systems Operator	Completion of appropriate department qualifications for standing watch. Applicable NUC GET RWT initial & requal, GT4000I, GT1070I/GT5004C (Protected: Ref. SEP911077), GT1002I/GT1002C, RESPFIT12, MEDPFT	Nuclear Systems Operator
Offsite Monitoring Communicator	No specific position prerequisites	No specific background requirement
Offsite Monitoring Coordinator	No specific position prerequisites	Personnel with appropriate experience and training as determined by RP or Chemistry Department management.

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(an exemption to GT4000I may be made per SSRP, Procedure 3.1, §4.2)

TABLE 1
ERO ASSIGNMENT PREREQUISITES and BACKGROUND (Protected: Ref. NRC IR 85-32 [15b])

POSTION TITLE	PREREQUISITES	POTENTIAL CANDIDATES BACKGROUND
Offsite Monitoring/Sampling Team Personnel	HP1044Z, RW1032Z or equivalent (HP Fundamentals). Applicable NUC GET RWT initial & requal,GT4000I, GT1002I/GT1002C, RESPFIT12, MEDPFT	Engaged in Radiation Protection-related activities either on a routine basis or during outages
Offsite Monitoring/Sampling Team Driver	Valid driver's license. Applicable NUC GET RWT initial & requal, GT4000I, GT1002I/GT1002C , RESPFIT12, MEDPFT	No specific background requirement
Operations Technician	Licensed or previously licensed SRO at Seabrook Station. Applicable NUC GET RWT initial & requal, GT4000I	Routinely engaged in operations-related activities
OSC Coordinator	Past or current SRO license for Seabrook Station. Applicable NUC GET RWT initial & requal, GT4000I, GT1002I/GT1002C, RESPFIT12, MEDPFT	Past or current Unit Supervisors jointly assigned by Operations and Emergency Preparedness.
Raddose Operator	No specific position prerequisites (Protected: Ref. NRC IR86-18 [5])	No specific background requirement

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GT4000I = Enhanced Rad Worker
(an exemption to GT4000I may be made per SSRP, Procedure 3.1. §4.2)

TABLE 1

ERO ASSIGNMENT PREREQUISITES and BACKGROUND (Protected: Ref. NRC IR 85-32 [15b])

POSTION TITLE	PREREQUISITES	POTENTIAL CANDIDATES BACKGROUND
Radiation Protection Technician	Completed appropriate department qualification program. Applicable NUC GET RWT initial & requal, GT4000I, GT1002I/GT1002C, GT1074J , HP1075I, RESPFIT12, MEDPFT	Radiation Protection
Radiological Assistant	HP1044Z, RW1032Z or equivalent (HP Fundamentals). Applicable NUC GET RWT initial & requal, GT4000I	Engaged in Radiation Protection-related activities either on a routine basis or during outages
Radiological Controls Coordinator	HP experience. Applicable NUC GET RWT initial & requal, GT4000I, GT1002I/GT1002C, RESPFIT12, MEDPFT	Engaged in Radiation Protection-related activities either on a routine basis or during outages
Reactor Engineer	Applicable NUC GET RWT initial & requal, GT4000I	Routinely engaged in reactor engineering-related activities
Response Manager	TS8072I-TS8081I or past or current SRO license or certification, supervisor or higher, documented concurrence of assignment by the Site Vice President. (Protected: Ref. NRC IR 98-03 and CR 98-1743)	Appropriate management or supervisory experience as determined by senior station management.
Security Coordinator	Manager or Supervisor of security department personnel	Routinely engaged in security-related activities

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GT4000I = Enhanced Rad Worker
(an exemption to GT4000I may be made per SSRP, Procedure 3.1, §4.2)

TABLE 1

ERO ASSIGNMENT PREREQUISITES and BACKGROUND (Protected: Ref. NRC IR 85-32 [15b])

POSTION TITLE	PREREQUISITES	POTENTIAL CANDIDATES BACKGROUND
Security Leader	Security department supervisor or security shift coordinator.	Routinely engaged in security-related activities
Short Term Emergency Director	Licensed SRO. Applicable NUC GET RWT initial & requal, GT4000I, GT1002I/GT1002C, MEDPFT, RESPFIT12 (Protected: Ref. NRC 86-18-01)	Shift Manager, Unit Supervisor
Site Emergency Director	Applicable NUC GET RWT initial & requal, GT4000I, TS1003C, EO6000I (SRO or TS8072I-TS8081I, Plant Operations Course) (Protected: Ref. NRC IR 86-18 (4) and ISEG #R8905-003), past or current SRO license or certification, supervisor or higher (Protected: Ref. NRC IR 98-03 and CR 98-1743)	Appropriate management or supervisory experience as determined by senior station management
Specialty Technical Assistant (Protected: Ref. NRC IR 88-09)	Applicable NUC GET RWT initial & requal, GT4000I	Individuals selected based on unique technical knowledge, skills or abilities
Storekeeper	Routinely engaged in stores-related activities. Applicable NUC GET RWT initial & requal, GT4000I, GT1002I/GT1002C, MEDPFT, RESPFIT12	Materials Management Department personnel

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GT4000I = Enhanced Rad Worker
(an exemption to GT4000I may be made per SSRP, Procedure 3.1, §4.2)

TABLE 1

ERO ASSIGNMENT PREREQUISITES and BACKGROUND (Protected: Ref. NRC IR 85-32 [15b])

POSTION TITLE	PREREQUISITES	POTENTIAL CANDIDATES BACKGROUND
Technical Assistant	Working knowledge of Seabrook Station (construction and system features), past or current SRO license or certification, licensed operator training experience. (Protected: Ref. NRC IR 98-03 and CR 98-1743)	Personnel with appropriate experience and training as determined by Training Dept. management
Technical Services Coordinator	Applicable NUC GET RWT initial & requal, GT4000I, EO6000I (SRO or TS8072I-TS8081I) (Protected Ref. ISEG# R8905-003), or past or current SRO license or certification, assigned from Engineering, Maintenance, Work Control or Outage Management (Protected: Ref. NRC IR 98-03 and CR 98-1743)	Personnel with appropriate knowledge and experience as determined by the assignee's department management with concurrence of EP department management.
Technical Specialist Coordinator (Protected: Ref. NRC IR 88-09)	Applicable NUC GET RWT initial & requal, GT4000I, GT1002I/GT1002C, RESPFIT12, MEDPFT	No specific background requirement
Training Center Staff	Operations Training Instructor	Operations Training Department Personnel

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TABLE 1

ERO ASSIGNMENT PREREQUISITES and BACKGROUND (Protected: Ref. NRC IR 85-32 [15b])

POSTION TITLE	PREREQUISITES	POTENTIAL CANDIDATES BACKGROUND
TSC Engineer - Electrical	Applicable NUC GET RWT initial & requal, GT4000I	Present or past experience with electrical engineering-related duties
TSC Engineer - Mechanical	Applicable NUC GET RWT initial & requal, GT4000I	Present or past experience with mechanical engineering-related duties
TSC Logkeeper	Applicable NUC GET RWT initial & requal, GT4000I	No specific background requirement
TSC RMD Personnel	Working knowledge of Records Management Department (RMD) manuals & procedures. Applicable NUC GET RWT initial & requal, GT4000I	RMD personnel
Work Control Supervisors	Licensed SRO. Applicable NUC GET RWT initial & requal, GT4000I, GT1002I/GT1002C , RESPFIT12, MEDPFT	Individuals assigned by Operations.
Work Planner – Mechanical/Valve Maintenance	Applicable NUC GET RWT initial & requal, GT4000I	Experienced work planners assigned by the Maintenance Department.
Work Planner – Electrical/I&C Maintenance	Applicable NUC GET RWT initial & requal, GT4000I	Experienced work planners assigned by the Maintenance Department.

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TABLE 2
ERO POSITION INFORMATION

POSITION TITLE	ACTIVATION LEVEL	RESPONSE LOCATION	REPORTS TO	PRIMARY RESPONSIBILITIES
Administrative Services Coordinator	Alert through General Emergency	Emergency Operations Facility	Response Manager	Provides administrative support and obtains additional resources to support the emergency effort.
Assembly Area Coordinator	Alert through General Emergency (normal work hours only)	Seabrook Station Conference Center	Administrative Services Coordinator	Coordinates operation of the Assembly Area for backup ERO responders and maintenance technicians during normal work hours.
BOP Support Engineer	Alert through General Emergency	Technical Support Center	Engineering Coordinator	Assists Engineering Coordinator in performing engineering assessment.
Chemistry Coordinator	Alert through General Emergency	Operational Support Center	OSC Coordinator	Coordinates post-accident sampling and analysis functions during an emergency.
Chemistry Technician	Alert through General Emergency	Operational Support Center	Chemistry Coordinator	Obtains and analyzes post-accident samples.
Control Room Communicator	Unusual Event	CR	Short Term Emergency Director	Assists STED with NRC and primary responder notification. Maintains ENS communications.
Control Room Operators	Alert through General Emergency	Operational Support Center	OSC Coordinator	One is dispatched to the Control Room to staff the 4-way data link and one staffs 4-way data link in the OSC.

TABLE 2
ERO POSITION INFORMATION

POSITION TITLE	ACTIVATION LEVEL	RESPONSE LOCATION	REPORTS TO	PRIMARY RESPONSIBILITIES
Document Control Center Coordinator	Alert through General Emergency	Emergency Operations Facility	Administrative Services Coordinator	Coordinates retrieval of documents maintained in the EOF Document Control Center.
Dose Assessment Personnel	Alert through General Emergency	Emergency Operations Facility	Dose Assessment Specialist	Provides administrative and clerical support to the Dose Assessment Specialist.
Dose Assessment Specialist	Alert through General Emergency	Emergency Operations Facility	EOF Coordinator	Determines projected/actual offsite dose conditions. Coordinates the evaluation of sample analysis data.
Dosimetry Records Personnel	Alert through General Emergency	Emergency Operations Facility	Dose Assessment Specialist	Issues dosimetry and tracks dose reporting for emergency response personnel.
Electrical Maintenance Personnel	Alert through General Emergency	Operational Support Center	OSC Coordinator	Performs electrical system repair and corrective action activities.
Electrical Support Engineer	Alert through General Emergency	Technical Support Center	Engineering Coordinator	Assists Engineering Coordinator in performing engineering assessment.
Electricians	Staffing Based on Event	Inprocessing Center/ Operational Support Center	Electrical Maintenance Personnel	Perform repair and corrective actions as directed by the OSC Coordinator.
Emergency News Manager	Unusual Event through General Emergency	Seabrook Station News Center or Media Center	Short Term Emergency Director, Site Emergency Director or Response Manager	Manages the emergency public information function, information dissemination and media and public relations. Coordinates emergency public information and rumor control with state and federal public information officials.

TABLE 2
ERO POSITION INFORMATION

POSITION TITLE	ACTIVATION LEVEL	RESPONSE LOCATION	REPORTS TO	PRIMARY RESPONSIBILITIES
Emergency Operations Manager	Alert through General Emergency	Technical Support Center	Site Emergency Director	Provides overall direction and coordination of emergency response activities performed by Operations Department personnel.
Engineering Coordinator	Alert through General Emergency	Technical Support Center	Technical Services Coordinator	Coordinates engineering assessment and technical support activities conducted from the TSC. Performs Severe Accident Management Evaluator functions.
ENS Communicator	Alert through General Emergency	Technical Support Center	Operations Technician	Maintains communications with NRC.
EOF Coordinator	Unusual Event through General Emergency	Emergency Operations Facility	Response Manager	Coordinates radiological and protective action assessments and performs state notifications from the EOF.
EOF Support Staff	Alert through General Emergency	Emergency Operations Facility	Administrative Services Coordinator	Provides administrative and clerical support.
ERO Technical Liaison	Unusual Event through General Emergency	Control Room/ Emergency Operations Facility	STED, Site Emergency Director or Response Manager	Notifies and interacts with the New Hampshire Public Utilities Commission staff and the Massachusetts Emergency Management Agency Nuclear Engineer.

TABLE 2
ERO POSITION INFORMATION

POSITION TITLE	ACTIVATION LEVEL	RESPONSE LOCATION	REPORTS TO	PRIMARY RESPONSIBILITIES
Health Physics Coordinator	Unusual Event through General Emergency	Technical Support Center	Site Emergency Director	Coordinates radiological and protective action assessment activities conducted from the TSC.
HPN Communicator	Alert through General Emergency	Emergency Operations Facility	Dose Assessment Specialist	Maintains Health Physics Network communication with the NRC.
I&C Technicians	Staffing Based on Event	Inprocessing Center/ Operational Support Center	I & C Personnel	Perform repair and corrective actions as directed by the OSC Coordinator.
I&C Personnel	Alert through General Emergency	Operational Support Center	OSC Coordinator	Performs instrument and control system repair and corrective action activities.
I&C Support Engineer	Alert through General Emergency	Technical Support Center	Engineering Coordinator	Assists Engineering Coordinator in performing engineering assessment.
Industry Liaison	Alert through General Emergency	Emergency Operations Facility	Administrative Services Coordinator	Coordinates interfaces with industry organizations and Joint Owners during an emergency.
Junior Radiation Protection Technician	Alert through General Emergency	Operational Support Center	Radiological Controls Coordinator	Performs health physics tasks as assigned by the Radiological Controls Coordinator.

TABLE 2
ERO POSITION INFORMATION

POSITION TITLE	ACTIVATION LEVEL	RESPONSE LOCATION	REPORTS TO	PRIMARY RESPONSIBILITIES
Licensing Coordinator	Alert through General Emergency	Emergency Operations Facility	Administrative Services Coordinator	Coordinates interfaces with regulatory agencies during an emergency.
Maintenance Coordinator	Alert through General Emergency	Technical Support Center	Technical Services Coordinator	Coordinates maintenance input to repair and corrective action analysis and decision making conducted from the TSC.
Materials and Logistics Coordinator	Alert through General Emergency	Emergency Operations Facility	Administrative Services Coordinator	Provides the EOF staff with the resources necessary to complete assignments. Assists in acquisition of resources not immediately available.
Mechanical Maintenance Personnel	Alert through General Emergency	Operational Support Center	OSC Coordinator	Performs mechanical system repair and corrective action activities.
Mechanics	Staffing Based on Event	Inprocessing Center/ Operational Support Center	Mechanical Maintenance Personnel	Perform repair and corrective actions as directed by the OSC Coordinator.
Media Center Support Staff	Alert through General Emergency	Media Center	Emergency News Manager	Assists the Emergency News Manager with performing functions of the Media Center.

TABLE 2
ERO POSITION INFORMATION

POSITION TITLE	ACTIVATION LEVEL	RESPONSE LOCATION	REPORTS TO	PRIMARY RESPONSIBILITIES
Media Center Technical Advisors	Alert through General Emergency	Media Center	Emergency News Manager	Obtains technical information from the EOF, updates Emergency News Manager, reviews news statements for technical accuracy, assists with news briefings. This position may also perform the duties of the SSNS Technical Advisor during an Unusual Event declaration.
NSSS Support Engineer	Alert through General Emergency	Technical Support Center	Engineering Coordinator	Assists Engineering Coordinator in performing engineering assessment.
Nuclear Safety Advisor	Alert through General Emergency	Technical Support Center	Engineering Coordinator	Coordinates core damage assessment between the TSC and the Engineering Support Center. Performs Severe Accident Management Evaluator functions.
Nuclear Systems Operator	Alert through General Emergency	Operational Support Center	OSC Coordinator	Performs operational activities directed from the TSC.
Offsite Monitoring Communicator	Alert through General Emergency	Emergency Operations Facility	Offsite Monitoring Coordinator	Relays messages to and from offsite monitoring teams and maintains a log of team locations and reported radiological data.
Offsite Monitoring Coordinator	Alert through General Emergency	Emergency Operations Facility	Dose Assessment Specialist	Coordinates offsite monitoring and sampling during an emergency.

TABLE 2
ERO POSITION INFORMATION

POSITION TITLE	ACTIVATION LEVEL	RESPONSE LOCATION	REPORTS TO	PRIMARY RESPONSIBILITIES
Offsite Monitoring/Sampling Personnel (HP)	Alert through General Emergency	Emergency Operations Facility	Offsite Monitoring Coordinator	Performs emergency environmental sampling and monitoring as directed by the Offsite Monitoring Coordinator.
Offsite Monitoring/Sampling Personnel (Utility)	Alert through General Emergency	Emergency Operations Facility	Offsite Monitoring Coordinator	Assists offsite monitoring/sampling personnel (HP) and drives offsite monitoring/sampling vehicle.
Operations Technician	Unusual Event through General Emergency	Control Room/ Technical Support Center	Emergency Operations Manager	Relieves the Control Room of NRC notification and communications responsibilities. Assists the Emergency Operations Manager. Performs Severe Accident Management Evaluator functions.
OSC Coordinator	Alert through General Emergency	Operational Support Center	Maintenance Coordinator	Directs emergency response activities performed at and by the OSC.
Radiation Protection Technician	Alert through General Emergency	Operational Support Center	Radiological Controls Coordinator	Performs onsite/in-plant surveys, provides HP coverage, implements radiological exposure controls, performs personnel monitoring/decontamination.
Radiological Assistant	Alert through General Emergency	Emergency Operations Facility	Offsite Monitoring Coordinator	Coordinates radiological control measures at the EOF.
Radiological Controls Coordinator	Alert through General Emergency	Operational Support Center	OSC Coordinator	Directs implementation of in-plant radiation protection measures associated with Station emergency response efforts.
Raddose Operator	Alert through General Emergancy	Emergency Operations Facility	Dose Assessment Specialist	Operates the Raddose-V dose assessment program computer

TABLE 2
ERO POSITION INFORMATION

POSITION TITLE	ACTIVATION LEVEL	RESPONSE LOCATION	REPORTS TO	PRIMARY RESPONSIBILITIES
Reactor Engineer	Alert through General Emergency	Technical Support Center	Engineering Coordinator	Analyzes reactor core and plant transient response. Provides core protection recommendations. Performs Severe Accident Management Evaluator functions.
Response Manager	Unusual Event through General Emergency	Emergency Operations Facility	Chief Nuclear Officer	Provides overall direction to the emergency response organization. Authorizes notifications and protective action recommendations to the states.* Approves news releases.* Authorizes requests for industry assistance.* Primary interface with state and federal emergency response officials. *Responsibilities that cannot be delegated. (Protected: Ref. NRC IR85-32 [5])
Security Coordinator	Alert through General Emergency	Emergency Operations Facility (except for a security-related event when the response location is the site Security Command Center)	Response Manager (when reporting to the EOF)	Coordinates security response actions during an emergency. Advises the Response Manager on potential security issues pertaining to an event such as tampering or sabotage of plant equipment.
Security Leader	Alert through General Emergency	Technical Support Center	Site Emergency Director	Coordinates security response onsite with Technical Support Center staff
Security Personnel	Unusual Event through General Emergency	Per Security Plan Procedures	Security Coordinator	Implements Security Department procedures for a declared radiological emergency.

TABLE 2
ERO POSITION INFORMATION

POSITION TITLE	ACTIVATION LEVEL	RESPONSE LOCATION	REPORTS TO	PRIMARY RESPONSIBILITIES
Short Term Emergency Director	Unusual Event through General Emergency	Control Room	Site Emergency Director	Makes initial emergency classification and notifications.* Initiates activation of the emergency response organization.* Approval of protective action recommendations to the states, reclassification of the emergency, approval of news releases, authorization of workers to exceed 10CFR20 radiation exposure limits, and overall responsibility for directing the Station emergency response until relieved by the Site Emergency Director.* *Responsibilities that cannot be delegated. (Protected: Ref. NRC IR 86-18 [01])
Site Emergency Director	Unusual Event through General Emergency	Technical Support Center/Control Room	Response Manager	Relieves the Short Term Emergency Director of overall responsibility for directing the onsite emergency response.* Assumes responsibility for emergency classification.* Authorizes notifications and protective action recommendations to the states and approves news releases until relieved by the Response Manager.* Requests industry emergency response assistance.* Authorizes workers to exceed 10CFR20 radiation exposure limits.* Performs Severe Accident Management Decision Maker functions. *Responsibilities that cannot be delegated. (Protected: Ref. NRC IR 86-18 [01])

TABLE 2
ERO POSITION INFORMATION

POSITION TITLE	ACTIVATION LEVEL	RESPONSE LOCATION	REPORTS TO	PRIMARY RESPONSIBILITIES
Specialty Technical Assistant	Alert through General Emergency	Technical Support Center, Operational Support Center or Emergency Operations Facility	Tech. Services Coordinator, Tech. Specialist Coordinator or Admin Services Coordinator	Called in as needed to the TSC, OSC or EOF to provide specific skills, knowledge and expertise required during an emergency.
Storekeeper	Alert through General Emergency	Operational Support Center	OSC Coordinator	Issues tools and equipment to emergency repair and corrective action teams.
Technical Assistant	Alert through General Emergency	Emergency Operations Facility	Response Manager	Coordinates technical assessment and support activities conducted from the EOF.
Technical Services Coordinator	Unusual Event through General Emergency	Technical Support Center (Control Room for Unusual Event)	Site Emergency Director	Monitors the TSC activation process and assists the Site Emergency Director in managing and coordinating onsite emergency response efforts.
Technical Specialist Coordinator	Alert through General Emergency	Operational Support Center	OSC Coordinator	Provides assistance in the evaluation of, and preparations for, repair and corrective actions.
Training Center Staff	Alert through General Emergency	Emergency Operations Facility	Technical Assistant	Assists the Technical Assistant with monitoring plant operational data.
TSC Engineer - Electrical	Alert through General Emergency	Technical Support Center	Engineering Coordinator	Assists the Engineering Coordinator with engineering assessment and technical support. Maintains TSC status boards.
TSC Engineer - Mechanical	Alert through General Emergency	Technical Support Center	Engineering Coordinator	Assists the Engineering Coordinator with engineering assessment and technical support. Maintains TSC status boards.

TABLE 2
ERO POSITION INFORMATION

POSITION TITLE	ACTIVATION LEVEL	RESPONSE LOCATION	REPORTS TO	PRIMARY RESPONSIBILITIES
TSC Logkeeper	Alert through General Emergency	Technical Support Center	Site Emergency Director	Maintains log and provides administrative support for the Site Emergency Director.
TSC RMD Personnel	Alert through General Emergency	Technical Support Center	Engineering Coordinator	Coordinates retrieval of documents maintained in the TSC Document Control Center.
Work Control Supervisor - OSC	Alert through General Emergency	Operational Support Center	OSC Coordinator	Performs duties as assigned by the OSC Coordinator
Work Control Supervisor - Onshift	Unusual Event through General Emergency	Control Room	Short Term Emergency Director (STED)	Assists the Short Term Emergency Director with implementing emergency response actions in the Control Room and initial notification of offsite authorities.
Work Control Supervisor - TSC	Alert through General Emergency	Operational Support Center	OSC Coordinator	Dispatched to the TSC to report to the Maintenance Coordinator and to staff the 4-way data link in the TSC.
Work Planner – MM/MV	Alert through General Emergency	Operational Support Center	Tech Specialist Coordinator	Assemble work packages for mechanical maintenance and valve repair teams deployed from the OSC as directed by the Technical Specialist Coordinator
Work Planner – ME/IC	Alert through General Emergency	Operational Support Center	Tech Specialist Coordinator	Assemble work packages for electrical maintenance and instrumentation and control repair teams deployed from the OSC as directed by the Technical Specialist Coordinator.

APPENDIX D

LETTERS OF AGREEMENT WITH EMERGENCY RESPONSE ORGANIZATIONS

APPENDIX D

LETTERS OF AGREEMENT

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(Protected: Ref. NRC IR 85-32[7])

(Protected: Ref. NRC IR 85-32[12])

(Protected: Ref. FPL Common Letter L-2005-214)

NOTE 1: The INPO emergency assistance agreement is initiated by INPO with its member utilities. The agreement is certified to remain in effect annually by INPO by letter of agreement to its member utilities. The current letter of certification is posted annually by INPO on the INPO website under emergency preparedness. For that reason, the current INPO letter of agreement is not maintained in the SSREP.

FIRST AMENDED AND RESTATED LEASE AGREEMENT

THIS FIRST AMENDED AND RESTATED LEASE AGREEMENT (this "Agreement") made this 30th day of August, 2010, effective as of January 1, 2010, by and between PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE, a New Hampshire corporation, having its principal place of business at 780 North Commercial Street, in Manchester, in the State of New Hampshire ("Lessor") and the SEABROOK JOINT OWNERS (hereinafter jointly and collectively referred to as the "Lessee"), acting by and through NextEra Energy Seabrook, LLC, a Delaware limited liability company (formerly known as and/or successor in interest to FPL Energy Seabrook, LLC and North Atlantic Energy Service Corporation), as managing agent of the Seabrook Nuclear Power Generating Station ("Seabrook Station") for and on behalf of Lessee, with its principal place of business at Seabrook Station, Route 1, Seabrook, New Hampshire ("Lessee").

WHEREAS, the Lessor and Lessee are parties to a certain Lease Agreement dated March 16, 2000, covering the use by Lessee of certain facilities located at Lessor's Schiller Power Generating Station, in the City of Portsmouth, New Hampshire (Schiller Station), for offsite radiological monitoring and decontamination in connection with an actual or simulated emergency event at Seabrook Station (hereinafter called the "2000 Lease");

WHEREAS, the Lessee and Lessor desire hereby to amend and restate their understandings with regard to the arrangements for offsite radiological monitoring and decontamination at Schiller Station, and to substitute this Agreement for and in place of the 2000 Lease;

NOW, THEREFORE, in consideration of the mutual promises and covenants contained herein, the Lessor and Lessee agree as follows:

1. <u>TERM</u>

(a) The term of this Agreement shall be for a period of ten (10) years, beginning on January 1, 2010 and expiring on December 31, 2019, subject to early termination by either party pursuant to the terms of this Agreement.

(b) Notwithstanding the foregoing, and in addition to such other rights of termination as may be exercised by the parties under the terms of this Lease, either Lessor or Lessee shall have the unconditional right to terminate this Lease at any time during the term or any extended term, but only upon not less than two (2) years prior written notice to the other.

2. RENT

(a) Lessee shall pay to Lessor, during the first two years of the term, base monthly rent in the amount of $689.58, payable in advance on or before the first day of each and every month.

(b) The monthly rent will be reviewed every two years and will be adjusted, said adjustment to be effective on January 1st of the third, fifth, seventh and ninth years of the term (each a review year), to reflect the percentage change, if any, in the Consumer Price Index for All Urban Consumers - All Items (CPI-U) published by the U.S. Department of Labor Bureau of Labor Statistics, from that in effect on January 1, 2010 to that in effect on January 1st of each review year. In no event, however, shall such adjustment result in the monthly rent being less than the base monthly rent stated in paragraph (a) of this Section 2.

3. LEASED PREMISES AND APPURTENANCES

(a) Lessor leases to Lessee, subject to compliance with all the terms and conditions hereof, certain land and facilities at Lessor's Schiller Station, located on the northeasterly side of Gosling Road in the City of Portsmouth, in the County of Rockingham and State of New Hampshire, being more specifically described below and as shown on Public Service Company of New Hampshire General Engineering Division Drawing entitled "Schiller Station", dated September 16, 1998, attached hereto and made a part hereof for reference purposes as Exhibit A (comprising collectively the "Leased Premises"). Unless otherwise stated in this Lease, Lessee's lease and use of the Leased Premises shall be non-exclusive, with Lessor reserving the full right to use and/or allow third parties to use the Leased Premises for all purposes in connection with its operation of Schiller Station and for other purposes:

(i) The land comprising the travel and parking areas in the vicinity of the so-called "Red Building", adjacent to the Newington Tank Farm, for use as Lessee's Remote Monitoring Area (to include Vehicle and Personnel Monitoring Areas, Contaminated Parking Area and Decontamination Shuttle Boarding Area);

(ii) The exclusive use and occupancy of the ground space occupied by the Lessee's existing so-called Remote Monitoring Area Trailer (the "RMA Trailer"); provided, however, that either party reserves the right at any time during the term of this Lease to require Lessee, at Lessee's sole expense, to relocate the RMA Trailer to another mutually agreeable location at Schiller Station, in which event the ground space occupied by Lessee's relocated RMA Trailer shall become part of the Leased Premises in place of the ground space formerly occupied by said Trailer;

(iii) The male and female shower facilities located inside the Schiller Station Main Building, for use as Lessee's separate Male Decontamination and Female Decontamination Facilities; and,

(iv) The land comprising the parking lot area westerly of the Schiller Station Main Building, for use as parking and drop-off/pick-up areas for Lessee's Male and Female Decontamination Facilities.

(b) There is additionally leased to Lessee, as appurtenant to the Leased Premises, certain non-exclusive rights and interests more specifically described below and as shown, where appropriate, on Exhibit A, subject to Lessee's compliance with all the terms and conditions of this Lease:

(i) The non-exclusive right to pass and repass with personnel and vehicles over and across Lessor's Schiller Station property as reasonably necessary or required for ingress and egress to and from the Leased Premises and Gosling Road; such ingress and egress to and from Lessee' Remote Monitoring Area shall be via the existing access road leading to the Newington Tank Farm.

(c) Unless otherwise specified or where the context otherwise requires, all references in this Lease to the Leased Premises shall be deemed to include the appurtenant rights and interests set forth in paragraph (b) of this Section 3.

4. USE OF LEASED PREMISES

(a) Lessee shall have the right to access, use and occupy the Leased Premises as provided for under this Lease as a Remote Monitoring Area and Decontamination Facility for offsite radiological monitoring and decontamination of evacuated onsite personnel and vehicles in connection with an actual or simulated emergency event at Seabrook Station, and for uses which are directly incidental to such use, as more particularly described in Lessee's Offsite Monitoring and Decontamination Procedure, ER 4.6, Rev. 19, attached hereto and made a part hereof as Exhibit B. Lessee agrees to provide Lessor with all future revisions of ER 4.6. The most current version of ER 4.6 will override any earlier version and become a part hereof as Exhibit B. No other, different or additional use or purpose is permitted to be made of the Leased Premises by Lessee.

(b) Lessee shall be responsible, at Lessee's sole expense, to comply with all Federal, state and local laws, codes, ordinances and regulations in effect during the term and extended term of this Lease applicable to the use by Lessee of the Leased Premises, and shall secure and maintain in effect throughout the term and any extended term of this Lease all Federal, state and local government and regulatory permits, licenses and approvals applicable to Lessee's use and occupancy of the Leased Premises. Lessee shall not authorize or permit the Leased Premises to be used for any illegal or unlawful purpose. No hazardous materials, hazardous substances or hazardous waste of any kind shall be used, stored or consumed on the Leased Premises by or with the permission of Lessee at any time without prior notice to and the prior consent of Lessor; provided, however, that this provision shall not be deemed or construed to prohibit the use and occupancy of the Leased Premises for the purposes and activities authorized under paragraph (a) above.

(c) In the event of an actual radiological emergency at Seabrook Station requiring use of the Leased Premises, Lessee agrees to provide notice to Lessor's Schiller Station management as promptly as possible of the emergency and as to when personnel and vehicle evacuation from Seabrook Station will commence. In the event use of the Leased Premises is required for a previously scheduled and noticed emergency response drill or simulated radiological emergency exercise, Lessee shall be obligated to provide reasonable advance notice to Lessor of the date, time and expected duration of the drill or exercise, and such drill or exercise shall be conducted in a manner which does not adversely impact Lessor's Schiller Station operations.

5. CONDITION OF LEASED PREMISES

The Leased Premises are leased to and accepted by the Lessee in the condition existing as the date of the commencement of the term of this Lease, "AS IS" and subject to all applicable state and municipal zoning and other laws, codes, ordinances and regulations. Lessee acknowledges that neither Lessor, nor any employee, agent or representative of Lessor, has made any representation or warranty with respect to the condition of the Leased Premises or the suitability of the Leased Premises for use by the Lessee.

6. TAXES

Lessor will be responsible for the payment of all real property taxes assessed against the land and buildings comprising the Leased Premises, or the land and buildings of which the Leased Premises are a part and included within the tax parcel(s) assessed. Lessee will be responsible for the payment of all taxes of any kind assessed against or levied upon the fixtures, equipment and other personal property of the Lessee on or in the Leased Premises, or directly attributable to Lessee's structures and other improvements installed in or on the Leased Premises.

7. UTILITIES AND SERVICES

(a) Lessor shall be responsible for supplying water service to the male and female shower facilities in the Schiller Station Main Building which are part of the Leased Premises.

(b) Snow plowing and removal from the access roadways, parking areas and walkways associated with the Leased Premises shall be the responsibility of Lessor. If additional snow plowing and removal services attributable specifically to Lessee's use of the Lease Premises are requested or required, Lessor shall be reimbursed at cost for such services by Lessee.

8. MAINTENANCE AND REPAIRS

(a) Lessor shall be responsible for general maintenance and repair of the Leased Premises, including without limitation structural repairs and replacement and repair of heating, plumbing and other building systems in accordance with applicable building codes and standards, but this shall not include responsibility for any post-decontamination clean up for which Lessee has responsibility pursuant to Section 11(e) below.

(b) Lessee shall be responsible for the maintenance and repair of all fixtures, equipment and structures and other facilities installed or maintained by Lessee in or on the Leased Premises, including but not limited to Lessee's RMA Trailer.

9. ALTERATIONS AND LESSEE'S PERSONAL PROPERTY

(a) Lessee will make no structural changes, or other renovations and changes, to the Leased Premises without the prior written consent of the Lessor, such consent not to be unreasonably withheld.

(b) Upon the expiration or earlier termination of this Lease, Lessee will promptly remove at its sole expense its equipment, structures, facilities and all other personal property and those of all persons claiming under it and peaceably yield up the Leased Premises to the Lessor in good order and condition, reasonable wear and tear excepted.

10. OPTION TO EXTEND LEASE TERM

Lessee shall have the option to extend the term of this Lease for one (1) additional and consecutive term of ten (10) years. Lessee's option shall be exercised by giving written notice to Lessor of Lessee's election to exercise its option under this Section 10 by not later than ninety (90) days prior to the expiration date of the then current term. Upon the timely exercise of Lessee's option, this Lease shall be extended, effective commencing the day following the expiration date of the then current term, upon the same terms and conditions as are contained in this Lease, except that the rent for the additional ten (10) year term shall be adjusted every two years according to the Consumer Price Index in the same manner used by the parties during the initial ten (10) year term.

11. INDEMNITY AND SECURITY

(a) Lessee will indemnify the Lessor and hold it harmless from and against any and all loss, cost, damage, liability or expense, including attorney's fees, by reason of bodily injury, including death, and property damage suffered by any person, including Lessor, its employees and others, caused by or arising out of the Lessee's use and occupancy of the Leased Premises or the Lessee's performance hereunder.

(b) Lessor shall have no responsibility to provide any security services or facilities at the Leased Premises or otherwise guard or protect the Leased Premises from unauthorized entry or the acts or omissions of any trespassers or other third parties, including damage to or theft of any property of the Lessee on the Leased Premises, or to the RMA Trailer or any equipment stored in said Trailer. All property of any kind of the Lessee on the Leased Premises shall be at the sole risk of the Lessee.

(c) Lessee shall hold Lessor harmless from any liability for labor or material supplied for work done by or for Lessee, and shall keep the Leased Premises free and clear of all mechanics' liens or liens of any kind for work done by or for Lessee, provided, however, that in no event shall

Lessee be required to hold Lessor harmless for work Lessor performs or causes to have performed under this Lease.

(d) Lessor shall hold Lessee harmless from and against any and all loss, cost, damage, liability or expense, including attorney's fees, for liabilities incurred by Lessee as a result of Lessor's negligent failure to perform its obligations under this Contract.

(e) Lessee agrees to reimburse Lessor for the payment of wages and other benefits to employees of Lessor who are required to be on duty at Schiller Station as a result of Lessee's use of the Leased Premises under this Lease during either an actual radiological emergency or an emergency drill or simulation exercise.

(f) In the event of an actual radiological emergency at Seabrook Station which requires any use by Lessee of the Leased Premises for decontamination activities, Lessee shall be responsible for the post-decontamination clean up of the Leased Premises and any other parts or portions of the Schiller Station facilities of the Lessor affected by the Lessee's decontamination activities, such clean up to meet all standards under applicable Nuclear Regulatory Commission regulations and other applicable environmental or other laws and regulations, and to be at the sole cost and expense of Lessee.

(g) Lessee is responsible, at Lessee's sole cost and expense, for the remediation of any and all contamination to the environment comprising the Leased Premises and its surrounding areas, including but not limited to air, soil and water, arising out of or caused by or from Lessee's use or occupancy of the Leased Premises or the installation, operation and maintenance by Lessee of any approved Lease facilities or appurtenances. In the event of a release by Lessee or Lessee's facilities or appurtenances of any substance(s) or material(s) that adversely impacts the environment, Lessee is responsible at its sole cost and expense to return the environment to a condition reasonably acceptable to Lessor and to that required by applicable regulatory standards.

12. LESSEE'S REPRESENTATIVE

Lessee represents to Lessor that (i) the Seabrook Joint Owners are all of the participant parties to a certain Agreement for Joint Ownership, Construction and Operation of New Hampshire Nuclear Units, dated May 1, 1973, as amended (the "Joint Ownership Agreement") and have, pursuant to a certain Seabrook Project Managing Agent Operating Agreement made as of June 29, 1992, transferred and delegated to NextEra, as managing agent, authority to act for and on their behalf in the management of the operations of Seabrook Station, and (ii) the entering into and performance of this Lease by NextEra, as managing agent for the Seabrook Joint Owners, is within the scope of the management authority delegated to NextEra by the Seabrook Joint Owners. Lessee agrees that Lessor may rely upon such representations and deal exclusively with NextEra in all matters arising under or in connection with this Lease, unless and until such time as Lessor shall have been informed in writing by the Lessee of a transfer of NextEra's managing agent authority to another entity.

13. ASSIGNMENT

Lessee may not assign this Lease in whole or in part or sublet the Leased Premises or any part thereof without the prior written consent of the Lessor, which consent shall not be unreasonably withheld. Notwithstanding the foregoing, each Seabrook Joint Owner reserves the right, in connection with a comparable assignment or transfer of its ownership interest under the Joint Ownership Agreement, to assign its interest hereunder, in whole or in part, to any other entity which is or becomes a participant party under the Joint Ownership Agreement.

14. INSURANCE

(a) Lessee will provide and maintain the following insurance during the initial and any extended term of this Lease: (i) Comprehensive General Liability Insurance with limits of not less than $1,000,000 for injury or death to any one person; not less than $1,000,000 for injuries or deaths from any one accident, and not less than $1,000,000 for property damage, naming the Lessor as an additional insured with respect to all third party claims for property damage, death or personal injury, and (ii) Worker's Compensation Insurance as required by applicable law.

(b) Lessee shall annually, upon request, evidence to the Lessor in form satisfactory to the Lessor, that it is complying with the foregoing requirements with respect to insurance by causing its insurance broker to issue certificates of insurance, and shall upon request of the Lessor from time to time furnish copies of the policies to the Lessor or its attorneys.

15. SUBORDINATION

This Lease and all rights of Lessee and Lessee's authorized assignees under this Lease shall be subject and subordinate to the lien on the Leased Premises created or authorized by Lessor's First Mortgage Indenture (formerly the General and Refunding Mortgage Indenture), dated as of August 15, 1978, to U.S. Bank National Association, successor to Wachovia Bank, National Association and to First Union National Bank, formerly know as First Fidelity Bank, N.A., New Jersey, all supplemental indentures thereto, and to the lien of any supplemental indenture or any mortgage or trust indenture hereafter executed by Lessor, and to all renewals, modifications, consolidations, replacements and extensions thereof.

16. CASUALTY AND CONDEMNATION

(a) In the event the whole or a substantial portion of the Leased Premises shall be lawfully condemned or taken by any public authority such as to reasonably render the Leased Premises unusable for the intended purposes as an offsite radiological monitoring area and decontamination facility, this Lease shall automatically terminate without further act of either party on the date when title to or possession of the Leased Premises shall be taken by such public authority, whichever first occurs, and each party shall be relieved of any further obligation to the other under this Lease except that Lessor shall rebate to Lessee a pro rata portion of any rent paid in advance. Any award for the condemnation or taking of all or any part of the Leased Premises shall be payable to Lessor and be the property of the Lessor. If a lesser portion of the Leased Premises is condemned or taken such as to still reasonably allow the intended use of the Leased

Premises, then Lessee shall have the right to elect to continue this Lease in effect as to the remainder of the Leased Premises, with the parties to agree on an equitable adjustment in the rent to be paid by Lessee for the remainder.

(b) In the event that the Schiller Station Main Building and/or any other structures comprising all or a portion of the Leased Premises are damaged or destroyed, partially or totally, by fire or other casualty, such that same becomes unusable in whole or in part, either party may, at its option and upon written notice to the other party, terminate this Lease, effective on the date on which such notice is received.

17. DEFAULT AND TERMINATION

The failure by Lessee to make any payment of rent when due, or the failure of Lessee to observe or perform any other term or condition of this Lease to be observed or performed by Lessee, and the continuation of such failure for a period of thirty (30) days after written notice thereof from Lessor to Lessee, shall constitute a default under and breach of this Lease by Lessee. Upon such default, Lessor, in addition to such other and all remedies it may lawfully have, shall have the right to terminate this Lease, effective on the date on which written notice of termination is given by Lessor to Lessee, and without any additional notice or demand to enter upon the Leased Premises and repossess same and expel Lessee and those claiming under Lessee and remove Lessee's personal property from the Leased Premises, all without being guilty of any trespass or liable for any loss or damage.

18. TRANSFER BY LANDLORD

(a) Lessee acknowledges that Schiller Station, inclusive of the Leased Premises, may be sold or otherwise transferred by Lessor during the term of this Lease. Lessor may sell, assign, convey or otherwise transfer all or any portion of its interests in this Lease and the Leased Premises. Any such sale or other transfer of the Leased Premises shall be subject to this Lease and all of the terms, conditions and obligations thereof; provided, however, that in the event of any such sale or transfer of the Leased Premises by Lessor, Lessor shall be relieved from and after the effective date thereof of all liability under any and all covenants and obligations contained in this Lease, and that such covenants and obligations shall be assumed by the buyer or transferee of the Lease premises. As used in this Section 18, the term "Lessor" refers to Public Service Company of New Hampshire, and any successor Lessor with respect to any subsequent transfer of the Premises by such successor Lessor.

(b) Within ten (10) days after written demand from Lessor, Lessee shall be obligated to execute and deliver to Lessor, without charge to Lessor, an estoppel certificate in writing certifying that this Lease, as same may have been modified or amended, is in full force and effect, certifying the date to which the rent is paid in advance, and certifying that, to Lessee's knowledge, there is not any uncured default on the part of the Lessor (or specifying such default if claimed). Such certificate may be conclusively relied upon by any purchaser of the Leased Premises. Lessee's failure or refusal to provide such a certificate shall constitute a default under and breach of this Lease.

19. QUIET POSSESSION

Subject to Lessee's faithful performance of the terms and conditions of this Lease, Lessee shall be entitled to peaceably and quietly have, hold and enjoy the Leased Premises in accordance with the terms and conditions of this Lease applicable to Lessee's use and occupancy.

20. ENTIRE AGREEMENT

This Lease constitutes the entire agreement of the parties and may not be amended or modified except in writing signed by both parties. All agreements and understandings between the parties are merged into this Lease, which alone fully expresses their agreement with respect to the subject matter hereof. Failure by either party to insist upon strict performance of any of the terms or conditions herein shall not be construed as a waiver of any rights, and shall not be deemed a waiver of any subsequent breach or default in the terms and conditions herein contained.

21. SEVERABILITY

If any provisions of this Lease shall be declared by any court of competent jurisdiction to be invalid or unenforceable, such declaration shall not affect the validity of the remaining provisions which shall remain in full force and effect.

22. APPLICABLE LAW

This Lease shall be construed and interpreted in accordance with the laws of the State of New Hampshire.

23. BINDING EFFECT

Subject to the provisions of Sections 13 and 18, the terms and conditions of this Lease shall be binding upon and shall inure to the benefit of the successors and assigns of the parties hereto.

24. NOTICES

Any notice sent or required to be sent hereunder shall be deemed duly served if delivered or mailed by registered or certified mail, return receipt requested, postage prepaid, addressed as follows: to Lessor - Public Service Company of New Hampshire, 780 North Commercial Street, P. O. Box 330, Manchester, NH 03105-0330, Attention: Real Estate Department; to Lessee – NextEra Energy Seabrook, LLC, c/o Seabrook Station, Lafayette Road, Seabrook, NH 03874, Attention: Purchasing & Contracts Manager. Either party may, by written notice to the other, change the address to which notices shall be delivered or sent. Any notice or other communication given or furnished, or any action taken by NextEra, making reference to this Agreement and given, furnished or taken in accordance herewith, shall be deemed to be notice given or communication furnished or action taken by and on behalf of the Lessee.

25. PRIOR LEASE TERMINATED

Lessor and Lessee agree that this Lease supersedes and replaces the 2000 Lease, which is hereby canceled and terminated by the parties effective as of the effective date of this Lease, and is no longer in force or in effect between the parties. Lessor and Lessee hereby mutually release each other from any and all rights, obligations and claims of any kind under the 2000 Lease.

IN WITNESS WHEREOF, the Lessor and Lessee have caused this instrument to be executed by their duly authorized officers as of the day and year first above written.

PUBLIC SERVICE COMPANY
OF NEW HAMPSHIRE

Anne-Marie Sommer
Witness

By: _____
John M. MacDonald
Vice President - Generation

Witness

SEABROOK JOINT OWNERS
By: NextEra Energy Seabrook, LLC, Agent

By: _____
Name: Paul O Freeman
Title: Vice-President NextEra
Energy Seabrook, LLC
Duly Authorized

EMERGENCY RESPONSE PLAN AGREEMENT
BY THE STATE OF NEW HAMPSHIRE,
THE COMMONWEALTH OF MASSACHUSETTS
AND
NextEra ENERGY SEABROOK

I. PURPOSE

This agreement establishes cooperative arrangements for emergency preparedness, notification and response among NextEra Energy Seabrook (NextEra Seabrook) for the Seabrook Station Emergency Response Organization (ERO), the State of New Hampshire and the Commonwealth of Massachusetts in the event of a radiological emergency at the Seabrook Station Nuclear Power Plant.

II. DEFINITIONS

A. Emergency Operations Centers (EOCs) - State and local facilities established in NH and MA where emergency response command and control occurs.

B. Emergency Operations Facility (EOF) - A NextEra Seabrook emergency response facility located at Newington Station, Newington, NH, where Seabrook Station ERO and offsite emergency response operations are coordinated.

C. EOF Coordinator - The Seabrook Station ERO position that coordinates accident assessment and protective action recommendations with offsite authorities either at the EOF or at other offsite locations such as the State EOCs.

D. Incident Field Office (IFO) - A State of New Hampshire facility co-located with the EOF where State of New Hampshire response and assistance to EPZ communities can be coordinated.

E. Media Center/JIC (Joint Information Center) - A facility co-located with the EOF designated for news media briefings conducted jointly by Seabrook Station ERO, State of New Hampshire, Commonwealth of Massachusetts and federal response officials.

F. Nuclear Alert System (NAS) - A dedicated communication system for notification to the State of New Hampshire and the Commonwealth of Massachusetts by the Seabrook Station ERO of an emergency and for coordination of public protective action recommendations.

III. AGREEMENT

A. The Seabrook Station ERO shall notify the New Hampshire State Police Dispatch, or other State Warning Point designated by the State of New Hampshire, and the Massachusetts Emergency Management Agency within fifteen (15) minutes after an event has been classified as an Unusual Event, Alert, Site Area Emergency or General Emergency. This notification shall be made via the NAS. If the NAS is inoperable, notification will be made via a back-up wireless communication network or by commercial telephone.

III. AGREEMENT (con't)

B. The message content used in the notification identified in A. above is in agreement among the emergency response procedures of the three organizations. After the initial notification, additional information shall be provided to the NH Public Health Emergency Response Initiator and the MA Department of Public Health (MDPH) Radiation Control Program NIAT Contact when each calls back to the Seabrook Station ERO. This additional information will include verification of the initial message content, a brief description of events and any known prognosis.

C. NextEra Seabrook shall provide space for representatives from the State of New Hampshire and the Commonwealth of Massachusetts at the EOF and the Media Center/JIC. This includes space at the EOF for the State of New Hampshire Incident Field Office and for representatives of the Massachusetts Emergency Management Agency and the MDPH Radiation Control Program.

D. When the EOF is activated by the Seabrook Station ERO, the EOF Coordinator is the point of contact for the offsite representatives at the EOF, or at their respective State EOCs, for radiological assessment and formulation of protective action recommendations. The ERO Technical Liaison is the point of contact at the EOF for plant technical information. NextEra Seabrook will assign technical liaisons from Seabrook Station to the Massachusetts and New Hampshire State EOCs to facilitate communication and interpretation of plant technical information.

E. The three organizations agree to exchange information (e.g., radiological releases, meteorological data, offsite dose projections and radiological measurements, and plant technical information) known and available at the time to facilitate a rapid and accurate evaluation of emergency conditions.

F. The State of New Hampshire and the Commonwealth of Massachusetts agree to the methodology used by the Seabrook Station ERO to project offsite radiological consequences. The states may also utilize their own independent dose assessment methods to project and/or measure offsite radiological consequences. The Seabrook Station ERO, including Seabrook Station technical liaisons at the respective State EOCs, will respond to requests for "what if" projections that are within the capability of the methodology used by the Seabrook Station ERO.

G. The three organizations will coordinate offsite field radiological monitoring activities. This coordination is to include the deployment of each organization's offsite radiological monitoring teams (i.e., the states' teams within their respective portions of the plume exposure pathway EPZ and the Seabrook Station ERO teams throughout the EPZ), the review and exchange of all monitoring results, and the radionuclide analysis of particulate and radio-iodine samples at the EOF.

III. AGREEMENT (con't)

H. NextEra Seabrook agrees to support the State of New Hampshire and the Commonwealth of Massachusetts with ingestion pathway sampling and analysis. This support will include coordination of ingestion pathway sampling plans, coordination of ingestion pathway sample analysis, and independent ingestion pathway dose calculations based on sample analysis results.

I. NextEra Seabrook agrees to make available to the states the services of any radio-analysis laboratories maintained by, contracted by, or otherwise available to NextEra Seabrook for use by the Seabrook Station ERO in the event of a radiological emergency. The State of New Hampshire and the Commonwealth of Massachusetts agree to make available to the Seabrook Station ERO radio-analysis laboratory services maintained by, contracted by or otherwise available to the states for use in the event of a radiological emergency. Sample processing priorities will be established through joint agreement by the Seabrook Station ERO dose assessment staff, NH Public Health personnel, and MDPH Radiation Control Program personnel.

J. The Commonwealth of Massachusetts and the State of New Hampshire agree to coordinate the evaluation and implementation of precautionary actions for special populations and persons with special needs within the plume exposure pathway EPZ.

K. The Commonwealth of Massachusetts and the State of New Hampshire agree to coordinate the evaluation and implementation of protective actions for the general public and the notification of the public by activation of the public alert and notification system, including activation of the Emergency Alert System.

L. The three organizations agree to coordinate news statements and media briefings at the Media Center/JIC. The states will staff rumor control telephones at their respective EOCs, or other designated site(s), and will relay rumor trends to the Media Center/JIC to be addressed via the news media. Information shall be made available to the public in a timely, coordinated manner through the Media Center/JIC.

M. The Commonwealth of Massachusetts and the State of New Hampshire have reviewed and agree to the procedure utilized by the Seabrook Station ERO to classify emergencies, including the Seabrook Station Emergency Action Levels (EALs). NextEra Seabrook will review substantive changes made to EALs with appropriate New Hampshire and Massachusetts state emergency management officials. NextEra Seabrook staff will document this review.

N. The State of New Hampshire agrees to notify the State of Maine of all emergency classification levels declared at Seabrook Station.

O. The State of New Hampshire agrees to notify and to coordinate response actions with the United States Coast Guard for the off-shore waterway portions of the plume exposure pathway EPZ.

P. The State of New Hampshire agrees to notify the Federal Aviation Administration for air space restrictions over the plume exposure pathway EPZ.

Q. The State of New Hampshire agrees to notify passenger and freight rail services of rail travel restrictions within the plume exposure pathway EPZ.

III. AGREEMENT (con't)

R. The Commonwealth of Massachusetts and the State of New Hampshire agree to arrange for clearance of Seabrook Station ERO and emergency response support personnel through EPZ access control points.

S. The three organizations shall exchange and agree to radiological emergency response plan changes that pertain to notification of an emergency and to coordination of emergency response actions prior to implementing such changes.

T. This agreement may be amended at any time by written agreement among the parties.

U. This agreement shall be effective as of the date of the last signature shown below.

STATE OF NEW HAMPSHIRE

By _____
John J. Barthelmes
Commissioner
NH Department of Safety

4/13/10
DATE

By _____
Nicholas A. Toumpas
Commissioner
NH Department of Health & Human Services

4/13/10
DATE

COMMONWEALTH OF MASSACHUSETTS

By _____
Don Boyce, Director
Massachusetts Emergency Management Agency

3.10.10
DATE

NextEra Energy Seabrook

By _____
Paul Freeman
Site Vice President

4/3/10
DATE

AMENDED AND RESTATED LEASE AGREEMENT

THIS AMENDED AND RESTATED LEASE AGREEMENT (this "Agreement") made this 30th day of August, 2010, effective as of January 1, 2010, by and between PUBLIC SERVICE COMPANY OF NEW HAMPSHIRE, a New Hampshire corporation having a principal place of business at 780 North Commercial Street, in Manchester, in the State of New Hampshire ("Lessor") and the SEABROOK JOINT OWNERS (hereinafter jointly and collectively referred to as the "Lessee"), acting by and through NextEra Energy Seabrook, LLC, a Delaware limited liability company (formerly known as and/or successor in interest to FPL Energy Seabrook LLC and North Atlantic Energy Service Corporation), as managing agent of the Seabrook Nuclear Power Generating Station ("Seabrook Station") for and on behalf of Lessee, with its principal place of business at Seabrook Station, Route 1, Seabrook, New Hampshire ("Lessee").

WHEREAS, the Lessor and Lessee are parties to a certain Lease Agreement dated January 4, 2000, which superseded and replaced a lease dated August 26, 1987, pursuant to which Lessee leased from Lessor certain land and a building and appurtenances located at Lessor's Newington Power Generating Station, in the Town of Newington, New Hampshire (Newington Station), for Lessee's use as a so-called Emergency Operations Facility ("EOF") in connection with the operation of Seabrook Station (hereinafter called the "2000 EOF Lease");

WHEREAS, Lessor and Lessee desire hereby to amend and restate their understandings with regard to the lease arrangements at Newington Station.

NOW, THEREFORE, in consideration of the mutual promises and covenants contained herein, the Lessor and Lessee agree as follows:

1. <u>TERM</u>

(a) The term of the Agreement shall be for a period of ten (10) years, beginning on January 1, 2010 and expiring on December 31, 2019, subject to early termination by either party in accordance with the provisions of this Agreement.

(b) Notwithstanding the foregoing, and in addition to such other rights of termination as may be exercised by the parties under the terms of this Lease, either Lessor or Lessee shall have the unconditional right to terminate this Lease at any time during the term or any extended term, but only upon not less than two (2) years prior written notice to the other.

2. LEASED PREMISES AND APPURTENANCES

(a) Lessor leases to Lessee certain land and building space at Lessor's Newington Station, located on the northwesterly side of Gosling Road in the Town of Newington, in the County of Rockingham and State of New Hampshire, being more specifically described below and as shown on Public Service Company of New Hampshire General Engineering Division Drawing No. Figure A, entitled "Site Plan, Newington Station, Newington, N. H.", dated October, 1995, attached hereto and made a part hereof for reference purposes as Exhibit A (comprising collectively the "Leased Premises"). Unless otherwise stated in this Lease, Lessee shall be entitled to the exclusive use and occupancy of the Leased Premises, subject to Lessee's compliance with all the terms and conditions hereof:

(i) The one-story building commonly known as Building 5, consisting of approximately 10,130 square feet of office and assembly space, located on the northerly side of so-called Tucker Boulevard;

(ii) The ground space, consisting of approximately 168 square feet, comprising the existing location of the Lessee's electrical cabinet, trailer, and deck located directly behind (easterly of) Building 5, housing Lessee's 230 kW diesel emergency generator and diesel fuel tank;

(iii) The ground space comprising the existing locations of the Lessee's three communications towers and appurtenances, consisting of (A) existing 100 foot high tower with foundation and antenna array located behind (easterly of) Building 5, (B) existing 30 foot high tower with foundation and antenna array located directly behind (easterly of) Building 5, and (C) existing 40 foot high tower with foundation and antenna array located at the southerly end of Building 5;

(iv) The non-exclusive (except as described in item (b)(v) below) use of the paved parking lot area located directly in front of (westerly of) Building 5 and on the northerly side of so-called Tucker Boulevard; and,

(v) The non-exclusive use of the gravel parking lot area commonly known as the Contractor Parking Area, comprising an approximately 58,000 square foot land area, located off the southerly side of so-called Tucker Boulevard and underneath the Lessor's existing overhead transmission lines.

(b) There is additionally leased to Lessee, as appurtenant to the Leased Premises, certain non-exclusive (except as otherwise indicated) rights and interests more specifically described below and as shown, where appropriate, on Exhibit A, subject to Lessee's compliance with all the terms and conditions of this Lease:

(i) The non-exclusive right to pass and repass over and across Lessor's Newington Station property as reasonably necessary or required for ingress and egress to and from the Leased Premises and Gosling Road;

(ii) The non-exclusive right to install and maintain certain radio and communications equipment within and/or on the roof of the so-called "Penthouse Building" located on the roof level of the Newington Station Boiler Unit Building, consisting of (A) a radiological monitoring radio antenna, (B) a New Hampshire siren control repeater and antenna, (C) an antenna for backup of the siren control, and (D) a New Hampshire Command and Control GE wall mount radio base, or comparable replacement equipment, together with the right to have and maintain suitable and necessary wiring for the operation of said equipment, and the right to access said equipment for testing, maintenance and repair purposes;

(iii) The non-exclusive right to install and maintain up to five (5) underground conduits, running from the so-called Administration Building of the Newington Station Boiler Unit Building, in and along the so-called Switch Yard Access Road, to Building 5, for electric power supply, telephone and communications lines for Building 5 and its appurtenant facilities, together with the right to access said lines and conduits and termination points in the Administration Building for testing, maintenance and repair purposes;

(iv) The non-exclusive (except as described in item (v) below) right of access to the Gate House on Tucker Boulevard, as necessary or required, to operate Gate A, for the purposes of affording ingress and egress to and from Building 5 and the paved parking lot area directly in front of Building 5; and,

(v) The exclusive right, but only during an actual Seabrook Station nuclear emergency requiring implementation of emergency response procedures or during a previously scheduled and noticed emergency response drill, to assume control of and to control all ingress and egress to and from Building 5 and the paved parking lot area directly in front of Building 5, by the operation (including the closing) of Gates A, B and C. Prior to the exercise of this right in the event of a drill, Lessee shall be obligated to provide reasonable advance notice to Lessor of the date, time and expected duration of the drill; in the event of an actual emergency, Lessee shall provide notice to Lessor as soon as practicable under the circumstances.

(c) Unless otherwise specified or where the context otherwise requires, all references in this Lease to the Leased Premises shall be deemed to include the appurtenant rights and interests set forth in paragraph (b) of this Section 2.

3. <u>RENT</u>

(a) Lessee shall pay to Lessor, during the first two years of the term, base monthly rent in the amount of $12,112.51, payable in advance on or before the first day of each and every month.

(b) The monthly rent will be reviewed every two years and will be adjusted, said adjustment to be effective on January 1st of the third, fifth, seventh and ninth years of the term (each a review year), to reflect the percentage change, if any, in the Consumer Price Index for All Urban Consumers - All Items (CPI-U) published by the U.S. Department of Labor Bureau of Labor Statistics, from that in effect on January 1, 2010 to that in effect on January 1st of each review

year. In no event, however, shall such adjustment result in the monthly rent being less than the base monthly rent stated in paragraph (a) of this Section 3.

4. USE OF LEASED PREMISES

(a) Lessee shall have the right to access, use and occupy the Leased Premises as provided for under this Lease for use as the EOF in connection with the operation of Seabrook Station, and for uses which are directly incidental to such use. No other, different or additional use or purpose is permitted to be made of the Leased Premises by Lessee, except that this provision shall not be deemed to prohibit the uses specifically authorized or required in paragraph (c) of this Section 4.

(b) Lessee shall be responsible, at Lessee's sole expense, to comply with all Federal, state and local laws, codes, ordinances and regulations in effect during the term and extended term of this Lease applicable to the use by Lessee of the Leased Premises, and shall secure and maintain in effect throughout the term and any extended term of this Lease all Federal, state and local government and regulatory permits, licenses and approvals applicable to Lessee's use and occupancy of the Leased Premises. Lessee shall not authorize or permit the Leased Premises to be used for any illegal or unlawful purpose. No hazardous materials, hazardous substances or hazardous waste of any kind shall be used, stored or consumed on the Leased Premises by or with the permission of Lessee at any time without prior notice to and the prior consent of Lessor, except that this shall not prohibit the storage of diesel fuel for Lessee's emergency generator, and further this shall not prohibit common and ordinary office supplies and materials from being stored and used on the Leased Premises.

(c) Lessee shall be permitted to make the Leased Premises available for use by the State of New Hampshire, the Commonwealth of Massachusetts, and Federal and other municipal, police and emergency organizations, through cooperative arrangements, for the purpose of emergency preparedness, notification and response to an emergency at Seabrook Station, provided that Lessor shall be kept fully informed by Lessee of all such cooperative arrangements and provided further that all such cooperative arrangements shall be subject to all of the terms and conditions of this Lease.

5. CONDITION OF LEASED PREMISES

The Leased Premises are leased to and accepted by the Lessee in the condition existing as the date of the commencement of the term of this Lease, "AS IS" and subject to all applicable state and municipal zoning and other laws, codes, ordinances and regulations. Lessee acknowledges that neither Lessor, nor any employee, agent or representative of Lessor, has made any representation or warranty with respect to the condition of the Leased Premises or the suitability of the Leased Premises for use by the Lessee.

6. TAXES

Lessor will be responsible for the payment of all real property taxes assessed against the land and buildings comprising the Leased Premises, or the land and buildings of which the Leased Premises are a part and included within the tax parcel(s) assessed. Lessee will be responsible for

the payment of all taxes of any kind assessed against or levied upon the fixtures, equipment and other personal property of the Lessee on or in the Leased Premises, or directly attributable to Lessee's structures and other improvements installed in or on the Leased Premises.

7. UTILITIES AND SERVICES

(a) Lessor shall be responsible for the supplying of water service to the Leased Premises.

(b) Except as otherwise provided in this paragraph, Lessee shall be responsible for the cost of all electricity usage for or in connection with the Leased Premises, including Building 5 and the lighting of the parking areas. Electric usage shall be metered in NextEra's name at all usage locations where directed by Lessor, and Lessee shall be responsible for payment directly to the local electric distribution utility of all metering installation and usage charges incurred. Electricity usage for Lessee's radio and communications equipment located within and/or on the roof of the "Penthouse Building", as well as any electricity usage via the 50 amp back up feed from the Station's emergency generator to Building 5, will not be separately metered but will be paid for by Lessor and is considered included in the monthly rent payable by Lessee.

(c) Lessee shall be responsible for the supplying of telephone service (including installation and removal), janitorial cleaning services, and bottled water supply, if desired, to the Leased Premises.

(d) Seasonal weed control applications and snow plowing and removal from the access roadways, parking areas and walkways associated with the Leased Premises shall be the responsibility of Lessor. Lessor shall be reimbursed at cost for such services by Lessee.

8. MAINTENANCE AND REPAIRS

(a) Lessor shall be responsible for general maintenance and repairs for the Leased Premises to include, as to Building 5, only structural repairs and replacement and repair of heating and plumbing systems in accordance with applicable building codes and standards.

(b) Lessee shall be responsible for the maintenance and repair of all fixtures, equipment and structures, systems and other facilities installed or maintained by Lessee in or on the Leased Premises. This shall include but not be limited to the four central air conditioning units installed on pads directly behind (easterly of) Building 5, any and all window air conditioning units and the metal building housing Lessee's emergency generator. Lessee's storage of diesel fuel on the Leased Premises for Lessee's emergency generator shall at all times be maintained by Lessee in compliance with all applicable environmental laws and regulations.

(c) Notwithstanding the provisions of paragraph (b) above, Lessor agrees to be responsible for the maintenance and timely repair of the 50 amp back up feed from the Station's emergency generator to Building 5. Lessor shall be reimbursed at cost for such maintenance and repair services by Lessee.

(d) For security purposes, Lessor shall be responsible to maintain, and repair or replace as necessary, the existing lighting facilities and controls for the parking areas which are part of the Leased Premises, including the three (3) spotlights on the Gate House, the light-timer located in the Gate House, the three (3) pole mounted spotlights in the Contractor Parking Area, and the exterior lighting fixtures on Building 5.

(e) For security purposes, Lessor shall be responsible to maintain, and repair or replace as necessary, the existing chain link fencing around Building 5.

9. ALTERATIONS AND LESSEE'S PERSONAL PROPERTY

(a) Lessee will make no structural changes, or other renovations and changes, to the Leased Premises without the prior written consent of the Lessor, such consent not to be unreasonably withheld.

(b) Upon the expiration or earlier termination of this Lease, Lessee will promptly remove at its sole expense its equipment, structures, facilities and all other personal property and those of all persons claiming under it and peaceably yield up the Leased Premises to the Lessor in good order and condition, reasonable wear and tear excepted.

10. OPTION TO EXTEND LEASE TERM

Lessee shall have the option to extend the current ten (10) year term of this Agreement, expiring on December 31, 2019, for one (1) additional term of ten (10) years. Lessee's option shall be exercised by giving written notice to Lessor of Lessee's election to exercise its option under this Section 10 by not later than ninety (90) days prior to the expiration date of the current term. Upon the timely exercise of Lessee's option, this Lease shall be extended, effective commencing the day following the expiration date of the current term, upon the same terms and conditions as are contained in this Lease, except that the rent for the additional ten (10) year term shall be adjusted every two years according to the Consumer Price Index in the same manner used by the parties during the initial ten (10) year term.

11. INDEMNITY AND SECURITY

(a) Lessee will indemnify the Lessor and hold it harmless from and against any and all loss, cost, damage, liability or expense, including attorney's fees, by reason of bodily injury, including death, and property damage suffered by any person, including Lessor, its employees and others, caused by or arising out of the Lessee's use and occupancy of the Leased Premises or the Lessee's performance hereunder.

(b) Subject to its obligations to maintain lighting and fencing in accordance with Section 8, Lessor shall have no responsibility to provide any security services or facilities at the Leased Premises or otherwise guard or protect the Leased Premises from unauthorized entry or the acts or omissions of any trespassers or other third parties, including damage to or theft of any property

of the Lessee on the Leased Premises. All property of any kind of the Lessee on the Leased Premises shall be at the sole risk of the Lessee.

(c) Lessee shall hold Lessor harmless from any liability for labor or material supplied for work done by or for Lessee, and shall keep the Leased Premises free and clear of all mechanics' liens or liens of any kind for work done by or for Lessee, provided, however, that in no event shall Lessee be required to hold Lessor harmless for work Lessor performs or causes to have performed under this Lease.

(d) Lessor shall hold Lessee harmless from any liability from and against any and all loss, cost, damage, liability or expense, including attorney's fees, for liabilities incurred by Lessee as a result of Lessor's negligent behavior to perform its obligations under this Contract.

(e) Lessee is responsible, at Lessee's sole cost and expense, for the remediation of any and all contamination to the environment comprising the Leased Premises and its surrounding areas, including but not limited to air, soil and water, arising out of or caused by or from Lessee's use or occupancy of the Leased Premises or the installation, operation and maintenance by Lessee of any approved Lease facilities or appurtenances, including but not limited to the Lessee's emergency generator diesel fuel tank. In the event of a release by Lessee or Lessee's facilities or appurtenances of any substance(s) or material(s) that adversely impacts the environment, Lessee is responsible at its sole cost and expense to return the environment to a condition reasonably acceptable to Lessor and to that required by applicable regulatory standards.

12. LESSEE'S REPRESENTATIVE

Lessee represents to Lessor that (i) the Seabrook Joint Owners are all of the participant parties to a certain Agreement for Joint Ownership, Construction and Operation of New Hampshire Nuclear Units, dated May 1, 1973, as amended (the "Joint Ownership Agreement") and have, pursuant to a certain Seabrook Project Managing Agent Operating Agreement made as of June 29, 1992, transferred and delegated to NextEra, as managing agent, authority to act for and on their behalf in the management of the operations of Seabrook Station, and (ii) the entering into and performance of this Lease by NextEra, as managing agent for the Seabrook Joint Owners, is within the scope of the management authority delegated to NextEra by the Seabrook Joint Owners. Lessee agrees that Lessor may rely upon such representations and deal exclusively with NextEra in all matters arising under or in connection with this Lease, unless and until such time as Lessor shall have been informed in writing by the Lessee of a transfer of NextEra's managing agent authority to another entity.

13. ASSIGNMENT

Lessee may not assign this Lease in whole or in part or sublet the Leased Premises or any part thereof without the prior written consent of the Lessor, which consent shall not be unreasonably withheld. Notwithstanding the foregoing, each Seabrook Joint Owner reserves the right, in connection with a comparable assignment or transfer of its ownership interest under the Joint

Ownership Agreement, to assign its interest hereunder, in whole or in part, to any other entity which is or becomes a participant party under the Joint Ownership Agreement.

14. INSURANCE

(a) Lessee will provide and maintain the following insurance during the initial and any extended term of this Lease: (i) Comprehensive General Liability Insurance with limits of not less than $1,000,000 for injury or death to any one person; not less than $1,000,000 for injuries or deaths from any one accident, and not less than $1,000,000 for property damage, naming the Lessor as an additional insured with respect to all third party claims for property damage, death or personal injury, and (ii) Worker's Compensation Insurance as required by applicable law.

(b) Lessee shall annually, upon request, evidence to the Lessor in form satisfactory to the Lessor, that it is complying with the foregoing requirements with respect to insurance by causing its insurance broker to issue certificates of insurance, and shall upon request of the Lessor from time to time furnish copies of the policies to the Lessor or its attorneys.

15. SUBORDINATION

This Lease and all rights of Lessee and Lessee's authorized assignees under this Lease shall be subject and subordinate to the lien on the Leased Premises created or authorized by Lessor's First Mortgage Indenture (formerly the General and Refunding Mortgage Indenture), dated as of August 15, 1978, to U.S. Bank National Association, successor to Wachovia Bank, National Association and to First Union National Bank, formerly know as First Fidelity Bank, N.A., New Jersey, all supplemental indentures thereto, and to the lien of any supplemental indenture or any mortgage or trust indenture hereafter executed by Lessor, and to all renewals, modifications, consolidations, replacements and extensions thereof.

16. CASUALTY AND CONDEMNATION

(a) In the event the whole or a substantial portion of the Leased Premises shall be lawfully condemned or taken by any public authority such as to reasonably render the Leased Premises unusable for the intended purposes as an BOF in connection with the operation of Seabrook Station, this Lease shall automatically terminate without further act of either party on the date when title to or possession of the Leased Premises shall be taken by such public authority, whichever first occurs, and each party shall be relieved of any further obligation to the other under this Lease except that Lessor shall rebate to Lessee a pro rata portion of any rent paid in advance. Any award for the condemnation or taking of all or any part of the Leased Premises shall be payable to Lessor and be the property of the Lessor. If a lesser portion of the Leased Premises is condemned or taken such as to still reasonably allow the intended use of the Leased Premises, then Lessee shall have the right to elect to continue this Lease in effect as to the remainder of the Leased Premises, with the parties to agree on an equitable adjustment in the rent to be paid by Lessee for the remainder.

(b) In the event that Building 5 and/or any other structures comprising all or a portion of the Leased Premises are damaged or destroyed, partially or totally, by fire or other casualty, such that

same becomes unusable in whole or in part, either party may, at its option and upon written notice to the other party, terminate this Lease, effective on the date on which such notice is received.

17. DEFAULT AND TERMINATION

The failure by Lessee to make any payment of rent when due, or the failure of Lessee to observe or perform any other term or condition of this Lease to be observed or performed by Lessee, and the continuation of such failure for a period of thirty (30) days after written notice thereof from Lessor to Lessee, shall constitute a default under and breach of this Lease by Lessee. Upon such default, Lessor, in addition to such other and all remedies it may lawfully have, shall have the right to terminate this Lease, effective on the date on which written notice of termination is given by Lessor to Lessee, and without any additional notice or demand to enter upon the Leased Premises and repossess same and expel Lessee and those claiming under Lessee and remove Lessee's personal property from the Leased Premises, all without being guilty of any trespass or liable for any loss or damage.

18. TRANSFER BY LANDLORD

(a) Lessee acknowledges that Newington Station, inclusive of the Leased Premises, may be sold or otherwise transferred by Lessor during the term of this Lease. Lessor may sell, assign, convey or otherwise transfer all or any portion of its interests in this Lease and the Leased Premises. Any such sale or other transfer of the Leased Premises shall be subject to this Lease and all of the terms, conditions and obligations thereof; provided, however, that in the event of any such sale or transfer of the Leased Premises by Lessor, Lessor shall be relieved from and after the effective date thereof of all liability under any and all covenants and obligations contained in this Lease, and that such covenants and obligations shall be assumed by the buyer or transferee of the Lease premises. As used in this Section 18, the term "Lessor" refers to Public Service Company of New Hampshire, and any successor Lessor with respect to any subsequent transfer of the Premises by such successor Lessor.

(b) Within ten (10) days after written demand from Lessor, Lessee shall be obligated to execute and deliver to Lessor, without charge to Lessor, an estoppel certificate in writing certifying that this Lease, as same may have been modified or amended, is in full force and effect, certifying the date to which the rent is paid in advance, and certifying that, to Lessee's knowledge, there is not any uncured default on the part of the Lessor (or specifying such default if claimed). Such certificate may be conclusively relied upon by any purchaser of the Leased Premises. Lessee's failure or refusal to provide such a certificate shall constitute a default under and breach of this Lease.

19. QUIET POSSESSION

Subject to Lessee's faithful performance of the terms and conditions of this Lease, Lessee shall be entitled to peaceably and quietly have, hold and enjoy the Leased Premises in accordance with the terms conditions of this Lease applicable to Lessee's use and occupancy.

20. ENTIRE AGREEMENT

This Lease constitutes the entire agreement of the parties and may not be amended or modified except in writing signed by both parties. All agreements and understandings between the parties are merged into this Lease, which alone fully expresses their agreement with respect to the subject matter hereof. Failure by either party to insist upon strict performance of any of the terms or conditions herein shall not be construed as a waiver of any rights, and shall not be deemed a waiver of any subsequent breach or default in the terms and conditions herein contained.

21. SEVERABILITY

If any provisions of this Lease shall be declared by any court of competent jurisdiction to be invalid or unenforceable, such declaration shall not affect the validity of the remaining provisions which shall remain in full force and effect.

22. APPLICABLE LAW

This Lease shall be construed and interpreted in accordance with the laws of the State of New Hampshire.

23. BINDING EFFECT

Subject to the provisions of Sections 13 and 18, the terms and conditions of this Lease shall be binding upon and shall inure to the benefit of the successors and assigns of the parties hereto.

24. NOTICES

Any notice sent or required to be sent hereunder shall be deemed duly served if delivered or mailed by registered or certified mail, return receipt requested, postage prepaid, addressed as follows: to Lessor - Public Service Company of New Hampshire, 780 North Commercial Street, P. O. Box 330, Manchester, NH 03105-0330, Attention: Real Estate Department; to Lessee - NextEra Energy Seabrook, LLC, c/o Seabrook Station, Lafayette Road, Seabrook, NH 03874, Attention: Purchasing & Contracts Manager. Either party may, by written notice to the other, change the address to which notices shall be delivered or sent. Any notice or other communication given or furnished, or any action taken by NextEra, making reference to this Agreement and given, furnished or taken in accordance herewith, shall be deemed to be notice given or communication furnished or action taken by and on behalf of the Lessee.

25. PRIOR LEASE TERMINATED

Lessor and Lessee agree that this Lease supersedes and replaces the 2000 EOF Lease, as well as the 1987 EOF Lease, which are hereby canceled and terminated by the parties effective as of the effective date of this Lease, and is no longer in force or in effect between the parties. Lessor and Lessee hereby mutually release each other from any and all rights, obligations and claims of any kind under the 2000 EOF Lease.

IN WITNESS WHEREOF, the Lessor and Lessee have caused this instrument to be executed by their duly authorized officers as of the day and year first above written.

PUBLIC SERVICE COMPANY
OF NEW HAMPSHIRE

Anne-Marie Sommer
Witness

By: _____
John M. MacDonald
Vice President - Generation

SEABROOK JOINT OWNERS
By: NextEra Energy Seabrook, LLC, Agent

Shirley Sweeney
Witness

By: _____
Name: Paul O Freeman
Title: Vice President
NextEra Energy Seabrook, LLC
Duly Authorized

SUMMARY OF CHANGES

Rev. 56:

Updated letter of agreement with the Commonwealth of Massachusetts and the State of New Hampshire. Updated lease agreements with Public Service New Hampshire for the Emergency Operations Facility at Newington Station and for the remote monitoring/decontamination facility at Schiller Station.

Rev. 55:

Updated the letter of agreement with the Seabrook Fire Department with agreement dated August 2007.

Rev. 54:

This appendix was unaffected by this revision to the manual.

Rev. 53:

Added the following on the Table of Contents: NOTE 1: The INPO emergency assistance agreement is initiated by INPO with its member utilities. The agreement is certified to remain in effect annually by INPO by letter of agreement to its member utilities. The current letter of certification is posted annually by INPO on the INPO website under emergency preparedness. For that reason, the current INPO letter of agreement is not maintained in the SSREP.

Rev. 52:

Added a protected step reference to FPL Common Letter L-2005-214 to the index of letters of agreement. (CR 06-02328)

Rev. 51:

This appendix was unaffected by this revision to the manual.

Rev. 50

Updated Letters of Agreement to include most recent Institute of Nuclear Power Operations emergency assistance agreement.

TIBCK02 PASSPORT DOCUMENT TRANSMITTAL

To : DCC/NRC WASH OFFSITE C165
Facility : SEA Department :
Address : OFF
C165

From : SEA-DC Attention: Document Control
Address : Mail Code 02-85
PO Box 300

City : SEABROOK State: NH Postal Code:
Country : UNITED STATES Email:
Contact :

Date/Time : 11/23/2010 07:00 Transmittal Group ID: 0000004038 Transmittal Number: 000050548
Total Items: 00013 Title: UPDATE PER CHG INST/CONTROLLED COPY (BEHAN) Page: 1

Item	Fac	Type	Sub	Document Number	Sheet	Doc Status	Rev	Doc Date	Cpy#	Media	Cpys
0001	SEA	MAN	STN	SSER		ACTIVE	119		1	HC	01
0002	SEA	PROC	AD	ER1.1		ACTIVE	049		1	HC	01
0003	SEA	PROC	AD	ER1.2		ACTIVE	055		1	HC	01
0004	SEA	PROC	AD	ER2.0		ACTIVE	033		1	HC	01
0005	SEA	PROC	AD	ER3.1		ACTIVE	049		1	HC	01
0006	SEA	PROC	AD	ER3.2		ACTIVE	044		1	HC	01
0007	SEA	PROC	AD	ER3.3		ACTIVE	046		1	HC	01
0008	SEA	PROC	AD	ER3.5		ACTIVE	032		1	HC	01
0009	SEA	PROC	AD	ER5.2		ACTIVE	038		1	HC	01
0010	SEA	PROC	AD	ER5.3		ACTIVE	028		1	HC	01
0011	SEA	PROC	AD	ER5.4		ACTIVE	032		1	HC	01
0012	SEA	PROC	AD	ER5.7		ACTIVE	033		1	HC	01
0013	SEA	PROC	AD	ER6.0		ACTIVE	002		1	HC	01

Security : Y	Destroy Documents	Date:
Form of Destruction	Signature of Destroyer	Signature of Witness

Marked (*) documents require your acknowledgement.

Acknowledgement Date : Signature:

CHANGE INSTRUCTIONS

EMERGENCY RESPONSE MANUAL

(SSER)

REMOVE	INSERT	
Cover	Cover	Rev. 119
Table of Contents	Table of Contents	Rev. 119
List of Effective Pages	List of Effective Pages	Rev. 119
PROCEDURES		
ER 1.1: Pages 1 thru 79 Note: Do NOT remove forms ER1.1A, B or C	ER 1.1: Pages 1 thru 80	Rev. 49
ER 1.2 (entire)	ER 1.2	Rev. 55
ER 2.0 (entire)	ER 2.0	Rev. 33
ER 3.1 (entire)	ER 3.1	Rev. 49
ER 3.2 (entire)	ER 3.2	Rev. 44
ER 3.3 (entire)	ER 3.3	Rev. 46
ER 3.5 (entire)	ER 3.5	Rev. 32
ER 5.2 (entire)	ER 5.2	Rev. 38
ER 5.3 (entire)	ER 5.3	Rev. 28
ER 5.4 (entire)	ER 5.4	Rev. 32
ER 5.7 (entire)	ER 5.7	Rev. 33
ER 6.0 (entire)	ER 6.0	Rev. 02

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SEABROOK STATION

PROGRAM MANUAL

Emergency Response Manual

SSER
Rev. 119

Manual Owner:
Emergency Preparedness Manager

EMERGENCY RESPONSE MANUAL
(SSER)

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SEABROOK STATION

ADMINISTRATIVE PROCEDURE

Classification of Emergencies

ER 1.1

Rev. 49

Procedure Owner:
D. Young

Contents and Revision Status

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1.0 OBJECTIVES

This procedure specifies the Initiating Conditions and Emergency Action Levels (EALs) used to classify emergencies in accordance with the Seabrook Station Radiological Emergency Plan (SSREP).

1.1 Discussion

When making classifications based upon lights, alarms and other indications, caution must be exercised in the review of these indications to ensure the validity of the information.

When two or more emergency initiating conditions exist and different emergency classifications result, the higher emergency classification will be used.

Critical safety function evaluation for emergency classification purposes should be performed in accordance with the guidance contained in the Operations Management Manual (OPMM). Critical safety functions for emergency classification considerations apply when they become applicable in the EOP network. In Modes 1, 2 and 3, this is defined as after leaving E-0 or when directed by E-0 to monitor them. In Mode 4, an emergency classification based on a non-green Critical Safety Function Status Tree (CSFST) would be required if the CSFST is applicable and operators make an entry into the associated Functional Restoration Procedure (FRP).

Proper use of the CSFSTs as EALs requires that CSF challenges be identified consistent with the procedure transition criteria specified in the EOP network. A non-green CSFST should not be used as the basis for emergency classification unless the EOP criteria directing the transition into the associated FRP are met. This includes situations where the operation of plant equipment, in accordance with an EOP network procedure, is driving a non-green CSFST terminus. A CSF must be "truly" challenged, in a sense recognized by the EOP network procedures, for the associated CSFST to be the basis for a valid emergency declaration.

An emergency declaration in the Control Room occurs when the Short Term Emergency Director (STED) announces the selected Emergency Class to the Control Room staff in accordance with the applicable STED checklist in Procedure ER 1.2, Emergency Plan Activation. An emergency declaration in the Technical Support Center (TSC) occurs when the Site Emergency Director (SED) announces the selected Emergency Class to the TSC staff. If the SED is in the Control Room during event reclassification, the emergency declaration occurs when the SED announces the selected Emergency Class to the Control Room staff

The emergency declaration should be made within 15 minutes following indication that conditions have reached an EAL threshold unless a delay is necessary based on competing safety-related activities. The 15-minute goal is a reasonable period of time for assessing, classifying and declaring an emergency once indications are available to control room operators that an EAL has been exceeded. Allowing a delay in classifying and declaring an emergency up to 15 minutes will have minimal impact upon the overall emergency response to protect the public health and safety. The 15-minute goal should not be interpreted as providing a grace period during which an attempt is made to restore plant conditions and avoid declaring an emergency.

For EAL thresholds that specify a duration of the off-normal condition (e.g., 15 minutes), the emergency declaration "clock" runs concurrently with the specified threshold duration "clock". Once the off-normal condition has existed for the duration specified in the EAL, no further classification assessment time is allowed. The EAL has been exceeded and a prompt emergency declaration is required. Example: Initiating Condition HU2, EAL #2, "FIRE not extinguished within 15 minutes of control room notification or verification of a control room alarm." On receipt of a fire alarm, the Fire Brigade is dispatched to the scene to begin fire fighting efforts. If the fire is still burning after 15 minutes has elapsed, the EAL is exceeded and the emergency declaration must be made promptly.

If the emergency-related indications completely clear before a declaration of an emergency classification level has been made, then no emergency classification is required. The Shift Manager shall notify the Emergency News Manager within one hour of the termination of the emergency-related indications that emergency-related indications briefly existed, but cleared prior to the declaration of an emergency classification. The Emergency News Manager will initiate state notifications per good neighbor notification procedures. The event shall be reported to the NRC in accordance with 10 CFR 50.72 and 50.73 per the Regulatory Compliance Manual, and within 1 hour of the discovery of the undeclared event.

If emergency-related indications are received and later cleared, and after the fact it is determined that an emergency classification was warranted but not made, then no emergency classification is required. The Shift Manager shall notify the Emergency News Manager within one hour of discovery that an emergency classification was warranted but not declared and that emergency-related indications no longer exist. The Emergency News Manager will initiate state notifications per good neighbor notification procedures. The event shall be reported to the NRC in accordance with 10 CFR 50.72 and 50.73 per the Regulatory Compliance Manual, and within 1 hour of the discovery of the undeclared event.

If emergency-related indications are received and reduce in severity, such that the emergency classification went from an earlier higher level to a current lower level, the current lower level emergency should be declared. State and NRC notifications shall be made in accordance with Procedure ER 1.2.

If emergency conditions are initially classified as an Alert or higher, and then subsequently reclassified to an Unusual Event, all ERO members should continue to report to their facilities. Although activation of the Technical Support Center, Operational Support Center, and Emergency Operations Facility are not required, the ERO staff will be available to assist with event recovery efforts, interface with State emergency response personnel, and respond to information requests from the media, elected officials and industry organizations.

When the EOF is activated, dose projection results used for classifying emergencies will normally originate in the EOF. The EOF will communicate the results to the Site Emergency Director for classification of the emergency. If dose projection results are obtained from another source (e.g., the TSC), the Site Emergency Director shall direct the Health Physics Coordinator to obtain the concurrence of the EOF Coordinator before reclassifying the emergency based on the A category EALs. (Protected: Ref. 6.12)

Standard emergency class definitions are as follows:

- **Unusual Event** - Events are in process or have occurred which indicate a potential degradation in the level of safety of the plant or indicate a security threat to facility protection has been initiated. No releases of radioactive material requiring offsite response or monitoring are expected unless further degradation of safety systems occurs.

- **Alert** - Events are in process or have occurred which involve an actual or potential substantial degradation in the level of safety of the plant or a security event that involves probable life threatening risk to site personnel or damage to site equipment because of HOSTILE ACTION. Any releases are expected to be limited to small fractions of the EPA Protective Action Guideline exposure levels.

- **Site Area Emergency** - Events are in process or have occurred that involve actual or likely major failures in plant functions needed for protection of the public or HOSTILE ACTION that results in intentional damage or malicious acts; (1) toward site personnel or equipment that could lead to the likely failure of or ; (2) prevent effective access to, equipment needed for the protection of the public. Any releases are not expected to result in exposure levels which exceed the EPA Protective Action Guideline exposure levels beyond the site boundary.

- **General Emergency** - Events are in process or have occurred which involve actual or imminent substantial core degradation or melting with potential for loss of containment integrity or HOSTILE ACTION that result in an actual loss of physical control of the facility. Releases can be reasonably expected to exceed EPA Protective Action Guideline exposure levels offsite for more than the immediate site area.

HOSTILE ACTION is defined as: An act toward a nuclear power plant or its personnel that includes the use of violent force to destroy equipment, take hostages, and/or intimidate the licensee to achieve an end. This includes attack by air, land, or water using guns, explosives, projectiles, vehicles, or other devices used to deliver destructive force. Other acts that satisfy the overall intent may be included. HOSTILE ACTION should not be construed to include acts of civil disobedience or felonious acts that are not part of a concerted attack on the nuclear power plant. Non-terrorism-based EALs should be used to address such activities (e.g., violent acts between individuals in the owner-controlled area).

HOSTILE FORCE is defined as one or more individuals who are engaged in a determined assault, overtly or by stealth and deception, equipped with suitable weapons capable of killing, maiming, or causing destruction.

2.0 RESPONSIBILITIES

2.1 Unit Supervisor

Responsible for assuming the role of Short Term Emergency Director (STED) until the Shift Manager has reported to the Control Room.

2.2 Shift Manager

Responsible for classifying observed station conditions in accordance with the emergency classification system specified in this procedure and reclassifying the emergency as necessary until relieved by the Site Emergency Director.

2.3 Site Emergency Director

Responsible for analyzing changing station conditions and reclassifying the emergency classification in accordance with this procedure.

3.0 PRECAUTIONS

1. Final emergency classifications are contingent upon the evaluation and discretion of the Shift Manager or the Site Emergency Director. The Shift Manager or Site Emergency Director may make an emergency classification based on clear indications that the event trajectory meets the intent of the initiating condition, although the associated emergency action levels have not yet been met or exceeded.

2. Critical safety function status tree (CSFST) color displays must be sustained indications of continuous conditions. Conditions indicated by CSFST displays must be evaluated and verified using hardwired information before they are used as bases for emergency classifications or for protective action recommendations.

3. Offsite dose projections are required in the event that any of the following conditions occur:

   a. HI alarm on Wide Range Gas Monitor (WRGM) effluent rate monitor (RM-6528-4), or

   b. HI alarm on a Main Steam Line Monitor with an OPEN atmospheric steam dump valve (ASDV) or safety relief valve (SRV) on the affected line, or

   c. HI alarm on a Main Steam Line Monitor with the steam driven EFW pump running and fed from the affected line.

   At the discretion of the Shift Manager, offsite dose projections may be performed after the initial declaration is made based on other plant or radiological conditions.

4. An emergency declaration should be made as soon as possible after indications are available that an EAL has been exceeded, not to exceed 15 minutes unless warranted by extenuating circumstances.

4.0 PREREQUISITES

An emergency initiating condition has occurred.

5.0 ACTIONS

Shift Manager/Site Emergency Director

5.1 Emergency Classification

1. Depending upon the plant mode in effect when the potential emergency initiating condition occurs, review the following forms.

Station Mode	Forms to Review
1, 2, 3 or 4	ER 1.1 A, Emergency Initiating Condition Matrix Modes 1, 2, 3 and 4 ER 1.1C, Fission Product Barrier Degradation Matrix Modes 1, 2, 3 and 4
5, 6 and Defueled	ER 1.1B, Emergency Initiating Condition Matrix Modes 5, 6 and Defueled

2. If an emergency classification is being considered under a radiological effluent EAL which requires a dose projection (AS1 or AG1), implement offsite dose assessment using procedure ER 5.7, Initial Offsite Dose Projection.

   In the event of a radiological release via the turbine-driven EFW pump exhaust, dispatch a monitoring team to the downwind site boundary location to obtain a site boundary dose rate and use the Unmonitored Release Path of Raddose.

3. Circle the potential emergency initiating condition(s) on each Form. This assessment must be performed promptly to support the goal of making an emergency declaration within 15 minutes of initial EAL indications becoming available in the Control Room.

4. For Category A, E, H, S and C events, refer to the initiating condition EAL(s) in Figure 1 and verify that either the EAL(s) is met or the intent is met. All Category F EALs are presented on Form ER 1.1C (i.e., not in Figure 1).

5. Identify the most severe (highest) emergency classification for which the EAL(s) is met or the intent of the initiating condition is met.

> **NOTE**
> Steps 6 and 7 are not applicable after the Technical Support Center is activated at an Alert or higher classification.

6. If an emergency declaration is warranted, immediately implement Station Emergency Response Procedure ER 1.2, Emergency Plan Activation.

7. If an emergency declaration is not warranted, document the applicability review and basis for the decision not to implement the emergency plan in the Unit journal.

6.0 REFERENCES

1. Seabrook Station Radiological Emergency Plan

2. ER 1.2, Emergency Plan Activation

3. ER 5.7, Initial Offsite Dose Projection

4. E-3, Steam Generator Tube Rupture

Figure 1
Initiating Conditions and Emergency Action Levels

ABNORMAL RAD LEVELS/RADIOLOGICAL EFFLUENT

AU1

Initiating Condition -- UNUSUAL EVENT

Any UNPLANNED release of gaseous or liquid radioactivity to the environment > 2 times the ODCM limits for ≥ 60 minutes

Operating Mode Applicability: All

Emergency Action Levels:

Note: *The STED/SED should not wait until the applicable time has elapsed, but should declare the event as soon as it is determined that the release duration has exceeded, or will likely exceed, the applicable time. In addition, if an ongoing release is detected, and the release start time is unknown, the STED/SED should, in the absence of data to the contrary, assume that the release duration has exceeded the applicable time.*

1. a. VALID reading on any of the following effluent monitors > 2 times the value of the current high-alarm setpoint for 60 minutes or longer.

   - RM-6509-1 (WTT Disch)
   - RM-6521-1 (TB Sump)
   - RM-6519-1 (SG Blowdown)
   - RM-6473-1 (WT LIQ EFF)
   - RM-6528-4 (WRGM rate)

   AND

   b. The discharge flow to the environment is not isolated within 60 minutes.

   **** OR ****

2. a Detection of an uncontrolled liquid or gaseous release to the environment.

   AND

   b. The release duration is 60 minutes or longer.

   AND

   c. Sample analysis of the release indicates concentrations or release rates in excess of 2 times ODCM allowable limits (see next page).

Figure 1
Initiating Conditions and Emergency Action Levels

AU1 - Continued

Gaseous Release Limits

For noble gases: Less than or equal to 500 mrems/yr to the whole body and less than or equal to 3000 mrems/yr to the skin

OR

For Iodine-131, for Iodine-133, for tritium, and for all radionuclides in particulate form with half-lives greater than 8 days: Less than or equal to 1500 mrems/yr to any organ.

Liquid Release Limits

The concentration of radioactive material released in liquid effluents at the point of discharge from the multiport diffuser (see Technical Specifications Figure 5.1-3) shall be limited to not more than ten times the concentrations specified in 10 CFR Part 20, Appendix B, Table 2, Column 2, for radionuclides other than dissolved or entrained noble gases. For dissolved or entrained noble gases, the concentration shall be limited to 2×10^{-4} µCi/ml total activity.

Figure 1
Initiating Conditions and Emergency Action Levels

ABNORMAL RAD LEVELS/RADIOLOGICAL EFFLUENT

AU2

Initiating Condition -- UNUSUAL EVENT

Unexpected increase in plant radiation

Operating Mode Applicability: All

Emergency Action Levels:

1. a. A VALID uncontrolled decrease of water level is indicated on either:

   - 1-SF-LI-2607 (Spent Fuel Pool Level), or
   - 1-SF-LI-2629 or 1-SF-LIT-2629-1 (Reactor Refuel Cavity Level)

   AND

   b. Irradiated fuel assemblies remained covered by water.

   AND

   c. UNPLANNED and VALID reading increase on one of the following Area Radiation Monitors.

   - RM-6535-A-1, Containment Manipulator Crane
   - RM-6535-B-1, Containment Manipulator Crane
   - RM-6549-1, FSB Spent Fuel Range Low
   - RM-6518-1, FSB Spent Fuel Range Hi

   **** OR ****

2. UNPLANNED and VALID increase in an Area Radiation Monitor reading by a factor of 1000 over normal* levels.

   *Normal levels can be considered as the highest reading in the past twenty-four hours excluding the current peak value.

Figure 1
Initiating Conditions and Emergency Action Levels

ABNORMAL RAD LEVELS/RADIOLOGICAL EFFLUENT

AA1

Initiating Condition -- ALERT

Any UNPLANNED release of gaseous or liquid radioactivity to the environment > 200 times the ODCM limits for ≥ 15 minutes

Operating Mode Applicability: All

Emergency Action Levels:

Note: *The STED/SED should not wait until the applicable time has elapsed, but should declare the event as soon as it is determined that the release duration has exceeded, or will likely exceed, the applicable time. In addition, if an ongoing release is detected, and the release start time is unknown, the STED/SED should, in the absence of data to the contrary, assume that the release duration has exceeded the applicable time.*

1. a. VALID reading on any of the following effluent monitors > 200 times the value of the current high-alarm setpoint for 15 minutes or longer.

   - RM-6509-1 (WTT Disch)
   - RM-6521-1 (TB Sump)
   - RM-6519-1 (SG Blowdown)
   - RM-6473-1 (WT LIQ EFF)
   - RM-6528-4 (WRGM rate)

AND

b. The discharge flow to the environment is not isolated within 15 minutes.

**** OR ****

Figure 1
Initiating Conditions and Emergency Action Levels

AA1 - Continued

2. a. VALID reading of > 10 mR/hr on one or more main steam line radiation monitors for 15 minutes or longer.

   - RM-6481-1 (MSL A)
   - RM-6482-1 (MSL B)
   - RM-6482-2 (MSL C)
   - RM-6481-2 (MSL D)

AND

b. Release path to the environment from affected steam line, e.g., open ASDV or SRV, line is faulted, open steam supply to 1-FW-P-37A, etc.

**** OR ****

3. a Detection of an uncontrolled liquid or gaseous release to the environment.

AND

b. The release duration is 15 minutes or longer.

AND

c. Sample analysis of the release indicates concentrations or release rates in excess of 200 times ODCM allowable limits.

Gaseous Release Limits

For noble gases: Less than or equal to 500 mrems/yr to the whole body and less than or equal to 3000 mrems/yr to the skin

OR

For Iodine-131, for Iodine-133, for tritium, and for all radionuclides in particulate form with half-lives greater than 8 days: Less than or equal to 1500 mrems/yr to any organ.

Liquid Release Limits

The concentration of radioactive material released in liquid effluents at the point of discharge from the multiport diffuser (see Technical Specifications Figure 5.1-3) shall be limited to not more than ten times the concentrations specified in 10 CFR Part 20, Appendix B, Table 2, Column 2, for radionuclides other than dissolved or entrained noble gases. For dissolved or entrained noble gases, the concentration shall be limited to 2×10^{-4} μCi/ml total activity.

Figure 1
Initiating Conditions and Emergency Action Levels

ABNORMAL RAD LEVELS/RADIOLOGICAL EFFLUENT

AA2

Initiating Condition -- ALERT

Damage to irradiated fuel or loss of water level that has or will result in the uncovering of irradiated fuel outside the reactor vessel

Operating Mode Applicability: All

Emergency Action Levels:

1. An UNPLANNED and VALID high-alarm, or reading in excess of the current high-alarm setpoint, on one or more of the following radiation monitors:

   - RM-6518-1, FSB High Range
   - RM-6562-1, FSB Vent
   - RM-6535A-1, Manip Crane
   - RM-6535B-1, Manip Crane

**** OR ****

2. An irradiated fuel assembly is uncovered in the reactor refueling cavity, spent fuel pool or fuel transfer canal.

Figure 1
Initiating Conditions and Emergency Action Levels

ABNORMAL RAD LEVELS/RADIOLOGICAL EFFLUENT

AA3

Initiating Condition -- ALERT

Release of radioactive material or increases in radiation levels within the facility that impedes operation of systems required to maintain safe operations or to establish or maintain cold shutdown

Operating Mode Applicability: All

Emergency Action Levels:

1. VALID radiation monitor or survey readings > 15 mR/hr in the Control Room, the Central Alarm Station (CAS) or the Secondary Alarm Station (SAS).

**** OR ****

2. VALID radiation monitor or survey readings > 1 R/hr in areas requiring infrequent access to maintain plant safety functions.

   - Diesel Generator Building
   - Remote Safe Shutdown Panels
   - Main Steam & Feedwater Pipe Chases
   - Emergency Feedwater Pumphouse
   - Condensate Storage Tank Enclosure

Figure 1
Initiating Conditions and Emergency Action Levels

ABNORMAL RAD LEVELS/RADIOLOGICAL EFFLUENT

AS1

Initiating Condition -- SITE AREA EMERGENCY

Actual or projected offsite dose > 100 mRem TEDE or 500 mRem Thyroid CDE

Operating Mode Applicability: All

Emergency Action Levels:

Note: *If dose assessment results are available at the time of declaration, the classification should be based on EAL #2 instead of EAL #1. While necessary declarations should not be delayed awaiting results, the dose assessment should be initiated / completed in order to determine if the classification should be subsequently escalated.*

1. VALID reading on one or more of the following radiation monitors that exceeds, or is expected to exceed, the reading shown for 15 minutes or longer:

   - RM-6528-4 (WRGM rate): 2.85E+7 uCi/sec
   - RM-6481-1* (MSL A): See below for value based on Time After Shutdown (T_{sd})
   - RM-6482-1* (MSL B): See below for value based on Time After Shutdown (T_{sd})
   - RM-6482-2* (MSL C): See below for value based on Time After Shutdown (T_{sd})
   - RM-6481-2* (MSL D): See below for value based on Time After Shutdown (T_{sd})

$T_{sd} \leq 1$ hr	130	mR/hr
1 hr < $T_{sd} \leq 2$ hrs	100	mR/hr
2 hrs < $T_{sd} \leq 5$ hrs	50	mR/hr
$T_{sd} > 5$ hrs	20	mR/hr

   * *With release path to the environment from affected steam line, e.g., open ASDV or SRV, line is faulted, open steam supply to 1-FW-P-37A, etc.*

**** OR ****

2. Dose assessment using actual meteorology, and the actual or projected duration of the release, indicates doses > 100 mRem TEDE or 500 mRem thyroid CDE at or beyond the site boundary.

**** OR ****

3. Field survey results indicate closed window dose rates > 100 mR/hr expected to continue for more than one hour at or beyond the site boundary; OR analyses of field survey samples indicate thyroid CDE of > 500 mRem for one hour of inhalation at or beyond the site boundary.

Figure 1
Initiating Conditions and Emergency Action Levels

ABNORMAL RAD LEVELS/RADIOLOGICAL EFFLUENT

AG1

Initiating Condition -- GENERAL EMERGENCY

Actual or projected offsite dose > 1,000 mRem TEDE or 5,000 mRem Thyroid CDE

Operating Mode Applicability: All

Emergency Action Levels:

Note: *If dose assessment results are available at the time of declaration, the classification should be based on EAL #2 instead of EAL #1. While necessary declarations should not be delayed awaiting results, the dose assessment should be initiated / completed in order to determine if the classification should be subsequently escalated.*

1. VALID reading on one or more of the following radiation monitors that exceeds, or is expected to exceed, the reading shown for 15 minutes or longer:

   - RM-6528-4 (WRGM rate): 2.85E+8 uCi/sec
   - RM-6481-1* (MSL A): See below for value based on Time After Shutdown (T_{sd})
   - RM-6482-1* (MSL B): See below for value based on Time After Shutdown (T_{sd})
   - RM-6482-2* (MSL C): See below for value based on Time After Shutdown (T_{sd})
   - RM-6481-2* (MSL D): See below for value based on Time After Shutdown (T_{sd})

$T_{sd} \leq 1$ hr	1,310	mR/hr
1 hr < $T_{sd} \leq 2$ hrs	1,060	mR/hr
2 hrs < $T_{sd} \leq 5$ hrs	570	mR/hr
5 hrs < $T_{sd} \leq 10$ hrs	220	mR/hr
T_{sd} > 10 hrs	50	mR/hr

   * *With release path to the environment from affected steam line, e.g., open ASDV or SRV, line is faulted, open steam supply to 1-FW-P-37A, etc.*

**** OR ****

2. Dose assessment using actual meteorology, and the actual or projected duration of the release, indicates doses > 1,000 mRem TEDE or 5,000 mRem thyroid CDE at or beyond the site boundary.

**** OR ****

Figure 1
Initiating Conditions and Emergency Action Levels

AG1 - Continued

3. Field survey results indicate closed window dose rates > 1000 mR/hr expected to continue for more than one hour at or beyond the site boundary; OR analyses of field survey samples indicate thyroid CDE of > 5,000 mRem for one hour of inhalation, at or beyond site boundary.

Figure 1
Initiating Conditions and Emergency Action Levels

EVENTS RELATED TO ISFSI

E-HU1

Initiating Condition -- **UNUSUAL EVENT**

Damage to a loaded cask CONFINEMENT BOUNDARY

Operating Mode Applicability: All

Emergency Action Level:

1. Any indication that the CONFINEMENT BOUNDARY of a loaded dry shielded canister has been lost.

NOTE

CONFINEMENT BOUNDARY is the barrier(s) between areas containing radioactive substances and the environment.

For example, a survey detecting elevated radioactivity levels outside a dry shielded canister would be indicative of a loss of the CONFINEMENT BOUNDARY.

Figure 1
Initiating Conditions and Emergency Action Levels

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Figure 1
Initiating Conditions and Emergency Action Levels

HAZARDS AND OTHER CONDITIONS
AFFECTING PLANT SAFETY

HU1

Initiating Condition -- UNUSUAL EVENT

Natural and destructive phenomena affecting the PROTECTED AREA

Operating Mode Applicability: All

Emergency Action Level:

1. Seismic event identified by any **TWO** of the following:

   a. Earthquake felt in plant based on a consensus of Control Room operators on duty at the time.

   b. The yellow "EVENT" light is lit on seismic monitoring control panel 1-SM-CP-58.

   c. The occurrence of an earthquake is confirmed with the National Earthquake Information Center (or other source deemed reliable by the Shift Manager).

**** OR ****

2. a. Report by plant personnel of tornado within PROTECTED AREA boundary.

OR

   b. Winds speeds ≥ 90 mph as indicated by site meteorological instrumentation (or other source deemed reliable by the Shift Manager).

**** OR ****

3. Report by plant personnel of an unanticipated EXPLOSION within PROTECTED AREA boundary resulting in VISIBLE DAMAGE to permanent structure or equipment.

**** OR ****

4. Report of main turbine rotating component failure resulting in VISIBLE DAMAGE to the turbine casing or to the generator seals.

**** OR ****

Figure 1
Initiating Conditions and Emergency Action Levels

HU1 - Continued

5. Uncontrolled flooding in any of the following areas of the plant that has the potential to affect safety-related equipment needed for the current operating mode.

   - Condensate Storage Tank Enclosure
   - Containment
   - Control Building
   - Cooling Tower
   - Diesel Generator Building
   - Emergency Feedwater Pump House
   - Equipment Vault
   - Fuel Storage Building
   - Primary Auxiliary Building
   - Service Water Pump House
   - Steam and Feedwater Pipe Chases
   - North Tank Farm
   - Turbine Building

**** OR ****

6. The National Weather Service has issued a Hurricane Warning for areas that include the Town of Seabrook.

NOTE

VISIBLE DAMAGE is damage to equipment or structure that is readily observable without measurements, testing, or analysis. Damage is sufficient to cause concern regarding the continued operability or reliability of affected safety structure, system, or component. Example damage includes: deformation due to heat or impact, denting, penetration, rupture, cracking, paint blistering. Surface blemishes (e.g., paint chipping, scratches) should not be included.

Figure 1
Initiating Conditions and Emergency Action Levels

HAZARDS AND OTHER CONDITIONS
AFFECTING PLANT SAFETY

HU2

Initiating Condition -- UNUSUAL EVENT

FIRE within PROTECTED AREA boundary not extinguished within 15 minutes of detection

Operating Mode Applicability: All

Emergency Action Levels:

1. FIRE in any of the following buildings:

   - Condensate Storage Tank Enclosure
   - Containment
   - Control Building
   - Cooling Tower
   - Diesel Generator Building
   - Emergency Feedwater Pump House
   - Equipment Vault
   - Fuel Storage Building
   - Primary Auxiliary Building
   - Service Water Pump House
   - Steam and Feedwater Pipe Chases
   - North Tank Farm
   - Turbine Building

AND

2. FIRE not extinguished within 15 minutes of control room notification or verification of a control room alarm.

NOTE

Detection is visual observation and report by plant personnel or sensor alarm indication. The 15 minute time period begins with a credible notification that a FIRE is occurring, or indication of a VALID fire detection system alarm. Verification of a fire detection system alarm includes actions that can be taken with the control room or other nearby site-specific location to ensure that the alarm is not spurious. A verified alarm is assumed to be an indication of a FIRE unless it is disproved within the 15 minute period by personnel dispatched to the scene. In other words, a personnel report from the scene may be used to disprove a sensor alarm if received within 15 minutes of the alarm, but shall not be required to verify the alarm.

Figure 1
Initiating Conditions and Emergency Action Levels

HAZARDS AND OTHER CONDITIONS
AFFECTING PLANT SAFETY

HU3

Initiating Condition – UNUSUAL EVENT

Release of toxic, corrosive, asphyxiant or flammable gases deemed detrimental to normal operation of the plant

Operating Mode Applicability: All

Emergency Action Levels:

1. Toxic, corrosive, asphyxiant or flammable gases in amounts that have or could adversely affect NORMAL PLANT OPERATIONS.

**** OR ****

2. Report by Local, County or State Officials for evacuation or sheltering of site personnel based on an offsite event.

NOTE

NORMAL PLANT OPERATIONS: activities at the plant site associated with routine testing, maintenance, or equipment operations, in accordance with normal operating or administrative procedures. Entry into abnormal or emergency operating procedures, or deviation from normal security or radiological controls posture, is a departure from NORMAL PLANT OPERATIONS.

Figure 1
Initiating Conditions and Emergency Action Levels

HAZARDS AND OTHER CONDITIONS
AFFECTING PLANT SAFETY

HU4

Initiating Condition – UNUSUAL EVENT

Confirmed security event which indicates a potential degradation in the level of safety of the plant

Operating Mode Applicability: All

Emergency Action Levels:

1. A Code Yellow is reported by security shift supervision.

**** OR ****

2. A credible, site specific security threat notification.

**** OR ****

3. A validated notification from the NRC providing information of an aircraft threat.

Figure 1
Initiating Conditions and Emergency Action Levels

HAZARDS AND OTHER CONDITIONS
AFFECTING PLANT SAFETY

HU5

Initiating Condition – UNUSUAL EVENT

Other conditions existing which in the judgment of the STED/SED warrant declaration of an UNUSUAL EVENT.

Operating Mode Applicability: All

Emergency Action Level:

1. Other conditions exist which in the judgment of the STED/SED indicate that events are in process or have occurred which indicate a potential degradation of the level of safety of the plant or indicate a security threat to facility protection has been initiated. No releases of radioactive material requiring offsite response or monitoring are expected unless further degradation of safety systems occurs.

Figure 1
Initiating Conditions and Emergency Action Levels

HAZARDS AND OTHER CONDITIONS
AFFECTING PLANT SAFETY

HA1

Initiating Condition -- ALERT

Natural and destructive phenomena affecting the plant VITAL AREA

Operating Mode Applicability: All

Emergency Action Levels:

1. a. The yellow "EVENT" light is lit on seismic monitoring control panel 1-SM-CP-58.

AND

b. The red "OBE" light is lit on seismic monitoring control panel 1-SM-CP-58.

AND

c. Earthquake felt in plant based on a consensus of Control Room operators on duty at the time.

**** OR ****

2. Tornado or high winds ≥ 90 mph within PROTECTED AREA boundary resulting in

a. VISIBLE DAMAGE to any of the following buildings and areas, OR

b. Control Room indication of degraded performance of safety-related systems within these buildings and areas.

- Condensate Storage Tank Enclosure
- Containment
- Control Building
- Cooling Tower
- Diesel Generator Building
- Emergency Feedwater Pump House
- Equipment Vault
- Fuel Storage Building
- North Tank Farm
- Primary Auxiliary Building
- Service Water Pump House
- Steam and Feedwater Pipe Chases

**** OR ****

Figure 1
Initiating Conditions and Emergency Action Levels

HA1 – Continued

3. Vehicle crash resulting in

   a. VISIBLE DAMAGE to a system or component required for safe shutdown of the plant, OR

   b. Control Room indication of degraded performance of a system or component required for safe shutdown of the plant.

**** OR ****

4. Turbine failure-generated missiles resulting in VISIBLE DAMAGE to or penetration of any of the following buildings and areas.

- Condensate Storage Tank Enclosure
- Containment
- Control Building
- Cooling Tower
- Diesel Generator Building
- Emergency Feedwater Pump House
- Equipment Vault
- Fuel Storage Building
- North Tank Farm
- Primary Auxiliary Building
- Service Water Pump House
- Steam and Feedwater Pipe Chases

**** OR ****

5. Uncontrolled flooding in any of the following areas of the plant that results in
   a. degraded safety system performance as indicated in the control room, OR

   b. creates industrial safety hazards (e.g., electric shock) that precludes access necessary to operate or monitor safety equipment.

- Condensate Storage Tank Enclosure
- Containment
- Control Building
- Cooling Tower
- Diesel Generator Building
- Emergency Feedwater Pump House
- Equipment Vault
- Fuel Storage Building
- North Tank Farm
- Primary Auxiliary Building
- Service Water Pump House
- Steam and Feedwater Pipe Chases

NOTE

VISIBLE DAMAGE is damage to equipment or structure that is readily observable without measurements, testing, or analysis. Damage is sufficient to cause concern regarding the continued operability or reliability of affected safety structure, system, or component. Example damage includes: deformation due to heat or impact, denting, penetration, rupture, cracking, paint blistering. Surface blemishes (e.g., paint chipping, scratches) should not be included.

Figure 1
Initiating Conditions and Emergency Action Levels

HAZARDS AND OTHER CONDITIONS
AFFECTING PLANT SAFETY

HA2

Initiating Condition -- ALERT

FIRE or EXPLOSION affecting the operability of plant safety systems required to establish or maintain safe shutdown

Operating Mode Applicability: All

Emergency Action Level:

1. FIRE or EXPLOSION in any of the following areas:

   - Condensate Storage Tank Enclosure
   - Containment
   - Control Building
   - Cooling Tower
   - Diesel Generator Building
   - Emergency Feedwater Pump House
   - Equipment Vault
   - Fuel Storage Building
   - North Tank Farm
   - Primary Auxiliary Building
   - Service Water Pump House
   - Steam and Feedwater Pipe Chases

AND

2. Plant personnel report VISIBLE DAMAGE to permanent structures or equipment within the affected area, OR Control Room indication of degraded performance of safety-related systems within the area.

NOTE

VISIBLE DAMAGE is damage to equipment or structure that is readily observable without measurements, testing, or analysis. Damage is sufficient to cause concern regarding the continued operability or reliability of affected safety structure, system, or component. Example damage includes: deformation due to heat or impact, denting, penetration, rupture, cracking, paint blistering. Surface blemishes (e.g., paint chipping, scratches) should not be included.

Figure 1
Initiating Conditions and Emergency Action Levels

HAZARDS AND OTHER CONDITIONS
AFFECTING PLANT SAFETY

HA3

Initiating Condition -- ALERT

Release of a toxic, corrosive, asphyxiant or flammable gas within or contiguous to a VITAL AREA affecting equipment required to maintain safe operations, or establish or maintain safe shutdown

Operating Mode Applicability: All

Emergency Action Levels:

1. Report or detection of a toxic, corrosive, asphyxiant or flammable gas release within a VITAL AREA, or areas contiguous (in actual contact with or immediately adjacent) to a VITAL AREA.

AND

2. a. The operability of safety-related equipment is compromised due to personnel access restrictions.

OR

b. The operability of safety-related equipment is compromised due to potential or actual effects from the gas.

NOTE

EAL #1 is met if there is a significant release of gas. Significant means that the quantity of gas released could reasonably be expected to pose a threat to the safety of plant personnel or the operability of safety-related equipment.

EAL #2 is met if safety-related equipment cannot be operated when required, or the functionality of the equipment is (or will be) significantly impaired. These effects may be realized through restrictions placed on personnel access (e.g., local actions cannot be performed) or operation of equipment (e.g., stopping operation of a pump over concern that the electric motor may ignite a flammable gas).

Figure 1
Initiating Conditions and Emergency Action Levels

HAZARDS AND OTHER CONDITIONS
AFFECTING PLANT SAFETY

HA4

Initiating Condition -- ALERT

Confirmed security event in a plant PROTECTED AREA

Operating Mode Applicability: All

Emergency Action Levels:

1. Security shift supervision reports that an explosive device (BOMB) has been found inside the Protected Area.

**** OR ****

2. a. Security shift supervision reports that a suspected act of TAMPERING has occurred.

AND

b. The Shift Manager determines that the reported act of TAMPERING could directly, or indirectly, endanger the public health and safety by exposure to radiation.

NOTE

A BOMB refers to an explosive device suspected of having sufficient force to damage plant systems or structures.

TAMPERING is deliberately damaging, disabling, or altering equipment necessary for safe shutdown, or security equipment necessary for the protection of the facility, in order to defeat their function and/or prevent them from operating.

Figure 1
Initiating Conditions and Emergency Action Levels

HAZARDS AND OTHER CONDITIONS
AFFECTING PLANT SAFETY

HA5

Initiating Condition -- ALERT

Control Room evacuation has been initiated

Operating Mode Applicability: All

Emergency Action Level:

1. Entry into Procedure OS1200.02 for control room evacuation.

NOTE 1

In the event of a Control Room evacuation, Short Term Emergency Director (STED) actions may be performed from the Alternate TSC in the Online/Outage Control Center in the Administration Building. If time permits, take the STED packet from the Control Room with you; if not, SSER Manual checklists and forms are available in a file cabinet in the Online/Outage Control Center. Announce that TSC personnel should assemble in Online/Outage Control Center and await further instructions.

NOTE 2

If control of the plant is not established within 15 minutes of the announcement to man the Remote Safe Shutdown (RSS) panels, then declare a Site Area Emergency in accordance with Initiating Condition HS2.

Figure 1
Initiating Conditions and Emergency Action Levels

HAZARDS AND OTHER CONDITIONS
AFFECTING PLANT SAFETY

HA6

Initiating Condition -- ALERT

Other conditions existing which in the judgment of the STED/SED warrant declaration of an Alert.

Operating Mode Applicability: All

Emergency Action Level:

1. Other conditions exist which in the judgment of the STED/SED indicate that events are in process or have occurred which involve an actual or potential substantial degradation of the level of safety of the plant or a security event that involves probable life threatening risk to site personnel or damage to site equipment because of HOSTILE ACTION. Any releases are expected to be limited to small fractions of the EPA Protective Action Guideline exposure levels.

NOTE

HOSTILE ACTION is an act toward a Nuclear Power Plant (NPP) or its personnel that includes the use of violent force to destroy equipment, takes hostages, and /or intimidates the licensee to achieve an end. This includes attack by air, land, or water using guns, explosives, projectiles, vehicles, or other devices used to deliver destructive force. Other acts that satisfy the overall intent may be included. HOSTILE ACTION should not be construed to include acts of civil disobedience or felonious acts that are not part of a concerted attack on the NPP. Nonterrorism-based EALs should be used to address such activities, (e.g., violent acts between individuals in the owner controlled area.)

Figure 1
Initiating Conditions and Emergency Action Levels

HAZARDS AND OTHER CONDITIONS
AFFECTING PLANT SAFETY

HA7

Initiating Condition -- ALERT

Notification of an airborne attack threat

Operating Mode Applicability: All

Emergency Action Level:

1. A validated notification from the NRC of an airliner attack threat < 30 minutes away.

Figure 1
Initiating Conditions and Emergency Action Levels

HAZARDS AND OTHER CONDITIONS
AFFECTING PLANT SAFETY

HA8

Initiating Condition -- ALERT

Notification of HOSTILE ACTION within the Owner Controlled Area

Operating Mode Applicability: All

Emergency Action Level:

1. A notification from the site security force that an armed attack, explosive attack, airliner impact or other HOSTILE ACTION is occurring or has occurred within the Owner Controlled Area (OCA).

NOTE

HOSTILE ACTION is an act toward a Nuclear Power Plant (NPP) or its personnel that includes the use of violent force to destroy equipment, takes hostages, and /or intimidates the licensee to achieve an end. This includes attack by air, land, or water using guns, explosives, projectiles, vehicles, or other devices used to deliver destructive force. Other acts that satisfy the overall intent may be included. HOSTILE ACTION should not be construed to include acts of civil disobedience or felonious acts that are not part of a concerted attack on the NPP. Nonterrorism-based EALs should be used to address such activities, (e.g., violent acts between individuals in the owner controlled area.)

NOTE

This EAL is applicable for any HOSTILE ACTION occurring, or that has occurred, in the OWNER CONTROLLED AREA. This includes the Dry Fuel Storage Facility.

Figure 1
Initiating Conditions and Emergency Action Levels

HAZARDS AND OTHER CONDITIONS
AFFECTING PLANT SAFETY

HS2

Initiating Condition – SITE AREA EMERGENCY

Control Room evacuation has been initiated and plant control cannot be established

Operating Mode Applicability: All

Emergency Action Levels:

1. Control room evacuation has been initiated.

AND

2. Control of the plant cannot be established per Procedure OS1200.02 within 15 minutes.

NOTE 1

The intent of this IC is to capture those events where "control of the plant" cannot be reestablished in a timely manner. The determination of whether or not control is established at the remote shutdown panel is based on STED/SED judgment.

The intent of the EAL is to establish control of important plant equipment and knowledge of important plant parameters in a timely manner. Primary emphasis should be placed on those components and instruments that supply protection for, and information about, safety functions. These functions are reactivity control (ability to shutdown the reactor and maintain it shutdown), RCS inventory (ability to cool the core), and secondary heat removal (ability to maintain a heat sink).

Figure 1
Initiating Conditions and Emergency Action Levels

HAZARDS AND OTHER CONDITIONS
AFFECTING PLANT SAFETY

HS3

Initiating Condition – SITE AREA EMERGENCY

Other conditions existing which in the judgment of the STED/SED warrant declaration of Site Area Emergency

Operating Mode Applicability: All

Emergency Action Level:

1. Other conditions exist which in the judgment of the STED/SED indicate that events are in process or have occurred which involve an actual or likely major failures of plant functions needed for protection of the public or HOSTILE ACTION that results in intentional damage or malicious acts; (1) toward site personnel or equipment that could lead to the likely failure of or; (2) that prevent effective access to equipment needed for the protection of the public. Any releases are not expected to result in exposure levels which exceed EPA Protective Action Guideline exposure levels beyond the site boundary.

NOTE

HOSTILE ACTION is an act toward a Nuclear Power Plant (NPP) or its personnel that includes the use of violent force to destroy equipment, takes hostages, and /or intimidates the licensee to achieve an end. This includes attack by air, land, or water using guns, explosives, projectiles, vehicles, or other devices used to deliver destructive force. Other acts that satisfy the overall intent may be included. HOSTILE ACTION should not be construed to include acts of civil disobedience or felonious acts that are not part of a concerted attack on the NPP. Nonterrorism-based EALs should be used to address such activities, (e.g., violent acts between individuals in the owner controlled area.)

Figure 1
Initiating Conditions and Emergency Action Levels

HAZARDS AND OTHER CONDITIONS
AFFECTING PLANT SAFETY

HS4

Initiating Condition – SITE AREA EMERGENCY

Notification of HOSTILE ACTION within the PROTECTED AREA

Operating Mode Applicability: All

Emergency Action Level:

1. A notification from the site security force that an armed attack, explosive attack, airliner impact, or other HOSTILE ACTION is occurring or has occurred within the PROTECTED AREA.

NOTE

HOSTILE ACTION is an act toward a Nuclear Power Plant (NPP) or its personnel that includes the use of violent force to destroy equipment, takes hostages, and /or intimidates the licensee to achieve an end. This includes attack by air, land, or water using guns, explosives, projectiles, vehicles, or other devices used to deliver destructive force. Other acts that satisfy the overall intent may be included. HOSTILE ACTION should not be construed to include acts of civil disobedience or felonious acts that are not part of a concerted attack on the NPP. Nonterrorism-based EALs should be used to address such activities, (e.g., violent acts between individuals in the owner controlled area.)

NOTE

This Initiating Condition and EAL do not apply to an attack solely on the Dry Fuel Storage Protected Area. An attack on the Dry Fuel Storage Protected Area should be considered an attack within the Owner Controlled Area and classified as an Alert per Initiating Condition HA8.

Figure 1
Initiating Conditions and Emergency Action Levels

HAZARDS AND OTHER CONDITIONS
AFFECTING PLANT SAFETY

HG1

Initiating Condition – GENERAL EMERGENCY

Security event resulting in loss of physical control of the facility

Operating Mode Applicability: All

Emergency Action Level:

1. A HOSTILE FORCE has taken control of plant equipment such that plant personnel are unable to operate equipment required to maintain safety functions.

NOTE

This Initiating Condition encompasses conditions under which a HOSTILE FORCE has taken physical control of VITAL AREAs (containing vital equipment or controls of vital equipment) required to maintain safety functions, and control of that equipment cannot be transferred to and operated from another location. These functions are reactivity control (ability to shutdown the reactor and maintain it shutdown), RCS inventory (ability to cool the core), and secondary heat removal (ability to maintain a heat sink). If control of the plant equipment necessary to maintain safety functions can be transferred to another location, then the above initiating condition is not met.

This EAL also addresses the loss of physical control of spent fuel pool cooling systems if imminent fuel damage is likely (e.g., freshly off-loaded reactor core in pool).

NOTE

HOSTILE FORCE is one or more individuals who are engaged in a determined assault, overtly or by stealth and deception, equipped with suitable weapons capable of killing, maiming, or causing destruction.

Figure 1
Initiating Conditions and Emergency Action Levels

HAZARDS AND OTHER CONDITIONS
AFFECTING PLANT SAFETY

HG2

Initiating Condition – GENERAL EMERGENCY

Other conditions existing which in the judgment of the STED/SED warrant declaration of General Emergency.

Operating Mode Applicability: All

Emergency Action Level:

1. Other conditions exist which in the judgment of the STED/SED indicate that events are in process or have occurred which involve actual or imminent substantial core degradation or melting with potential for loss of containment integrity or HOSTILE ACTION that results in an actual loss of physical control of the facility. Releases can be reasonably expected to exceed EPA Protective Action Guideline exposure levels offsite for more than the immediate site area.

NOTE

HOSTILE ACTION is an act toward a Nuclear Power Plant (NPP) or its personnel that includes the use of violent force to destroy equipment, takes hostages, and /or intimidates the licensee to achieve an end. This includes attack by air, land, or water using guns, explosives, projectiles, vehicles, or other devices used to deliver destructive force. Other acts that satisfy the overall intent may be included. HOSTILE ACTION should not be construed to include acts of civil disobedience or felonious acts that are not part of a concerted attack on the NPP. Nonterrorism-based EALs should be used to address such activities, (e.g., violent acts between individuals in the owner controlled area.)

Figure 1
Initiating Conditions and Emergency Action Levels

SYSTEM MALFUNCTION

SU1

Initiating Condition -- **UNUSUAL EVENT**

Loss of all offsite power to AC emergency buses for > 15 Minutes

Operating Mode Applicability: 1, 2, 3 and 4

Emergency Action Levels:

Note: The Emergency Director should not wait until the applicable time has elapsed, but should declare the event as soon as it is determined that the condition has exceeded, or will likely exceed, the applicable time.

1. BOTH AC emergency busses E5 AND E6 are not powered from an offsite source for > 15 minutes.

NOTE
Evaluate Initiating Conditions SU3, SA4 and SS6 if approximately 75% or more of UA annunciators , Main Control Board indications and/or radiation monitor indications are lost.

Figure 1
Initiating Conditions and Emergency Action Levels

SYSTEM MALFUNCTION

SU2

Initiating Condition -- **UNUSUAL EVENT**

Inability to reach required shutdown within Technical Specification limits

Operating Mode Applicability: 1, 2, 3 and 4

Emergency Action Level:

1. The plant is not brought to a required operating mode within the time specified by a Technical Specification LCO Action Statement.

Figure 1
Initiating Conditions and Emergency Action Levels

SYSTEM MALFUNCTION

SU3

Initiating Condition -- **UNUSUAL EVENT**

UNPLANNED loss of most or all safety system annunciation or indication in the Control Room for > 15 minutes

Operating Mode Applicability: 1, 2, 3 and 4

Emergency Action Levels:

1. UNPLANNED loss of approximately 75% or more of UA annunciators for > 15 minutes.

**** OR ****

2. UNPLANNED loss of approximately 75% or more of Main Control Board indications for > 15 minutes.

**** OR ****

3. UNPLANNED loss of approximately 75% or more of radiation monitor indications for > 15 minutes.

Figure 1
Initiating Conditions and Emergency Action Levels

SYSTEM MALFUNCTION

SU4

Initiating Condition -- **UNUSUAL EVENT**

Fuel clad degradation

Operating Mode Applicability: 1, 2, 3 and 4

Emergency Action Levels:

1. VALID reading > 2,670 mR/hr on the letdown radiation monitor, RM-6520-1.

**** OR ****

2. Any Reactor Coolant System activity value greater than the Limiting Condition for Operation (LCO) of Technical Specification 3.4.8 Reactor Coolant System Specific Activity as indicated by the Chemistry Department sampling results.

Figure 1
Initiating Conditions and Emergency Action Levels

SYSTEM MALFUNCTION

SU5

Initiating Condition -- **UNUSUAL EVENT**

RCS leakage

Operating Mode Applicability: 1, 2, 3 and 4

Emergency Action Levels:

1. Unidentified or pressure boundary leakage > 10 gpm.

**** OR ****

2. Identified leakage > 25 gpm.

NOTE

The EAL terms "unidentified", "pressure boundary" and "identified" leakage should be assessed using the definitions contained in the station Technical Specifications.

IDENTIFIED LEAKAGE

a. Leakage (except CONTROLLED LEAKAGE) into closed systems, such as pump seal or valve packing leaks that are captured and conducted to a sump or collecting tank, or
b. Leakage into the containment atmosphere from sources that are both specifically located and known either not to interfere with the operation of Leakage Detection Systems or not to be PRESSURE BOUNDARY LEAKAGE, or
c. Reactor Coolant System leakage through a steam generator to the Secondary Coolant System (primary to secondary leakage).

PRESSURE BOUNDARY LEAKAGE

a. PRESSURE BOUNDARY LEAKAGE shall be leakage (except primary to secondary leakage) through a nonisolable fault in a Reactor Coolant System component body, pipe wall, or vessel wall.

Figure 1
Initiating Conditions and Emergency Action Levels

SYSTEM MALFUNCTION

SU6

Initiating Condition -- **UNUSUAL EVENT**

UNPLANNED loss of all onsite or offsite communications capabilities

Operating Mode Applicability: 1, 2, 3 and 4

Emergency Action Levels:

1. Loss of all of the following onsite communications capabilities affecting the ability to perform routine operations.

   - In-Plant (PBX) Telephones
   - Gai-Tronics
   - Plant Radio System

**** OR ****

2. Loss of all of the following offsite communications capabilities in either table.

State Notifications
• Nuclear Alert System (NAS)
• Backup NAS
• All plant telephones
• Cellular telephones

OR

NRC Notifications
• Emergency Notification System (ENS)
• All plant telephones
• FTS-2000 (NRC) telephones in the TSC
• Cellular telephones

Figure 1
Initiating Conditions and Emergency Action Levels

SYSTEM MALFUNCTION

SU8

Initiating Condition -- **UNUSUAL EVENT**

Inadvertent criticality

Operating Mode Applicability: 3 and 4

Emergency Action Level:

1. An UNPLANNED sustained positive startup rate observed on nuclear instrumentation.

Figure 1
Initiating Conditions and Emergency Action Levels

SYSTEM MALFUNCTION

SA2

Initiating Condition -- **ALERT**

ATWS and manual reactor shutdown from the MCB was successful

Operating Mode Applicability: 1, 2 and 3

Emergency Action Levels:

1. An automatic reactor trip signal did NOT result in neutron flux < 5%.

AND

2. Manual action(s) taken at the MCB did result in neutron flux < 5%.

Figure 1
Initiating Conditions and Emergency Action Levels

SYSTEM MALFUNCTION

SA4

Initiating Condition -- **ALERT**

UNPLANNED loss of most or all safety system annunciation or indication in Control Room with either (1) a SIGNIFICANT TRANSIENT in progress, or (2) compensatory indicators are unavailable

Operating Mode Applicability: 1, 2, 3 and 4

Emergency Action Levels:

1. a. UNPLANNED loss of approximately 75% or more of UA annunciators for > 15 minutes.

OR

b. UNPLANNED loss of approximately 75% or more of Main Control Board indications for > 15 minutes.

OR

c. UNPLANNED loss of approximately 75% or more of radiation monitor indications for > 15 minutes.

AND

2. Either of the following: (a or b)

a. A SIGNIFICANT TRANSIENT is in progress.

OR

b. Compensatory indications are unavailable.

NOTE

SIGNIFICANT TRANSIENT is an UNPLANNED event involving one or more of the following: (1) automatic turbine runback >25% thermal reactor power, (2) electrical load rejection >25% full electrical load, (3) Reactor Trip, (4) Safety Injection Activation, or (5) thermal power oscillations >10%

Figure 1
Initiating Conditions and Emergency Action Levels

SYSTEM MALFUNCTION

SA5

Initiating Condition -- **ALERT**

Power to AC emergency buses reduced to a single power source for > 15 minutes such that any additional single failure would result in station blackout

Operating Mode Applicability: 1, 2, 3 and 4

Emergency Action Levels:

Note: The Emergency Director should not wait until the applicable time has elapsed, but should declare the event as soon as it is determined that the condition has exceeded, or will likely exceed, the applicable time.

1. At least one AC emergency bus is energized - Bus E5 AND/OR Bus E6.

AND

2. Only one power source is available to the energized bus/buses such that the loss of this source would result in a station blackout.

AND

3. 15 minutes has elapsed with only one power source available.

NOTE

There are six power sources to consider:

- Newington 345 kV offsite power
- Skobie Pond 345 kV offsite power
- Ward Hill/Amesbury 345 kV offsite power
- Emergency Diesel Generator A
- Emergency Diesel Generator B
- SEPS. For SEPS to be considered available, both SEPS diesel generator sets must be functional.

NOTE

Evaluate Initiating Conditions SU3, SA4 and SS6 if approximately 75% or more of UA annunciators , Main Control Board indications and/or radiation monitor indications are lost.

Figure 1
Initiating Conditions and Emergency Action Levels

SYSTEM MALFUNCTION

SS1

Initiating Condition -- **SITE AREA EMERGENCY**

Loss of both AC emergency buses for > 15 minutes

Operating Mode Applicability: 1, 2, 3 and 4

Emergency Action Levels:

Note: The Emergency Director should not wait until the applicable time has elapsed, but should declare the event as soon as it is determined that the condition has exceeded, or will likely exceed, the applicable time.

1. BOTH AC emergency buses E5 AND E6 are de-energized.

AND

2. 15 minutes has elapsed with BOTH AC emergency buses E5 AND E6 de-energized.

NOTE

For a bus to be considered energized from SEPS, both SEPS diesel generator sets must be functional.

NOTE

Evaluate Initiating Conditions SU3, SA4 and SS6 if approximately 75% or more of UA annunciators , Main Control Board indications and/or radiation monitor indications are lost.

Figure 1
Initiating Conditions and Emergency Action Levels

SYSTEM MALFUNCTION

SS2

Initiating Condition -- **SITE AREA EMERGENCY**

ATWS and manual reactor shutdown from the MCB was NOT successful

Operating Mode Applicability: 1 and 2

Emergency Action Levels:

1. An automatic reactor trip signal did NOT result in neutron flux < 5%.

AND

2. Manual action(s) taken at the MCB did NOT result in neutron flux < 5%.

NOTE
Manual action is considered "not successful" if action away from the Main Control Board (MCB) is required to shutdown the reactor.

Figure 1
Initiating Conditions and Emergency Action Levels

SYSTEM MALFUNCTION

SS3

Initiating Condition -- **SITE AREA EMERGENCY**

Loss of all vital DC power for > 15 minutes

Operating Mode Applicability: 1, 2, 3 and 4

Emergency Action Level:

1. Voltage indications are < 105V on all vital DC buses (11A, 11B, 11C and 11D) for > 15 minutes.

Figure 1
Initiating Conditions and Emergency Action Levels

SYSTEM MALFUNCTION

SS6

Initiating Condition -- **SITE AREA EMERGENCY**

Inability to monitor a SIGNIFICANT TRANSIENT in progress

Operating Mode Applicability: 1, 2, 3 and 4

Emergency Action Levels:

1. SIGNIFICANT TRANSIENT in progress.

AND

2. a. Loss of approximately 75% or more of UA annunciators.

OR

b. Loss of approximately 75% or more of Main Control Board indications.

OR

c. Loss of approximately 75% or more of radiation monitor indications.

AND

3. Compensatory indications are unavailable.

AND

4. Complete loss of the ability to monitor all Critical Safety Functions.

NOTE

SIGNIFICANT TRANSIENT is an UNPLANNED event involving one or more of the following: (1) automatic turbine runback >25% thermal reactor power, (2) electrical load rejection >25% full electrical load, (3) Reactor Trip, (4) Safety Injection Activation, or (5) thermal power oscillations >10%

Figure 1
Initiating Conditions and Emergency Action Levels

SYSTEM MALFUNCTION

SG1

Initiating Condition -- **GENERAL EMERGENCY**

Prolonged loss of both AC emergency buses

Operating Mode Applicability: 1, 2, 3 and 4

Emergency Action Levels:

1. BOTH AC emergency buses E5 AND E6 are de-energized.

AND

2. One or more of the following conditions exist: (a or b or c)

   a. Restoration of at least one bus (E5 or E6) within four (4) hours is not likely.

   OR

   b. Core Cooling ORANGE path.

   OR

   c. Core Cooling RED path.

NOTE
For a bus to be considered energized from SEPS, both SEPS diesel generator sets must be functional.

Figure 1
Initiating Conditions and Emergency Action Levels

SYSTEM MALFUNCTION

SG2

Initiating Condition -- **GENERAL EMERGENCY**

ATWS and all manual actions to shutdown the reactor were NOT successful, AND extreme challenge to Core Cooling or Heat Sink

Operating Mode Applicability: 1 and 2

Emergency Action Levels:

1. An automatic reactor trip signal did NOT result in neutron flux < 5%.

AND

2. All manual actions to shutdown the reactor did NOT result in neutron flux < 5%.

AND

3. EITHER of the following exist or have occurred due to continued power generation:

   a. Core Cooling RED path.

   OR

   b. Heat Sink RED path.

NOTE
"All manual actions" are any actions taken at or away from the Main Control Board (MCB) to shut down the reactor.

Figure 1
Initiating Conditions and Emergency Action Levels

COLD SHUTDOWN/REFUELING SYSTEM MALFUNCTION

CU1

Initiating Condition -- **UNUSUAL EVENT**

RCS leakage

Operating Mode Applicability: 5

Emergency Action Levels:

1. Unable to establish or maintain pressurizer level above a minimum value, or the lower end of an operating band, specified by an operating procedure.

Figure 1
Initiating Conditions and Emergency Action Levels

COLD SHUTDOWN/REFUELING SYSTEM MALFUNCTION

CU2

Initiating Condition -- **UNUSUAL EVENT**

UNPLANNED loss of reactor vessel inventory with irradiated fuel in the reactor vessel

Operating Mode Applicability: 6

Emergency Action Levels:

1. a. UNPLANNED reactor coolant level decrease below the reactor vessel flange as indicated by:
   - 1-RC-LI-9405 < 0", and/or
   - 1-SF-LI-2629 < 0"

AND

b. 15 minutes has elapsed with reactor coolant level below the reactor vessel flange.

AND

c. Irradiated fuel in the reactor vessel.

**** OR ****

2. a. Loss of reactor vessel inventory as indicated by unexplained increases in sump and/or tank levels.

AND

b. Reactor vessel level cannot be monitored.

AND

c. Irradiated fuel in the reactor vessel.

Figure 1
Initiating Conditions and Emergency Action Levels

COLD SHUTDOWN/REFUELING SYSTEM MALFUNCTION

CU3

Initiating Condition -- **UNUSUAL EVENT**

Loss of all offsite power to AC emergency buses for greater than 15 minutes

Operating Mode Applicability: 5 and 6

Emergency Action Levels:

1. Both AC emergency busses E5 AND E6 are not powered from an offsite source for > 15 minutes.

AND

2. Power restored to at least one AC emergency bus (E5 OR E6) from an emergency diesel generator or SEPS.

NOTE

For power restoration from the SEPS, both SEPS diesel generator sets must be functional.

NOTE

Evaluate Initiating Conditions SU3, SA4 and SS6 if approximately 75% or more of UA annunciators , Main Control Board indications and/or radiation monitor indications are lost.

Figure 1
Initiating Conditions and Emergency Action Levels

COLD SHUTDOWN/REFUELING SYSTEM MALFUNCTION

CU4

Initiating Condition -- **UNUSUAL EVENT**

UNPLANNED loss of decay heat removal capability with irradiated fuel in the reactor vessel

Operating Mode Applicability: 5 and 6

Emergency Action Levels:

1. An UNPLANNED event results in RCS temperature > 200° F.

**** OR ****

2. a. Loss of all RCS temperature indication for > 15 minutes.

AND

b. Loss of all reactor vessel level indication for > 15 minutes.

Figure 1
Initiating Conditions and Emergency Action Levels

COLD SHUTDOWN/REFUELING SYSTEM MALFUNCTION

CU5

Initiating Condition -- **UNUSUAL EVENT**

Fuel clad degradation

Operating Mode Applicability: 5

Emergency Action Levels:

1. Reactor coolant sample activity value > LCO for Technical Specification 3/4.4.8.

Figure 1
Initiating Conditions and Emergency Action Levels

COLD SHUTDOWN/REFUELING SYSTEM MALFUNCTION

CU6

Initiating Condition -- **UNUSUAL EVENT**

UNPLANNED loss of all onsite or offsite communications capabilities

Operating Mode Applicability: 5 and 6

Emergency Action Levels:

1. Loss of all of the following onsite communications capabilities affecting the ability to perform routine operations.

   - In-Plant (PBX) Telephones
   - Gai-Tronics
   - Plant Radio System

**** OR ****

2. Loss of all of the following offsite communications capabilities in either table.

State Notifications
• Nuclear Alert System (NAS)
• Backup NAS
• All plant telephones
• Cellular telephones

OR

NRC Notifications
• Emergency Notification System (ENS)
• All plant telephones
• FTS-2000 (NRC) telephones in the TSC
• Cellular telephones

Figure 1
Initiating Conditions and Emergency Action Levels

COLD SHUTDOWN/REFUELING SYSTEM MALFUNCTION

CU7

Initiating Condition -- UNUSUAL EVENT

UNPLANNED loss of required DC power for > 15 minutes

Operating Mode Applicability: 5 and 6

Emergency Action Levels:

1. UNPLANNED voltage indications of < 105V on both vital DC buses associated with the Protected Train.

   - Train A - 11A and 11C
   - Train B - 11B and 11D

AND

2. 15 minutes has elapsed without a sustained reading of 105V or greater on at least one Protected Train vital DC bus.

   - Train A - 11A or 11C
   - Train B - 11B or 11D

Figure 1
Initiating Conditions and Emergency Action Levels

COLD SHUTDOWN/REFUELING SYSTEM MALFUNCTION

CU8

Initiating Condition -- UNUSUAL EVENT

Inadvertent criticality

Operating Mode Applicability: 5 and 6

Emergency Action Level:

1. An UNPLANNED sustained positive startup rate observed on nuclear instrumentation.

Figure 1
Initiating Conditions and Emergency Action Levels

COLD SHUTDOWN/REFUELING SYSTEM MALFUNCTION

CA1

Initiating Condition -- **ALERT**

Loss of RCS inventory

Operating Mode Applicability: 5

Emergency Action Levels:

1. Loss of RCS inventory as indicated by RVLIS full range < 64%.

**** OR ****

2. a. RCS level cannot be monitored for > 15 minutes.

AND

b. RCS inventory loss is indicated by unexplained sump and/or tank level increases.

Figure 1
Initiating Conditions and Emergency Action Levels

COLD SHUTDOWN/REFUELING SYSTEM MALFUNCTION

CA2

Initiating Condition -- **ALERT**

Loss of reactor vessel inventory with irradiated fuel in the reactor vessel

Operating Mode Applicability: 6

Emergency Action Levels:

1. Reactor vessel level cannot be monitored for > 15 minutes.

AND

2. Reactor vessel inventory loss is indicated by unexplained sump and/or tank level increases.

AND

3. Irradiated fuel in the reactor vessel.

Figure 1
Initiating Conditions and Emergency Action Levels

COLD SHUTDOWN/REFUELING SYSTEM MALFUNCTION

CA3

Initiating Condition -- **ALERT**

Loss of both AC emergency buses for > 15 minutes

Operating Mode Applicability: 5, 6 and Defueled

Emergency Action Levels:

1. BOTH AC emergency buses E5 AND E6 are de-energized.

AND

2. 15 minutes has elapsed with BOTH AC emergency buses E5 AND E6 de-energized.

NOTE

For a bus to be considered energized from SEPS, both SEPS diesel generator sets must be functional.

NOTE

Evaluate Initiating Conditions SU3, SA4 and SS6 if approximately 75% or more of UA annunciators , Main Control Board indications and/or radiation monitor indications are lost.

Figure 1
Initiating Conditions and Emergency Action Levels

COLD SHUTDOWN/REFUELING SYSTEM MALFUNCTION

CA4

Initiating Condition -- ALERT

Inability to maintain plant in cold shutdown with irradiated fuel in the reactor vessel

Operating Mode Applicability: 5 and 6

Emergency Action Levels:

1. a. An UNPLANNED event results in RCS temperature > 200° F.

AND

b. Containment integrity is not established as tracked by Procedure OS1056.03, Containment Penetrations.

AND

c. The RCS is not intact.

**** OR ****

2. a. An UNPLANNED event results in RCS temperature > 200° F for > 20 minutes (see Note next page).

AND

b. Containment integrity is established as tracked by Procedure OS1056.03, Containment Penetrations.

AND (c or d)

c. The RCS is not intact.

OR

d. Reactor vessel level is < -36".

**** OR ****

Figure 1
Initiating Conditions and Emergency Action Levels

CA4 - Continued

3. An UNPLANNED event results in RCS temperature > 200° F for > 60 minutes (see Note below).

**** OR ****

4. An UNPLANNED event results in an RCS pressure increase of > 25 psig due to a loss of RCS cooling.

NOTE
If an RCS heat removal system is in operation within this time frame and RCS temperature is being reduced then this EAL is not applicable.

Figure 1
Initiating Conditions and Emergency Action Levels

COLD SHUTDOWN/REFUELING SYSTEM MALFUNCTION

CS1

Initiating Condition -- **SITE AREA EMERGENCY**

Loss of RCS inventory affecting core decay heat removal capability

Operating Mode Applicability: 5

Emergency Action Levels:

1. a. Reactor vessel level cannot be monitored for > 30 minutes.

AND

b. Loss of reactor coolant inventory as indicated by unexplained sump and/or tank level increases, or erratic source range monitor indication.

**** OR ****

2. a. RVLIS Full Range < 63%

AND

b. Containment integrity is not established as tracked by Procedure OS1056.03, Containment Penetrations.

**** OR ****

3. a. RVLIS Full Range < 55%

AND

b. Containment integrity is established as tracked by Procedure OS1056.03, Containment Penetrations.

Figure 1
Initiating Conditions and Emergency Action Levels

COLD SHUTDOWN/REFUELING SYSTEM MALFUNCTION

CS2

Initiating Condition -- **SITE AREA EMERGENCY**

Loss of reactor vessel inventory affecting core decay heat removal capability with irradiated fuel in the reactor vessel

Operating Mode Applicability: 6

Emergency Action Levels:

1. Reactor vessel level cannot be monitored.

AND

2. Irradiated fuel in the reactor vessel is uncovered as indicated by one or more of the following:

   - RM-6535A-1 (Manipulator Crane) off-scale high
   - RM-6535B-1 (Manipulator Crane) off-scale high
   - Erratic source range monitor readings
   - Visual observation (e.g., closed circuit TV)

AND

3. Containment integrity is established as tracked by Procedure OS1056.03, Containment Penetrations.

Figure 1
Initiating Conditions and Emergency Action Levels

COLD SHUTDOWN/REFUELING SYSTEM MALFUNCTION

CG1

Initiating Condition -- **GENERAL EMERGENCY**

Loss of RCS or reactor vessel inventory with irradiated fuel in the reactor vessel AND containment challenged

Operating Mode Applicability: 5 and 6

Emergency Action Levels:

1. a. RVLIS Full Range < 55% for ≥ 30 minutes.

AND

b. CONTAINMENT integrity is challenged as indicated by one or more of the following:

- Containment integrity is not established as tracked by Procedure OS1056.03, Containment Penetrations
- Containment H_2 concentration ≥ 6%
- UNPLANNED rise in containment pressure

**** OR ****

2. a. RCS or reactor vessel level cannot be monitored.

AND

b. Core uncovery is indicated by one or more of the following for ≥ 30 minutes.

- RM-6535A-1 (Manipulator Crane) off-scale high
- RM-6535B-1 (Manipulator Crane) off-scale high
- Erratic source range monitor readings
- UNPLANNED increase in sump and/or tank levels
- Visual observation (e.g., closed circuit TV)

AND

Figure 1
Initiating Conditions and Emergency Action Levels

CG1 - Continued

c. CONTAINMENT integrity is challenged as indicated by one or more of the following:

- Containment integrity is not established as tracked by Procedure OS1056.03, Containment Penetrations
- Containment H_2 concentration $\geq$ 6%
- UNPLANNED rise in containment pressure

Figure 2
Definitions
(Sheet 1 of 3)

In the IC/EALs, selected words have been set in all capital letters. These words are defined terms having specific meanings as they relate to this procedure. Definitions of these terms are provided below.

AFFECTING SAFE SHUTDOWN: Event in progress has adversely affected functions that are necessary to bring the plant to and maintain it in the applicable HOT or COLD SHUTDOWN condition. Plant condition applicability is determined by Technical Specification LCOs in effect.

> Example 1: Event causes damage that results in entry into an LCO that requires the plant to be placed in HOT SHUTDOWN. HOT SHUTDOWN is achievable, but COLD SHUTDOWN is not. This event **is not** "AFFECTING SAFE SHUTDOWN."
> Example 2: Event causes damage that results in entry into an LCO that requires the plant to be placed in COLD SHUTDOWN. HOT SHUTDOWN is achievable, but COLD SHUTDOWN is not. This event **is** "AFFECTING SAFE SHUTDOWN."

ANTICIPATED TRANSIENT WITHOUT SCRAM (ATWS): an ATWS is a postulated anticipated operational occurrence (such as loss of feedwater, loss of load, or loss of off-site power) that is accompanied by a failure of the Reactor Protection System (RPS) to shutdown the reactor (neutron flux < 5%).

BOMB: refers to an explosive device suspected of having sufficient force to damage plant systems or structures.

CIVIL DISTURBANCE: is a large group of persons violently protesting station operations or activities at the site.

CONFINEMENT BOUNDARY: is the barrier(s) between areas containing radioactive substances and the environment.

EXPLOSION: is a rapid, violent, unconfined combustion, or catastrophic failure of pressurized equipment that imparts energy of sufficient force to potentially damage permanent structures, systems, or components.

EXTORTION: is an attempt to cause an action at the station by threat of force.

FAULTED: (PWRs) in a steam generator, the existence of secondary side leakage that results in an uncontrolled decrease in steam generator pressure or the steam generator being completely depressurized.

FIRE: is combustion characterized by heat and light. Sources of smoke such as slipping drive belts or overheated electrical equipment do not constitute FIREs. Observation of flame is preferred but is NOT required if large quantities of smoke and heat are observed.

Figure 2
Definitions
(Sheet 2 of 3)

HOSTAGE: is a person(s) held as leverage against the station to ensure that demands will be met by the station.

HOSTILE ACTION: An act toward a Nuclear Power Plant (NPP) or its personnel that includes the use of violent force to destroy equipment, takes hostages, and /or intimidates the licensee to achieve an end. This includes attack by air, land, or water using guns, explosives, projectiles, vehicles, or other devices used to deliver destructive force. Other acts that satisfy the overall intent may be included. HOSTILE ACTION should not be construed to include acts of civil disobedience or felonious acts that are not part of a concerted attack on the NPP. Nonterrorism-based EALs should be used to address such activities, (e.g., violent acts between individuals in the owner controlled area.)

HOSTILE FORCE: One or more individuals who are engaged in a determined assault, overtly or by stealth and deception, equipped with suitable weapons capable of killing, maiming, or causing destruction.

IMMEDIATELY DANGEROUS TO LIFE AND HEALTH (IDLH): A condition that either poses an immediate threat to life and health or an immediate threat of severe exposure to contaminants which are likely to have adverse delayed effects on health.

INTRUSION / INTRUDER: is a person(s) present in a specified area without authorization. Discovery of a BOMB in a specified area is indication of INTRUSION into that area by a HOSTILE FORCE.

LOWER FLAMMABILITY LIMIT (LFL): The minimum concentration of a combustible substance that is capable of propagating a flame through a homogenous mixture of the combustible and a gaseous oxidizer.

NORMAL PLANT OPERATIONS: activities at the plant site associated with routine testing, maintenance, or equipment operations, in accordance with normal operating or administrative procedures. Entry into abnormal or emergency operating procedures, or deviation from normal security or radiological controls posture, is a departure from NORMAL PLANT OPERATIONs.

PROTECTED AREA: is an area which normally encompasses all controlled areas within the security protected area fence (site-specific).

RUPTURED: (PWRs) in a steam generator, existence of primary-to-secondary leakage of a magnitude sufficient to require or cause a reactor trip and safety injection.

SABOTAGE: any deliberate act directed against the plant, or against a component of the plant, which could directly or indirectly endanger the public health and safety by exposure to radiation.

SIGNIFICANT TRANSIENT: is an UNPLANNED event involving one or more of the following: (1) automatic turbine runback >25% thermal reactor power, (2) electrical load rejection >25% full electrical load, (3) Reactor Trip, (4) Safety Injection Activation, or (5) thermal power oscillations >10%

Figure 2
Definitions
(Sheet 3 of 3)

STRIKE ACTION: is a work stoppage within the PROTECTED AREA by a body of workers to enforce compliance with demands made on (site-specific). The STRIKE ACTION must threaten to interrupt NORMAL PLANT OPERATIONs.

TAMPERING: means deliberately damaging, disabling, or altering equipment necessary for safe shutdown, or security equipment necessary for the protection of the facility, in order to defeat their function and/or prevent them from operating.

UNISOLABLE: A breach or leak that cannot be promptly isolated.

UNPLANNED: a parameter change or an event that is not the result of an intended evolution and requires corrective or mitigative actions.

VALID: an indication, report, or condition, is considered to be VALID when it is verified by (1) an instrument channel check, or (2) indications on related or redundant indicators, or (3) by direct observation by plant personnel, such that doubt related to the indicator's operability, the condition's existence, or the report's accuracy is removed. Implicit in this definition is the need for timely assessment.

VISIBLE DAMAGE: is damage to equipment or structure that is readily observable without measurements, testing, or analysis. Damage is sufficient to cause concern regarding the continued operability or reliability of affected safety structure, system, or component. Example damage includes: deformation due to heat or impact, denting, penetration, rupture, cracking, paint blistering. Surface blemishes (e.g., paint chipping, scratches) should not be included.

VITAL AREA: is any area, normally within the PROTECTED AREA, which contains equipment, systems, components, or material, the failure, destruction, or release of which could directly or indirectly endanger the public health and safety by exposure to radiation.

Figure 3
Summary of Changes
(Sheet 1 of 4)

Rev. 49:

In §1.1, Discussion, added a paragraph to clarify the expectation that for initiating conditions that specify the duration of the off-normal condition (e.g., 15 minutes), an emergency declaration is required when the time threshold for the off-normal condition is exceeded. An additional 15 minutes is not allowed for assessment of the condition. (AR#215364)

In §1.1, Discussion, in the paragraphs pertaining to undeclared events, revised the instructions for reporting an unclassified event to the NRC to read "within 1 hour of the discovery of the undeclared event" to be consistent with the NRC reporting guidance in NUREG-1022. (AR#218018).

In Figure 1, Initiating Conditions SU1, SA5, SS1, CU3 & CA3, added a note to evaluate ICs SU3, SA4 and SS6 if approximately 75% or more of UA annunciators, MCB indications and/or radiation monitor indications are lost. (AR#393422)

In Figure 1, Initiating Condition SA5, in the NOTE, 3rd bullet, changed the name of the Tewkesbury 345 KV line to Ward Hill/Amesbury. (AR#580867)

Rev. 48:

Revised wording in Initiating Condition SU4, EAL #2, to replace the words "allowable limits" with "Limiting Condition for Operation (LCO)". This is a non-intent change that replaces NEI 99-01, Rev. 4, generic wording with the equivalent station specific term. (AR#190996)

Rev. 47:

In Figure 1, revised wind speed values for EALs HU1 and HA1 from ≥100 mph to ≥90 mph. (CR 08-12837)

Rev. 46:

Complete procedure rewrite to incorporate new NEI 99-01 EALs.

Rev. 45:

In §5.1, Emergency Classification, added a statement to action step 6 to emphasize the need to support the goal to make an emergency declaration within 15 minutes of initial EAL indications becoming available in the Control Room. (CR 07-09493)

Rev. 44:

In §1.1, Discussion, fifth paragraph, revised the point at which an emergency classification by the Short Term Emergency Director is deemed to be declared. The time of declaration is now the time when the STED announces the emergency classification to the Control Room crew in accordance with the applicable STED checklist in Station Emergency Response Procedure ER 1.2, Emergency Plan Activation. (CR 07-06637)

Figure 3
Summary of Changes
(Sheet 2 of 4)

Rev. 44 (con't):

On Figure 1, deleted the notes under Initiating Conditions 6b, 6e, and 6f that made the initiating conditions inapplicable in Modes 5 or 6, or when the reactor vessel is defueled. (CR 07-04803)

Rev. 43:

In §5.1, Emergency Classification, added a new action 10 to document the basis for a decision not to classify an event in the Unit journal. (CR 06-10800)

On Figure 1, revised initiating condition 7b to incorporate the new license condition limit of 150 gallons per day for primary to secondary leakage. (CR 04-10017)

On form ER 1.1A, revised initiating condition 7b to incorporate the new license condition limit of 150 gallons per day for primary to secondary leakage. (CR 04-10017)

Rev. 42:

In §5.1, Emergency Classification, action 7, corrected the radiological release conditions that require dose assessment utilizing the Offsite Dose Projection System to include a Main Steam Line Monitor high alarm when the steam driven EFW pump is running and fed from the affected line. (CR 02-01450)

On form ER 1.1A, changed the RCS pressure setpoint for P-Red condition from 260 psig to 300 psig. (CR 06-03025)

Rev. 41:

In §1.1, Discussion, revised emergency classification level definitions per NEI White Paper, Enhancements to Emergency Preparedness Programs for Hostile Action, May 2005 (Revised November 18, 2005) (CR 05-14910)

In §1.1, Discussion, added the definition of Hostile Force per NEI White Paper, Enhancements to Emergency Preparedness Programs for Hostile Action, May 2005 (Revised November 18, 2005). (CR 05-14910)

In Figure 1, Initiating Condition 18a, Security Events, revised EAL #4 to delete the greater than 30 minute requirement per NEI White Paper, Enhancements to Emergency Preparedness Programs for Hostile Action, May 2005 (Revised November 18, 2005). (CR 05-14910)

Rev. 40:

In §1.1, Discussion, added a new third paragraph that explains that the proper use of CSFSTs as EALs requires that CSF challenges be identified consistent with the procedure transition criteria specified in the EOP network. (CR 05-01598)

Figure 3
Summary of Changes
(Sheet 3 of 4)

Rev. 40 (con't):

In §1.1, Discussion, revised the emergency classification level definitions per NRC Bulletin 2005-02 "Emergency Preparedness Response Actions for Security-Based Events". (CR 05-07967)

In §1.1, Discussion, added the definition for Hostile Action per NRC Bulletin 2005-02 "Emergency Preparedness Response Actions for Security-Based Events". (CR 05-07967)

In Figure 1, Initiating Condition 6c, Bus E5 AND E6 cannot be powered from the diesels or an offsite source, added two notes directing that if one emergency bus is powered by SEPS an Alert emergency classification level should be declared or maintained in effect. (CR 05-05348)

In Figure 1, added a new Initiating Condition 7a, Steam Generator Tube Leakage >25 gpm, and associated EAL – Reactor Coolant System leakage through a steam generator to the secondary coolant system >25 gpm. Renumbered the other 7-series EALs 7b and 7c accordingly and reflected the revised numbering in 7-series EAL references in Initiating Conditions 6a, 8b and 15c. (CR 05-06524)

In Figure 1, Initiating Condition 15a, Reactor Coolant System Leakage, deleted the note referring to applicability to Reactor Coolant System leakage to a steam generator (i.e., primary to secondary leakage). (CR 05-06524)

In Figure 1, Initiating Condition 16c, Fire potentially or actually defeating both trains of a safety system, revised the note next to EAL 2.e to read "If the Startup Feedwater Pump is capable of feeding the steam generators, declare an Alert." (CR 05-07042)

In Figure 1, Initiating Condition 17a, Note 1, changed location of the Alternate TSC from Room 219 of the Administration Building to the Online/Outage Control Center.

In Figure 1, Initiating Condition 18a, Security Events, added a new Unusual Event EAL – "A validated notification from the NRC providing information of an aircraft threat greater than 30 minutes away" – per NRC Bulletin 2005-02, "EmergencyPreparedness and Response Actions for Security-Based Events". Deleted existing EAL #1 "An armed intruder(s) is attempting to enter the protected area. (CR 05-07967)

In Figure 1, Initiating Condition 18b, Security Events, added two new Alert EALs – "A validated notification from the NRC of an airliner attack threat less than 30 minutes away" and "A notification from the site security force of an armed attack, explosive attack, airliner threat, or other hostile action within the OCA" – per NRC Bulletin 2005-02, "Emergency Preparedness and Response Actions for Security-Based Events". Deleted the existing EAL #1 "An armed intruder(s) has gained entry into the protected area." (CR 05-07967)

Figure 3
Summary of Changes
(Sheet 4 of 4)

Rev. 40 (con't):

In Figure 1, Initiating Condition 18c, Security Events, added a new Site Area Emergency EAL #2 – "A notification from the site security force of an armed attack, explosive attack, airliner impact, or other hostile action is occurring or has occurred within the Protected Area" – per NRC Bulletin 2005-02, "Emergency Preparedness and Response Actions for Security-Based Events". (CR 05-07967)

In Figure 1, Initiating Condition 18d, Security Events, revised the General Emergency EAL to say, "A hostile force has taken control of plant equipment such that plant personnel are unable to operate equipment required to maintain safety functions", per NRC Bulletin 2005-02,

"Emergency Preparedness and Response Actions for Security-Based Events". Deleted the EAL that reads "A vital area has been occupied by an armed intruder(s)." (CR 05-07967).

On form ER 1.1A, added a new Initiating Condition for an Unusual Event 7a, Steam Generator Tube Leakage >25 gpm. (CR 05-06524)

Rev. 39:

In §1.1, Discussion, added a statement to the second paragraph re: applicability of critical safety function status trees (CSFSTs) that says in Mode 4, CSFSTs apply for emergency classification purposes when the associated Functional Restoration Procedure is entered.

In Initiating Condition 6e, deleted the 2nd Note pertaining to using MCB voltmeters to determine if either Bus E5 or Bus E6 is energized in lieu of alarms UA-55 or UA-56 when placing SEPS in service based on consolidation DCR 03-02 and DCR 03-15.

In Initiating Condition 15d, revised set point values in EAL #3 per Revision 16 of the Emergency Operating Procedure (EOP) Setpoint Study. (CR 04-12750)

SEABROOK STATION

ADMINISTRATIVE PROCEDURE

Emergency Plan Activation

ER 1.2

Rev. 55

Procedure Owner:
D. Currier

Contents and Revision Status

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1.0 OBJECTIVES

This procedure specifies the initial emergency response actions to be taken upon the classification of an UNUSUAL EVENT, ALERT, SITE AREA EMERGENCY or GENERAL EMERGENCY in accordance with the Seabrook Station Radiological Emergency Plan.

1.1 Discussion

Checklist actions should be performed in the order in which they are listed.

If an Unusual Event is declared, Primary Responders shall respond per Procedure ER 1.2, Section 5.0, even if notified of the termination of the Unusual Event. For an Unusual Event response, on-duty Primary Responders who are directed in Section 5.0 to contact the Control Room shall **not** attempt to call on-duty Operations personnel in the Control Room until their pagers have activated. On-duty Primary Responders who are directed to report to the Control Room may report to the Control Room prior to pager activation and remain on standby for an event briefing.

If emergency conditions are initially classified as an Alert or higher, and then subsequently reclassified to an Unusual Event, all ERO members should continue to report to their facilities. Although activation of the Technical Support Center, Operational Support Center and Emergency Operations Facility are not required, the ERO staff will be available to assist with event recovery efforts, interface with state emergency response personnel and respond to information requests from the media, elected officials and industry organizations.

If the plant condition degrades and a higher emergency classification is declared before state notifications are made for the lesser emergency declaration, the State Notification Fact Sheet (ER 2.0B) should be updated to reflect the higher (current) emergency classification. Complete the updated notifications within 15 minutes of the lesser (first) emergency declaration. Since the states will take actions consistent with the higher emergency classification, it is not necessary to identify the lesser classification in the updated notification; however, the plant conditions that gave rise to the lesser (first) emergency declaration should be identified, if still present, in any follow-up communications (i.e., public health department call-backs).

If the State Notification Fact Sheet (ER 2.0B) cannot be updated and transmitted within 15 minutes of the lesser (first) emergency declaration, the STED/Work Control Supervisor should make the notification for the lesser (first) emergency within 15 minutes of its declaration. The notification should include a verbal update that a change in classification is forthcoming. Prepare a new State Notification Fact Sheet (ER 2.0B) for the higher emergency classification and make an additional notification to the states within 15 minutes of its declaration.

If notifications for an emergency declaration are in progress when a higher emergency is declared, the notifications should be completed so that both states have the same emergency classification information. This notification should include a verbal update that a change in classification is forthcoming. Prepare a new State Notification Fact Sheet (ER 2.0B) for the higher emergency classification and make an additional notification within 15 minutes of the escalated declaration.

If the emergency classification is terminated or if reclassification of the emergency is made after completion of the state notifications, the initial NRC notification must still be made within one hour of the initial classification; however, the initial NRC notification will be for the termination of the emergency or for the emergency classification currently in effect (i.e., the reclassification). (Protected: Ref. 6.2)

For an emergency classification that has been terminated or reclassified to a lower emergency classification level prior to the initial NRC notification, the initial NRC notification shall include the following:

- State that a higher emergency classification level had existed prior to the initial notification.
- Explain the conditions that required the higher emergency classification level; and
- Explain the conditions that warranted termination of the emergency classification or reclassification to a lower emergency classification level. (Protected: Ref. 6.2)

During an emergency, form ER 2.0D, Event Notification Worksheet, requires only the authorization signature of the STED or the Emergency Operations Manager. If available, the Work Control Supervisor may assist the STED with implementation of this procedure. Such assistance will be at the discretion of and as directed by the STED. All information provided to offsite authorities by the Work Control Supervisor shall first receive review and approval by the STED.

Activities normally performed in the Technical Support Center (TSC) may be performed in other locations (e.g., Operations/Outage Control Center) as deemed appropriate by the Site Emergency Director based on the emergency conditions (e.g., severe weather).

2.0 RESPONSIBILITIES

2.1 Shift Manager

Assumes the role of Short Term Emergency Director (STED). The following responsibilities may not be delegated:

1. Initiation of station emergency response,
2. Decision and direction to notify offsite authorities,
3. Approval of protective action recommendations to offsite authorities,
4. Overall direction to station staff for mitigation of emergency conditions, including the final determination to take action, such as deviation from station security procedures, required for the protection of the health and safety of the public, to protect plant equipment or to protect station personnel,
5. Reclassification of the emergency, and
6. Authorization of emergency radiation exposures.

2.2 Unit Supervisor

Assumes the role of the STED until the Shift Manager has reported to the Control Room.

2.3 Work Control Supervisor

Assists the STED with the implementation of emergency plan activation actions. Obtains STED review and approval of information provided to offsite authorities prior to its transmittal. Makes initial notification to offsite authorities.

2.4 On-Shift Fire Brigade Leader

Assumes the position of Control Room Communicator. Maintains open Emergency Notification System (ENS) line at direction of the STED.

2.5 On-Shift Radiation Protection Technician

Advises the STED on radiological aspects of an emergency, as requested. (Protected: Ref. 6.8)

2.6 On-Shift Chemistry Technician

Assists the Health Physics Coordinator, as requested, with assessment of radiological consequences.

2.7 Site Emergency Director

Performs Unusual Event responsibilities in accordance with this procedure. In the event that an Alert, Site Area Emergency or General Emergency is declared, performs duties in accordance with procedure ER 3.1, Technical Support Center Operations.

Relieves the STED of overall command and control of emergency response activities. Upon relieving the STED, makes the final determination to take actions, including deviation from station security procedures, required for the protection of the health and safety of the public, to protect plant equipment or to protect station personnel.

2.8 Operations Technician

Performs Unusual Event responsibilities in accordance with this procedure. In the event that an Alert, Site Area Emergency or General Emergency is declared, performs duties in accordance with Procedure ER 3.1, Technical Support Center Operations.

Assumes NRC notification responsibility.

2.9 Technical Services Coordinator

Performs Unusual Event responsibilities in accordance with this procedure. In the event that an Alert, Site Area Emergency or General Emergency is declared, performs duties in accordance with Procedure ER 3.1, Technical Support Center Operations.

Assists the Site Emergency Director (SED) in the assessment of station conditions.

2.10 Health Physics Coordinator

Performs Unusual Event responsibilities in accordance with this procedure. In the event that an Alert, Site Area Emergency or General Emergency is declared, performs duties in accordance with Procedure ER 3.1, Technical Support Center Operations.

Responsible for evaluation of station radiological conditions.

2.11 Response Manager

Performs Unusual Event responsibilities in accordance with this procedure. In the event that an Alert, Site Area Emergency or General Emergency is declared, performs duties in accordance with Procedure ER 3.3, Emergency Operations Facility Operations.

Contacts the Control Room, and maintains awareness of Station conditions. Remains available to report to the EOF if Station conditions deteriorate.

Briefs the on-duty Emergency News Manager and the on-duty EOF Coordinator,

Confirms notification of FPLE executive management via the Nuclear Division Duty Officer.

2.12 Emergency Operations Facility (EOF) Coordinator

Performs Unusual Event responsibilities in accordance with this procedure. In the event that an Alert, Site Area Emergency or General Emergency is declared, performs duties in accordance with Procedure ER 3.3, Emergency Operations Facility Operations.

Through contacts with the Response Manager, maintains awareness of Station conditions. Remains available to report to the EOF if Station conditions deteriorate.

2.13 ERO Technical Liaison

Performs Unusual Event responsibilities in accordance with this procedure. In the event that an Alert, Site Area Emergency or General Emergency is declared, performs duties in accordance with Procedure ER 3.3, Emergency Operations Facility Operations.

Notifies the New Hampshire Public Utilities Commission (NHPUC) and the Massachusetts Emergency Management Agency (MEMA) Nuclear Engineer. Notifies Maine State Police. Provides plant condition information to the Utility Technical Representatives to NH HS&EM and MEMA. Verifies with Rockingham County Dispatch Center (RCDC) and MEMA communications officer that they have notified local EPZ communities.

2.14 Emergency News Manager

Performs Unusual Event responsibilities in accordance with this procedure and Procedure ER 3.4, Seabrook Station News Services Operations. In the event that an Alert, Site Area Emergency or General Emergency is declared, performs duties in accordance with Procedure ER 3.5, Media Center Operations.

Provides emergency-related information to the media and responds to media inquiries.

3.0 PRECAUTIONS

1. Per 10 CFR 50, Appendix E, IV.D, notification of State authorities shall be initiated within fifteen (15) minutes after declaring an emergency.

2. Per 10 CFR 50.72, notification of the NRC shall be initiated immediately after offsite authority notification and within one hour of the initial emergency declaration.

3. For an Alert or higher emergency classification level, the Emergency Response Data System (ERDS) shall be activated within one hour of the emergency declaration. Once contact is established with the NRC, the NRC may require that an open line be maintained. (Protected: Ref. 6.8)

4. A radiological release which requires dose assessment utilizing ER 5.7, Initial Offsite Dose Projection, is defined as follows:

   a. a Wide Range Gas Monitor (WRGM) high alarm (RM-6528-4), or

   b. a Main Steam Line Monitor high alarm with an OPEN atmospheric steam dump valve (ASDV) or safety relief valve (SRV) on the affected line, or

   c. a Main Steam Line Monitor high alarm with the steam driven EFW pump running and fed from the affected line, or

   d. the results of effluent analysis (i.e., an OCDM calculation) or site boundary monitoring indicate that a release is in progress.

   In the event of a radiological release via the turbine driven EFW pump exhaust, dispatch a monitoring team to the downwind site boundary location to obtain a site boundary dose rate and use Unmonitored Release (UNMON) of ER 5.7, Initial Offsite Dose Projection.

5. If the emergency condition involves a security event, the STED shall establish contact with the Security Shift Supervisor to determine the following:

   a. Precautions for deployment of Operations or other personnel (e.g., security escort).

   b. When Security downgrades the security condition from Code Red whereupon the STED will direct the Security Shift Supervisor to initiate activation of the Emergency Response Organization per GN1332.00.

   c. Need for relocation of emergency response facilities to alternate locations. (Protected: Ref. 6.12)

4.0 PREREQUISITES

An emergency declaration is warranted per procedure ER 1.1, Classification of Emergencies.

5.0 ACTIONS

5.1 Shift Manager or Unit Supervisor

1. Assume the role of STED.

2. Implement one of the following forms based on the emergency classification:

   a. Form ER 1.2A, Unusual Event Checklist - Short Term Emergency Director.

   b. Form ER 1.2B, Alert Checklist - Short Term Emergency Director.

   c. Form ER 1.2C, Site Area Emergency Checklist - Short Term Emergency Director.

   d. Form ER 1.2D, General Emergency Checklist - Short Term Emergency Director.

3. As required, direct the Work Control Supervisor to provide assistance in the implementation of forms ER 1.2A, ER 1.2B, ER 1.2C or ER 1.2D.

5.2 Work Control Supervisor

1. Provide assistance in the implementation of forms ER 1.2A, ER 1.2B, ER 1.2C or ER 1.2D as directed by the STED.

2. Obtain STED review and approval of information intended for offsite authorities prior to its transmittal and implement form ER 1.2E.

3. If the Fire Brigade Leader is unavailable to perform the Control Room Communicator function, assume this role and implement form ER 1.2F.

5.3 On-Shift Fire Brigade Leader

1. Assume the role of Control Room Communicator.

2. Implement form ER 1.2F, Emergency Action Checklist - Control Room Communicator.

5.4 Site Emergency Director

1. Report to the Control Room and receive a briefing from the STED.

2. Relieve the STED of overall command and control of emergency response activities.

3. Notify emergency response personnel of the change of command.

4. Determine whether to partially activate the TSC.

5. If a decision is made to partially activate the TSC, notify emergency response personnel of TSC activation and direct appropriate augmentation personnel to report to the TSC.

6. Direct call-out of additional personnel as necessary, e.g., the Chemistry Coordinator.

7. When contacted, brief the Emergency News Manager on emergency conditions.

8. Assign the Technical Services Coordinator to maintain a log of events in the TSC and to maintain event records for turnover to an event team.

9. If emergency conditions change:

   a. Reclassify in accordance with procedure ER 1.1, Classification of Emergencies.

   b. Direct the Shift Manager to complete steps 3 through 7 of ER 1.2B, ER 1.2C or ER 1.2D.

   c. Approve the completed State Notification Fact Sheet (form ER 2.0B), and sign Block 6 of the form.

   d. Direct the Shift Manager to implement step 8 of ER 1.2B, ER 1.2C or ER 1.2D.

10. When appropriate to initiate, direct the implementation of planning and preparation activities required to facilitate a timely and effective turnover of responsibilities from the ERO to the normal station organization. The goal should be to turn over all responsibilities upon termination of the Unusual Event.

11. When Unusual Event emergency conditions have ended, terminate the emergency in accordance with form ER 1.2A, Unusual Event Checklist - Short Term Emergency Director and ensure the states are notified of the termination per form ER 1.2A.

5.5 Operations Technician

1. Report to the Control Room and receive a briefing on emergency conditions.

2. Review information entered on form ER 2.0D, Event Notification Worksheet, and take over responsibility for completing form ER 2.0D.

3. Assist the Shift Manager with notifications and communications to NRC.

4. Maintain a log using form ER 2.0E, Emergency Facility Log.

5. Ensure that the NRC FTS-2000 phone (or commercial line) is staffed.

5.6 Technical Services Coordinator

1. Report to the Control Room and receive a briefing on emergency conditions.

2. Maintain a log using form ER 2.0E, Emergency Facility Log.

3. Verify TSC clocks are set to Control Room time.

4. Advise the Site Emergency Director concerning the need and desirability of partially or totally suspending routine in-plant maintenance work to focus efforts on repair and corrective actions needed to mitigate the event. The goal is to prevent confusion among in-plant personnel working under normal station procedures and those working under emergency-related procedures (e.g., if the Operational Support Center [OSC] is activated).

5. Provide repair and corrective action recommendations to the SED and assist the SED with implementation of emergency response actions.

6. Maintain TSC status boards and event records for turnover to an event team.

5.7 Health Physics Coordinator

1. Report to the Control Room to obtain a briefing on the event and current conditions. Determine if the emergency has actual or potential radiological consequences.

2. Receive a briefing on emergency conditions from the on-shift Radiation Protection Technician and report information to the STED/SED as necessary.

3. Determine protective measures necessary to support emergency response activities. As needed, refer to Procedure ER 4.3, Radiation Protection During Emergency Conditions.

4. Maintain a log using form ER 2.0E, Emergency Facility Log.

5. If the accident has **no** radiological consequences, establish a means for future notifications.

6. Direct the on-shift Radiation Protection Technician to provide radiological survey and job coverage for the Radiologically Controlled Area (RCA).

7. Provide advice on the radiological aspects of the emergency as requested. (Protected: Ref. 6.8)

5.8 Response Manager

1. Contact the Control Room and obtain the following event information:

   - Date and time of declaration
   - Initiating condition and EAL exceeded
   - Plant status (e.g., 100% power, reduction in power, shutdown)
   - Radiological release – yes/no
   - State and NRC notifications – yes/no
   - Actions directed for site personnel/personnel injuries
   - Protective action recommendations

2. Obtain names of the on-duty Emergency News Manager and the on-duty EOF Coordinator from the Control Room.

3. Contact the Emergency News Manager, provide event information and authorize dissemination to the news media.

4. Contact the EOF Coordinator, provide event information, and authorize dissemination to state emergency management and public health officials.

5. Contact the Nuclear Division Duty Officer to confirm notification of FPLE management.

5.9 Emergency Operations Facility (EOF) Coordinator

1. Obtain a summary of the event and current conditions from the Response Manager.

2. Based on an assessment of accident trajectory and discussions with the Response Manager, determine an appropriate reporting location (e.g., remain on standby at present location, TSC or EOF).

3. Consider the need to initiate and conduct periodic briefings for offsite agency officials concerning event-related information. This is desirable if the Unusual Event is projected to last for longer than one hour, or if the TSC and OSC are being activated to support repair and corrective actions. The goal is to provide an information source for offsite agency officials in lieu of their calling the Control Room or TSC.

4. If not reporting to a facility, obtain event briefings on a periodic basis until the emergency is terminated.

5.10 ERO Technical Liaison

1. Report to the Control Room to obtain a summary of the event and current conditions.

2. Report to the TSC to make notifications.

3. Notify and provide a briefing to the NHPUC Chief Engineer or Nuclear Engineer upon classification of an Unusual Event and upon event termination.

6. Notify and provide a briefing to the MEMA Nuclear Engineer upon classification of an Unusual Event and upon event termination.

7. Call the Rockingham County Dispatch Center (RCDC) and the Massachusetts Emergency Management Agency (MEMA) communications officer and verify that they notified local EPZ communities as follows:

   a. Tell the RCDC and MEMA contacts your name and ERO position.

   b. Tell them the current emergency classification level and date and time of declaration.

   c. Ask them: "Have you made or initiated notifications of local EPZ communities?"

   d. If the answer is no, tell the RCDC dispatcher and/or the MEMA communications officer to notify local EPZ communities in accordance with their notification procedures.

NOTE

This is a one-time contact of the RCDC and the MEMA communications officer to confirm initial notification of local EPZ communities only. The states are responsible for confirming any subsequent notifications of local EPZ communities.

6. Notify the Maine State Police of the emergency classification level and time declared.

7. Notify and brief one State Technical Representative each for NH and MA. Based on event conditions and duration, request Technical Representatives to assist briefing offsite officials.

8 Provide other briefings to NHPUC and MEMA personnel as requested or as conditions warrant.

5.11 Emergency News Manager

1. Obtain a briefing on the event and current conditions from the Response Manager. Inform the Response Manager of Seabrook Station News Services activation.

2. Prepare a draft news release and obtain approval of the news release content by the Response Manager or the Site Emergency Director in accordance with Procedure ER 3.4, Seabrook Station News Services Operations.

5.12 On-Shift Chemistry Technician

1. Provide support to the Health Physics Coordinator to assess radiological release status based on effluent analysis.

2. Set up laboratory for post-accident sample analysis at the direction of the Health Physics Coordinator or, if called out, the Chemistry Coordinator.

6.0 REFERENCES

1. Procedure ER 1.1, Classification of Emergencies

2. NRC Inspection Report No. 50-443/87-08-04

3. Procedure ER 4.3, Radiation Protection During Emergency Conditions

4. Procedure GN1332.00, Security Response to a Declared Radiological Emergency

5. Procedure ER 2.0, Emergency Notification Documentation Forms Procedure

6. Procedure ER 5.7, Initial Offsite Dose Projection

7. Seabrook Station Radiological Emergency Plan

8. NRC Inspection Report No. 50-443/86-18-23

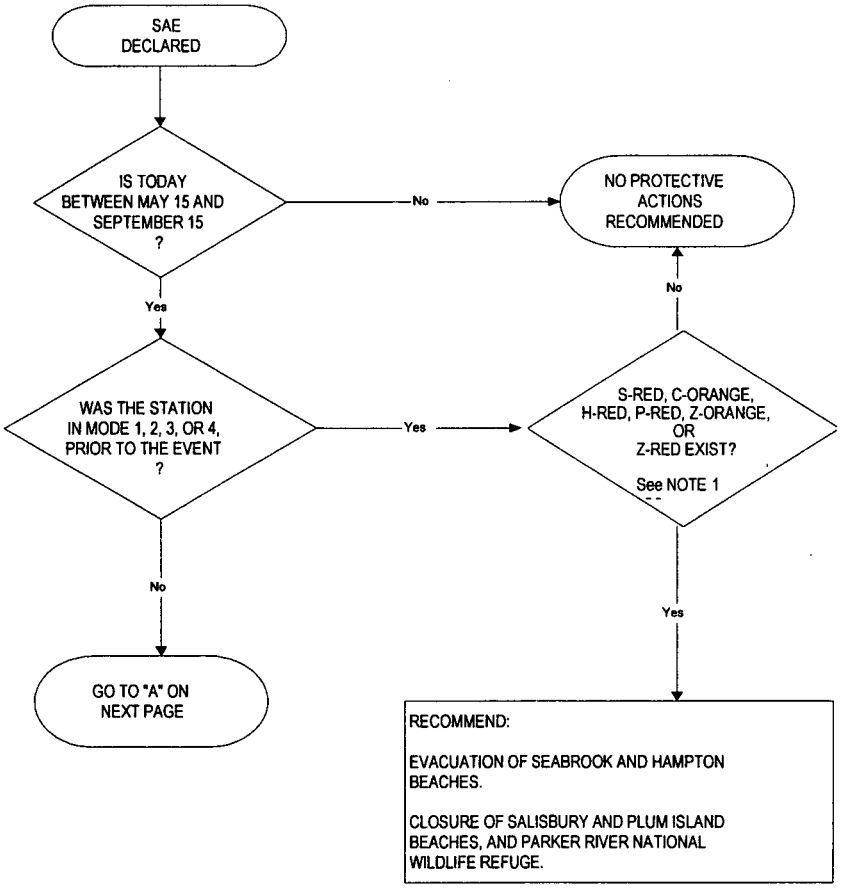
9. NRC Inspection Report No. 50-443/85-32-14a

10. NRC Inspection Report No. 50-443/86-18-06

11. NRC Inspection Report No. 50-443/93-03

12. NRC Inspection Report No. 50-443/94-29

Figure 1
Site Area Emergency Protective Action Recommendation (PAR) Flowchart
(Sheet 1 of 2)



NOTE 1:

H Red – after the actions to establish a 'bleed and feed' cooldown have been initiated

P Red – with RCS pressure greater than 300 psig

Z Orange – after transitioning out of Procedure FR-Z.1 with no CBS pump running

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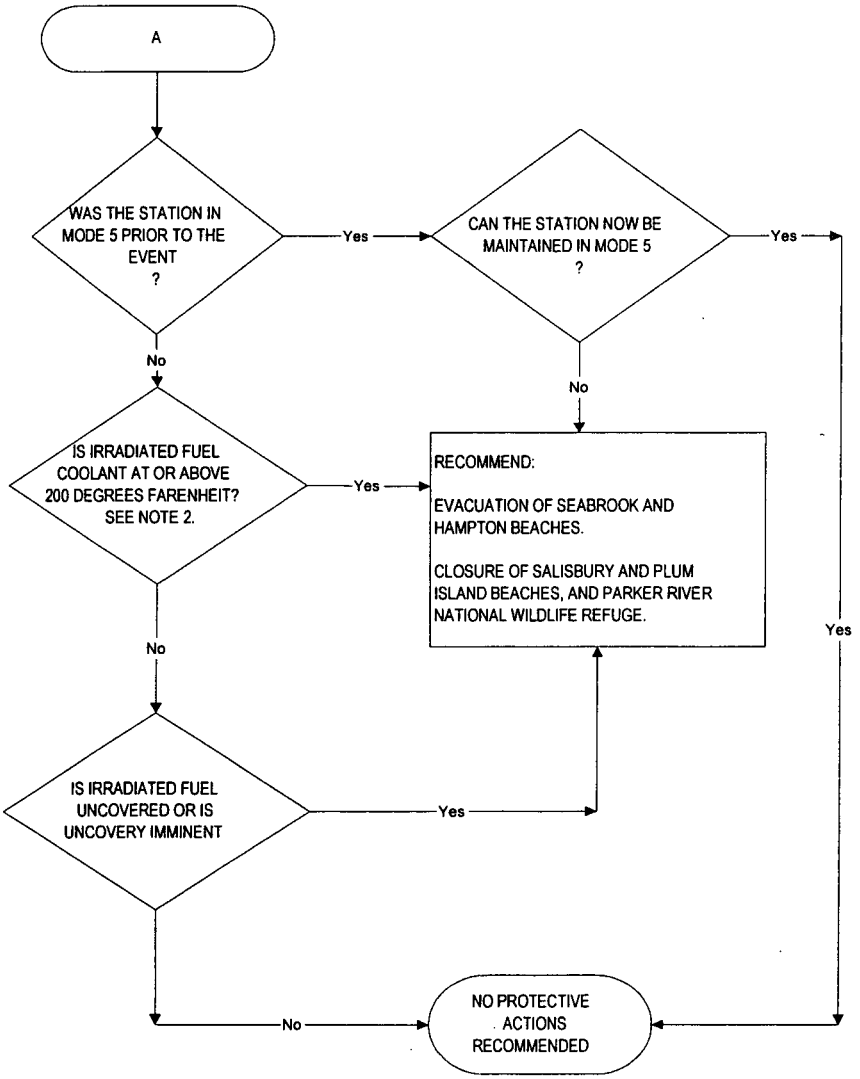
pg 1

Figure 1
Site Area Emergency Protective Action Recommendation (PAR) Flowchart
(Sheet 2 of 2)



NOTE 2: TEMPERATURE AS INDICATED BY EITHER INSTRUMENTATION READINGS OR VISUAL INDICATIONS OF COOLANT BOILING.

p:\ap_w\visio\er1-2fg1.vsd
pg 2

Figure 2
Site Layout

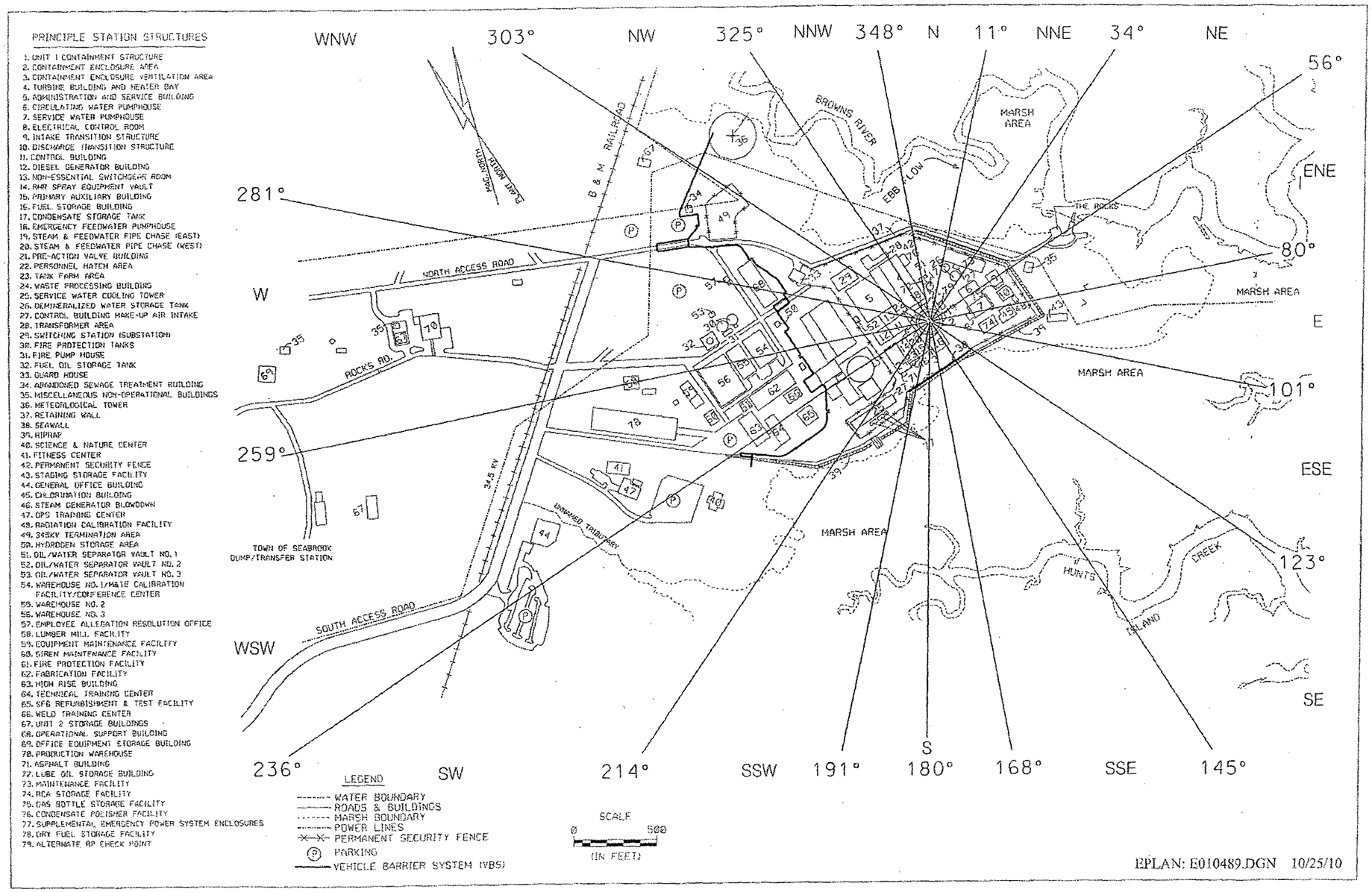


Figure 3
Summary of Changes
(Sheet 1 of 4)

Rev. 55:

In §1.1, Discussion, added guidance (4th, 5th and 6th paragraphs) concerning notification of the states for events that escalate from a lesser emergency classification to a higher emergency classification before notifications to the states can be completed for the lesser (first) emergency declaration. The added guidance is taken from NRC Regulatory Issue Summary 2007-02.

Rev. 54:

Revised forms ER 1.2A, B, C and D to add to the CAUTION following step 1 that the Short Term Emergency Director (STED) shall implement step 2 of the checklist. (AR 213275)

Rev. 53:

Revised Figure 2, Site Layout, to show relocated VBS. (CR 08-16142 and 08MMOD502)

On forms ER 1.2A, B, C and D, added a second telephone extension to contact Security.

On forms ER 1.2B, C, and D, step 3, Determine Schiller Station Activation, referenced the correct subsequent step in the logic diagram depending on option determined.(AR#205115)

On forms ER 1.2B, C, and D, under the step for Emergency Termination, deleted the reference to Precaution 3.5. Precaution 3.5 is an inappropriate reference that is not pertinent to Emergency Termination. (AR#200061)

On forms ER 1.2C and D, inserted a CAUTION concerning the requirement to authorize a PAR within 15 minutes of the availability of indications that a PAR is required and of the requirement to initiate state notifications of a PAR within 15 minutes of a PAR authorization. (AR#197226)

Rev. 52:

Throughout, replaced references to the ER 5.7, Offsite Dose Projection System (ODPS,) with ER 5.7, Initial Offsite Dose Projection. Changed associated instructions to be consistent with terminology used in ER 5.7 for operating the Raddose-V dose projection system. (CR 07-00229)

Revised release definition in Precaution 3.4 and conditions identified on forms ER 1.2A, B, C and D, Short Term Emergency Director Checklists, that require a Raddose run to be consistent with the Raddose-V dose projection program. (CR 07-00229)

Revised Figure 2, Site Layout, to show locations of the Dry Fuel Storage Facility, Alternate HP Checkpoint, Condensate Polisher, and SEPS. (CR 06-10369)

On forms ER 1.2A, B, C and D, changed example initiating condition references to be consistent with the NEI 99-01 initiating condition designations. (CF 07-07969)

Figure 3
Summary of Changes
(Sheet 2 of 4)

Rev. 52 (con't):

On forms ER 1.2A, B, C and D, changed instructions for completing ER 2.0B, State Notification Fact Sheet, block 6 from "Self-explanatory" to 'Requires authorization signature of STED or SED." (CR 08-00737)

On form ER 1.2G, General Emergency PAR Worksheet, changed the definition of a radiation release to be consistent with the Raddose-V dose projection program. (CR 07-00229)

Rev. 51:

On forms ER 1.2A, B, C and D, added a new step 2 that directs the STED to declare the emergency via a crew update by announcing the emergency classification and to enter the time of the update to mark the time of the emergency declaration. (CR 07-06637)

Rev. 50:

On forms ER 1.2A, B, C and D, clarified instructions in step 1. (CR 06-14923)

On forms ER 1.2A B, C and D, added a new step under instructions for completing the State Notification Fact Sheet to enter the emergency initiating condition designation. (CR 06-03396)

Rev. 49:

In §2.13, added a responsibility for the ERO Technical Liaison to notify Maine State Police.

In §5.10, added an action for the ERO Technical Liaison to notify Maine State Police.

On Figure 1, Site Area Emergency Protective Action Recommendation (PAR) Flowchart, corrected RCS pressure setpoint for P-Red condition to read 300 psig. (CR 06-03025)

On forms ER 1.2A, B, C and D, deleted the caution statement re: security event contingencies. (CR 06-08426)

On forms ER 1.2A, B, C and D, added a new first step to implement ER 1.2 in parallel with OS1290.03 in the event ER 1.2 is entered during a code yellow security event. (CR 06-08426)

Rev. 48:

Added a new Figure 2, Site Layout, that shows wind directions as they affect site access roads for evaluation of potential hazards to personnel directed to evacuate the site. (CR 05-12337)

Figure 3
Summary of Changes
(Sheet 3 of 4)

Rev. 48 (con't):

On forms ER 1.2A, B, C and D, Short Term Emergency Director Checklists, deleted the initial step that referred to instructions for a Code Red security event. Inserted a new CAUTION statement with instructions not to use this procedure for a Code Red security event or for an aircraft threat and to use the plant announcement for the applicable Code Yellow condition in SDI0003.00 Appendix A. (CR 05-15307)

On forms ER 1.2A, B, C and D, Short Term Emergency Director Checklists, deleted the steps for making the plant announcement for intruder entry into the protected area. (CR 05-15307)

On forms ER 1.2B, C and D, deleted instructions for implementing ERO pager call-out in the event Guard Island cannot be contacted during a security event. (CR 05-15307)

Rev. 47:

On form ER 1.2E, Work Control Supervisor Checklist, changed the commercial telephone number for the Massachusetts Emergency Management Agency to (508) 820-2023. (CR 04925)

Rev. 46

In §2.1, Shift Manager, and §2.7, Site Emergency Director, responsibilities, added a statement that the STED, or the SED upon relieving the STED, makes the final determination to take actions, including deviation from station security procedures, required for the protection of the health and safety of the public, to protect plant equipment, and to protect station personnel. (CR 04-08752)

In §3.5, revised the precaution statement pertaining to STED contact with the Shift Security Supervisor if the emergency involves a security event to include direction to determine when a Code Red condition is terminated whereupon the STED will direct the SSS to activate the ERO per Security Procedure GN1332.00. (CR 04-08752)

In forms ER 1.2A, ER 12.B, ER 1.2C and ER 1.2D, in the prescribed announcement for a security event in progress, inserted the words "A SECURTIY EVENT IS IN PROGRESS." (CR 04-08291)

Rev. 45:

In §1.0 Objectives, added a new section 1.1 titled Discussion that contains background information that was previously subsumed under §3.0 Precautions but that was not essential for proper implementation of the procedure. (CR 04-02094)

Rev. 45 (con't):

In §3.0 Precautions and on forms ER 1.2A, ER 1.2B, ER 1.2C, and ER 1.2D, revised description of release conditions that require offsite dose projection to account for potential release pathway via the steam driven emergency feedwater pump. (CR 02-01450)

Figure 3
Summary of Changes
(Sheet 4 of 4)

Rev. 45 (con't):

On forms ER 1.2A, ER 1.2B, ER 1.2C, and ER 1.2D, revised the release definitions for completing the release block on the state notification fact sheet to account for potential release pathway via the steam driven emergency feedwater pump. (CR 02-01450)

On forms ER 1.2B, ER 1.2C, and ER 1.2D, revised the logic for directing site evacuees to their homes or to the Schiller Station remote monitoring area to account for potential release pathway via the steam driven emergency feedwater pump. (CR 02-01450)

On form ER 1.2G, revised the logic for General Emergency PARs to account for potential release pathway via the steam driven emergency feedwater pump. (CR 02-01450)

UNUSUAL EVENT CHECKLIST - SHORT TERM EMERGENCY DIRECTOR

1. [ ] If entering this checklist during a code yellow security event, implement ER1.2 actions in parallel with the code yellow actions directed by OS1290.03. Make **both** the security **and** the emergency classification related plant announcements per OS1290.03 and ER 1.2.

> **CAUTION**
>
> **Per 10 CFR 50, Appendix E, IV.D, state notification shall be initiated within 15 minutes of the emergency declaration. Per 10 CFR 50.72, NRC notification shall be initiated within one (1) hour of the emergency declaration. The STED shall implement step 2.**

2. [ ] Declare the emergency via a crew UPDATE by announcing the emergency classification. Enter the time of this update _____. This is the time of the emergency declaration.

3. [ ] **NOTIFY STATION PERSONNEL**

   a. Ensure Gaitronics night muting is off.

   b. Sound the plant emergency alarm.

   c. Using the Gaitronics override, make the following announcement:

   "ATTENTION ALL PERSONNEL. AN **UNUSUAL EVENT** HAS BEEN DECLARED. DUTY PRIMARY RESPONDERS REPORT TO YOUR ASSIGNED LOCATIONS. ALL OTHER PERSONNEL CONTINUE WITH NORMAL DUTIES."

   d. Repeat the plant emergency alarm.

   e. Using the Gaitronics override, repeat the announcement.

4. [ ] **NOTIFY GUARD ISLAND SECURITY**

   a. Contact Guard Island Security at x4006 or x4008.

   b. Provide the following information:

   - An Unusual Event has been declared
   - Time of declaration _____
   - The emergency initiating condition designation (e.g., AU1, etc.)_____
   - Schiller Station is not being activated

   c. Direct implementation of procedure GN1332.00, Security Response to s Declared Radiological Emergency.

5. [ ] **COMPLETE FORM ER 2.0B, STATE NOTIFICATION FACT SHEET**

a. Block 1 - Leave blank

b. Block 2 – Enter time declared from step 2 and check Unusual Event

c. Block 3 – Enter the emergency initiating condition designation

d. Block 4 - Check "None"

e. Block 5 - Use the following guidance when completing this block.

As used here, a "release" is defined as follows:

Radioactive material is being released to the environment as indicated by

- **Wide Range Gas Monitor (WRGM) Alert or High Alarm (RM-6528-4)**

OR

- **Main Steam Line Monitor Alert or High Alarm with an Open ASDV or Main Steam Safety Valve on the Affected Main Steam Line**

OR

- **Main Steam Line Monitor Alert or High Alarm and the Steam Driven EFW Pump Operating and Fed from the Affected Line**

OR

- **STED judgment that a radiological release has occurred and been terminated or is continuing**

AND

- **release of material is directly attributable to the event.**

f. Block 6 – Requires authorization signature of the STED or SED

g. Block 7 – Leave blank

6. [ ] **NOTIFY THE STATES**

a. Give the completed copy of form ER 2.0B to the Work Control Supervisor.

b. Direct the Work Control Supervisor to implement form ER 1.2E.

c. If the Work Control Supervisor is not available, implement form ER 1.2E.

d. Assign the Fire Brigade Leader as Control Room Communicator, and direct the Communicator to implement form ER 1.2F.

e. If notified that the ERO pagers failed to activate, direct the Control Room Communicator to notify a position holder for each Primary Responder position per form ER 1.2F.

7. [ ] **COMPLETE FORM ER 2.0D, NRC EVENT NOTIFICATION WORKSHEET**

If needed, detailed instructions are contained in procedure ER 2.0, Emergency Notification Documentation Forms Procedure.

8. [ ] **NOTIFY THE NRC**

a. Using form ER 2.0D, notify the NRC Headquarters Operations Officer on the FTS handset phone. If this phone is not operable, use a commercial line. The numbers below can be used for either phone.

1-(301) 816-5100 (primary)
1-(301) 951-0550 (backup)

b. Turn over NRC communications to the Control Room Communicator.

9. [ ] **NHDPHS AND MDPH VERIFICATION CALLBACKS**

When representatives of the NH Division of Public Health Services and/or the Massachusetts Department of Public Health call in, provide the following information, as requested:

- Verification of the information contained on form ER 2.0B, State Notification Fact Sheet
- A brief description of events and prognosis.

10. [ ] **EMERGENCY RECLASSIFICATION**

a. If an dose assessment is required and one has not yet been performed, initiate a Raddose V run in accordance with procedure ER 5.7, Initial Offsite Dose Projection. A Raddose V run is required for each of the following conditions:

- A Wide Range Gas Monitor (WRGM) high alarm (RM-6528-4)
- A Main Steam Line Monitor high alarm with an open ASDV or SRV on the affected line
- A Main Steam Line Monitor high alarm with the steam driven EFW pump running and fed from the affected line
- The results of effluent analysis (i.e., an ODCM calculation) or site boundary monitoring indicate that a release is in progress.

b. If there is a radiological release via the turbine-driven EFW pump exhaust, dispatch a monitoring team to the downwind site boundary location to obtain a site boundary dose rate and use Unmonitored Release (UNMON) of ER 5.7.

c. Assess current emergency conditions and reclassify in accordance with procedure ER 1.1, Classification of Emergencies.

d. If warranted, implement form ER 1.2B, ER 1.2C, or ER 1.2D as appropriate to the new classification.

11. [ ] **RADIOLOGICAL RELEASE INITIATION OR TERMINATION**

a. If the radiological release status reported to the states on form ER 2.0B Block 5 changes such that a release has started or a previous release has terminated and no further releases are expected, complete blocks 2 through 6 of a new form ER 2.0B.

b. Give the completed copy of form ER 2.0B to Work Control Supervisor.

c. Direct the Work Control Supervisor to implement form ER 1.2E.

e. If the Work Control Supervisor is not available, implement form ER 1.2E.

12. [ ] **REGULATORY REPORTS**

NOTE
The following action may be turned over to the Site Emergency Director

Make regulatory reports per the Regulatory Compliance Manual, Chapter 3, Figure 3-1-5.

13. [ ] **PRIMARY RESPONDER BRIEFINGS**

As requested, brief Primary Responders on:

- Station status,
- Accident mitigation and corrective actions taken,
- Status of the emergency response organization, and
- Communications with offsite authorities.

14 [ ] **COMMAND AND CONTROL TURNOVER (Do not delegate)**

a. Turn over emergency command and control responsibilities to the Site Emergency Director.

b. Provide all notification documentation.

c. Enter the time of turnover: _____

f. Announce turnover of command and control responsibilities in the Control Room.

15. [ ] **EMERGENCY TERMINATION**

If no emergency condition(s) exists:

a. Complete a new form ER 2.0B per instructions in step 3 EXCEPT enter time terminated in block 2

b. Provide the completed form ER 2.0B to the Work Control Supervisor.

c. Direct the Work Control Supervisor to notify the States

d. Complete a new form ER 2.0D.

e. Notify the NRC Headquarters Operations Officer using form ER 2.0D.

f. Ensure Gaitronics night muting is off.

g. Using the Gaitronics override, make the following announcement:

"ATTENTION ALL PERSONNEL. THE UNUSUAL EVENT HAS BEEN TERMINATED. THE UNUSUAL EVENT HAS BEEN TERMINATED."

h. Resume normal Control Room duties. Time: _____

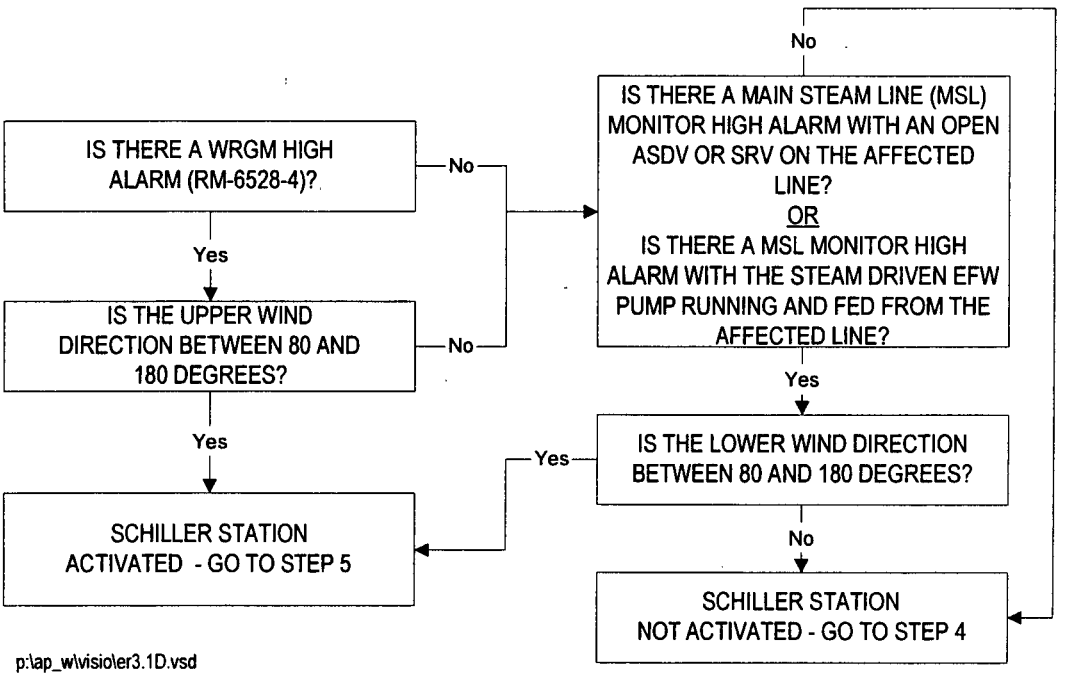
ALERT CHECKLIST
SHORT TERM EMERGENCY DIRECTOR

1. [ ] If entering this checklist during a code yellow security event, implement ER 1.2 actions in parallel with the code yellow actions directed by OS1290.03. Make **both** the security **and** the emergency classification related plant announcements per OS1290.03 and ER 1.2.

> **CAUTION**
>
> **Per 10 CFR 50, Appendix E, IV.D, state notification shall be initiated within 15 minutes of the emergency declaration. Per 10 CFR 50.72, NRC notification shall be initiated within one (1) hour of the emergency declaration. The STED shall implement step 2.**

2. [ ] Declare the emergency via a crew UPDATE by announcing the emergency classification. Enter the time of this update _____. This is the time of the emergency declaration.

3. [ ] **DETERMINE SCHILLER STATION ACTIVATION**



> **CAUTION**
>
> **BEFORE DIRECTING A SITE EVACUATION, ENSURE THERE ARE NO SAFETY HAZARDS WITHIN THE SITE BOUNDARY TO EVACUATING PERSONNEL. IF KNOWN RADIOLOGICAL OR OTHER HAZARDOUS CONDITIONS PRECLUDE EVACUATING PERSONNEL FROM USING EITHER THE NORTH ACCESS ROAD OR THE SOUTH ACCESS ROAD, NOTIFY THE SECURITY SHIFT SUPERVISOR. SEE FIGURE 2 FOR WIND DIRECTIONS AFFECTING THE ACCESS ROADS.**

4. [ ] **NOTIFY STATION PERSONNEL (SCHILLER STATION NOT ACTIVATED)**

a. Ensure Gaitronics night muting is off.

b. Sound the plant emergency alarm.

c. Using the Gaitronics override, make the following announcement:

"ATTENTION ALL PERSONNEL. AN **ALERT** HAS BEEN DECLARED. ALL PERSONNEL WITH ALERT DUTIES REPORT TO YOUR ASSIGNED LOCATIONS. ALL NON-ASSIGNED PERSONNEL EVACUATE THE SITE TO YOUR HOME."

d. Repeat the plant emergency alarm.

e. Using the Gaitronics override, repeat the announcement.

f. Proceed to Step 6.

CAUTION

BEFORE DIRECTINGA SITE EVACUATION, ENSURE THERE ARE NO SAFETY HAZARDS WITHIN THE SITE BOUNDARY TO EVACUATING PERSONNEL. IF KNOWN RADIOLOGICAL OR OTHER HAZARDOUS CONDITIONS PRECLUDE EVACUATING PERSONNEL FROM USING EITHER THE NORTH ACCESS ROAD OR THE SOUTH ACCESS ROAD, NOTIFY THE SECURITY SHIFT SUPERVISOR. SEE FIGURE 2 FOR WIND DIRECTIONS AFFECTING THE ACCESS ROADS.

5. [ ] **NOTIFY STATION PERSONNEL (SCHILLER STATION ACTIVATED)**

a. Ensure Gaitronics night muting is off.

b. Sound the plant emergency alarm.

c. Using the Gaitronics override, make the following announcement:

"ATTENTION ALL PERSONNEL, AN **ALERT** HAS BEEN DECLARED. ALL PERSONNEL WITH ALERT DUTIES REPORT TO YOUR ASSIGNED LOCATIONS. ALL OTHER PERSONNEL EVACUATE THE SITE TO SCHILLER STATION."

d. Repeat the plant emergency alarm.

e. Using the Gaitronics override, repeat the announcement

6. [ ] **NOTIFY GUARD ISLAND SECURITY**

a. Contact Guard Island Security at x4006 or x4008.

b. Provide the following information:

- An Alert has been declared
- Time of declaration _____
- The emergency initiating condition designation (e.g., HA5, etc.)_____
- Schiller Station is/is not being activated (as determined above)

c. Direct implementation of procedure GN1332.00, Security Response to a Declared Radiological Emergency.

7. [ ] **COMPLETE FORM ER 2.0B, STATE NOTIFICATION FACT SHEET**

a. Block 1 - Leave blank

b. Block 2 – Enter time declared and check Alert

c. Block 3 – Enter the emergency initiating condition designation.

d. Block 4 - Check "None"

e. Block 5 - Use the following guidance when completing this block.

As used here, a "release" is defined as follows:

(NEXT PAGE)

Radioactive material is being released to the environment as indicated by

- **Wide Range Gas Monitor (WRGM) Alert or High Alarm (RM-6528-4)**

OR

- **Main Steam Line Monitor Alert or High Alarm with on Open ASDV or Main Steam Safety Valve on the Affected Main Steam Line**

OR

- **Main Steam Line Monitor Alert or High Alarm and the Steam Driven EFW Pump Operating and Fed from the Affected Main Steam Line**

OR

- **STED judgment that a radiological release has occurred and been terminated or is continuing**

AND

- **release of material is directly attributable to the event.**

f. Block 6 - Requires authorization signature of the STED or SED

g. Block 7 - Leave blank

8. [ ] **NOTIFY THE STATES**

a. Give the completed copy of form ER 2.0B to the Work Control Supervisor.

b. Direct the Work Control Supervisor to implement form ER 1.2E.

c. If the Work Control Supervisor is not available, implement form ER 1.2E.

d. Assign the Fire Brigade Leader as Control Room Communicator, and direct the Communicator to implement form ER 1.2F.

e. If notified that the ERO pagers failed to activate, direct the Control Room Communicator to contact a position holder for each Primary Responder position per form ER 1.2F.

9. [ ] **COMPLETE FORM ER 2.0D, EVENT NOTIFICATION WORKSHEET**

If needed, detailed instructions are contained in procedure ER 2.0, Emergency Notification Documentation Forms Procedure, Figure 1, Guidelines for Completing Form ER 2.0D..

10. [ ] **ACTIVATE THE EMERGENCY RESPONSE DATA SYSTEM (ERDS)**

a. Select "Cancel" (this will return screen to main menu).

b. From the main menu screen, select "BOP."

c. From the BOP menu screen, select "EMERGENCY RESPONSE."

d. From the Emergency Response menu screen, select "ERDS ACTIVATION."

e. From the ERDS menu screen, select "ACTIVATE."

11. [ ] **NOTIFY THE NRC**

a. Using form ER 2.0D, notify the NRC Headquarters Operations Officer on the FTS handset phone. If this phone is not operable, use a commercial line. The numbers below can be used for either phone.

1-(301) 816-5100 (primary)
1-(301) 951-0550 (backup)

b. Ask the NRC Headquarters Operations Officer to verify that ERDS data is being satisfactorily received by the NRC. If not, use "Reconnect" to reactivate ERDS.

c. Turn over NRC communications to the Control Room Communicator.

12. [ ] **NHDPHS AND MDPH VERIFICATION CALLBACKS**

When representatives of the NH Division of Public Health Services and/or the Massachusetts Department of Public Health call in, provide the following information, as requested:

- Verification of the information contained on form ER 2.0B, State Notification Fact Sheet
- A brief description of events and prognosis.

13. [ ] **EMERGENCY RECLASSIFICATION**

a. If a Raddose V run is required and one has not yet been performed, initiate a Raddose V run in accordance with procedure ER 5.7, Initial Offsite Dose Projection. A Raddose V run is required for each of the following conditions:

- A Wide Range Gas Monitor (WRGM) high alarm (RM-6528-4)
- A Main Steam Line Monitor high alarm with an open ASDV or SRV on the affected line
- A Main Steam Line Monitor high alarm with the steam driven EFW pump running and fed from the affected line
- The results of effluent analysis (i.e., an ODCM calculation) or site boundary monitoring indicate that a release is in progress.

b. If there is a radiological release via the turbine-driven EFW pump exhaust, dispatch a monitoring team to the downwind site boundary location to obtain a site boundary dose rate and use Unmonitored Release (UNMON) of ER 5.7.

c. Assess current emergency conditions and reclassify in accordance with procedure ER 1.1, Classification of Emergencies.

d. If warranted, implement form ER 1.2A, ER 1.2C, or ER 1.2D as appropriate to the new classification.

14. [ ] **RADIOLOGICAL RELEASE INITIATION OR TERMINATION**

a. If the radiological release status reported to the states on form ER 2.0B Block 5 changes such that a release has started or a previous release has terminated <u>and</u> no further releases are expected, complete blocks 2 through 6 of a new form ER 2.0B.

b. Give the completed copy of form ER 2.0B to Work Control Supervisor.

c. Direct the Work Control Supervisor to implement form ER 1.2E.

d. If the Work Control Supervisor is not available, implement form ER 1.2E.

15. [ ] **PRIMARY RESPONDER BRIEFINGS**

As requested, brief Primary Responders on:

- Station status,
- Accident mitigation and corrective actions taken,
- Status of the emergency response organization,
- Communications with offsite authorities, and

- Status of ERDS activation

16. [ ] **COMMAND AND CONTROL TURNOVER (Do not delegate)**

a. Turn over emergency command and control responsibilities to the Site Emergency Director.

b. Provide all notification documentation.

c. Enter the time of turnover: _____

d. Announce turnover of command and control responsibilities in the Control Room.

17. [ ] **EMERGENCY TERMINATION**

An Alert cannot be terminated by the STED. The emergency shall be terminated by either the Site Emergency Director or the Response Manager.

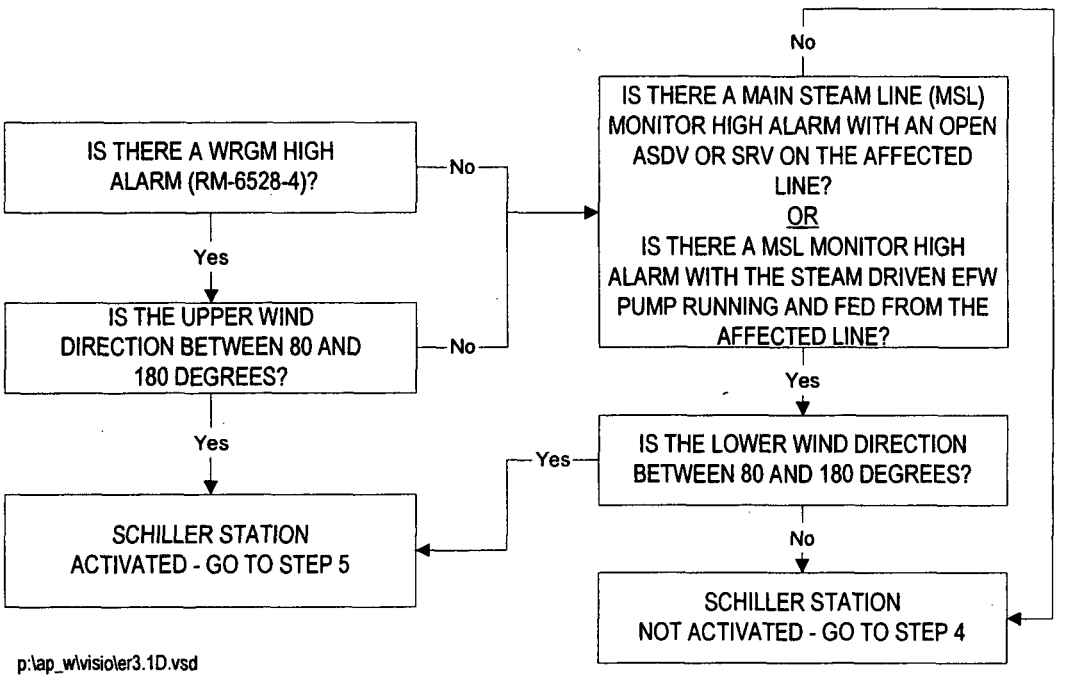
SITE AREA EMERGENCY CHECKLIST - SHORT TERM EMERGENCY DIRECTOR

1. [ ] If entering this checklist during a code yellow security event, implement ER 1.2 actions in parallel with the code yellow actions directed by OS1290.03. Make **both** the security **and** the emergency classification related plant announcements per OS1290.03 and ER 1.2.

> **CAUTION**
>
> **Per 10 CFR 50, Appendix E, IV.D, state notification shall be initiated within 15 minutes of the emergency declaration. Per 10 CFR 50.72, NRC notification shall be initiated within one (1) hour of the emergency declaration. The STED shall implement step 2.**

2. [ ] Declare the emergency via a crew UPDATE by announcing the emergency classification. Enter the time of this update _____. This is the time of the emergency declaration.

3. [ ] **DETERMINE SCHILLER STATION ACTIVATION**



> **CAUTION**
>
> **BEFORE DIRECTING A SITE EVACUATION, ENSURE THERE ARE NO SAFETY HAZARDS WITHIN THE SITE BOUNDARY TO EVACUATING PERSONNEL. IF KNOWN RADIOLOGICAL OR OTHER HAZARDOUS CONDITIONS PRECLUDE EVACUATING PERSONNEL FROM USING EITHER THE NORTH ACCESS ROAD OR THE SOUTH ACCESS ROAD, NOTIFY THE SECURITY SHIFT SUPERVISOR. SEE FIGURE 2 FOR WIND DIRECTIONS AFFECTING THE ACCESS ROADS.**

4. [ ] **NOTIFY STATION PERSONNEL (SCHILLER STATION NOT ACTIVATED)**

a. Ensure Gaitronics night muting is off.

b. Sound the plant emergency alarm.

c. Using the Gaitronics override, make the following announcement:

"ATTENTION ALL PERSONNEL. A **SITE AREA EMERGENCY** HAS BEEN DECLARED. ALL PERSONNEL WITH SITE AREA EMERGENCY DUTIES REPORT TO YOUR ASSIGNED LOCATIONS. ALL NON-ASSIGNED PERSONNEL EVACUATE THE SITE TO YOUR HOME."

d. Repeat the plant emergency alarm.

e. Using the Gaitronics override, repeat the announcement.

f. Proceed to Step 6.

CAUTION

BEFORE DIRECTING A SITE EVACUATION, ENSURE THERE ARE NO SAFETY HAZARDS WITHIN THE SITE BOUNDARY TO EVACUATING PERSONNEL. IF KNOWN RADIOLOGICAL OR OTHER HAZARDOUS CONDITIONS PRECLUDE EVACUATING PERSONNEL FROM USING EITHER THE NORTH ACCESS ROAD OR THE SOUTH ACCESS ROAD, NOTIFY THE SECURITY SHIFT SUPERVISOR. SEE FIGURE 2 FOR WIND DIRECTIONS AFFECTING THE ACCESS ROADS.

5. [ ] **NOTIFY STATION PERSONNEL (SCHILLER STATION ACTIVATED)**

a. Ensure Gaitronics night muting is off.

b. Sound the plant emergency alarm.

c. Using the Gaitronics override, make the following announcement:

"ATTENTION ALL PERSONNEL, A **SITE AREA EMERGENCY** HAS BEEN DECLARED. ALL PERSONNEL WITH SITE AREA EMERGENCY DUTIES REPORT TO YOUR ASSIGNED LOCATIONS. ALL OTHER PERSONNEL EVACUATE THE SITE TO SCHILLER STATION."

d. Repeat the plant emergency alarm.

e. Using the Gaitronics override, repeat the announcement

6. [ ] **NOTIFY GUARD ISLAND SECURITY**

a. Contact Guard Island Security at x4006 or x4008.

b. Provide the following information:

- A Site Area Emergency has been declared
- Time of declaration _____
- The emergency initiating condition designation (e.g., SS2, etc.)_____
- Schiller Station is/is not being activated (as determined above)

c. Direct implementation of procedure GN1332.00, Security Response to a Declared Radiological Emergency.

7. [ ] **COMPLETE FORM ER 2.0B, STATE NOTIFICATION FACT SHEET**

a. Block 1 - Leave blank

b. Block 2 – Enter time declared and check Site Area Emergency

c. Block 3 – Enter the emergency initiating condition designation.

CAUTION

A protective action recommendation (PAR) shall be authorized within 15 minutes of the availability of indications that a PAR is required. State notifications of a PAR shall be initiated within 15 minutes of a PAR authorization.

d. Block 4 - Use Figure 1, Site Area Emergency PAR Flowchart, to determine appropriate protective action recommendations. (Protected: Ref. 6.10)

e. Block 5 - Use the following guidance when completing this block.

As used here, a "release" is defined as follows:

(NEXT PAGE)

Radioactive material is being released to the environment as indicated by

- **Wide Range Gas Monitor (WRGM) Alert or High Alarm (RM-6528-4)**

OR

- **Main Steam Line Monitor Alert or High Alarm with an Open ASDV or Main Steam Safety Valve on the Affected Main Steam Line**

OR

- **Main Steam Line Monitor Alert or High Alarm and the Steam Driven EFW Pump Operating and Fed from the Affected Line**

OR

- **STED judgment that a radiological release has occurred and been terminated or is continuing**

AND

- **release of material is directly attributable to the event.**

f. Block 6 - Requires authorization signature of the STED or SED

g. Block 7 - Leave blank

8. [ ] **NOTIFY THE STATES**

a. Give the completed copy of form ER 2.0B to the Work Control Supervisor.

b. Direct the Work Control Supervisor to implement form ER 1.2E.

c. If the Work Control Supervisor is not available, implement form ER 1.2E.

d. Assign the Fire Brigade Leader as Control Room Communicator, and direct the Communicator to implement form ER 1.2F.

e. If notified that the ERO pagers failed to activate, direct the Control Room Communicator to notify a position holder for each Primary Responder position per form ER 1.2F.

9. [ ] **COMPLETE FORM ER 2.0D, EVENT NOTIFICATION WORKSHEET**

If needed, detailed instructions are contained in procedure ER 2.0, Emergency Notification Documentation Forms Procedure.

10. [ ] **ACTIVATE THE EMERGENCY RESPONSE DATA SYSTEM (ERDS)**

a. Select "Cancel" (this will return screen to main menu).

b. From the main menu screen, select "BOP."

c. From the BOP menu screen, select "EMERGENCY RESPONSE."

d. From the Emergency Response menu screen, select "ERDS ACTIVATION."

e. From the ERDS menu screen, select "ACTIVATE."

11. [ ] **NOTIFY THE NRC**

a. Using form ER 2.0D, notify the NRC Headquarters Operations Officer on the FTS handset phone. If this phone is not operable, use a commercial line. The numbers below can be used for either phone.

1-(301) 816-5100 (primary)
1-(301) 951-0550 (backup)

b. Ask the NRC Headquarters Operations Officer to verify that ERDS data is being satisfactorily received by the NRC. If not, use "Reconnect" to reactivate ERDS.

c. Turn over NRC communications to the Control Room Communicator.

12. [ ] **NHDPHS AND MDPH VERIFICATION CALLBACKS**

When representatives of the NH Division of Public Health Services and/or the Massachusetts Department of Public Health call in, provide the following information, as requested:

- Verification of the information contained on form ER 2.0B, State Notification Fact Sheet
- A brief description of events and prognosis.

13. [ ] **EMERGENCY RECLASSIFICATION**

a. If a Raddose V run is required and one has not yet been performed, initiate a Raddose V run in accordance with procedure ER 5.7, Initial Offsite Dose Projection. A Raddose V run is required for each of the following conditions:

- A Wide Range Gas Monitor (WRGM) high alarm (RM-6528-4)
- A Main Steam Line Monitor high alarm with an open ASDV or SRV on the affected line
- A Main Steam Line Monitor high alarm with the steam driven EFW pump running and fed from the affected line
- The results of effluent analysis (i.e., an ODCM calculation or site boundary monitoring indicate that a release is in progress.

b. If there is a radiological release via the turbine-driven EFW pump exhaust, dispatch a monitoring team to the downwind site boundary location to obtain a site boundary dose rate and use Unmonitored Release (UNMON) of ER 5.7.

c. Assess current emergency conditions and reclassify in accordance with procedure ER 1.1, Classification of Emergencies.

d. If warranted, implement form ER 1.2A, ER 1.2B, or ER 1.2D as appropriate to the new classification.

14. [ ] **RADIOLOGICAL RELEASE INITIATION OR TERMINATION**

a. If the radiological release status reported to the states on form ER 2.0B Block 5 changes such that a release has started or a previous release has terminated <u>and</u> no further releases are expected, complete blocks 2 through 6 of a new form ER 2.0B.

b. Give the completed copy of form ER 2.0B to Work Control Supervisor.

c. Direct the Work Control Supervisor to implement form ER 1.2E.

d. If the Work Control Supervisor is not available, implement form ER 1.2E.

15. [ ] **PRIMARY RESPONDER BRIEFINGS**

As requested, brief Primary Responders on:

- Station status,
- Accident mitigation and corrective actions taken,
- Status of the emergency response organization,

- Communications with offsite authorities, and
- Status of ERDS activation.

16. [ ] **COMMAND AND CONTROL TURNOVER (Do not delegate)**

    a. Turn over emergency command and control responsibilities to the Site Emergency Director.

    b. Provide all notification documentation.

    c. Enter the time of turnover: _____

    d. Announce turnover of command and control responsibilities in the Control Room

17. [ ] **EMERGENCY TERMINATION**

A Site Area Emergency cannot be terminated by the STED. The emergency shall be terminated by either the Site Emergency Director or the Response Manager.

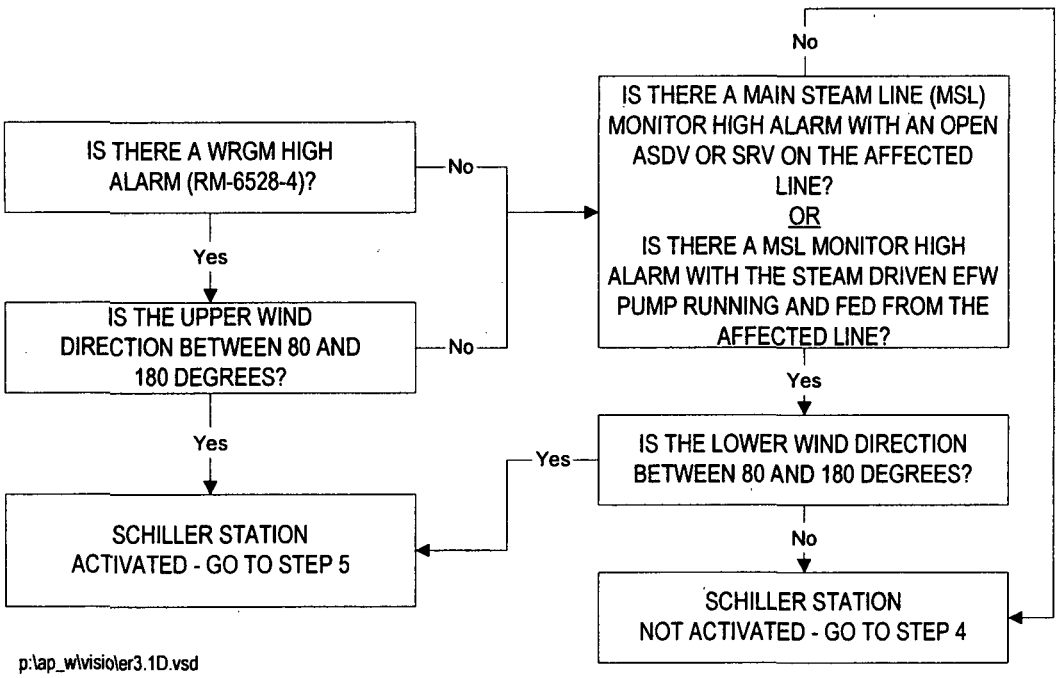
GENERAL EMERGENCY CHECKLIST - SHORT TERM EMERGENCY DIRECTOR

1. [ ] If entering this checklist during a code yellow security event, implement ER 1.2 actions in parallel with the code yellow actions directed by OS1290.03. Make **both** the security **and** emergency classification related plant announcements per OS1290.03 and ER 1.2.

> **CAUTION**
>
> **Per 10 CFR 50, Appendix E, IV.D, state notification shall be initiated within 15 minutes of the emergency declaration. Per 10 CFR 50.72, NRC notification shall be initiated within one (1) hour of the emergency declaration. The STED shall implement step 2.**

2. [ ] Declare the emergency via a crew UPDATE by announcing the emergency classification. Enter the time of this update _____. This is the time of the emergency declaration.

3. [ ] **DETERMINE SCHILLER STATION ACTIVATION**



> **CAUTION**
>
> **BEFORE DIRECTING A SITE EVACUATION, ENSURE THERE ARE NO SAFETY HAZARDS WITHIN THE SITE BOUNDARY TO EVACUATING PERSONNEL. IF KNOWN RADIOLOGICAL OR OTHER HAZARDOUS CONDITIONS PRECLUDE EVACUATING PERSONNEL FROM USING EITHER THE NORTH ACCESS ROAD OR THE SOUTH ACCESS ROAD, NOTIFY THE SECURITY SHIFT SUPERVISOR. SEE FIGURE 2 FOR WIND DIRECTIONS AFFECTING THE ACCESS ROADS.**

4. [ ] **NOTIFY STATION PERSONNEL (SCHILLER STATION NOT ACTIVATED)**

a. Ensure Gaitronics night muting is off.

b. Sound the plant emergency alarm.

c. Using the Gaitronics override, make the following announcement:

"ATTENTION ALL PERSONNEL. A **GENERAL EMERGENCY** HAS BEEN DECLARED. ALL PERSONNEL WITH GENERAL EMERGENCY DUTIES REPORT TO YOUR ASSIGNED LOCATIONS. ALL NON-ASSIGNED PERSONNEL EVACUATE THE SITE TO YOUR HOME."

d. Repeat the plant emergency alarm.

e. Using the Gaitronics override, repeat the announcement.

f. Proceed to Step 6.

CAUTION

BEFORE DIRECTING A SITE EVACUATION, ENSURE THERE ARE NO SAFETY HAZARDS WITHIN THE SITE BOUNDARY TO EVACUATING PERSONNEL. IF KNOWN RADIOLOGICAL OR OTHER HAZARDOUS CONDITIONS PRECLUDE EVACUATING PERSONNEL FROM USING EITHER THE NORTH ACCESS ROAD OR THE SOUTH ACCESS ROAD, NOTIFY THE SECURITY SHIFT SUPERVISOR. SEE FIGURE 2 FOR WIND DIRECTIONS AFFECTING THE ACCESS ROADS.

5. [ ] **NOTIFY STATION PERSONNEL (SCHILLER STATION ACTIVATED)**

a. Ensure Gaitronics night muting is off.

b. Sound the plant emergency alarm.

c. Using the Gaitronics override, make the following announcement:

"ATTENTION ALL PERSONNEL, A **GENERAL EMERGENCY** HAS BEEN DECLARED. ALL PERSONNEL WITH GENERAL EMERGENCY DUTIES REPORT TO YOUR ASSIGNED LOCATIONS. ALL OTHER PERSONNEL EVACUATE THE SITE TO SCHILLER STATION."

d. Repeat the plant emergency alarm.

e. Using the Gaitronics override, repeat the announcement.

6. [ ] **NOTIFY GUARD ISLAND SECURITY**

a. Contact Guard Island Security at x4006 or x4008.

b. Provide the following information:

- A General Emergency has been declared
- Time of declaration _____
- The emergency initiating condition designation (e.g., AG1, etc.)_____
- Schiller Station is/is not being activated (as determined above)

c. Direct implementation of procedure GN1332.00, Security Response to a Declared Radiological Emergency.

7. [ ] **COMPLETE FORM ER 2.0B, STATE NOTIFICATION FACT SHEET**

a. Block 1 - Leave blank

b. Block 2 – Enter time declared and check General Emergency

c. Block 3 – Enter the emergency initiating condition designation.

CAUTION

A protective action recommendation (PAR) shall be authorized within 15 minutes of the availability of indications that a PAR is required. State notifications of a PAR shall be initiated within 15 minutes of a PAR authorization.

d. Block 4 - Complete using the following information:

(1) If a CSFST condition C Red or Z Red exist, or an already completed Raddose run indicates PAR Group B, implement form ER 1.2G. If none of these indications exist, go to step (2).

(2) If a release is in progress from the plant vent, enter the current upper wind direction - FROM _____ degrees.

(3) If a release from the plant vent is NOT in progress, enter the current lower wind direction - FROM _____ degrees.

(4) Identify the appropriate PAR GROUP A column based on the above wind direction to determine the towns to be evacuated and sheltered.

(5) Check off the evacuated and sheltered towns and evacuated and closed beaches on form ER 2.0B, Block 4

		PAR GROUP A (Evacuate 2 Mile Radius and 5 Miles Downwind-Shelter All Others)					
		WIND DIRECTION FROM (Degrees)					
ERPA	TOWN	303-33.9	34-100.9	101-122.9	123-167.9	168-281.4	281.5-302.9
A	Seabrook	Evacuate	Evacuate	Evacuate	Evacuate	Evacuate	Evacuate
	Hampton Falls	Evacuate	Evacuate	Evacuate	Evacuate	Evacuate	Evacuate
B	Amesbury	Evacuate	Evacuate	Shelter	Shelter	Shelter	Shelter
	Salisbury	Evacuate	Evacuate	Shelter	Shelter	Shelter	Shelter
C	Kensington	Shelter	Evacuate	Evacuate	Evacuate	Shelter	Shelter
	South Hampton	Shelter	Evacuate	Evacuate	Evacuate	Shelter	Shelter
D	Hampton	Shelter	Shelter	Shelter	Evacuate	Evacuate	Shelter
	North Hampton	Shelter	Shelter	Shelter	Evacuate	Evacuate	Shelter
E	Merrimac	Shelter	Shelter	Shelter	Shelter	Shelter	Shelter
	Newburyport	Shelter	Shelter	Shelter	Shelter	Shelter	Shelter
	Newbury	Shelter	Shelter	Shelter	Shelter	Shelter	Shelter
	West Newbury	Shelter	Shelter	Shelter	Shelter	Shelter	Shelter
F	Brentwood	Shelter	Shelter	Shelter	Shelter	Shelter	Shelter
	East Kingston	Shelter	Shelter	Shelter	Shelter	Shelter	Shelter
	Exeter	Shelter	Shelter	Shelter	Shelter	Shelter	Shelter
	Newfields	Shelter	Shelter	Shelter	Shelter	Shelter	Shelter
	Newton	Shelter	Shelter	Shelter	Shelter	Shelter	Shelter
	Kingston	Shelter	Shelter	Shelter	Shelter	Shelter	Shelter
G	Greenland	Shelter	Shelter	Shelter	Shelter	Shelter	Shelter
	Stratham	Shelter	Shelter	Shelter	Shelter	Shelter	Shelter
	Rye	Shelter	Shelter	Shelter	Shelter	Shelter	Shelter
	New Castle	Shelter	Shelter	Shelter	Shelter	Shelter	Shelter
	Portsmouth	Shelter	Shelter	Shelter	Shelter	Shelter	Shelter
New Hampshire Beaches		Evacuate	Evacuate	Evacuate	Evacuate	Evacuate	Evacuate
Massachusetts Beaches		Close	Close	Close	Close	Close	Close

(6) Check off "Implement KI plans for the general public" on form ER 2.0B, Block 4.

e. Block 5 - Use the following guidance when completing this Block.

As used here, a "release" is defined as follows:

(NEXT PAGE)

Radioactive material is being released to the environment as indicated by

- **Wide Range Gas Monitor (WRGM) Alert or High Alarm (RM-6528-4**

OR

- **Main Steam Line Monitor Alert or High Alarm with an Open ASDV or Main Steam Line Safety Valve on the Affected Main Steam Line**

OR

- **Main Steam Line Monitor Alert or High Alarm and the Steam Driven EFW Pump Operating and Fed from the Affected Line**

OR

- **STED judgment that a radiological release has occurred and been terminated or is continuing**

AND

- **release of material is directly attributable to the event.**

f. Block 6 - Requires authorization signature of the STED or SED

g. Block 7 – Leave blank

8. [ ] **NOTIFY THE STATES**

a. Give the completed copy of form ER 2.0B to the Work Control Supervisor.

b. Direct the Work Control Supervisor to implement form ER 1.2E.

c. If the Work Control Supervisor is not available, implement form ER 1.2E.

d. Assign the Fire Brigade Leader as Control Room Communicator, and direct the Communicator to implement form ER 1.2F.

e. If notified that the ERO pagers failed to activate, direct the Control Room Communicator to notify a position holder for each Primary Responder position per form ER 1.2F.

9. [ ] **FOLLOW-UP PAR ASSESSMENT**

   a. Using form ER 1.2G, General Emergency PAR Worksheet, determine if upgraded protective action recommendations are warranted.

   b. If results from the above assessment indicate a PAR Group B selection, complete a new form ER 2.0B and provide it to the Work Control Supervisor for transmittal.

10. [ ] **COMPLETE FORM ER 2.0D, EVENT NOTIFICATION WORKSHEET**

    If needed, detailed instructions are contained in procedure ER 2.0, Emergency Notification Documentation Forms Procedure.

11. [ ] **ACTIVATE THE EMERGENCY RESPONSE DATA SYSTEM (ERDS)**

    a. Select "Cancel" (this will return screen to main menu).

    b. From the main menu screen, select "BOP."

    c. From the BOP menu screen, select "EMERGENCY RESPONSE."

    d. From the Emergency Response menu screen, select "ERDS ACTIVATION."

    e. From the ERDS menu screen, select "ACTIVATE."

12. [ ] **NOTIFY THE NRC**

    a. Using form ER 2.0D, notify the NRC Headquarters Operations Officer on the FTS handset phone. If this phone is not operable, use a commercial line. The numbers below can be used for either phone.

       1-(301) 816-5100 (primary)
       1-(301) 951-0550 (backup)

    b. Ask the NRC Headquarters Operations Officer to verify that ERDS data is being satisfactorily received by the NRC. If not, use "Reconnect" to reactivate ERDS.

    c. Turn over NRC communications to the Control Room Communicator.

13. [ ] **NHDPHS AND MDPH VERIFICATION CALLBACKS**

When representatives of the NH Division of Public Health Services and/or the Massachusetts Department of Public Health call in, provide the following information, as requested:

- Verification of the information contained on form ER 2.0B, State Notification Fact Sheet
- A brief description of events and prognosis.

14. [ ] **EMERGENCY RECLASSIFICATION**

a. If a Raddose V run is required and one has not yet been performed, initiate a Raddose V run in accordance with procedure ER 5.7, Initial Offsite Dose Projection. A Raddose V run is required for each of the following conditions:

- A Wide Range Gas Monitor (WRGM) high alarm (RM-6528-4)
- A Main Steam Line Monitor high alarm with an open ASDV or SRV on the affected line
- A Main Steam Line Monitor high alarm with the steam driven EFW pump running and fed from the affected line
- The results of effluent analysis (i.e., an ODCM calculation) or site boundary monitoring indicate that a release is in progress.

b. If there is a radiological release via the turbine-driven EFW pump exhaust, dispatch a monitoring team to the downwind site boundary location to obtain a site boundary dose rate and use Unmonitored Release (UNMON) of ER 5.7.

c. Assess current emergency conditions and reclassify in accordance with procedure ER 1.1, Classification of Emergencies.

d. If warranted, implement form ER 1.2A, ER 1.2B, or ER 1.2C as appropriate to the new classification.

15. [ ] **RADIOLOGICAL RELEASE INITIATION OR TERMINATION**

a. If the radiological release status reported to the states on form ER 2.0B Block 5 changes such that a release has started or a previous release has terminated <u>and</u> no further releases are expected, complete blocks 2 through 6 of a new form ER 2.0B.

b. Give the completed copy of form ER 2.0B to Work Control Supervisor.

c. Direct the Work Control Supervisor to implement form ER 1.2E.

d. If the Work Control Supervisor is not available, implement form ER 1.2E.

16. [ ] **PRIMARY RESPONDER BRIEFINGS**

As requested, brief Primary Responders on:

- Station status,
- Accident mitigation and corrective actions taken,
- Status of the emergency response organization,
- Communications with offsite authorities, and
- Status of ERDS activation.

17. [ ] **COMMAND AND CONTROL TURNOVER (Do not delegate)**

a. Turn over emergency command and control responsibilities to the Site Emergency Director.

b. Provide all notification documentation.

c. Enter the time of turnover: _____

d. Announce turnover of command and control responsibilities in the Control Room.

18. [ ] **EMERGENCY TERMINATION**

A General Emergency cannot be terminated by the STED. The emergency shall be terminated by either the Site Emergency Director or the Response Manager.

EMERGENCY ACTION CHECKLIST - WORK CONTROL SUPERVISOR

1. [ ] When given the completed form ER 2.0B, State Notification Fact Sheet, from the STED, enter your name and title in Block 1 and contact the NH State Police and MA Emergency Management Agency using the Nuclear Alert System (NAS or orange phone), in the following manner:

   a. Pick up the handset and press Group Call Number **A1**.

   b. Verify that the NH and MA dispatcher(s) are on the line.

   c. Ensure that the dispatcher(s) answering has (have) a copy of the State Notification Fact Sheet.

   d. Enter the Time Notification Initiated to NH and MA on the first line of form ER 2.0B.

   e. Read all information slowly and clearly.

   f. Verify that the dispatcher(s) has (have) received the correct information by asking one to read back the information.

   g. Obtain the name(s) of the dispatcher(s) and enter in Block 7.

   h. Press **A#** to end the group call, and then hang-up the handset.

2. [ ] If contact with one or both states cannot be made via the NAS Group Call number, make contact individually by using the NAS telephone numbers below and follow Steps 1.c through 1.h above.

New Hampshire	**212**
Massachusetts	**313 or 314**

3. [ ] If the NAS is inoperable, make contact with the states using the Zetron/Nextel unit.

   a. Pick up the handset and press "Group" pushbutton.

   b. Verify "WIDE AREA CR STATES" is displayed.

c. Make contact with the New Hampshire State Police and the Massachusetts Emergency Management Agency as follows:

1. Press and hold the handset pushbutton while reading the following message:

   "THIS IS AN EMERGENCY NOTIFICATION FROM SEABROOK STATION. I REPEAT, THIS IS AN EMERGENCY NOTIFICATION FROM SEABROOK STATION.

   NEW HAMPSHIRE STATE POLICE DISPATCHER, DO YOU HAVE A STATE NOTIFICATION FACT SHEET READY FOR USE?"

2. Release the handset pushbutton and receive the acknowledgement transmission from the New Hampshire State Police.

3. Press and hold the handset pushbutton while reading the following message:

   "MASSACHUSETTS EMERGENCY MANAGEMENT AGENCY, DO YOU HAVE A STATE NOTIFICATION FACT SHEET READY FOR USE?

4. Release the handset pushbutton and receive the acknowledgement transmission from MEMA.

5. Enter the Time Notification Initiated to NH and MA on the first line of form ER 2.0B

6. Press and hold the handset pushbutton and read all information slowly and clearly.

7. Verify that the dispatcher(s) has (have) received the correct information by asking one to read back the information.

8. Press and hold the handset pushbutton while reading the following message:

   "NEW HAMPSHIRE STATE POLICE DISPATCHER, PLEASE PROVIDE YOUR NAME."

9. Release the handset pushbutton and receive name. Enter in Block 7.

10. Press and hold the handset pushbutton while reading the following message:

    "MASSACHUSETTS EMERGENCY MANAGEMENT AGENCY, PLEASE PROVIDE YOUR NAME."

11. Release the handset pushbutton and receive name. Enter in Block 7.

12. Press and hold the handset pushbutton while reading the following message:

    "THIS CONCLUDES THIS EMERGENCY NOTIFICATION. I REPEAT, THIS CONCLUDES THIS EMERGENCY NOTIFICATION."

4. [ ] If contact with one or both states cannot be made via the NAS or Zetron/Nextel unit, make contact individually by using the commercial telephone numbers below and follow Steps 1.c through 1.h above.

New Hampshire	**9-1-(800) 852-3411**
Massachusetts	**9-1-(508) 820-2023**

5. [ ] If contact is made via commercial telephone, callback verification is required. When callback occurs, record verification time.

   NH _____ MA _____

6. [ ] Retain form ER 2.0B, State Notification Fact Sheet.

EMERGENCY ACTION CHECKLIST - CONTROL ROOM COMMUNICATOR

1. [ ] Contact Guard Island at extension 4006 and verify that the ERO pagers activated.

2. [ ] If the ERO pagers activated, notify the Short Term Emergency Director and proceed to step 4.

3. [ ] If the ERO pagers failed to activate, notify the Short Term Emergency Director and implement the following actions:

   a. Obtain the names of the Duty Primary Responders posted on the Duty Primary Responder Board in the Control Room.

   b. Attempt to contact each duty Primary Responder by home telephone or individual pager, in that order, as shown on the Duty Primary Responder Board.

   c. If individual pager number is used, enter the Control Room number **6034748330** for the Primary Responder to call.

   d. When contact is made with each Primary Responder, repeat the following:

      "This is (your name), Seabrook Station ERO Control Room Communicator. A(n) (emergency classification) was declared at (time) on (day/month/year)."

      Use 3-way communication to confirm understanding of the message.

   e. Record the responder name and time contacted on the following table:

POSITION	RESPONDER NAME	TIME CONTACTED
Response Manager		
Site Emergency Director		
Technical Services Coordinator		
Operations Technician		
Health Physics Coordinator		
EOF Coordinator		
ERO Technical Liaison		
Emergency News Manager		

4. [ ] Take over communications with the NRC as directed by the Short Term Emergency Director.

5. [ ] Obtain information from Control Room personnel as requested by the NRC Headquarters Operations Officer.

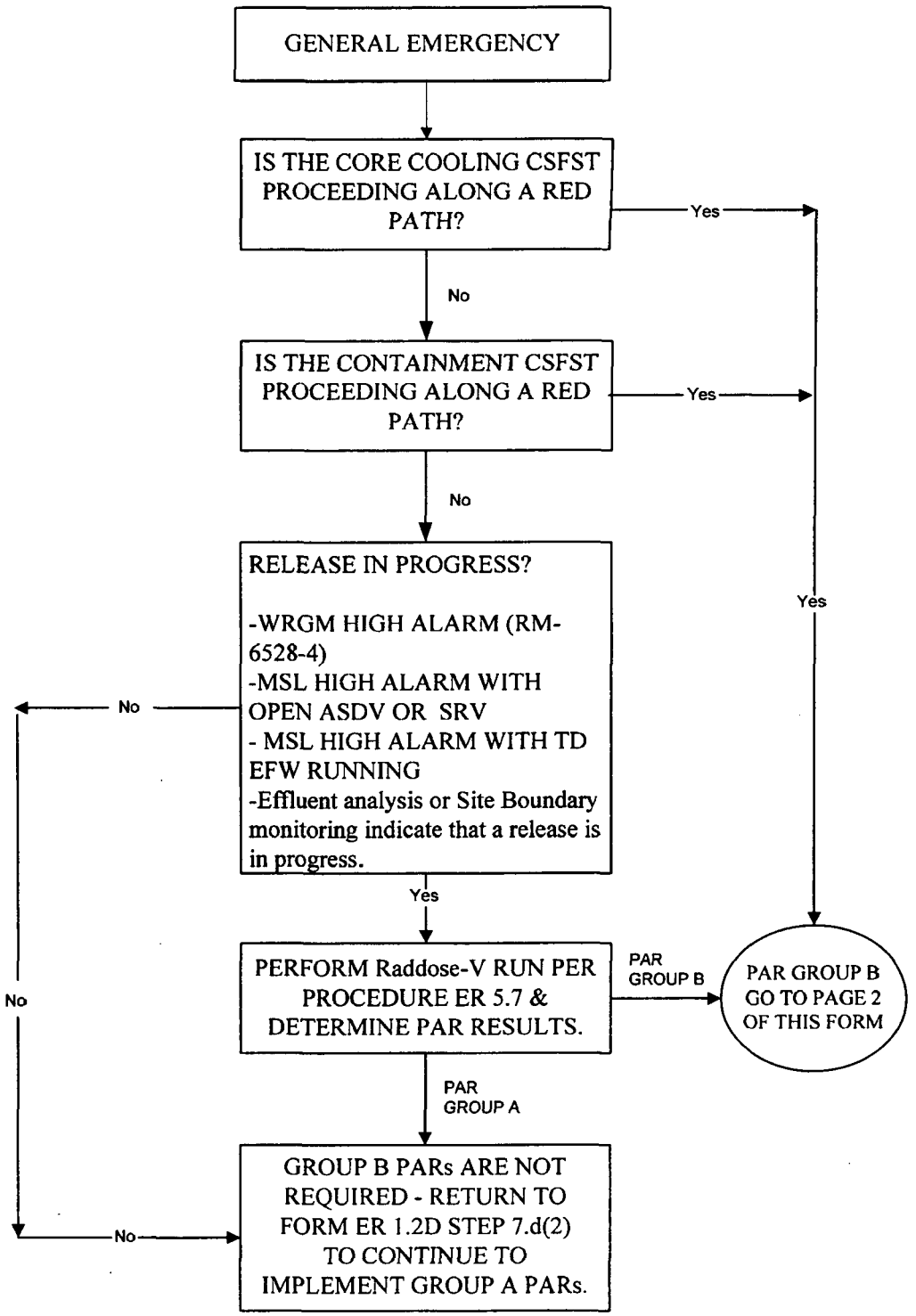
EMERGENCY ACTION CHECKLIST -
CONTROL ROOM COMMUNICATOR
(Continued)

6. [ ] When the New Hampshire and Massachusetts public health representatives call the Control Room for a follow-up briefing, ask the Short Term Emergency Director or Work Control Supervisor to take the call.

7. [ ] When offsite authorities call the Control Room, record the name of the individual, organizational affiliation, and time of call on Form ER 2.0E.

8. [ ] When the Operations Technician arrives in the Control Room or the TSC, provide all completed forms, including this checklist, and turn over NRC communications to the Operations Technician.

GENERAL EMERGENCY PAR WORKSHEET



GENERAL EMERGENCY PAR WORKSHEET
(Continued)

For a PAR Group B selection, use the following instructions and table to determine Protective Action Recommendations.

1. If a release is in progress from the plant vent, enter the current upper wind direction - FROM _____ degrees.

2. If a release from the plant vent is NOT in progress, enter the current lower wind direction – FROM _____ degrees.

2. Identify the appropriate PAR GROUP B column based on the above wind direction to determine the towns to be evacuated and sheltered.

3. Check off the evacuated and sheltered towns and evacuated and closed beaches on form ER 2.0B, Block 4.

		PAR GROUP B (Evacuate 5 Mile Radius and 10 Miles Downwind-Shelter All Others)					
		WIND DIRECTION FROM (Degrees)					
ERPA	TOWN	303-33.9	34-100.9	101-122.9	123-191.4	191.5-258.9	259-302.9
A	Seabrook	Evacuate	Evacuate	Evacuate	Evacuate	Evacuate	Evacuate
	Hampton Falls	Evacuate	Evacuate	Evacuate	Evacuate	Evacuate	Evacuate
B	Amesbury	Evacuate	Evacuate	Evacuate	Evacuate	Evacuate	Evacuate
	Salisbury	Evacuate	Evacuate	Evacuate	Evacuate	Evacuate	Evacuate
C	Kensington	Evacuate	Evacuate	Evacuate	Evacuate	Evacuate	Evacuate
	South Hampton	Evacuate	Evacuate	Evacuate	Evacuate	Evacuate	Evacuate
D	Hampton	Evacuate	Evacuate	Evacuate	Evacuate	Evacuate	Evacuate
	North Hampton	Evacuate	Evacuate	Evacuate	Evacuate	Evacuate	Evacuate
E	Merrimac	Evacuate	Evacuate	Shelter	Shelter	Shelter	Shelter
	Newburyport	Evacuate	Evacuate	Shelter	Shelter	Shelter	Shelter
	Newbury	Evacuate	Evacuate	Shelter	Shelter	Shelter	Shelter
	West Newbury	Evacuate	Evacuate	Shelter	Shelter	Shelter	Shelter
F	Brentwood	Shelter	Evacuate	Evacuate	Evacuate	Shelter	Shelter
	East Kingston	Shelter	Evacuate	Evacuate	Evacuate	Shelter	Shelter
	Exeter	Shelter	Evacuate	Evacuate	Evacuate	Shelter	Shelter
	Newfields	Shelter	Evacuate	Evacuate	Evacuate	Shelter	Shelter
	Newton	Shelter	Evacuate	Evacuate	Evacuate	Shelter	Shelter
	Kingston	Shelter	Evacuate	Evacuate	Evacuate	Shelter	Shelter
G	Greenland	Shelter	Shelter	Shelter	Evacuate	Evacuate	Shelter
	Stratham	Shelter	Shelter	Shelter	Evacuate	Evacuate	Shelter
	Rye	Shelter	Shelter	Shelter	Evacuate	Evacuate	Shelter
	New Castle	Shelter	Shelter	Shelter	Evacuate	Evacuate	Shelter
	Portsmouth	Shelter	Shelter	Shelter	Evacuate	Evacuate	Shelter
New Hampshire Beaches		Evacuate	Evacuate	Evacuate	Evacuate	Evacuate	Evacuate
Massachusetts Beaches		Close	Close	Close	Close	Close	Close

4. Check off "Implement KI plans for the general public" on form ER 2.0B, Block 4.

5. Return to form ER 1.2D, Step 7(e).

SEABROOK STATION

ADMINISTRATIVE PROCEDURE

Emergency Notification Documentation Forms Procedure

ER 2.0

Rev. 33

Procedure Owner:
D. Currier

Contents and Revision Status

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1.0 OBJECTIVES

This procedure contains documentation forms and associated requirements related to the emergency notification process. It also provides instructions for maintaining complete and accurate records during an emergency.

2.0 RESPONSIBILITIES

2.1 Emergency Response Organization Members

Use forms from this procedure in accordance with instructions contained in Procedures ER 1.2, 3.1, 3.2, 3.3, 3.4, 3.5 and 3.6.

2.2 Administrative Services Coordinator

Coordinates and directs archiving of all emergency-related documentation.

3.0 PRECAUTIONS

1. Ensure that the forms being used are the current revisions.

2. All time entries should be in 24-hour clock format (e.g., 9:00 pm = 2100).

3. During an emergency, NRC Form 361, Reactor Plant Event Notification Worksheet, requires only the authorization signature of the STED or Emergency Operations Manager.

4. During a declared radiological emergency, complete a new NRC Form 361 for making reports to the NRC under the following conditions as a minimum:
   - change in emergency classification level
   - change in affected emergency action level
   - change in radiological release status
   - change in reactor coolant system or steam generator tube leak status

5. During an emergency, Form ER 2.0E should be used by any emergency responder when directed to maintain a facility and/or position log/record.

6. The Emergency Facility Log, Form ER 2.0E, is recommended for use in all emergency locations. Other logging mechanisms are permitted (e.g., bound note/log book) provided the proper information is included and a photocopy of the pertinent pages is submitted to the Administrative Services Coordinator for full documentation of the event.

4.0 PREREQUISITES

Implementation of any of the forms herein, except Form ER 2.0D, requires the declaration of an emergency as defined in Procedure ER 1.1, Classification of Emergencies. Form ER 2.0D and the guidance in Figure 1 may be used for NRC immediate notification reports per the Regulatory Compliance Manual (NARC).

5.0 ACTIONS

5.1 Emergency Facility Logs

1. The following information should be entered on Form ER 2.0E:

   a. Name, facility, position and date.

   b. Time notification was received.

   c. Time of arrival at emergency response location.

   d. A summary of any actions taken that are pertinent to the function, including time of action. All decisions and recommendations shall be documented.

   e. Time and name of relief personnel.

   f. Time of closeout of the emergency.

2. Additional guidance for maintaining the Emergency Facility Log is contained on the reverse side of the log.

6.0 REFERENCES

1. ER 1.1, Classification of Emergencies
2. ER 1.2, Emergency Plan Activation
3. ER 3.1, Technical Support Center Operations
4. ER 3.3, Emergency Operations Facility Operations
5. NRC Inspection Report No. 50-443/85-32-14c (Form ER 2.0B, entire form)
6. NRC Inspection Report No. 50-443/86-18-22 (Form ER 2.0C, entire form)
7. NRC/Licensee Technical Information Flow During Exercises and Emergencies (Form ER 2.0G, entire form)
8. Records Management Manual (NARM)

Figure 1
Guidelines for Completing Form ER 2.0D (NRC Form 361), Event Notification Worksheet
(Sheet 1 of 3)

In the event that some of the following information is not available or is not definitively known at the time of form completion, report the information either as an estimate or not available (N/A).

Notification Time	Enter time call began.
Facility or Organization	Seabrook Station.
Unit	1
Caller's Name	Your name.
Call Back #	FTS-2000 number or normal station telephone number with extension.
Event Time & Zone	Time event occurred (24 hour clock) and Eastern Standard Time Zone (EST).
Event Date	Date event occurred (m/d/y).
Power/Mode Before	Enter power level (0%-100%) and operating mode (1, 2, 3, 4, 5, or 6) prior to event.
Power/Mode After	Enter power level (0%-100%) and operating mode (1, 2, 3, 4, 5, or 6) after event.
Event Classifications	Check one of the four emergency classifications.
1-Hr Non-Emergency	Not Applicable (N/A).
4-Hr Non-Emergency	Not Applicable (N/A).
8-Hr Non-Emergency	Not Applicable (N/A)
60-Day Optional	Not Applicable (N/A)
Other Unspecified	Not Applicable (N/A)
Description	Provide a chronological factual description of what occurred during the event. *List the personnel action or equipment failure that caused the event. *List anything that did not happen, but that should have happened in response to the event (e.g., equipment failed to operate, personnel actions not taken that should have been taken). *List any factual item or occurrence that is unusual or is not understood. Do not speculate on what occurred.

Figure 1
Guidelines for Completing Form ER 2.0D (NRC Form 361), Event Notification Worksheet
(Sheet 2 of 3)

Notifications	Check yes, no, or enter estimated time when parties will be notified. Enter N/A for "Local" and "Other Gov Agencies."
Anything Unusual or Not Understood	Self explanatory.
Did all Systems Function as Required	Self explanatory.
Mode of Operation Until Corrected	Check all applicable conditions and use the description area to explain details.
Estimated Restart Date	Self-explanatory
Additional Info on Back	Check yes if information is entered on page 2 of 2. Otherwise, check no.
Radiological Releases	Check any applicable boxes. Provide details under Event Description.
Release Rate (Ci/sec)	Enter actual values or best estimates for Noble Gas, Iodine, Particulate, or Radioactive Liquids.
% T.S. Limit	Enter % under or over Technical Specification Limit if applicable for each release rate.
HOO Guide	Headquarters Operations Officer Guide - NRC use only.
Total Activity (Ci)	Multiply each release rate by release duration to estimate total Curies released; remember to use consistent time units.
% T.S. Limit	Enter % under or over Technical Specification Limit if applicable for total activity released (Ci).
Rad Monitor Readings	**Plant Stack**: use WRGM RM-6528-1, 2 or 3 for release concentration (in μCi/cc), and RM-6528-4 for release rate (in μCi/sec). **Condenser/Air Ejector**: use RM-6505 (in cpm). **Main Steam Line**: use RM-6481-1 or RM-6482-1or RM-6482-2 or RM-6481-2 (in mr/hr).

Figure 1
Guidelines for Completing Form ER 2.0D (NRC Form 361), Event Notification Worksheet
(Sheet 3 of 3)

	SG Blowdown: use RM-6510 or RM-6511 or RM-6512 or RM-6513 (in µCi/ml).
Alarm Setpoints	Obtain the Channel High Alarm Limit and Channel Alert Alarm Limit for the above monitors by accessing "Channel Item" on the RDMS terminal, or requesting information from the OSC.
% T.S. Limit	If monitor setpoint is correlated to a Technical Specification, enter % under or over limit.

FOR RCS or SG TUBE LEAKS

Location of the Leak	Self explanatory.
Leak Rate	Calculated or estimated.
Units	Self explanatory.
T.S. Limits	Any Technical Specifications associated with RCS or SG leaks.
Sudden or Long Term Development	Did the leak start suddenly or start out slowly and worsen over time.
Leak Start Date/Time	Self explanatory.
Coolant Activity & Units	**Primary**: RCS Liquid Gross Activity as reported by chemistry in µCi/gm. **Secondary**: Liquid Gross Activity as reported by chemistry in µCi/gm.
List of Safety Related Equipment Not Operational	List equipment in description section and explain why.
Emergency Approval	Only one of the two need sign, Short Term Emergency Director (STED) or Emergency Operations Manager (EOM).

Figure 2
Guidelines for TSC and EOF Personnel for Completing Form ER 2.0B, State Notification Fact Sheet

1. Block 1 – Enter the name and title of the person making the notification to the states.

2. Block 2 –Enter the time declared and check the applicable emergency classification level **OR**, IF making notification of the termination of an emergency classification level, enter time terminated under the Time Terminated heading.

3. Block 3 – Enter the emergency initiating condition designation.

4. Block 4 – Use form ER 5.4A, Plume Exposure Pathway Protective Action Recommendation Worksheet, to determine appropriate protective action recommendations and check all applicable boxes.

5. Block 5 – Use guidance in ER 3.1, Figure 4 (TSC) or ER 3.3, Figure 6 (EOF) and check the applicable radiological release condition.

6. Block 6 – Obtain Site Emergency Director (TSC) or Response Manager (EOF) signature.

> **NOTE**
> When the state notifications are initiated, the person making the notification will enter the time the notification is initiated to both NH and MA in the first line of form ER 2.0B as soon as contact is made with the state individuals taking the notification. The time entered in this line marks the time of notification. Ensure the individuals taking the notification enter this same time on their notification forms.

7. Block 7 – Person making the notification is to enter the names of the state individuals taking the notification when the notifications are completed.

> **NOTE**
> Complete all blocks with the appropriate information when using form ER 2.0B to notify the states of a change in radiological release conditions or a change in protective action recommendations.

Figure 3
Summary of Changes
(Sheet 1 of 1)

Rev. 33:

On Figure 2, moved the NOTE re: entering time notification is initiated to precede step 7 where it is positioned immediately prior to contact with the offsite warning points. (AR#220968)

In §5.0, Actions, deleted §5.2 instructions for using 3 part speed messages because they are no longer available and have been replaced by capability to use e-mail via the LAN.

On form ER 2.0E updated state agency initials.

Rev. 32:

On Figure 1, Guidelines for Completing Form ER 2.0D (NRC Form 361), Event Notification Worksheet, added instructions to align guidelines with the entries designated on Form ER 2.0D.

Revised form ER 2.0B, State Notification Fact Sheet, to improve delineation of the time declared and time terminated selection in Block 2 of the form and to remove the date and time entries next to the names of the recipients because they are redundant. (AR#203684).

Enlarged the image of NRC Form 361 on Form ER 2.0D and restored title of the form to Event Notification Worksheet.

Rev. 31:

Revised Form ER 2.0D, Event Notification Worksheet, to denote it as typical and to refer the user to use NRC Form 361, Reactor Plant Event Notification Worksheet.

Rev. 30:

In Figure 2, added a new step 3 instruction to enter the emergency initiating condition designation in Block 3 on form ER 2.0B, State Notification Fact Sheet. (CR 06-03396)

On form ER 2.0B, State Notification Fact Sheet, incorporated a new Block 3 for entering the emergency initiating condition designation. (CR 06-03396)

On form ER 2.0G, HPN Event Notification Worksheet, incorporated questions that will be asked by the NRC via the HPN network per the NRC HPN Information Worksheet. Added a note to answer these questions at a minimum and use the other sheets of form ER 2.0G as time allows to document information needed to answer the questions.

Rev. 29:

On form ER 2.0J, revised System Status Data Sheet to conform to MPCS System Status Board format. (CR 05-07904)

Seabrook Station State Notification Fact Sheet

Time Notification Initiated: NH _____ MA _____

Block 1: This is: _____ _____ at Seabrook Station.
Name Title

Block 2:

Time Declared:		OR	Time Terminated:
_____	[ ] Unusual Event [ ] Alert [ ] Site Area Emergency [ ] General Emergency		_____

Block 3: The emergency initiating condition is _____.

Block 4: We recommend the following protective actions:

[ ] None [ ] As follows

New Hampshire

ERPA	Town	Shelter	Evacuate
A.	Seabrook	[ ]	[ ]
	Hampton Falls	[ ]	[ ]
C.	Kensington	[ ]	[ ]
	S. Hampton	[ ]	[ ]
D.	Hampton	[ ]	[ ]
	N. Hampton	[ ]	[ ]
F.	Brentwood	[ ]	[ ]
	E. Kingston	[ ]	[ ]
	Exeter	[ ]	[ ]
	Newfields	[ ]	[ ]
	Newton	[ ]	[ ]
	Kingston	[ ]	[ ]
G.	Greenland	[ ]	[ ]
	Stratham	[ ]	[ ]
	Rye	[ ]	[ ]
	New Castle	[ ]	[ ]
	Portsmouth	[ ]	[ ]

Massachusetts

ERPA	Town	Shelter	Evacuate
B.	Amesbury	[ ]	[ ]
	Salisbury	[ ]	[ ]
E.	Merrimac	[ ]	[ ]
	Newburyport	[ ]	[ ]
	Newbury	[ ]	[ ]
	West Newbury	[ ]	[ ]

Beaches

Evacuate

[ ] Seabrook Beach
[ ] Hampton Beach

Close

[ ] Parker River National Wildlife Refuge
[ ] Plum Island Beach
[ ] Salisbury Beach

Potassium Iodide (General Emergency only)
[ ] Implement KI plans for the general public

Block 5: A radiological release
[ ] Has not occurred
[ ] Has occurred and is continuing
[ ] Occurred but has been terminated

Block 6: Authorized by: _____ _____ _____
STED / SED / RM Date Time

Block 7: Acknowledge receipt of this message with your name.

New Hampshire: _____ **Massachusetts: _____**
Name of Dispatcher Name of Dispatcher

Follow-Up Information Form

To be completed by EOF Coordinator to the extent information is known and requested by offsite authorities. Only steps 1-7 are necessary when issuing a termination update.

1. Name of EOF Coordinator: _____ Telephone # _____

2. Location: Seabrook Station, Seabrook, New Hampshire

3.

Current Classification Status	Date Declared	Time Declared
Unusual Event		
Alert		
Site Area Emergency		
General Emergency		
Emergency Terminated		
Recovery		

4. Protective Action Recommendations: (refer to most recent Form ER 2.0B)

5. Brief Description of Event: _____

_____

_____

6. Prognosis for Worsening/Termination _____

_____

_____

7. Brief Description of Reason(s) for Emergency Termination: _____

_____

_____

Meteorological Information

		Upper	Lower
8.	Windspeed _____ mph	(C0784)	(C0783)
9.	Wind Direction FROM _____(degrees)	(C0786)	(C0785)

10. Stability Class (Circle)

	-1.74	-1.55	-1.37	-0.46	+1.36	+3.64	
Upper Delta-T (C0788)	A	B	C	D	E	F	G
Lower Delta-T (C0787)	A	B	C	D	E	F	G
	-1.12	-1.0	-0.89	-0.30	+0.88	+2.34	

11. Precipitation [ ] Yes [ ]

Radioactive Information (NA if not available or not applicable)

12. A radiological release [ ] has not [ ] has occurred.

Release initiated: _____/_____/_____ at _____ am/pm

Follow-Up Information Form

13. The radiological release [ ] has [ ] has not been terminated.

    Release terminated: _____/_____/_____ at _____ am/pm

14. Release duration: _____ hours Actual or Projected (circle)

15. Release type: airborne, waterborne, surface spill (circle)

16. Point of release: stack, steamline, containment, unmonitored (circle)

17. Height of release: elevated or ground (circle)

18.

Release Data	**Total**	**Noble Gas**	**Iodine**	**Particulate**
Release Rate (μCi/sec)				
Release Concentration (μCi/cc)				

19.

Dose and Dose Rate Data	**Site Boundary**	**2 Miles**	**5 Miles**	**10 Miles**
TEDE or Deep Dose Equivalent (DDE) rate (mrem/hr)				
Adult Thyroid CDE rate (mrem/hr)				
TEDE or DDE (mrem)				
Adult Thyroid CDE (mrem)				

20. **Contamination Survey Data**

LOCATION	READING - SPECIFY UNITS

21. Authorized by:

    Response Manager Date/Time

22. Record contacts below:

    New Hampshire

    Name Organization Time Phone No.

    Massachusetts

    Name Organization Time Phone No.

(Protected: Ref. 6.6)

Note: Document requests for onsite support by offsite organizations on form ER 2.0E and refer requests to the Response Manager for approval.

Event Notification Worksheet

NRC FORM 361
(12-2000)

U.S. NUCLEAR REGULATORY COMMISSION
OPERATIONS CENTER

REACTOR PLANT
EVENT NOTIFICATION WORKSHEET

EN #

NRC OPERATION TELEPHONE NUMBER: PRIMARY – 301-816-5100 or 800-532-3469*, BACKUPS – [1st] 301-951-0550 or 800-449-3694*, [2nd] 301-415-0550 and [3rd] 301-415-0553 *Licensees who maintain their own ETS are provided these telephone numbers.

NOTIFICATION TIME	FACILITY OR ORGANIZATION	UNIT	NAME OF CALLER	CALL BACK #

EVENT TIME & ZONE	EVENT DATE	POWER/MODE BEFORE	POWER/MODE AFTER

EVENT CLASSIFICATIONS		1-Hr. Non-Emergency 10 CFR 50.72(b)(1)					
	GENERAL EMERGENCY	GEN/AAEC		TS Deviation	ADEV	(v)(A)	Safe S/D Capability AINA
	SITE AREA EMERGENCY	SIT/AAEC		**4-Hr. Non-Emergency 10 CFR 50.72(b)(2)**		(v)(B)	RHR Capability AINB
	ALERT	ALE/AAEC	(i)	TS Required S/D	ASHU	(v)(C)	Control of Rad Release AINC
	UNUSUAL EVENT	UNU/AAEC	(iv)(A)	ECCS Discharge to RCS	ACCS	(v)(D)	Accident Mitigation AIND
	50.72 NON-EMERGENCY	(see next columns)	(iv)(B)	RPS Actuation (scram)	ARPS	(xii)	Offsite Medical AMED
	PHYSICAL SECURITY (73.71)	DDDD	(xi)	Offsite Notification	APRE	(xiii)	Loss Comm/Asmt/Resp ACOM
	MATERIAL/EXPOSURE	B???		**8-Hr. Non-Emergency 10 CFR 50.72(b)(3)**			**60-Day Optional 10 CFR 50.73(a)(1)**
	FITNESS FOR DUTY	HFIT	(ii)(A)	Degraded Condition	ADEG		Invalid Specified System Actuation AINV
	OTHER UNSPECIFIED REQMT.	(see last column)	(ii)(B)	Unanalyzed Condition	AUNA		**Other Unspecified Requirement (Identify)**
	INFORMATION ONLY	NINF	(iv)(A)	Specified System Actuation	AESF		NONR
							NONR

DESCRIPTION

Include: Systems affected, actuations and their initiating signals, causes, effect of event on plant, actions taken or planned, etc. *(Continue on back)*

NOTIFICATIONS	YES	NO	WILL BE
NRC RESIDENT			
STATE(s)			
LOCAL			
OTHER GOV AGENCIES			
MEDIA/PRESS RELEASE			

ANYTHING UNUSUAL OR NOT UNDERSTOOD?	☐ YES (Explain above)	☐ NO
DID ALL SYSTEMS FUNCTION AS REQUIRED?	☐ YES	☐ NO (Explain above)
MODE OF OPERATION UNTIL CORRECTED:	ESTIMATED RESTART DATE:	ADDITIONAL INFO ON BACK ☐ YES ☐ NO

NRC FORM 361 (12-2000) PRINTED

Event Notification Worksheet

RADIOLOGICAL RELEASES: CHECK OR FILL IN APPLICABLE ITEMS ***(specific details/explanations should be covered in event description)***

	LIQUID RELEASE		GASEOUS RELEASE		UNPLANNED RELEASE		PLANNED RELEASE		ONGOING		TERMINATED
	MONITORED		UNMONITORED		OFFSITE RELEASE		T. S. EXCEEDED		RM ALARMS		AREAS EVACUATED
	PERSONNEL EXPOSED OR CONTAMINATED				OFFSITE PROTECTIVE ACTIONS RECOMMENDED				*State release path in description		

	Release Rate (Ci/sec)	% T. S. LIMIT	HOO GUIDE	Total Activity (Ci)	% T. S. LIMIT	HOO GUIDE
Noble Gas			0.1 Ci/sec			1000 Ci
Iodine			10 uCi/sec			0.01 Ci
Particulate			1 uCi/sec			1 mCi
Liquid ***(excluding tritium and dissolved noble gases)***			10 uCi/min			0.1 Ci
Liquid (tritium)			0.2 Ci/min			5 Ci
Total Activity						

	PLANT STACK	CONDENSER/AIR EJECTOR	MAIN STEAM LINE	SG BLOWDOWN	OTHER
RAD MONITOR READINGS					
ALARM SETPOINTS					
% T. S. LIMIT ***(if applicable)***					

RCS OR SG TUBE LEAKS: CHECK OR FILL IN APPLICABLE ITEMS: ***(specific details/explanations should be covered in event description)***

LOCATION OF THE LEAK *(e.g., SG #, valve, pipe, etc.)*

LEAK RATE	UNITS: gpm/gpd	T. S. LIMITS	SUDDEN OR LONG-TERM DEVELOPMENT
LEAK START DATE	TIME	COOLANT ACTIVITY AND UNITS: PRIMARY	SECONDARY

LIST OF SAFETY RELATED EQUIPMENT NOT OPERATIONAL

EVENT DESCRIPTION *(Continued from front)*

NORMAL APPROVAL (BOTH REQUIRED): *EMERGENCY APPROVAL (EITHER REQUIRED):

Shift Manager _____ *STED _____

Unit Supervisor _____ *EOM _____

Emergency Facility Log

Page ____ of

Name: _____ Position: _____

Facility: _____ Date: _____

TIME	EVENT

Emergency Facility Log

Logs provide an important chronological record of emergency response activities. Well kept logs will allow for an accurate and complete reconstruction of emergency-related events and response actions. The following guidelines should be observed when keeping a log during an emergency.

1. Logs should be maintained using Form ER 2.0E, Emergency Facility Log.

2. Logs should be legible, accurate and complete.

3. Spell out abbreviated items the first time they are used - abbreviate thereafter.

4. Written records, including emergency logs, should be made using permanent black ink.

5. Errors should be corrected by drawing a single line through the incorrect information, writing the correct information adjacent to it or where space permits, and initialing and dating the deleted information.

6. Although some specific logkeeping requirements are contained in various Emergency Response Organization (ERO) position checklists, the following information should be recorded in logs as appropriate to the event and to each respective ERO position function.

- Load changes
- Mode changes
- Reportable occurrences (including any invocation of 50.54(x))
- Entry into, or exit from, Technical Specification Action Statements
- Emergency declarations and terminations
- Time of emergency response facility activation
- Content of communications with other Seabrook Station ERO members, or with offsite agencies and organizations (NRC, NHHS&EM, NHDPHS, MEMA, MDPH, DOE, ANI, INPO, etc.). This includes time of contact, information provided, and commitments made.
- Changes to the status of safety systems or important non-safety systems (e.g., system actuations and terminations, equipment out-of-service, equipment returned to service, etc.)
- Decision on repair and corrective action strategies
- Status of repair and corrective action teams (e.g., requested, authorized, dispatched, returned, etc.)
- Emergency operating procedure transitions
- Procedure changes or deviations
- Initiation, magnitude and termination of radiological releases
- Protective measures - site evacuation, decisions on protective equipment, KI, etc.
- Time and content of facility briefings
- Personnel injuries or accidents
- Chemistry analysis results
- Preparation, approval and distribution of news releases

While the above is not a comprehensive list, it should provide a sense of the types of emergency-related information to be recorded in a log. Remember, short of adversely affecting your emergency response functions, your log cannot be too detailed.

HPN Event Notification Worksheet

NRC Information Request Per the NRC HPN Information Worksheet

NOTE

The NRC will ask the following questions via the HPN network per the NRC HPN Information Worksheet. At a minimum, obtain answers for the questions on this sheet. The other sheets may be used as time allows to document information that supports answers to the following questions.

1. Your name, title and call-back number _____
2. What is your location (EOF) _____
3. Do you have ready access to plant parameter information (ERDS)? Yes _____ No _____
4. Do you have ready access to licensee offsite dose projections? Yes_____ No _____
5. Do you have ready access to protective action recommendations that the licensee will make to the states? Yes_____ No _____
6. What emergency class has the licensee declared?_____
7. What is the basis for the emergency classification (Initiating Condition and EAL)?_____
8. What releases have occurred (if any)? _____
9. Weather: Wind speed _____
   Wind direction from_____
   Stability class_____
   Rain: None?___ Heavy?____ Light?____
10. Will the licensee be using weather forecast data? Yes ____ No _____
11. Plant conditions: _____
12. Time of reactor shutdown: _____
13. Has core damage occurred or is it expected? Yes ____ No _____If expected, when? _____
14. Will the core be uncovered? Yes ___ No ___ If so, when?_____
15. Will the core be recovered? Yes____ No____ If so, when?_____
16. Are/will containment sprays operating? If so, at what time?_____
17. Are there any elevated radiation monitor readings? (Containment? Coolant ? Stack? Vent?) _____
18. What is the release path? (Containment design leakage? Containment not isolated? Vent?)_____
19. What dose projections has the licensee made? 2 mile TEDE_____, 2 mile CDE _____, 5 mile TEDE _____, 5 mile CDE_____, 10 mile TEDE_____, 10 mile CDE_____.
20. What dose assessment code is licensee using?_____
21. Dose projection assumptions? _____
22. What onsite protective actions have been taken or are planned? _____
23. What protective actions are being recommended to the states?_____
24. When were the protective action recommendations made to the states?_____
25. To whom in the states were the protective action recommendations made?_____
26. Have field monitoring teams been deployed by the licensee? Yes ____ No _____
27. When were field monitoring teams deployed?_____
28. Field monitoring results?_____

HPN Event Notification Worksheet

PROTECTIVE ACTION RECOMMENDATION HISTORY

TIME ____________ (24 hour clock) SHELTER ERPA or TOWN	SS	NH	MA	NRC	ACTUAL	BASIS
EVACUATE ERPA or TOWN						

TIME ____________ (24 hour clock) SHELTER ERPA or TOWN	SS	NH	MA	NRC	ACTUAL	BASIS
EVACUATE ERPA or TOWN						

TIME ____________ (24 hour clock) SHELTER ERPA or TOWN	SS	NH	MA	NRC	ACTUAL	BASIS
EVACUATE ERPA or TOWN						

EMERGENCY RESPONSE PLANNING AREA (ERPA)	COMMUNITIES INCLUDED WITHIN EACH ERPA
A	Hampton Falls, Seabrook, Hampton Beach
B	Amesbury, Salisbury
C	Kensington, South Hampton
D	Hampton, North Hampton
E	Merrimac, Newbury, Newburyport, West Newbury
F	Brentwood, East Kingston, Exeter, Kingston, Newfields, Newton
G	Greenland, New Castle, Portsmouth, Rye, Stratham

HPN Event Notification Worksheet

ONSITE SURVEYS

LOCATION ________ ________ ________ ________ ________

TIME (24 hour clock)_______ ________ ________ ________ ________ ________

DOSE RATES (mrem/hr) ________ ________ ________ ________ ________

AIR ACTIVITY (µCi/cc) ________ ________ ________ ________ ________

CONTAMINATION (dpm/100cm^2) ________ ________ ________ ________ ________

LOCATION ________ ________ ________ ________ ________

TIME (24 hour clock)_______ ________ ________ ________ ________ ________

DOSE RATES (mrem/hr) ________ ________ ________ ________ ________

AIR ACTIVITY (µCi/cc) ________ ________ ________ ________ ________

CONTAMINATION (dpm/100cm^2) ________ ________ ________ ________ ________

LOCATION ________ ________ ________ ________ ________

TIME (24 hour clock)_______ ________ ________ ________ ________ ________

DOSE RATES (mrem/hr) ________ ________ ________ ________ ________

AIR ACTIVITY (µCi/cc) ________ ________ ________ ________ ________

CONTAMINATION (dpm/100cm^2) ________ ________ ________ ________ ________

HPN Event Notification Worksheet

LOCATION (dir/dist)					
TIME (24 hour clock)_______					
DOSE RATES (mrem/hr)					
AIR ACTIVITY (µCi/cc)					
CONTAMINATION (dpm/100cm^2)					

LOCATION (dir/dist)					
TIME (24 hour clock)_______					
DOSE RATES (mrem/hr)					
AIR ACTIVITY (µCi/cc)					
CONTAMINATION (dpm/100cm^2)					

LOCATION (dir/dist)					
TIME (24 hour clock)_______					
DOSE RATES (mrem/hr)					
AIR ACTIVITY (µCi/cc)					
CONTAMINATION (dpm/100cm^2)					

HPN Event Notification Worksheet

CURRENT PROTECTIVE ACTION RECOMMENDATIONS

DATE:_____ TIME:

PAR BASIS:

Reactor Status

Projected TEDE Dose

Projected Thyroid Dose

PAR: ☐ Sheltering ☐ Evacuations ☐ Both

Dose Saving Calculation:_____ Rem

EXTENT OF PAR: ☐ 2 Mile ☐ 5 Mile ☐ 10 Mile ☐ Entire EPZ

AFFECTED: ERPAs ☐ A ☐ B ☐ C ☐ D ☐ E ☐ F ☐ G

CONTRAINDICATIONS (reasons why indicated PAR was not carried out):

	Wind Direction (from)	Wind Speed (mph)	Stability Class
1. WEATHER	_____	_____	

2. TRANSPORTATION:

3. ROAD CONDITIONS: ☐ Good ☐ Poor

4. OTHER:

	YES	NO	
NH GOVERNOR Advised	☐	☐	When _____ By
MA GOVERNOR Advised	☐	☐	When _____ By

NH RESPONSE: ☐ Accept ☐ Modify ☐ Reject

MA RESPONSE: ☐ Accept ☐ Modify ☐ Reject

NH ACTUAL ACTION IMPLEMENTED: Begin_____ Terminated

MA ACTUAL ACTION IMPLEMENTED: Begin_____ Terminated

HPN Event Notification Worksheet

SITE TEAM PERSONNEL STATUS

High Exposures (≥ 1 rem):

Personnel Contamination:

Injuries:

Accountability:

Individual Protection Recommendations:

NAME	RESPIRATORS	IODINE	OTHER

HPN Event Notification Worksheet

DOSE PROJECTIONS

Time:

Wind Speed_____mph Wind Direction (degrees from)

Stability Class: A B C D E F G Precipitation: ☐ Yes ☐ No

Release Height: ☐ Ground (43 ft) ☐ Elevated (209 ft)

Forecast Data:

Time of Calculation:_____ Release Rate:_____ Ci/Sec

Release Duration: Continuous _____ hr Default_____ hr

Release Gross: Iodine _____ Noble Gas_____ Particulate

Isotopes:

DOSE

Site Boundary (0.6 mile)	_____Rem	10 mile	_____Rem
2 mile	_____Rem	Max Concentration	_____Rem
5 mile	_____Rem	Other	_____Rem

Plant Parameter Data Sheet
Single Data Set

TIME:		DATE:	
PARAMETER	**RANGE**	**SOURCE**	**VALUE**
RX Power - Gammametrics	10E-8 to 200%		
RX Vessel Level	0 to 120%		
RCS WR T_{hot}	0 to 700°F		
RCS WR T_{cold}	0 to 700°F		
Core Exit T/Cs	0 to 2400°F		
Subcooling	-50° to 300°F		
RCS WR Pressure	0 to 3000 psig		
PZR Level	0 to 100%		
S/G Level - Avg Intact	0 to 100%		
S/G Pressure - Avg Intact	0 to 1300 psig		
Total EFW Flow	0 to 2400 gpm		
Containment Bldg Level	.5 to 8.2 feet		
Containment H_2 Concen.	0 to 10%		
Containment Pressure	0 to 60 psig		
Cont Avg Air Temp	0 to 300°F		
RWST Level	0 to 500 kgal		
Cont Encl/Atmos DP	0 to 0.5 in WC neg		

Plant Parameter Data Sheet
Multiple Data Set

PLANT PARAMETERS		TIME OF READINGS							
PARAMETER	RANGE								
RX Power - Gammametrics	10E-8 to 200%								
RX Vessel Level	0 - 120%								
RCS WR T_{hot}	0 - 700°F								
RCS WR T_{cold}	0 - 700°F								
Core Exit T/Cs	0 - 2400°F								
Subcooling	-50° - 300°F								
RCS WR Pressure	0-3000 psig								
PZR Level	0 - 100%								
S/G Level - Avg Intact	0 - 100%								
S/G Pressure - Avg Intact	0-1300 psig								
Total EFW Flow	0 - 2400 gpm								
Cont. Bldg Level	.5 - 8.2 ft								
Cont. H_2 Concen.	0 - 10%								
Cont. Pressure	0 - 60 psig								
Cont. Avg Air Temp	0 - 300°F								
RWST Level	0 - 500 kgal								
Cont. Encl/Atmos DP	0 - .5" WC								

System Status Data Sheet

DATE:	TIME:

SYSTEMS STATUS BOARD

I. ESF ACTUATION SIGNALS

	ACTUATED	RESET
SAFETY INJECTION		
PHASE A ISOL		
PHASE B ISOL		
CONTAINMENT SPRAY		
ECCS/CBS RECIRC		
CONTAINMENT HI RAD (>10R/HR)		
CONTROL ROOM VENT ISOL		
MAIN STEAMLINE ISOL		
FEEDWATER ISOL		
EFW ACTUATION		
EPS ACTUATION		

II. ESF SYSTEM STATUS

	ON	OFF
CS PUMP A		
CS PUMP B		
SI PUMP A		
SI PUMP B		
RHR PUMP A		
RHR PUMP B		
CBS PUMP A		
CBS PUMP B		
EFW PUMP A		
EFW PUMP B		
DIESEL GEN 1A		
DIESEL GEN 1B		

III. PRIMARY SYSTEM STATUS

	ON	OFF
RCP A		
RCP B		
RCP C		
RCP D		
THERM BARR		
SEAL INJ		
PCCW PUMP A		
PCCW PUMP C		
PCCW PUMP B		
PCCW PUMP D		

IV. SECONDARY SYSTEM STATUS

	ON	OFF
SU FEED PUMP		
STEAM DUMP SYS		
SCCW		
SW PUMP A		
SW PUMP C		
SW PUMP B		
SW PUMP D		
CT PUMP A		
CT PUMP B		

	OPEN	CLOSE		OPEN	CLOSE
MSIV A			ASDV A		
MSIV A			ASDV B		
MSIV A			ASDV C		
MSIV A			ASDV D		

Critical Safety Functions Status Sheet

DATE: _____/_____/_____ TIME: _____

FUNCTION		GREEN	YELLOW	ORANGE	RED
SUBCRITICALITY	S				
CORE COOLING	C				
HEAT SINK	H				
RCS INTEGRITY	P				
CONTAINMENT INTEGRITY	Z				
RCS INVENTORY	I				
EMER COOLANT RECIRC	F				
RADIATION	R				

NOTE: Use NE if function is not being evaluated.

State Notification of Protective Action Recommendations Beyond the 10-Mile EPZ

CONTACT NUMBERS: (call applicable State EOCs)

STATE	NUCLEAR ALERT SYSTEM	COMMERCIAL TELEPHONE
New Hampshire	311	9 (800) 852-3411
Massachusetts	313	9 (508) 820-2023
Maine	N/A	9 (207) 624-4400

(Ask for Emergency Management Director or designee)

TIME NOTIFICATION INITIATED:

NH:
MA:
ME:

NOTIFICATION:

Block 1: This is _____ _____
Name Title

Block 2: The following protective actions are recommended beyond the 10 mile EPZ:

Town	State	Shelter	Evacuation
_____	_____	☐	☐
_____	_____	☐	☐
_____	_____	☐	☐
_____	_____	☐	☐
_____	_____	☐	☐
_____	_____	☐	☐

Block 3: Authorized by _____ _____
Response Manager Date/Time

Block 4: Acknowledge receipt of this message with name and title:

New Hampshire: _____ _____
Date/Time

Massachusetts: _____ _____
Date/Time

Maine: _____ _____
Date/Time

SEABROOK STATION

ADMINISTRATIVE PROCEDURE

Technical Support Center Operations

ER 3.1

Rev. 49

Procedure Owner:
D. Currier

TECHNICAL SUPPORT CENTER RESPONDER ACTION SUMMARY

1. UNUSUAL EVENT ACTIONS

Emergency Response Procedure ER 1.2, Emergency Plan Activation, contains Unusual Event actions for the following Technical Support Center (TSC) Primary Responders:

- Site Emergency Director
- Technical Services Coordinator
- Health Physics Coordinator
- Operations Technician

When notified of an Unusual Event, on-duty TSC Primary Responders report to the Control Room/TSC, obtain an event briefing from either the Short Term Emergency Director or the Site Emergency Director, and implement actions delineated in ER 1.2, Section 5.0.

NOTE: For an Unusual Event, the on-duty ERO Technical Liaison will also report to the Control Room/TSC to obtain event status and to make notifications to offsite stakeholders. At higher emergency classification levels, this position reports directly to the EOF.

2. ALERT OR HIGHER EMERGENCY CLASSIFICATION LEVEL ACTIONS

TSC Primary and Secondary Responders report to the TSC and implement actions contained in this procedure.

3. CODE YELLOW SECURITY EVENT – NO EMERGENCY CLASSIFICATION DECLARED

TSC Primary Responders who are offsite report to the EOF per Control Room pager message and implement appropriate actions contained in Figure 6 of this procedure. TSC Primary Responders who are onsite report to the Control Room/TSC.

4. CODE YELLOW SECURITY EVENT – EMERGENCY CLASSIFICATION DECLARED

- UNUSUAL EVENT –TSC Primary Responders report to the Control Room/TSC and implement actions delineated in ER 1.2, Section 5.0.
- ALERT OR HIGHER CLASSIFICATION - TSC Primary and Secondary Responders report to the TSC and implement actions contained in this procedure.

5. CODE RED SECURITY EVENT – ANY EMERGENCY CLASSIFICATION DECLARED

- IF OFFSITE, TSC Primary and Secondary Responders report to the EOF per Control Room pager message and implement actions delineated in Figure 6 of this procedure.
- IF ONSITE, all personnel follow the Control Room plant announcement instructions.

Contents and Revision Status

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Contents and Revision Status

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1.0 OBJECTIVES

This procedure provides instruction for the activation and operation the Technical Support Center (TSC). It also provides instructions for recovery from a Site Area Emergency or General Emergency.

2.0 RESPONSIBILITIES

2.1 Site Emergency Director

Monitors TSC activation process, assesses Station conditions, and directs onsite response and corrective measures.

Relieves the Short Term Emergency Director (STED) of overall responsibility for directing the onsite emergency response.

The following responsibilities may not be delegated (Protected: Ref. 6.10):

1. Relieve Short Term Emergency Director.
2. Direct notification of offsite authorities (until relieved by the Response Manager).
3. Direct in-station emergency response.
4. Reclassify the emergency.
5. Authorize workers to exceed 10 CFR 20 Radiation Exposure Limits.
6. Recommend protective actions to offsite authorities (until relieved by the Response Manager).
7. Authorize requests for industry emergency response assistance (until relieved by the Response Manager).
8. Approve news releases (until relieved by the Response Manager).

Provides technical information and advice to the Response Manager in support of reentry and recovery operations.

Performs Severe Accident Management Decision-maker function.

2.2 Emergency Operations Manager

Provides overall direction and coordination of emergency response activities performed by Operations Department personnel.

2.3 Technical Services Coordinator

Monitors TSC activation process, and assists the Site Emergency Director in managing and coordinating onsite emergency response efforts.

2.4 Health Physics Coordinator

Coordinates radiological and protective action assessment activities conducted from the TSC.

2.5 Engineering Coordinator

Coordinates engineering assessment and technical support activities conducted from the TSC.

Performs Severe Accident Management Evaluator functions.

2.6 Maintenance Coordinator

Coordinates maintenance input to repair and corrective action analysis and decision-making activities conducted from the TSC.

2.7 Reactor Engineer

Analyzes the reactor core and plant transient response.

Provides core protection recommendations.

Performs Severe Accident Management Evaluator functions.

2.8 Work Control Supervisor

Provides assistance in event evaluation, and determining repair and corrective actions.

Maintains communications with the Control Room, Operational Support Center, and Central Alarm Station (CAS).

2.9 Nuclear Safety Advisor

Performs core damage assessment and coordinates core damage assessment with Westinghouse emergency response personnel.

Performs Severe Accident Management Evaluator functions.

2.10 Operations Technician

Relieves the Control Room of responsibilities for NRC notification and communications.

Assists the Emergency Operations Manager with coordinating response activities of Operations Department personnel and event evaluation.

Performs Severe Accident Management Evaluator functions.

2.11 TSC Electrical Engineer

Assists the Engineering Coordinator with engineering assessment and technical support. Updates TSC graphical trends boards at direction of the Engineering Coordinator or Emergency Operations Manager.

2.12 TSC Mechanical Engineer

Assists the Engineering Coordinator with engineering assessment and technical support. Updates TSC graphical trends boards at direction of the Engineering Coordinator of Emergency Operations Manager.

2.13 TSC RMD Personnel

Coordinates retrieval of documents maintained in the TSC Document Control Center.

2.14 NSSS Support Engineer

Reports to the Engineering Coordinator. Performs nuclear steam supply system design analyses to support TSC accident assessment activities, and responds to specific TSC engineering staff requests for accident assessment and mitigation support.

2.15 BOP Support Engineer

Reports to the Engineering Coordinator. Performs design analyses related to balance to plant systems to support TSC accident assessment activities, and responds to specific TSC engineering staff requests for accident assessment and mitigation support.

2.16 Electrical Support Engineer

Reports to the Engineering Coordinator. Performs plant electrical system design analyses to support TSC accident assessment activities, and responds to specific TSC engineering staff requests for accident assessment and mitigation support.

2.17 I&C Support Engineer

Reports to the Engineering Coordinator. Performs analyses of plant instrumentation and controls system to support TSC accident assessment activities, and responds to specific TSC engineering staff requests for accident assessment and mitigation support.

2.18 TSC Logkeeper

Maintains form ER 2.0E, Emergency Facility Log, for the Site Emergency Director. Maintains a record of telephone calls to and from the SED. Placekeeps the SED Checklist at the direction of the SED. Ensures that the Emergency Classification status board is current and correct.

2.19 ENS Communicator

Maintains open emergency notification system telephone line with the NRC Operations Center.

2.20 Security Leader

Maintains communication between Security personnel and the Technical Support Center staff. Coordinates Security actions with the TSC and vice versa.

3.0 PRECAUTIONS

1. TSC personnel should not leave the area within the Control Room Envelope without first notifying the Technical Services Coordinator so that appropriate protective measures may be employed. (Protected: Ref. 6.8)

2. In the event of a Control Room evacuation, TSC personnel should establish their work spaces as directed by the Technical Services Coordinator and continue to implement this procedure.

3. An emergency reclassification made by the Site Emergency Director (SED) is deemed to have been declared when the SED announces the new classification.

4. For a condition(s) that meets the criteria for emergency classification, but completely clears before notifications have been initiated, perform all required offsite authority notifications adhering to the 15-minute requirement. During this notification, these authorities should be informed that the emergency has been terminated. (Protected: Ref. 6.13)

5. For an emergency condition that reduces in severity, but does not completely clear before notifications have been initiated, perform all required initial notifications using the current (lower) emergency classification level. During follow-up State notifications and the initial NRC notification, provide the following information:

   a. State that a higher classification level had existed prior to the initial notification;

   b. Explain the conditions that required the higher emergency classification level; and

   c. Explain the conditions that warranted the de-escalation to the lower emergency classification level. (Protected: Ref. 6.13)

6. An evacuation of the Station protected area or site shall be considered upon occurrence of one or more of the following abnormal conditions:

   a. Safety hazards such as high radiation, toxic gases, flammable gases, and/or fire affecting widespread areas within the protected area.

   b. Environmental conditions such as a flood, hurricane or other phenomena threaten the safety of Station personnel and there is adequate time for a safe and orderly evacuation.

   c. A security event significantly threatens the safety of Station personnel and/or the integrity of Station safety systems, (e.g., a bomb threat, discovery of a bomb, or an attack on the Station).

   d. In some instances, circumstances may dictate evacuation of only a portion of the Station.

7. During an emergency, form ER 2.0D, NRC Event Notification Worksheet, requires only the approval signature of the STED or Emergency Operations Manager.

8. When notified of an Alert or higher emergency classification level, primary and subject-to-call responders should report immediately to their emergency response facilities. TSC primary responders may receive a briefing directly from Control Room staff. EOF primary responders should call appropriate TSC staff to be briefed.

9. The Site Emergency Director may recommend a procedure deviation to the Shift Manager under certain accident conditions. Procedure deviations are permitted when there are immediate overriding safety considerations involving:

   - Protection of the health and safety of the public,
   - Prevention of personnel injury or life threatening situations, or
   - Preventing major plant equipment damage. (Protected: Ref 6.22)

   Before making a recommendation to the Shift Manager to deviate from a procedure, the Site Emergency Director should obtain concurrence from the following TSC staff with the deviation and its basis:

   - The Emergency Operations Manager
   - The Technical Services Coordinator
   - The Health Physics Coordinator
   - The Engineering Coordinator

10. TSC and OSC primary and subject-to-call responders who are off site during certain security events may be directed by pager message to report to the Emergency Operations Facility at Newington. Figure 6 of this procedure contains actions for TSC Primary Responders for this contingency.

4.0 PREREQUISITES

1. An Alert, Site Area Emergency or General Emergency has been declared in accordance with procedure ER 1.1, Classification of Emergencies,

   OR

   The Site Emergency Director has ordered the activation of the TSC to support response activities associated with the declaration of an Unusual Event.

2. All radiation worker qualified personnel reporting to the TSC should obtain appropriate dosimetry from the Thermoluminescent Dosimeter (TLD) rack located on the first floor of the Administration Building (Radiologically Controlled Area [RCA] access hall). (Protected: Ref. 6.9)

3. Prior to declaring Recovery, the following plant conditions must exist:

   a. Radiation levels of in-station areas are stable or are decreasing with time.

b. As appropriate to the emergency condition, the reactor and associated systems are in a safe and stable condition as indicated by:

(1) The reactor is shut down and criticality controls are in effect (only if reactor shutdown was required by the emergency condition).

(2) The core is being adequately cooled.

(3) Control has been established over containment pressure and temperature.

(4) An adequate heat transfer path to an ultimate heat sink has been established.

(5) Primary system pressure is under control.

c. Any fire, flooding, earthquake or similar initiating events are either under control or have ceased.

d. Releases of radioactive material to the environment are either under control or have ceased.

e. Specified corrective emergency actions have been completed and the Station is in the appropriate operating mode, and notifications are complete.

5.0 ACTIONS

NOTE

Telephone numbers for contacts referenced in the checklists are available in the Emergency Response Telephone Directory.

1. Refer to form ER 3.1A, Technical Services Coordinator Checklist, for required actions for this position.

2. Refer to form ER 3.1B, Site Emergency Director Checklist, for required actions for this position.

3. Refer to form ER 3.1C, Emergency Operations Manager Checklist, for required actions for this position.

4. Refer to form ER 3.1D, Health Physics Coordinator Checklist, for required actions for this position.

5. Refer to form ER 3.1F, Work Control Supervisor Checklist, for required actions for this position.

6. Refer to form ER 3.1G, Engineering Coordinator Checklist, for required actions for this position.

7. Refer to form ER 3.1H, Maintenance Coordinator Checklist, for required actions for this position.

8. Refer to form ER 3.1I, Reactor Engineer Checklist, for required actions for this position.

9. Refer to form ER 3.1Q, Nuclear Safety Advisor Checklist, for required actions for this position.

10. Refer to form ER 3.1S, Operations Technician Checklist, for required actions for this position.

11. Refer to form ER 3.1T, TSC Logkeeper Checklist, for required actions for this position.

12. Refer to form ER 3.1V, ENS Communicator Checklist, for required actions for this position.

13. Refer to form ER 3.1W, Security Leader Checklist, for required actions for this position.

6.0 REFERENCES

1. ER 1.1, Classification of Emergencies

2. ER 2.0, Emergency Notification Documentation Forms Procedure

3. ER 3.2, Operational Support Center Operations

4. ER 4.3, Radiation Protection During Emergency Conditions

5. ER 5.4, Protective Action Recommendations

6. ER 5.7, Initial Offsite Dose Projection

7. CS0925.10, Preparation for Post-Accident Sampling

8. NRC Inspection Report No. 50-433/88-09-02

9. NRC Inspection Report No. 50-433/88-09-03

10. NRC Inspection Report No. 50-433/86-18-01

11. NRC Inspection Report No. 50-433/88-09-01

12. ER 3.3, Emergency Operations Facility Operations

13. NRC Inspection Report No. 50-433/87-08-04

14. SS Safety Evaluation Report, Sup 3, July 1985

15. NRC Inspection Report No. 50-443/93-07

16. ODI.32, Medical Emergency

17. Security Procedure GN1332.00, Security Response to a Declared Radiological Emergency

18. NM 11800, Hazardous Condition Response Plan

19. NRC Inspection Report No. 50-443/94-15

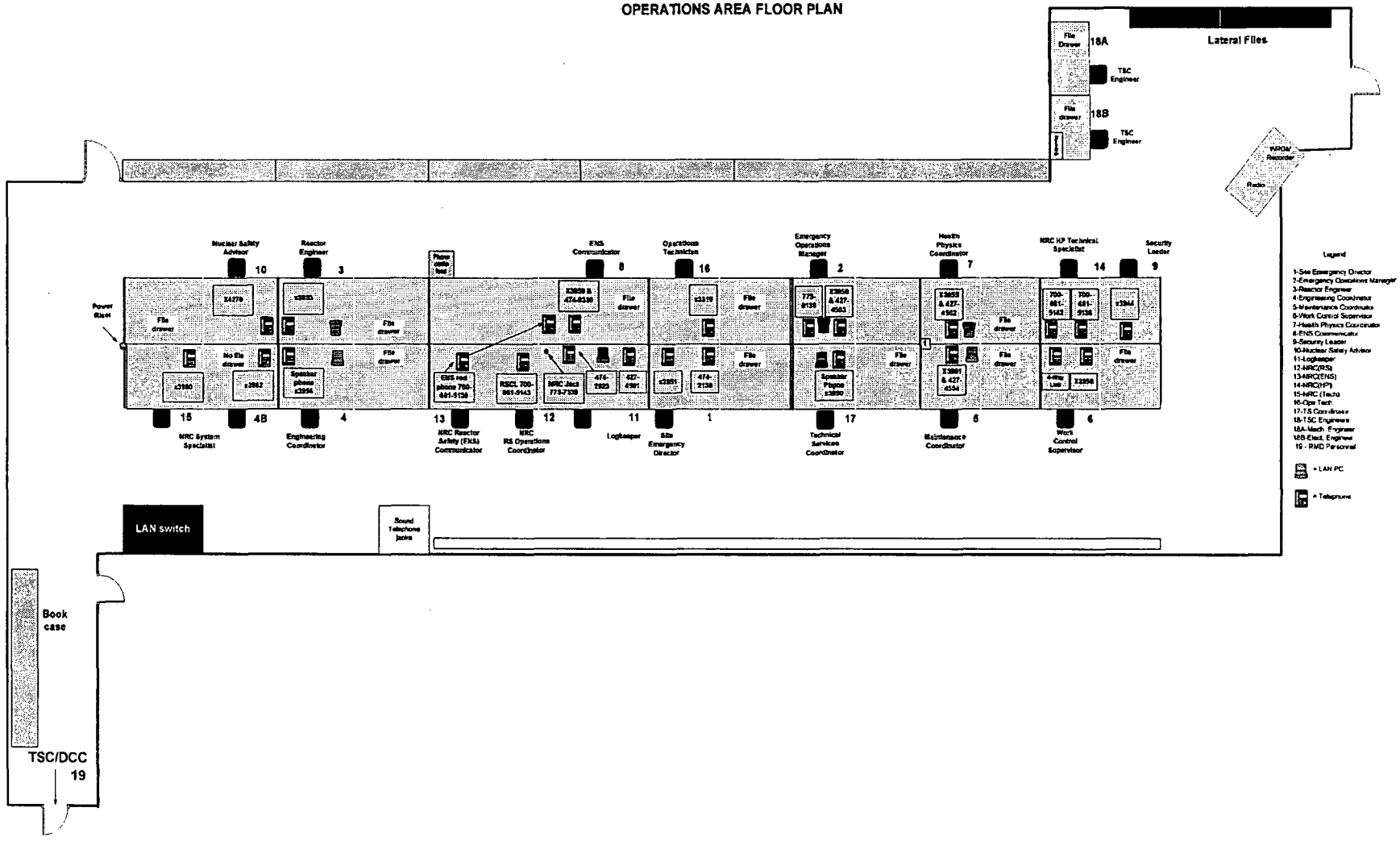
20. NRC Inspection Report No. 50-443/95-06

21. NYN 03081, Supplemental Information Pertaining to License Amendment Requests 02-06 and 02-07.

22. Operations Management Manual , Chapter 9, OP 9.2, §4.7.3

FIGURE 1

**TECHNICAL SUPPORT CENTER
OPERATIONS AREA FLOOR PLAN**



EPLAN:E010011.DGN

FIGURE 2

RELATIVE LOCATION OF THE TECHNICAL SUPPORT CENTER WITHIN THE 75' ELEVATION LEVEL OF THE CONTROL BUILDING

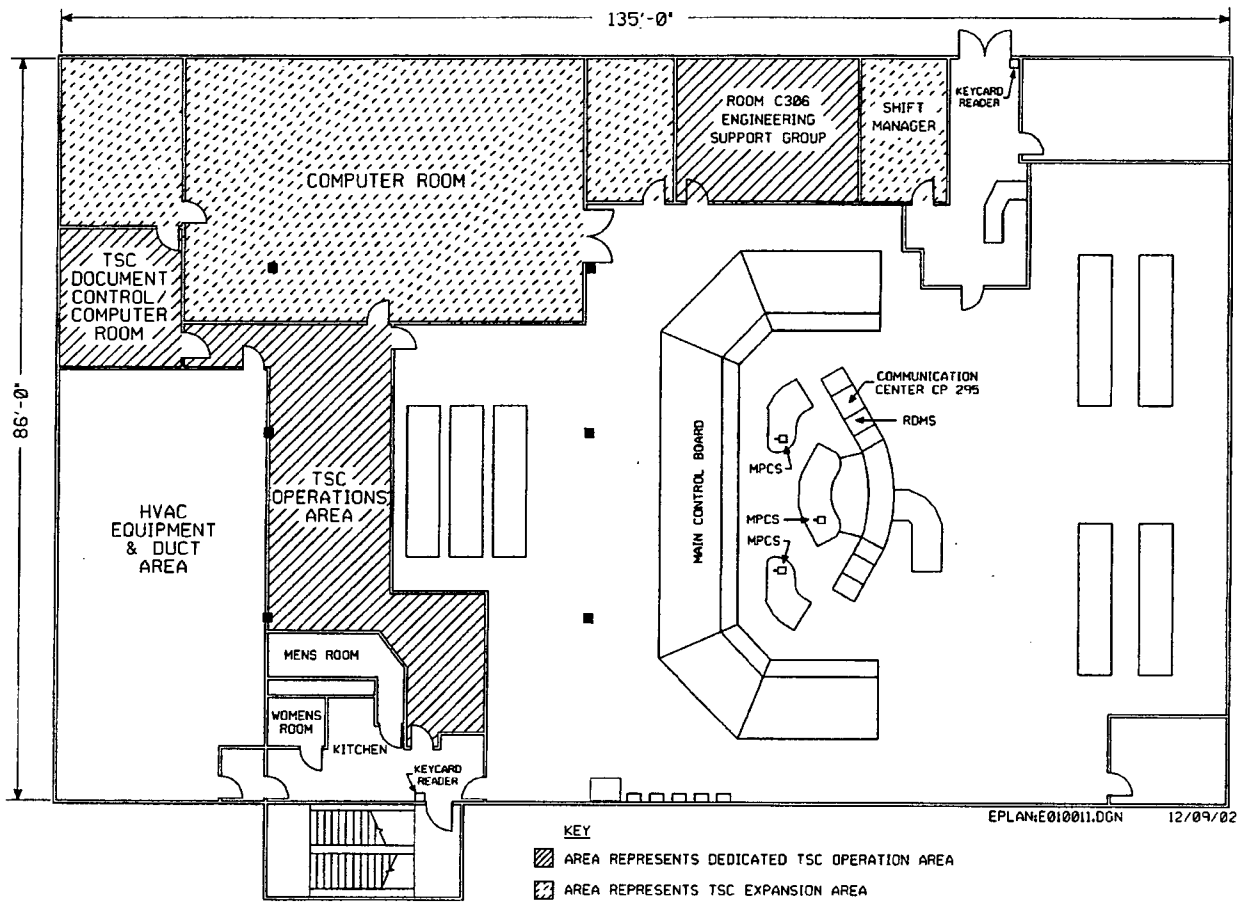
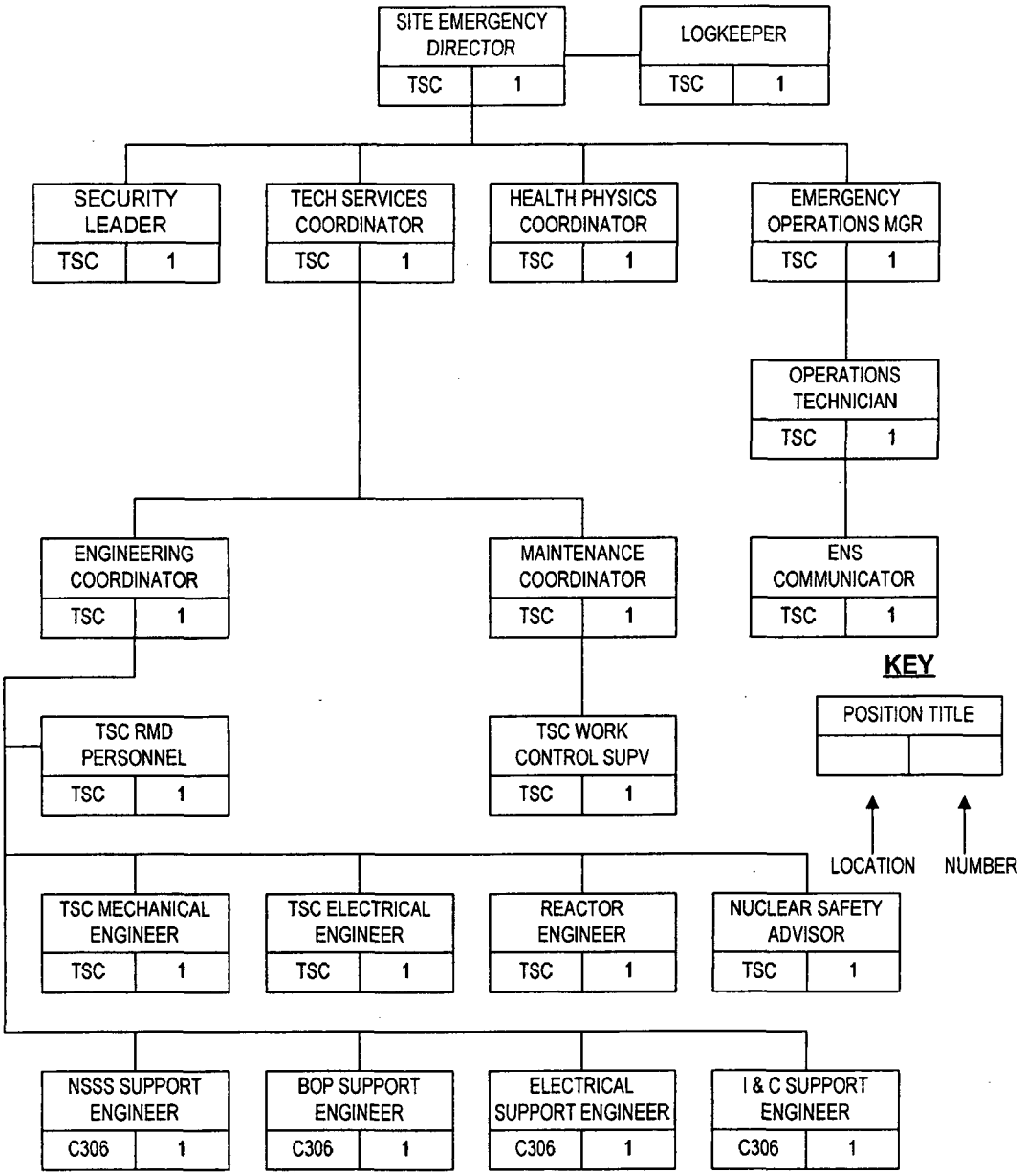


Figure 3
Technical Support Center Staff



g:AP_W/VISIO/sser/0301f3.VSD
6/17/09

Figure 4
Release Definition

A "release" for purposes of completing form ER 2.0B, State Notification Fact Sheet, Block 4, is defined as follows:

Radioactive material is being released to the environment as indicated by

A. Wide Range Gas Monitor (WRGM) Alert or High Alarm (RM-6528-4)

OR

B. Main Steam Line Monitor Alert or High Alarm with an Open ASDV or Main Steam Safety Valve on the Affected Main Steam Line

OR

C. Main Steam Line Monitor Alert or High Alarm and the Steam Driven EFW Pump Operating and Fed from the Affected Line

OR

D. The results of effluent analysis (i.e., an OCDM calculation) or site boundary monitoring indicate a release is in progress.

OR

E. Site Emergency Director or Response Manager judgement that a radiological release has occurred and been terminated, or is continuing.

AND

F. Release of material is directly attributable to the event.

A "release" for the purposes of requiring offsite dose projection and activation of the remote monitoring and decontamination area at Schiller Station is based on a high alarm only for conditions A, B and C above.

Figure 5
Summary of Typical TSC/EOF Communications
(Sheet 1 of 2)

FACILITY TO FACILITY	SUBJECT	WHO TO WHOM	CONTENT	WHEN INITIATED	FREQUENCY
TSC > EOF	Activation of the TSC	SED > Response Manager	TSC responsibilities and emergency status	When TSC is activated	Once
TSC > EOF	Reclassification of the emergency	SED > Response Manager	EAL in effect and emergency classification level	Immediately upon reclassification of the emergency	Whenever the SED reclassifies the emergency
TSC > EOF	Dose assessment, PARs and health physics network (HPN)	Health Physics Coordinator > EOF Coordinator	Transfer responsibility for dose assessment, PARs and HPN.	When EOF is activated	Once
TSC > EOF	Offsite contamination control measures for site personnel	Health Physics Coordinator > EOF Coordinator	Activation of Remote Monitoring Area; need for buses to transport personnel	When onsite radiological conditions indicate need	As necessary
TSC > EOF	Coordinate field monitoring team deployment	Health Physics Coordinator > Dose Assessment Specialist	Deployment of onsite and offsite teams for unmonitored releases	If and when an unmonitored release occurs	As necessary
TSC > EOF	Planned releases	SED > EOF Coordinator	Copy of completed Section 1 of form ER 3.1M, Planned Radiological Release Data	When determined that planned releases will exceed Tech Spec allowable limits	Telefaxed from the TSC to the EOF as necessary
TSC > EOF	Planned releases	SED > Response Manager	Release termination	When terminated	As necessary
TSC > EOF	Verification of CSFSTs	Emergency Operations Manager > Technical Assistant	CSFSTs verified by hardwired indications in Control Room	Reactor trip occurs	Once
TSC > EOF	Manual plant data	Technical Services Coordinator > Technical Assistant	To whom in the EOF manual plant data should be transferred	Loss of MPCS	As necessary
TSC > EOF	2nd Shift ERO staffing	Technical Services Coordinator > Administrative Services Coordinator	Schedule for 2nd shift staffing of TSC and OSC positions	As time and conditions allow	Once per 24 hour period.
TSC > EOF	Imminent emergency reclassification	SED > Response Manager.	TSC staff considering reclassification	Changing conditions	Based on conditions
TSC > EOF	Radiological release	SED > Response Manager	Radiological release status changes	Release occurs, changes, or terminates	Based on conditions
TSC > EOF	Site evacuation	SED or HPC > EOF Coordinator	Evacuate to Remote Monitoring Area	Radiological conditions warrant site evacuation	Based on conditions
TSC > EOF	Periodic briefings	SED > Response Manager	Classification; IC and EAL exceeded; plant status; accountability status; radio-logical release status; etc/	Periodically based on schedule established by the SED and Response Manager at time of facility activation	At least once every hour and more frequently as requested by the Response Manager
TSC > EOF	Downgrade or termination of emergency classification	SED > Response Manager	Plant operational and radiological status indicate downgrade or termination	Conditions change to lower level EAL or below any EALs	Based on conditions

Figure 5
Summary of Typical TSC/EOF Communications
(Sheet 2 of 2)

FACILITY TO FACILITY	SUBJECT	WHO TO WHOM	CONTENT	WHEN INITIATED	FREQUENCY
EOF > TSC	Activation of the EOF	Response Manager > SED	Time of activation; takeover of EOF responsibilities; establish briefing schedule; status	When EOF is activated	Once
EOF > TSC	ERO staffing	Admin. Services Coordinator > Maintenance Coordinator.	Status of onsite ERO staffing; Assembly Area deactivation	When TSC and EOF are both activated	Once
EOF > TSC	Onsite radiological data for the Health Physics Network link	HPN Communicator > Health Physics Coordinator	Data for reports to NRC via the Health Physics Network	When EOF is activated	As requested by the HPN Communicator
EOF > TSC	Protective action recommendations	Response Manager > SED	PARs recommended to states; actions implemented by states	When PARs are made; when states implement actions	As necessary
EOF > TSC	Dose or dose rate estimates exceed 12 series EAL limits	Response Manager > SED	Dose or dose rate estimates determined by EOF dose assessment personnel	When dose or dose rate is recognized by EOF staff to exceed ER 1.1 12 series EALs	As required for reclassification of the emergency by the SED
EOF > TSC	Planned releases	Response Manager > SED	Discuss form ER 3.1M Section 1 contents with the SED.; authorize planned releases	After review of form ER 3.1M data in the EOF and with offsite officials	As necessary
EOF > TSC	Plant operation status	Technical Assistant > Emergency Operations Manager	Request information on affected systems and components, operation status, release pathways, EOPs, etc.	On arrival of the Technical Assistant in EOF and completion of previous activation actions per checklist	As requested by the Technical Assistant
EOF > TSC	Estimated release termination	Technical Assistant > Emergency Operations Manager	Determine estimated time when a release in progress can be terminated	When a radiological release above Tech Spec allowable limits is in progress	As requested by the Technical Assistant
EOF > TSC	NRC responders	Licensing Coordinator > Tech. Services Coordinator	Number, names, expected time of NRC responders to the site	When NRC personnel are ready to deploy to the site	As necessary
EOF > TSC	Dose assessment	Dose Assessment Specialist > Health Physics Coordinator	Onsite radiological data for dose assessment calculations	For Raddose input	As requested by the Dose Assessment Specialist
EOF > TSC	Emergency exposure limit extensions >4500 mr	Dosimetry Records Personnel > SED	For approval of OSMT individual extensions	When needed for deployment of offsite monitoring teams	As necessary
EOF > TSC	Engineering inquiries	Training Center Staff > TSC Engineering Staff	Plant system and component status	As directed by the Technical Assistant	As requested by the Technical Assistant
EOF > TSC	Downgrade or termination of emergency classification	Response Manager > SED	Review of emergency classification downgrade or termination with state and federal authorities	After notified by SED of conditions allowing downgrade or termination of the emergency classification	Based on conditions
EOF > TSC	Recovery	Response Manager > SED	Decision to enter recovery and direction to develop onsite recovery organization	After downgrade of emergency classification level	Once

Figure 6
TSC Primary Responder Actions at the EOF for a Security Event
(Sheet 1 of 3)

A. Prerequisites:

1. An emergency classification level has been declared due to a security event.

2. ERO pagers have been activated either with a text message announcing the emergency classification due to a security event or with the numeric code "22222".

B. Actions:

1. Site Emergency Director

   a. Obtain Supplemental Material 01-08 posted on the wall at the main entrance to the EOF.

   b. Assign incoming staff to obtain portable A-frame parking signs referenced in SM 01-08 from the EOF storage shed and to implement SM 01-08 instructions.

   c. Direct incoming TSC personnel to report to the NRC Conference Room and OSC personnel to report to the New Hampshire IFO Local Liaison Room.

   d. Contact the Shift Manager/Short Term Emergency Director to determine status and any support requirements that can be met by staff at the EOF. Control Room telephone numbers are in the Emergency Response Telephone Directory.

   e. If determined that NRC ENS communications can be supported in the EOF, direct the Operations Technician to takeover NRC ENS communications in the EOF.

   f. Advise the Shift Manager/Short Term Emergency Director on mitigation and response actions and on emergency reclassification.

   g. Assign an available Emergency Operations Manager to identify the on-coming Operations shift personnel and any firefighters and maintenance technicians assigned to the shift.

   h. Direct the Health Physics Coordinator to identify the on-coming shift RP and Chem Techs.

   i. Contact Security supervision at the Incident Command Center and determine reporting instructions (e.g., EOF, do not report, etc.) for on-coming shift personnel. Incident Command Center telephone numbers are in the Emergency Response Telephone Directory.

   j. Inform the Shift Manager/Short Term Emergency Director of reporting instructions for the on-coming shift personnel.

   k. Direct the Emergency Operations Manager to contact on-coming Operations shift personnel and provide reporting instructions.

Figure 6
TSC Primary Responder Actions at the EOF for a Security Event
(Sheet 2 of 3)

l. Direct the Health Physics Coordinator to contact on-coming shift RP and Chemistry Technicians and provide reporting instructions.

m. With the Technical Services Coordinator and the OSC Coordinator, assess TSC/OSC staffing needs and availability of TSC/OSC personnel at the EOF.

n. Assign an available Maintenance Coordinator to develop first and second shift TSC and OSC rosters using form ER 3.3M.

o. Retain a first shift complement of TSC and OSC personnel at the EOF and release other personnel to their homes to be available for second shift staffing.

p. Ensure the Maintenance Coordinator has home telephone numbers and/or pager numbers of released personnel.

q. Remind released personnel to call the Employee Information Line periodically for updated information on emergency status and employee instructions.

r. Periodically obtain status of the security event from the Incident Command Center and brief TSC staff, the Response Manager and the OSC Coordinator.

s. Assign the Technical Services Coordinator to compile event records for event team review.

t. With the Response Manager, establish an event team and designate event team personnel

u. With TSC staff develop a post-event plant walk-down plan and designate walk-down staff.

v. If the security event allows and with the concurrence of the Incident Command Center, decide when TSC and OSC staff can be deployed to the site.

w. If personnel can be deployed to the site with an Unusual Event in progress, determine which TSC and OSC staff should report to the site and which staff should be released. Refer to ER 1.2 response actions.

x. If personnel can be deployed to the site with an Alert or higher classification in progress, direct designated 1st shift TSC and OSC staff to report to their onsite facilities. Refer to applicable ER 3.1 and ER 3.2 response actions.

y. Inform the Incident Command Center of the deployment decision and ensure site security officers are aware of personnel who will be arriving at the site.

z. Brief the Response Manager on plant and security event status and provide the Response Manager your point of contact and reporting location at the site.

Figure 6
TSC Primary Responder Actions at the EOF for a Security Event
(Sheet 3 of 3)

2. Technical Services Coordinator

   a. Maintain an event log for TSC staff in the NRC Conference Room.

   b. Assist the SED with developing mitigation and response strategies.

   c. Assist the SED with developing a post-event plant walk-down plan.

   d. Assist the SED with establishing and staffing an event team.

   e. Maintain and package event logs and other records for the event team.

   f. Assist the SED with relocation of the TSC to the site when conditions permit.

3. Operations Technician

   a. At the direction of the SED, takeover NRC ENS communications using the ENS telephone located next to the Technical Assistant station in the EOF.

   b. At the request of the NRC Operations Center maintain an open line with the NRC Operations Center and provide periodic status updates.

   c. When TSC staff can be deployed to the site, transfer ENS communication back to the Control Room until ENS communications can be established from the TSC.

4. Health Physics Coordinator

   a. Attempt to establish communications with the on-shift RP Technician.

   b. At the direction of the SED, contact on-coming shift RP and Chemistry Technicians and provide reporting instructions. Coordinate this action with a Chemistry Coordinator in the NH IFO if one is available. The Administrative Services Coordinator in the EOF has an ERO roster that contains home phone and pager numbers of HP and Chemistry Technicians.

   c. Identify potential radiological hazards and concerns for responding security and law enforcement personnel.

   d. When the TSC staff can be deployed to the site, support access by law enforcement personnel into the RCA if required.

Figure 7
Summary of Changes
(Sheet 1 of 2)

Rev. 49:

On form ER 3.1S, Operations Technician Checklist, added guidance on how to obtain via SDS information on containment spray and filter status and on steam flow rate that may be requested by dose assessment personnel in the TSC. (AR#571247)

On form ER3.1D made minor corrections.

Rev. 48:

On Figure 1, revised TSC floor plan to depict renovated furniture and added PCs.

On Figure 3, revised the TSC staffing chart to add the Security Leader position.

Added a new form ER 3.1W, Security Leader Checklist.

Throughout, added references to the Security Leader position in affected procedure sections and position checklists.

Throughout, revised position checklists to reference the maintenance of position procedures and materials at assigned workstations in lieu of tote boxes stored in TSC cabinets.

On form ER 3.1F, Work Control Supervisor Checklist, deleted the checklist instruction to record available OSC personnel on the OSC Team Activity Board.

On form ER 3.1T, added an option for the TSC Logkeeper to maintain the facility log on the work station PC.

Rev. 47:

On form ER 3.1D, Health Physics Coordinator Checklist, added an action to inform the SED and TSC if radiological conditions require relocating security personnel from posts required by the security plan and the requirement to invoke 10 CFR 50.54(x). CR 08-12163

On form ER 3.1D, show the relocation of TSC electronic dosimeters from the OSC to the TSC.

Rev. 46:

Throughout, referenced emergency classification references and associated instructions to reflect implementation of the NEI 99-01, Rev. 4, emergency action levels. (CR 07-07969)

Throughout, revised dose assessment references and associated instructions to reflect implementation of the Raddose-V dose projection program. (CR 07-00229)

In Figure 4, revised the release definition item D to be consistent with the Raddose-V dose projection program. (CR 07-00229)

Figure 7
Summary of Changes
(Sheet 2 of 2)

On form ER 3.1I, Reactor Engineer Checklist, revised direction to provide logger trend data to the HPC every 15 minutes to direct this action only as requested because the Raddose-V program does not require it. (CR 07-00229)

On form ER 3.1M, Planned Release, deleted references to plume centerline dose measurements because the Raddose-V program considers the full plume width. (CR 07-00229)

On form ER 31P, OSC Team Activity, corrected the form to reflect the posted status board.

On form ER 3.1V, ENS Communicator Checklist, added instructions to obtain completed copies of ER 2.0B, State Notification Fact Sheet, and to fax it to the EOF Coordinator. Also to provide completed copies of ER 2.0D, Event Notification Worksheet, to the Site Emergency Director, Technical Services Coordinator and the Licensing Coordinator. (CR 08-00737)

Rev. 45:

In §2.19, added the ENS Communicator position responsibility statement. (CR 07-12393)

In ER 3.1A, Technical Services Coordinator Checklist, added a reference to SM 05-04, instructions for setting up the alternate TSC in the OCC. (CR 07-10560)

In ER 3.1B, Site Emergency Director Checklist, added an action to initiate a threat assessment by the Security Shift Supervisor per SDI0053.00, Threat Assessment and Notifications, if TSC staff suspect tampering of plant equipment has occurred. (CR 07-05207)

In ER 3.1C, Emergency Operations Manager Checklist, added an action to log any invocation of 50.54(x) on the form ER 2.0E log. (CR 07-11072)

In ER 3.1D, Health Physics Coordinator Checklist, added a prompt for the HPC to ensure an OSC team is deployed to manually restart the WRGM iodine/particulate sampling pump (391) when power has been restored to Bus E5 after a loss of power condition. (CR 07-03899)

In ER 3.1G, Engineering Coordinator Checklist, added reference to SM04-02, Arrangements for Site Emergency Director Briefings Speaker Phone Operations, for Room 306 engineering staff to join the briefings. (CR 07-10560)

On forms ER 3.1A, ER 3.1C, ER 3.1D, ER 3.1G, and ER 3.1H, added a reference in applicable TSC position checklists to ER 6.0, Recovery Planning, for development of recovery plans as directed by the SED.

Added form ER 3.1V, Emergency Notification System (ENS) Communicator Checklist, and added an associated reference to form ER 3.1V in §5.0, Actions. (CR 07-12393)

TECHNICAL SERVICES COORDINATOR CHECKLIST

INITIAL

1. ACTIVATION

CAUTION

IF THE CONTROL ROOM HAS BEEN EVACUATED, REFER TO SM 05-04, ACTIVATION OF THE ALTERNATE TSC, AND ASSIGN TSC PERSONNEL TO ESTABLISH THEIR WORKSTATIONS IN THE ONLINE/OUTAGE CONROL CENTER IF HABITABILITY PERMITS. ALL PERSONNEL SHOULD CONTINUE TO IMPLEMENT PROCEDURE ER 3.1.

a. Obtain a briefing from the Short Term Emergency Director in the Control Room, or the Site Emergency Director. _____

b. Report to the TSC and sign in on the roster board. _____

c. Obtain the Technical Services Coordinator emergency materials at the assigned work station. . Clip on the position badge. Do not obscure your station badge. _____

d. Ensure that a logkeeper is assigned to the Site Emergency Director to maintain an Emergency Facility Log (form ER 2.0E). _____

e. Verify dosimetry requirements for TSC and Control Room personnel with the Health Physics Coordinator. _____

f. Determine the status of the following activation actions:

(1) The Operations Technician is fully briefed on the event and response actions, and is prepared to assume (or has assumed) NRC notifications. _____

(2) The Health Physics Coordinator is prepared to perform offsite dose projections per SSER Procedure ER 5.7, Initial Offsite Dose Projection. _____

(3) The Work Control Supervisor has established 4-way communications with the OSC, the Control Room, and the CAS. (Protected: Ref. 6.20) _____

(4) The Maintenance Coordinator has verified staffing for the Control Room, OSC and TSC using form ER 3.3M. _____

(5) The Reactor Engineer has enabled the MPCS logger trend functions. _____

INITIAL

(6) The TSC Engineers have updated TSC status boards with current event and plant data. _____

(7) TSC RMD personnel have verified operability of the LAN terminal, the copy machine and the telecopier in the Document Control Room.

(8) TSC RMD personnel have verified telecopier date and time settings, and corrected them if necessary. _____

(9) All TSC communication channels have been checked for operability by staff members. _____

g. Direct any requests for immediate staffing needs to the Maintenance Coordinator. (Protected: Ref. 6.11) _____

h. In the event that more than the required number of individuals are available to fill a given position, determine which individual(s) shall remain in the TSC to serve as the position holder(s). All excess personnel should be directed to the Assembly Area (if activated), or to evacuate the site to their homes or Schiller Station. _____

i. Review TSC activation status with the Site Emergency Director. _____

j. When the Site Emergency Director declares the TSC activated, ensure that the Control Room, Guard Island, OSC, and EOF are notified. _____

k. Determine, in conjunction with the Operations Technician, if any special access controls are required for the back stairwell Control Room entrance. _____

l. Determine status of protected area accountability from the Security Leader. _____

m. Maintain a log using form ER 2.0E, Emergency Facility Log _____

2. ACCIDENT ASSESSMENT

a. Coordinate engineering, maintenance and technical assessment activities in support of repair and corrective actions.

b. Prior to directing the OSC to perform any chemistry sampling activities, contact the Chemistry Coordinator in the OSC and discuss existing sampling capabilities and limitations, and possible sampling strategies.

c. During event briefings conducted by the Site Emergency Director, advise TSC staff members of any known limitations to instrumentation accuracy resulting from accident conditions.

d. If the emergency is declared during an outage, confer with the Outage Coordinator concerning the status of outage-related work and what jobs, if any, should be resumed to support event mitigation. Ensure that accountability is maintained for the Outage Coordinator and support staff.

e. Periodically verify that status boards are being updated with current and accurate information.

f. As needed, refer to the following technical references maintained in the TSC lateral file cabinet located near the door leading to the back stairwell:

- 1-NHY-350028, Bus Failure Analysis for Emergency Response Facilities, for determining possible effects from power losses
- Westinghouse Generic Issue – Evaluations by Plant Engineering Staff (SM 00-01)

g. If remote read-outs from both the primary and backup meteorological towers are lost (e.g., due to a loss of the MPCS or loss of power to display terminals), coordinate dispatch of personnel to local tower instrumentation to obtain and relay meteorological information to the TSC.

3. ACCIDENT MITIGATION

a. Discuss potential repair and corrective actions with TSC personnel.

> NOTE
>
> The need for or use of the Specialty Technical Assistants assigned to the OSC should be considered when planning repair and corrective actions.

b. Consider the need to call in to the TSC Work Control personnel assigned as Specialty Technical Assistants to access the computer-based work control system.

> NOTE
>
> The work control system can be accessed via a LAN terminal in the TSC or via another LAN terminal on the 75' level of the Control Building (e.g., Room 306 or Shift Managers' Office).

c. Determine the nature of other hazardous conditions that may affect repair or corrective action efforts (e.g., smoke, fire, steam, chemical spill, etc.).

d. Obtain Site Emergency Director authorization for planned repairs and corrective actions, and direct the Maintenance Coordinator to relay appropriate instructions to the OSC.

NOTE

Personnel deployed for repair and corrective action activities into the plant should be deployed through the OSC. Any personnel deployed directly into the plant from the TSC should be briefed on radiological conditions by the Health Physics Coordinator and provided appropriate dosimetry before leaving the TSC.

e. Request the Emergency Operations Manager to notify the Control Room of planned repair and corrective actions.

f. If the emergency is declared during an outage, discuss potential repair and corrective actions with the Outage Coordinator.

g. If the emergency is declared during an outage, ensure that use of outage personnel for emergency repair efforts is coordinated between the Outage Coordinator and OSC Coordinator. Ensure that accountability is maintained for any outage worker personnel brought back into the Protected Area.

h. Evaluate any radio communication difficulties that may be experienced in the field and recommend communication alternatives to the Maintenance Coordinator.

4. CLASSIFICATION

Verify that the Security Leader has notified the Security Shift Supervisor of any emergency classification changes.

5. RESPONSE TO PARTIAL OR TOTAL MPCS LOSS

In the event of a total or partial Main Plant Computer System (MPCS) failure, consider the following guidance as appropriate to the extent and nature of the failure:

a. Designate an individual to report to the Control Room to manually obtain plant data and to pass the data to the TSC.

b. Designate an individual to receive data in the TSC from the Control Room and to provide it to the EOF.

c. Personnel assigned to either of the above roles should have a basic working knowledge of station operations, operating parameters, and the MPCS. Coordinate selection of these individuals with the Emergency Operations Manager (a licensed operator would be ideal).

d. Remind the assigned individuals to use forms ER 2.0H through K to facilitate data transfer activities.

e. Contact the Technical Assistant and determine to whom at the EOF data should be transferred, and at what desired frequency (e.g., as needed, an established callback schedule, continuous open line, etc.). Set realistic expectations for data flow timeliness given current conditions and constraints.

f. If forms ER 2.0H through K are used, the originals of the completed sheets should first be provided to the individual(s) maintaining the operational and system status boards so that the data can be posted. The sheets should then be used to provide information to the EOF.

g. Brief the Site Emergency Director, Emergency Operations Manager, and the assigned individuals on the compensatory arrangements for data transfer, including realistic expectations for timeliness and other limitations. Request the Emergency Operations Manager to brief the Control Room.

h. Consider the need for headsets for individuals performing data transfer.

i. If available, consider use of a telecopy machine to facilitate inter- facility communication of data.

j. If the site PBX fails, designate a TSC "power fail" phone for transfer of data to the EOF. (TSC "power fail" phones are listed in the Emergency Response Telephone Directory).

6. SEARCH AND RESCUE

a. Upon notification of missing personnel, ensure the following information is logged:

(1) Name of missing person(s),

(2) Name of person making call, and

(3) Last known location.

b. Brief the OSC Coordinator and TSC Security Leader on the above information.

c. Direct the OSC to dispatch a search and rescue team.

7. STAFFING/EQUIPMENT NEEDS

a. As they are received, direct requests for additional staffing or equipment that can not be satisfied by available onsite resources to the Administrative Services Coordinator at the EOF.

b. Periodically brief the Site Emergency Director on the status of requests for additional staffing or equipment resources.

c. Review procedure NM 11800, Hazardous Condition Response Plan, to identify additional logistical and recovery considerations that may be useful in responding to the emergency. Brief the Site Emergency Director on any recommendations.

d. In conjunction with the Administrative Services Coordinator in the EOF, develop a Control Room, TSC and OSC shift schedule for 24-hour staffing using form ER 3.3M, ERO Staff Planning. Obtain input from TSC and OSC personnel as required.

e. Consider requesting the Administrative Services Coordinator to call out Work Control Specialty Technical Assistants to support preparations for emergency repair activities.

8. NRC INTERFACE

a. When informed that NRC response personnel will be, or have been, dispatched to Seabrook Station, perform the following:

(1) Inform the TSC staff that NRC responders are en route to the site
(2) Identify preferred route(s) from Guard Island to the TSC and OSC
(3) Determine process for assignment and pickup of dosimetry
(4) Assign escorts as needed
(5) Provide necessary information and directions to the OSC and Guard Island to ensure efficient inprocessing of NRC personnel

b. Remind the Site Emergency Director, Emergency Operations Manager, Engineering Coordinator and Maintenance Coordinator that you have the lead for coordinating TSC operations with NRC site responders. Establish contingency actions and expectations for use in the event that NRC interface responsibilities begin impacting performance of your other assigned functions. For example, during periods when you are not available, the Site Emergency Director should pass requests for OSC team deployments directly to the Maintenance Coordinator.

c. Coordinate the interface between NRC response team members and the TSC staff (e.g., introductions, workstation locations, etc.). Refer to Figures 1 and 2 of this procedure for assigned NRC workstations.

d. Make periodic inquiries of NRC personnel and determine if their needs are being met:

(1) Facility workstations (phones, power outlets, seating, etc.).

(2) Information flow and availability (adequate, timely, etc.).

(3) Commitments made in meetings or briefings (being met on time, etc.).

e. Attend briefings conducted for NRC response personnel, and document:

(1) Attendees
(2) Briefing topics and discussions
(3) NRC requests for information or action

(4) Commitments made to the NRC, including due dates or times
(5) Individuals assigned to respond to NRC requests or commitments

f. Periodically track the status of actions items needed to meet NRC requests or commitments. Advise the Site Emergency Director of any actions which will not be complete by the committed due date/time.

9. OSC EVACUATION

a. Consider using an area on the 75-foot elevation of the Control Building as an alternate OSC. Depending on radiological conditions, other areas may be utilized.

b. Have Health Physics survey the area to establish habitability.

c. Determine in concert with the Site Emergency Director, OSC Coordinator, Maintenance Coordinator and Emergency Operations Manager which OSC personnel will report to the relocated OSC and which, if any, will be evacuated to the EOF.

d. Notify the Administrative Services Coordinator of any personnel that will be evacuated to the EOF.

10. TSC EVACUATION

a. If evacuation of the TSC is under evaluation, assist the Site Emergency Director with the selection of:

(1) an alternate TSC location and/or assembly point(s), preferably the OCC on the second floor of the Administration Building if habitability permits.

(2) personnel that should report to the alternate location(s)

(3) primary and alternate evacuation routes (inplant and onsite)

b. If the TSC is being evacuated, ensure that emergency-related documentation is removed to the relocated TSC.

c. If the TSC is being evacuated, ensure that all designated TSC personnel report to the relocated TSC.

11. REENTRY AND RECOVERY

Provide reentry and recovery support per ER 6.0 as directed by the Site Emergency Director.

12. DEACTIVATION

Submit all emergency documentation to the Site Emergency Director.

SITE EMERGENCY DIRECTOR CHECKLIST

INITIAL

1. ACTIVATION

a. Obtain a briefing from the Short Term Emergency Director in the Control Room.

(1) Determine the status of initial State notifications (form ER 2.0B). _____

(2) Determine status of NRC notifications (form ER 2.0D). _____

(3) Determine status of State Health Department callbacks. _____

(4) Review classification and initial PAR status with the Short Term Emergency Director. _____

(5) Obtain copies of transmitted forms ER 2.0B and 2.0D. _____

b. Report to the TSC and sign in on the roster board. _____

c. Obtain the Site Emergency Director emergency materials at the assigned work station. Clip on the position badge. Do not obscure your station badge. _____

d. Ensure that a logkeeper is assigned to maintain an Emergency Facility Log (form ER 2.0E) for you. _____

e. Brief the TSC staff on event and response status. _____

> NOTE
>
> In the event that the emergency is declared during an outage, remind key TSC managers that non-Seabrook Station project managers, field work supervisors and vendor technical representatives will assemble in the Seabrook Station Conference Center outside the protected area.

f. When appropriate, assume the following responsibilities from the Short Term Emergency Director:

(1) Emergency Classification _____

(2) Protective Action Recommendation (PARs). _____

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(3) Offsite Notifications (e.g., NH and MA authorities, and the NRC). _____

(4) Direction for onsite protective measures. _____

(5) Command and control of the onsite response. _____

(6) Authorization of workers to exceed 10 CFR 20 Radiation Worker exposure limits. _____

(7) Approval of news releases. _____

g. The following personnel should be present before the TSC is declared activated: (Protected: Ref. 6.19)

(1) Site Emergency Director _____

(2) Technical Services Coordinator _____

(3) Operations Technician _____

(4) Engineering Coordinator _____

(5) Reactor Engineer _____

(6) TSC Mechanical Engineer _____

(7) TSC Electrical Engineer _____

(8) Maintenance Coordinator _____

(9) Health Physics Coordinator _____

h. When deemed appropriate, declare the TSC activated by making an announcement to the TSC staff. During this announcement: _____

(1) Inform TSC staff that the Site Emergency Director has assumed responsibility from the Short Term Emergency Director. _____

(2) Remind TSC staff to use and maintain proper logs and forms. _____

i. Ensure the Control Room, Guard Island, OSC, and the EOF, when activated, are notified of TSC activation. _____

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j. Brief TSC staff on accountability results received from Guard Island. _____

k. Direct any requests for additional staffing or equipment to the Technical Services Coordinator. (Protected: Ref. 6.11) _____

l. Respond to any State Health Department callbacks prior to EOF activation. _____

m. As requested by the Emergency News Manager, review and approve news releases prior to EOF activation. _____

n. Contact the Response Manager and, when appropriate, perform the following actions:

(1) Transfer responsibility for State notifications. _____

(2) Transfer responsibility for PARs. _____

(3) Transfer responsibility for approval of news releases. _____

(4) Transfer responsibility to authorize requests for industry emergency response assistance. _____

(5) Direct that copies of completed State notification forms (ER 2.0B) be faxed to the EOF Coordinator. _____

(6) Direct that copies of completed NRC notification forms (ER 2.0D) be faxed to the Licensing Coordinator. _____

2. CLASSIFICATION

a. Direct the individual(s) maintaining the wall-mounted Initiating Condition Matrices to circle any and all applicable Initiating Conditions, not just those corresponding to the highest classification. A circle may be erased when that Initiating Condition is no longer applicable.

b. Review conditions that may require reclassification of the emergency.

c. If the EOF is activated, the Response Manager should be advised when reclassification is being considered. This will facilitate offsite notifications conducted from the EOF when a reclassification is made.

d. If tampering of plant equipment is indicated or suspected, direct the Security Leader to contact the Security Shift Supervisor to initiate a threat assessment per SDI 0053.00, Threat Assessment and Notification.

e. Review potential changes in the emergency classification that involve security-related events with the Security Leader (or the Security Shift Supervisor if the Security Leader is not present in the TSC) to:
   (1) Verify that a security related initiating condition has been met
   (2) Notification of LLEA
   (3) Activation of the Security Command Center

f. As needed, reclassify the emergency in accordance with Procedure ER 1.1, Classification of Emergencies.

g. Announce the emergency classification in the TSC to mark the time of declaration.

h. Inform the Response Manager of the new classification and the time of declaration.

i. Direct the Emergency Operations Manager to announce the new classification over the plant paging system (or to have the Control Room make the announcement).

j.. If the EOF is not activated,

   (1) Direct the Emergency Operations Manager to prepare a new form ER 2.0B.

CAUTION
Offsite notifications shall be initiated within 15 minutes of declaring a new emergency classification.

   (2) Approve the completed form ER 2.0B and sign Block 6 of the form.

   (3) Direct the Emergency Operations Manager to take the completed form ER 2.0B to the Control Room to implement form ER 1.2E for notification of state authorities.

k. When the risk posed by the emergency is clearly decreasing or has ceased, and de-escalation or closeout of the emergency is appropriate, review section 11, Emergency Termination and Recovery, of this checklist.

3. PROTECTIVE ACTION RECOMMENDATIONS

a. If the EOF is not activated,

   (1) As appropriate to changes in station conditions or radiological release rates, request the Health Physics Coordinator to immediately reassess Protective Action Recommendations (PARs).

(2) If a new PAR has been determined, direct the Emergency Operations Manager to prepare a new form ER 2.0B.

CAUTION
Offsite notifications shall be initiated within 15 minutes of the determination that a new PAR is warranted.

(3) Approve the completed form ER 2.0B and sign Block 6 of the form.

(4) Direct the Emergency Operations Manager to take the completed form ER 2.0B to the Control Room to implement form ER 1.2E for notification of state authorities.

4. RADIOLOGICAL RELEASE INITIATION OR TERMINATION

a. If the radiological release status per ER 3.1, Figure 4, Release Definition, changes such that a release has started or a previous release has terminated and no further releases are expected, immediately report the changed status to the Response Manager for notification of state authorities.

b. If the EOF is not activated,

(1) Direct the Emergency Operations Manager to complete a new form ER 2.0B, blocks 2 through 5.

(2) Approve the completed form ER 2.0B and sign Block 6.

(3) Direct the Emergency Operations Manager to take the completed form ER 2.0B to the Control Room to implement form ER 1.2E for notification of state authorities.

5. ACCIDENT ASSESSMENT AND EVENT BRIEFINGS

a. Establish a briefing schedule with the Response Manager (e.g. on the half hour, etc.) to avoid trying to contact one another during scheduled facility briefings in the TSC and EOF. See Figure 5 for a summary of typical TSC/EOF communications.

b. Provide periodic event updates to the Response Manager. Include the following information:

(1) Current emergency classification level and time of declaration
(2) Initiating condition and emergency action level exceeded
(3) Emergency operating procedures in effect
(4) Personnel accountability status
(5) Site evacuation status
(6) Radiological release status
(7) Status of protective action recommendations, if any

c. Conduct periodic event briefings with the TSC staff. Consider holding a briefing:

(1) At time intervals agreed to with the Response Manager
(2) Following a significant change in accident conditions
(3) Following a change in the emergency classification level
(4) Following a significant change in radiological conditions
(5) Following a change in strategy or priorities
(6) When considering implementation of a procedure deviation

d. Conduct TSC staff briefings with the following format in mind:

(1) **B**eginning: This is a brief
(2) **R**eview: Discuss what has happened in a brief sequence of events
(3) **I**nput: Does anyone have any questions or anything to add
(4) **E**xpectations: Where are we going, what are the concerns, what are our priorities
(5) **F**inish The brief is over

e. At the beginning of each TSC staff briefing, direct TSC staff to:

- minimize side discussions and distractions
- terminate non-urgent telephone calls
- utilize 3-way communication when actions are assigned.

f. Prior to each TSC staff briefing, review the briefing items identified on form ER 3.1U, Site Emergency Director Briefing Form, to ensure pertinent points are covered.

g. Document current status and conditions on form ER 3.1U and use the form as a guide for the briefing. Add briefing items as necessary to form ER 3.1U.

6. ACCIDENT MITIGATION

a. Encourage the TSC staff to take a pro-active approach to accident mitigation, e.g., what condition should the plant be in 1 hour, 4 hours, etc.?; what has or could happen to prevent the plant from reaching the desired conditions?; what actions can be taken now and near-term to preclude or mitigate potential problems?

b. Perform periodic reviews of "action items" needed to respond to the emergency (e.g., what is needed, who is responsible, due dates/times, coordination among affected facilities and individuals, etc.).

c. Assign an individual to document action item reviews (e.g., the TSC Logkeeper).

d. Continually assess priorities for emergency response "action items", particularly those to be performed by the OSC (e.g., repair and corrective action teams, sampling teams, survey teams, etc.).

e. Ensure that "action item" assignments, expectations and priorities are communicated to the appropriate individuals.

f. Review and authorize planned repair and corrective actions.

g. Make recommendations for procedure deviations to the Shift Manager in accordance with the guidance in Precaution 3.9.

h. If a deviation from a license condition or Technical Specification is warranted, direct the Emergency Operations Manager to invoke 10 CFR 50.54(x) or initiate a request for Notice of Enforcement Discretion per guidance in the EOM checklist.

i. Perform Severe Accident Management Decision Maker functions when notified that Control Room Operators have transitioned into SACRG-2, Severe Accident Control Room Guideline for Transients after the TSC is Activated.

7. EMERGENCY EXPOSURE

As requested, authorize exposures in excess of 10 CFR 20 limits using ER 4.3, Figure 4, Emergency Dose Limit Extension.

8. EVACUATION

a. Determine if a partial or complete site evacuation is required based on the precautions listed in §3.0 of this procedure.

b. If evacuation of the TSC is under evaluation, consider relocating TSC operations to an area on the second floor of the Administration Building (e.g., the alternate TSC), preferably the OCC if habitability permits. If radiological conditions preclude this, consider directing TSC personnel to report to the EOF.

c. When radiation is the major threat, evacuation should be ordered only after it has been determined that it is the protective action that will result in the lowest probable personnel exposure.

d. Confer with the Health Physics Coordinator or on-shift Radiation Protection Technician to determine whether personnel evacuating from in-station locations must modify their evacuation route to avoid in-station hazards.

e. Confer with the EOF Coordinator or HP Coordinator to determine whether evacuating personnel are to be sent to the Remote Monitoring Area or home and the most appropriate egress route (North Access Road or South Access Road).

f. If possible, one access road should be left open for emergency responders' access.

g. Direct the Security Leader (or the SSS if the Security Leader is not present in the TSC) to perform the following actions:

(1) Provide information on appropriate evacuation egress routes.

(2) Direct implementation of accountability/evacuation actions in accordance with Procedure GN1332.00, Security Response to a Declared Radiological Emergency.

(3) Direct notification of local police support, as necessary, to assist in directing traffic leaving the site.

h. Brief the Response Manager regarding evacuation proceedings.

i. Brief TSC personnel on evacuation proceedings.

9. STAFFING/EQUIPMENT NEEDS

a. The TSC should be staffed per Figure 3, Technical Support Center (TSC) staff.

b. Review procedure NM 11800, Hazardous Condition Response Plan, to identify additional logistical and recovery considerations that may be useful in responding to the emergency. Brief the Response Manager on any recommendations.

c. Direct requests for additional staffing or equipment resources to the Technical Services Coordinator.

d. If in a security event involving an onsite response by local, state or federal law enforcement officials, consider the following actions:

- Establish communications with Security management in the Security Command Center.
- Determine plant information requirements of law enforcement officials.

- Coordinate with the Technical Services Coordinator to assemble a technical team of Station staff with appropriate disciplines to work with Security and law enforcement responders at the Security Command Center.
- Assign an off-duty Site Emergency Director or other senior management staff (e.g., group manager) to lead the technical team.
- Establish a communications link between the TSC and the technical team leader.

10. PLANNED RELEASES

a. Determine where planned releases will exceed Technical Specification Allowable Limits.

b. If the planned release will exceed Technical Specification Allowable Limits, then determine the need for a planned release of radioactive material based on:

(1) Mitigation of Station emergency conditions

(2) Protection of Station personnel (reduce onsite exposures)

(3) Favorable meteorological conditions which will minimize offsite exposure

c. Complete Section 1 of form ER 3.1M, Planned Radiological Release Data, and transmit to the EOF Coordinator.

d. Upon being notified that the proposed release conditions and period have been approved by the Response Manager, initiate actions to commence release arrangements.

e. Inform the Response Manager when the release has been terminated.

11. EMERGENCY TERMINATION AND RECOVERY

When the risk posed by the emergency is clearly decreasing or has ceased, de-escalation or closeout of the emergency is appropriate. A combination approach is used and summarized in the table below.

	Classification Downgrading Allowed?	Event Closeout via Termination?	Event Closeout via Recovery?
Unusual Event	N/A	Yes	No
Alert	Yes	Yes	No
Site Area Emergency with no long-term station damage	Yes	Yes	No
Site Area Emergency with long-term station damage	Yes	No	Yes; may occur after downgrading
General Emergency	Yes	No	Yes; may occur after downgrading

a. As Station conditions improve, determine the appropriate emergency classification in accordance with Procedure ER 1.1, Classification of Emergencies.

b. Prior to de-escalating or terminating the emergency, assemble status information on Station operational and radiological conditions and brief the Response Manager.

c. Confer with the Response Manager to determine whether actual/potential conditions warrant entry into a recovery mode.

d. If recovery is appropriate, confer with the TSC staff and determine whether any radiological and/or operational conditions exist which would preclude entry into a recovery mode.

> NOTE
>
> Conditions required for declaring recovery are listed in §4.0, Prerequisites.

e. Direct development of an onsite recovery organization and onsite recovery work plans taking into account incident specifics. Refer to emergency response procedure ER 6.0, Recovery Planning, for specific SED actions pertaining to recovery planning, an example recovery organization and an onsite recovery work plan template.

12. DEACTIVATION

a. Collect all TSC documentation.

b. Direct TSC personnel to clear call forwarding on phones.

c. Submit all emergency documentation to the Administrative Services Coordinator located in the EOF.

d. Restore the facility to its original state of readiness.

EMERGENCY OPERATIONS MANAGER CHECKLIST

INITIAL

1. ACTIVATION

a. Report to the TSC. Sign in on the TSC roster board. _____

b. Obtain the Emergency Operations Manager emergency materials at the assigned work station. Clip on the position badge. Do not obscure your station badge. _____

c. Obtain a briefing from the Operations Technician. Determine the following:

(1) station status _____
(2) emergency initiating conditions _____
(3) accident mitigation and corrective actions taken _____
(4) status of the emergency response organization _____
(5) status of offsite notifications _____

d. Turn on the LAN PC. Log on with username and password posted on the PC terminal. _____

> NOTE
>
> Plant data can be accessed by selecting the SDS for Windows shortcut icon. The printer is located in the TSC DCC.

e. Advise the Technical Services Coordinator when activation steps are complete. _____

f. Maintain a log using form ER 2.0E, Emergency Facility Log. _____

2. CLASSIFICATION

a. Provide the Site Emergency Director input for reclassification per Procedure ER 1.1, Classification of Emergencies.

b. At the direction of the Site Emergency Director, announce the new classification over the plant paging system.

3. NOTIFICATION

At the direction of the Site Emergency Director:

a. Complete form ER 2.0B, State Notification Fact Sheet.

b. Take completed form ER 2.0B to the Control Room and notify the states in accordance with ER 1.2E

4. ACCIDENT ASSESSMENT

> NOTE
>
> Utilize available information sources within the TSC to obtain necessary data (e.g., MPCS, logger trend printouts, etc.). Minimize the number of calls to the Control Room to request data. Obtain needed chemistry-related information from the Chemistry Coordinator in the OSC.

a. If a reactor trip has occurred, confer with the Shift Manager to determine if the Critical Safety Function Status Trees (CSFSTs) have been verified (i.e., MPCS displays are accurate based on hardwired indications). Advise the TSC staff and Technical Assistant in the EOF when the CSFSTs have been verified

b. Act as liaison between the Control Room and the TSC.

c. Respond to requests for information from the EOF Technical Assistant.

d. Discuss mutual expectations for communications with the Shift Manager:

   (1) What type of information should prompt contact between the Shift Manager and yourself (e.g., a procedure transition, equipment failure, a classification change, etc.)?

   (2) What information should be routinely provided over the 4-way data link (e.g., status of repair activities, coordination of equipment manipulation between Control Room and in-plant personnel, etc.)?

   (3) Request the Shift Manager to discuss communications expectations with the Control Room Operator staffing the 4-way data link in the Control Room.

   (4) Discuss communications expectations with the TSC Work Control Supervisor staffing the 4-way data link in the TSC.

e. Provide assistance in event evaluation.

f. During event briefings conducted by the Site Emergency Director, advise TSC staff members of any known limitations to instrumentation accuracy resulting from accident conditions.

g. Periodically consult with the Health Physics Coordinator concerning the need for on-shift NSOs to observe any special radiation protection precautions resulting from the event. As needed, request the Shift Manager to coordinate movements of on-shift NSOs with the OSC

5. ACCIDENT MITIGATION

a. Provide operational guidance to the TSC and Control Room for accident mitigation.

b. Ensure that appropriate emergency operating procedures are being implemented. Ensure the Technical Services Coordinator, Site Emergency Director and Engineering Coordinator are aware of the emergency operating procedure being implemented.

c. Evaluate requests for procedure deviations resulting from EOP use based on event conditions. Advise the Site Emergency Director on the need and basis for procedure deviations. See Precaution 3.9.

d. Consult with the Shift Manager and Site Emergency Director concerning the need to invoke 10 CFR 50.54(x) if deviation from Seabrook Station Technical Specifications or a license condition is immediately needed to protect the health and safety of the public.

e. Satisfy the following screening criteria before recommending to invoke 10 CFR 50.54(x):

(1) Immediate protective action is needed to avert possible adverse consequences to public health and safety.

(2) No immediately apparent adequate or equivalent protective action consistent with the license or technical specifications is available.

(3) The action is reasonable (i.e., based on available information, does the action serve to protect public health and safety and is the deviation only to the extent necessary to meet the emergency).

(4) There is not time for NRC approval of an amendment to the license or a technical specification.

> NOTE
>
> The Site Emergency Director must approve any actions taken per 10 CFR 50.54(x).

f. Document any invocation of 10 CFR 50.54(x) on form ER 2.0D. Document the following:

(1) Name of person approving the protective actions

(2) Condition that required invoking 10 CFR 50.54(x)

(3) Protective actions taken

(4) Recovery actions taken to restore compliance with the technical specification or license condition.

g. Direct the Operations Technician to notify NRC Headquarters within one (1) hour of the invocation of 10 CFR 50.54(x).

h. If conditions require unanticipated temporary non-compliance with license conditions or technical specifications, consider a request to the NRC for Notice of Enforcement Discretion (NOED). Refer to the FPLE Seabrook Regulatory Compliance Manual Chapter 4 for instructions for requesting an NOED, including information that must be provided to the NRC. An NOED may be warranted only if compliance with a technical specification or license condition would involve:

(1) an unnecessary plant transient,

(2) performance of testing, inspection, or system realignment that is inappropriate for specific plant conditions,

(3) unnecessary delays in plant startup without corresponding public health and safety benefit,

(4) potential for an unexpected plant shutdown during severe weather or other natural phenomena that could exacerbate already degraded electric grid conditions with an adverse impact on the overall public health and safety.

i. Ensure that vital plant parameters needed to analyze the accident are documented.

j. Ensure that major plant evolutions or non-proceduralized corrective actions to be taken by Operations staff are not implemented prior to radiological review and Site Emergency Director approval.

k. For accidents that result in a harsh environment around the MSIVs, coordinate dispatch of personnel to close the manual air supply valves to the MSIV solenoid valves. This action should be completed within 120 hours of accident initiation and is intended to prevent a spurious MSIV opening due to solenoid valve failure.

l. Inform the TSC staff when the Control Room operators have transitioned into either SACRG-1, Severe Accident Control Room Guideline for Initial Response, or SACRG-2, Severe Accident Control Room Guideline for Transients after the TSC is Activated.

m. If Control Room operators have transitioned into SACRG-1, invoke 10 CFR 50.54(x) and inform the NRC of 10 CFR 50.54(x) invocation.

6. STAFFING/EQUIPMENT NEEDS

   a. Direct requests for additional staffing or equipment resources to the Technical Services Coordinator.

   b. In the event of a loss of offsite power, direct dispatch of a Nuclear Systems Operator to start and load the telephone system diesel generator next to the Operations Support Building.

7. REENTRY/RECOVERY

   Provide reentry and recovery support per ER 6.0 as directed by the Site Emergency Director.

8. DEACTIVATION

   a. In conjunction with the NRC, determine when ERDS can be deactivated.

   b. When appropriate, direct the Reactor Engineer to deactivate ERDS.

   c. Submit all emergency documentation to the Site Emergency Director.

HEALTH PHYSICS COORDINATOR CHECKLIST

INITIAL

1. ACTIVATION

   a. Sign in on TSC roster board. _____

   b. Obtain the Health Physics Coordinator emergency response materials at the assigned work station. Clip on the position badge. Do not obscure your station badge. _____

   c. Obtain a briefing from the Site Emergency Director. _____

   d. Initiate facility monitoring using an RO-2 and an electronic dosimeter. _____

   e. Access the RDMS displays using the LAN PC terminal at the HPC workstation. Log on with the username and password posted on the PC terminal. _____

   f. If conditions indicate a potential for a radiological release, prepare to run the Raddose V dose projection system. Refer to procedure ER 5.7 as needed. _____

   g. Advise the Technical Services Coordinator when activation steps are complete. _____

   h. Maintain a log using form ER 2.0E, Emergency Facility Log. _____

2. PROTECTIVE ACTION RECOMMENDATIONS

   a. Assume responsibility for the Protective Action Recommendation (PAR) process from the Control Room.

> **CAUTION**
>
> **When performing PAR assessments using ER 5.4A, obtain critical safety function status tree (CSFST) information from the Emergency Operations Manager or Operations Technician.**

   b. As changes in accident conditions warrant, complete form ER 5.4A, Plume Exposure Protective Action Recommendation (PAR) Worksheet.

   c. If the results of ER 5.4A indicate a change in PARs, review the new PARs with the Site Emergency Director and assist the Emergency Operations Manager with the completion of a new form ER 2.0 B, State Notification Fact Sheet.

> NOTE
>
> Notifications to the States of changes to Protective Action Recommendations must be made within 15 minutes of the PAR decision.

   d. Continue to review conditions and update PARs until the EOF has been activated. Once the EOF is activated, transfer this responsibility to the EOF Coordinator.

   e. Transmit all forms and worksheets to the EOF Coordinator.

3. RADIATION RELEASE PRECAUTIONS

a. If a release is projected or in progress, confer with the Site Emergency Director and Emergency Operations Manager to determine which building ventilation paths should be isolated. Consider the Administration Building and Security Guardhouse. (Protected: Ref. 6.15)

b. If any fans listed in ER 5.7, Figure 4, must be shut down to isolate ventilation to those plant areas, thus affecting stack flow rates, notify the Dose Assessment Specialist, to consider per ER 5.3, Operation of the Raddose-V, Figure 24.

c. If a release is in progress, refer to emergency response procedure ER 4.3, §5.1.5, steps 4 through 9, for guidance to determine the need for and to administer potassium iodide (KI) tablets to the Control Room and TSC personnel. (Protected: Ref. 6.21)

d. If KI is issued to site personnel, contact the Dosimetry Records Personnel in the EOF and direct issuance of KI to any replacement personnel deployed from the EOF to the site. (Protected: Ref. 6.21)

e. Discuss with the Site Emergency Director and Emergency Operations Manager the need for implementing contamination controls if a release occurs. (Protected: Ref. 6.15)

f. Consider establishment of access control points for entry into the Administration Building and Control Building, and coordinate implementation of contamination control measures with the Radiological Controls Coordinator. (Protected: Ref. 6.15)

g. Consider radiological precautions and exposure control measures for Security personnel if a release is projected or in progress. If security personnel must be relocated from posts required by the security plan due to radiological conditions, notify the SED and EOM of the requirement to invoke 10 CFR 50.54(x) procedures.

> NOTE
>
> If off-site law enforcement personnel are stationed on-site to provide security support, the same radiological precautions and exposure control measures should be considered for them.

h. Before personnel are released from the Assembly Area, consider and recommend to the EOF Coordinator appropriate contamination control measures to prevent spread of contamination offsite. Appropriate measures may include alternative transportation arrangements to the Remote Monitoring Area. (Protected: Ref. 6.15)

> NOTE
>
> If the emergency is declared during an outage, the above considerations should also be made for outage personnel assembled onsite.

4. EXPOSURE CONTROL

> NOTE
>
> TSC/Control Room personnel dose can be reconstructed using access/egress times and control room radiation monitor trend. Individual monitoring of personnel who arrive in the facility without dosimetry is not a priority, and should not take precedence over more important tasks. However, it is important to ensure that personnel leaving the facility and bypassing the OSC are issued personal monitoring devices.

a. When time allows, after completion of other priority tasks, issue TLDs to personnel in the TSC without their own dosimetry. Ensure appropriate information is recorded on form ER 3.3II.

b. Issue electronic dosimeters maintained in the TSC to track doses of TSC staff as conditions warrant.

c. When time allows confirm that Control Room personnel have proper dosimetry. Issue appropriate dosimetry to Control Room personnel if necessary.

d. Determine from the Maintenance Coordinator if additional support personnel have been called out to the Control Room, TSC or OSC and ensure these personnel have been issued appropriate dosimetry.

5. ACCIDENT ASSESSMENT

a. Until EOF activation, assume responsibility for dose assessment using the Raddose-V dose projection system. Refer to Procedure ER 5.7 as needed. Once the EOF is activated, transfer this responsibility.

> NOTE
>
> Once the dose assessment responsibility is transferred to the EOF, offsite dose assessment results utilized for emergency classifications and for protective action recommendations shall originate only from the EOF dose assessment team. If TSC personnel believe that there are radiological conditions that warrant a change in the classification or the protective action recommendation, the HPC should immediately notify the EOF Coordinator or the Dose Assessment Specialist.

b. If a radiological release is in progress, immediately request the Reactor Engineer to provide an update from the Dose Assessment Status Screen on the MPCS or call up the Dose Assessment Status Screen. The instructions provided in Procedure ER 5.7 may be used if needed.

NOTE

WRGM noble gas monitoring switches from the low to mid range channel at approximately 1.0E-2 μCi/cc. Refer to the RADDOSE-V manual for guidance on selection of WRGM release concentration channel for dose assessment purposes.

c. If the low range WRGM channel is out of service, utilize chemistry grab sample results or release concentration and release rate data.

d. If the mid and high range WRGM channels become inoperable:

(1) Initiate operation of the backup WRGM (the Victoreen monitor). Refer to Supplemental Material 97-12, Operation of the Victoreen Model 945 Monitor, for operating instructions, maintained with materials at the HPC workstation.

(2) Request a chemistry technician in the OSC to valve in the backup WRGM monitor in accordance with procedure CS 0925.14, "WRGM Mid/High Range Out of Service".

(3) Turn on the backup WRGM strip-chart recorder. (If necessary, request I&C assistance from the OSC to do this.)

e. For a loss of power event, when power is restored to Bus 5, the iodine/particulate sample pump (pump 391) associated with the WRGM mid/high range pump requires local manual restart. Ensure a team is deployed from the OSC to restart pump 391 manually.

f. In the event of an unmonitored radiological release, coordinate with the Dose Assessment Specialist for dispatch of an onsite or offsite monitoring team(s) to obtain, and periodically monitor, actual site boundary dose rates (or as close to the site boundary as practical).

g. If a radiological release is not in progress, obtain an update of the Station meteorological conditions via SDS for Windows on the LAN.

h. Review planned OSC missions from a protective measures standpoint.

i. Trend appropriate plant radiological conditions on the radiological status boards. If required, request additional personnel to support this activity.

j. Monitor the integrated dose in containment; if it exceeds 10^6 rads, notify the Site Emergency Director and Emergency Operations Manager that adverse containment conditions exist.

k. Establish periodic contact with the Radiological Controls Coordinator to discuss onsite and in-plant radiological conditions.

l. As needed, obtain offsite radiological information from the EOF Coordinator or Dose Assessment Specialist.

m. During event briefings conducted by the Site Emergency Director, advise TSC staff members of any known limitations to instrumentation accuracy resulting from accident conditions.

6. HABITABILITY

a. Direct or perform periodic checks of TSC/CR habitability.

b. Establish, as necessary, a frisking Station/stepoff point at the entrances to the Control Room, i.e., the main entrance and the stairwell entrance. (Protected: Ref. 6.9)

c. Determine the need for evacuation of the TSC in accordance with Procedure ER 4.3, Radiation Protection During Emergency Conditions.

7. NRC HEALTH PHYSICS NETWORK (HPN)

a. If the NRC initiates contact via the Health Physics Network (HPN), direct them to contact the HPN Communicator at the EOF.

b. As requested, provide to the HPN Communicator onsite radiological data required to support the HPN communications link.

8. ACCIDENT MITIGATION

a. Provide the Site Emergency Director and Maintenance Coordinator with radiological data needed for repair and corrective action decision-making.

b. Provide the Site Emergency Director and Nuclear Safety Advisor with post accident sampling analysis results as they become available from the Chemistry Coordinator.

9. MEDICAL EMERGENCY

Direct health physics responses to a medical emergency that involves actual or potential contamination of the victim.

10. STAFFING/EQUIPMENT NEEDS

Direct requests for additional staffing or equipment resources to the Technical Services Coordinator.

11. EMERGENCY EXPOSURE AUTHORIZATION

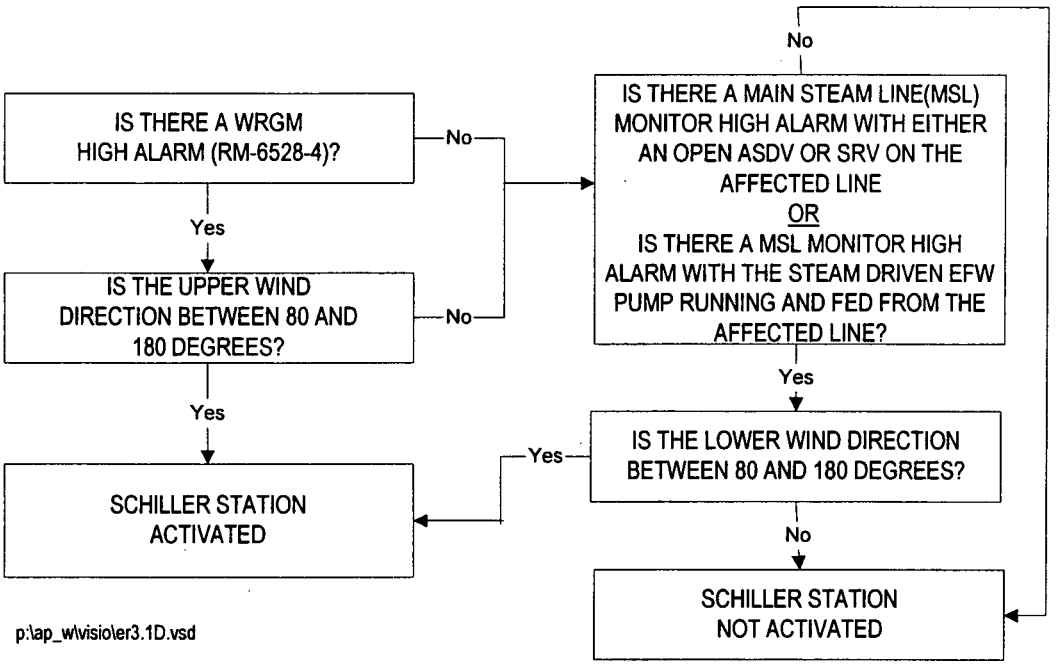
a. Coordinate Site Emergency Director approval for exposures that may exceed 10 CFR 20 limits. Complete ER 4.3, Figure 4, Emergency Dose Limit Extension, and obtain the Site Emergency Director's signature. Verbal authorization from the Site Emergency Director is acceptable provided ER 4.3, Figure 4, is completed and signed at a later time.

b. Enter Administrative Dose Extensions in Sentinel System Configuration Module in accordance with the instructions in ER 4.3, §5.1.2.

12. STATION EVACUATION OR RELEASE OF ASSEMBLY AREA PERSONNEL

    a. Provide the Site Emergency Director with recommended evacuation routes.

    b. At the Alert, Site Area Emergency or General Emergency, consider the following guidance when a release is in progress (as defined in Figure 4).



> NOTE
> Other radiological and meteorological conditions may warrant activation of the remote monitoring area (e.g., unmonitored release potentially affecting the Maintenance Building).

    c. If the Remote Monitoring Area is to be used for monitoring, direct the Radiological Control Coordinator to dispatch assigned OSC personnel as needed for monitoring. Contact the Secondary Alarm Station (SAS) and request the SAS operator to notify Schiller Station.

13. REENTRY AND RECOVERY

    Provide reentry and recovery support per ER 6.0 as directed by the Site Emergency Director.

14. DEACTIVATION

    Submit all emergency documentation to the Site Emergency Director.

WORK CONTROL SUPERVISOR CHECKLIST

INITIAL

1. ACTIVATION

a. Report to the TSC. Sign in on TSC roster board. _____

b. Obtain the Work Control Supervisor emergency materials at the assigned work station. Clip on the position badge. Do not obscure your station badge. _____

c. Obtain a briefing from the Technical Services Coordinator or Emergency Operations Manager. _____

d. Establish the 4-way data link with the OSC Communicator, the Control Room and CAS (Protected Ref. 6.20). _____

1) At the TSC Work Control Supervisor work station, remove the cordless telephone handset and attached headset from its charging cradle.
2) Put on the headset and adjust it to fit.

> NOTE
> The next action will automatically activate similar 4-way data link stations in the OSC, Control Room and CAS. These stations will continuously ring until picked up or you hang up the line.

3) Turn on the cordless handset.
4) Allow time for other facilities to respond to the system activation
5) Identify which stations are on the line (i.e., OSC, Control Room, CAS).

> NOTE
> A facility beacon light will remain illuminated as long as two parties stay on the line. The cordless phone has a mute button which, when pressed, mutes the user's headset microphone. Press the button again to re-activate the microphone. Notify other parties when using the mute.

6) If communication on the cordless phone fails, take the following actions:

- Inform system contacts that you will need to go off line temporarily.
- Remove the headset and place the handset back in the charging cradle.
- Pick up the back-up telephone handset and resume communications.
- The cordless telephone will recharge in approximately one (1) hour.

7) Terminate the 4-way data link by directing all parties to hang up.

INITIAL

e. Brief the OSC Communicator on accident status and determine staffing available for team deployment. _____

> NOTE
>
> Unless there is a desire to know the availability of a key individual(s), refrain from asking for names of personnel at the OSC. This information will become available when a copy of the OSC accountability sheet is delivered to the TSC.

f. Interface with the Maintenance Coordinator to determine the priority of OSC job tasks. Transfer this report status to the OSC, when available. _____

g. Maintain a log using form ER 2.0E, Emergency Facility Log. _____

2. ACCIDENT ASSESSMENT

a. Provide assistance in determining the current status of in-plant work that was in-progress when the emergency was declared.

b. Provide assistance in event evaluation.

c. Provide periodic plant status and event response updates to the OSC Communicator; this should be done at least every 30 minutes or as conditions warrant.

d. Provide periodic updates to the Maintenance Coordinator concerning the status of all OSC and OSC-dispatched team activities.

e. In conjunction with the Maintenance Coordinator, identify actions and action priorities on the TSC Action Plan board.

f. In conjunction with the Maintenance Coordinator, ensure that current OSC team deployments are recorded on the OSC Team Activities board.

3. ACCIDENT MITIGATION

a. Provide assistance in determining repair and corrective actions.

b. When directed by the Maintenance Coordinator, relay team deployment instructions and other information to the OSC using the 4-way data link. This ensures that the Control Room and Security are aware of any existing or planned OSC actions.

c. Ensure that changes in OSC task/job priorities are immediately relayed to the OSC.

4. STAFFING/EQUIPMENT NEEDS

   a. Direct requests for additional staffing or equipment resources to the Maintenance Coordinator.

   b. Notify the Maintenance Coordinator of particular OSC requests (e.g., additional resource needs, exposure authorizations).

5. DEACTIVATION

   Submit all emergency documentation to the Maintenance Coordinator.

ENGINEERING COORDINATOR CHECKLIST

INITIAL

1. ACTIVATION

   a. Report to the TSC. Sign in on TSC roster board. _____

   b. Obtain the Engineering Coordinator emergency materials at the assigned work station. Clip on the position badge. Do not obscure your station badge. _____

   c. Obtain a briefing from the Technical Services Coordinator. _____

   d. Remind engineering support personnel that additional workspace is available in the computer room adjacent to the TSC, if needed. _____

   e. Advise the Technical Services Coordinator when activation steps are complete. _____

   f. Maintain a log using form ER 2.0E, Emergency Facility Log. _____

2. ACCIDENT ASSESSMENT

   a. Coordinate actions of the TSC engineering staff to:

      - determine the nature of the accident,
      - define the systems involved, and
      - advise TSC staff of any known limitations to instrumentation accuracy resulting from the accident.

   b. Assign TSC engineers to perform periodic updates of TSC graphical trends boards.

> NOTE
>
> Remind TSC Engineers to utilize MPCS logger trend printouts to extent possible to update status boards. An MPCS terminal is available in the Computer Room adjacent to the TSC for this purpose if necessary.

c. Determine with the Emergency Operations Manager and TSC engineers the plant parameters to be trended on the graphical trends boards, and coordinate TSC efforts to evaluate and trend plant parameters.

> NOTE
>
> The RMD personnel assigned to the TSC DCC are under your direction. If references are not available in the TSC but can be obtained from other locations outside the Control Room Envelope, then discuss possible dispatch of a staff member with the Technical Services Coordinator.

d. As needed, interface with appropriate TSC staff members to obtain required technical references.

e. Provide direction to, and coordinate engineering support requests with, the TSC engineering support group located in Room 306 of the Control Room Complex.

f. When the Site Emergency Director announces a TSC brief, refer to SM 04-02, Arrangements for Site Emergency Director Briefings Speaker Phone Operations, to allow TSC engineering staff in Room 306 to join the briefing.

g. As needed, refer to the following technical references maintained in the lateral file cabinet next to the door leading to the back stairwell:

- 1-NHY-350028, Bus Failure Analysis for Emergency Response Facilities, for determining possible effects from power losses

- Westinghouse Generic Issue – Evaluations by Plant Engineering Staff (SM 00-01)

h. Periodically verify that status boards are being updated with current and accurate information.

i. During event briefings conducted by the Site Emergency Director, advise TSC staff members of any known limitations to instrumentation accuracy resulting from accident conditions.

ENGINEERING COORDINATOR CHECKLIST
(Continued)

3. ACCIDENT MITIGATION

   a. Coordinate actions of the TSC engineering staff to perform engineering and technical assessment activities in support of repair and corrective actions.

   b. Assign appropriate engineering tasks to the engineering support group in Room 306.

   c. Remind TSC engineering staff members to clearly identify their name and telephone extension on any instructions, drawings, etc. to be faxed to the OSC for use by repair teams.

   d. As time allows, document to the degree practical, the reason and basis for accident mitigation strategies and related actions proposed by engineering personnel.

   e. Monitor Severe Accident Management (SAM) parameters when informed that the Control Room operators have entered SACRG-1, Severe Accident Control Room Guideline for Initial Response.

   f. Perform SAM evaluator functions when informed that the Control Room operators have entered SACRG-2, Severe Accident Control Room Guideline for Transients after the TSC is Activated.

4. STAFFING/EQUIPMENT NEEDS

   Direct requests for additional staffing or equipment resources to the Technical Services Coordinator.

5. REENTRY AND RECOVERY

   Provide reentry and recovery support per ER 6.0 as directed by the Site Emergency Director.

6. DEACTIVATION

   Submit all emergency documentation to the Site Emergency Director.

MAINTENANCE COORDINATOR CHECKLIST

INITIAL

1. ACTIVATION

a. Report to the TSC. Sign in on TSC roster board. _____

b. Obtain the Maintenance Coordinator emergency materials at the assigned work station. Clip on the position badge. Do not obscure your station badge. _____

c. Determine the initial priorities of OSC staff assignments and communicate the priorities to the OSC Coordinator. _____

d. Ensure that the Work Control Supervisor has established a 4-way data link with the OSC Communicator, the Control Room Operator in the Control Room assigned from the OSC, and the Security Shift Supervisor (or designee) in the Central Alarm Station. (Protected: Ref. 6.20) _____

e. In the event that more than the required number of individuals are available to fill a given position, consult with the Technical Services Coordinator to determine which individual(s) shall remain in the TSC to serve as the position holder(s). All excess personnel should be directed to the Assembly Area (if activated), or to evacuate the site to their homes or Schiller Station. _____

f. Advise the Technical Services Coordinator when activation steps are complete. _____

g. Maintain a log using form ER 2.0E, Emergency Facility Log. _____

2. STAFFING PLANNING

a. Coordinate immediate staffing planning to support activation and operation of the Control Room, TSC and OSC.

b. During daytime (i.e., 0700 to 1630) responses:

(1) Identify first shift ERO responders on form ER 3.3M for positions applicable to the TSC.

(2) Request the Operations Technician to identify on-shift Operations staffing on form ER 3.3M.

(3) Direct excess response personnel in the TSC to report to the Assembly Area.

(4) Obtain completed forms ER 3.3M for the Control Room and for the OSC. The OSC form ER 3.3M should be delivered to the TSC by a runner from the OSC. If needed, you may contact the Technical Specialist Coordinator in the OSC to determine when the runner will deliver the form.

(5) Contact the Assembly Area Coordinator.

> NOTE
>
> The Assembly Area is activated only during normal working hours, i.e., 0700 to 1630.

(a) Verify the Assembly Area Coordinator position is filled.

> NOTE
>
> This position is filled by a designated Assembly Area Coordinator identified in the ERO roster.

(b) If the position is not filled, assign an Assembly Area Coordinator.

(c) Determine which, if any, current or anticipated onsite staffing needs can be filled by personnel located in the Assembly Area.

(d) Enter on form ER 3.3M the names and badge numbers of personnel assigned from the Assembly Area to fill first shift ERO positions in the Control Room, TSC or OSC.

(e) Request the Assembly Area Coordinator to dispatch the assigned personnel to the designated onsite facilities.

(f) Direct the Assembly Area Coordinator to contact the Administrative Services Coordinator prior to releasing the remaining personnel.

(6) Make one copy each of the form ER 3.3M for both the Control Room/TSC and the OSC, and retain the originals.

(7) Provide one copy each of the form ER 3.3M for both the Control Room/TSC and the OSC to the runner to deliver to the Assembly Area Coordinator.

NOTE

If Security requests a copy of completed forms ER 3.3M for the Control Room/TSC and the OSC because the accountability computer is unavailable, make a 2nd copy and provide to the Security Leader for delivery to Guard Island.

(8) Periodically brief the Assembly Area Coordinator regarding classification and event status until the facility is deactivated.

c. During backshift (i.e., 1630 - 0700) responses:

(1) Obtain the RapidNotify reports telefaxed to the TSC.

(2) Identify first shift ERO responders on form ER 3.3M for positions applicable to the TSC.

(3) Request the Operations Technician to identify on-shift Operations staffing on form ER 3.3M.

(4) Send excess response personnel to their homes to await callout as needed.

(5) Obtain completed forms ER 3.3M for the Control Room and for the OSC. The OSC form ER 3.3M should be routed to the TSC by a runner from the OSC. If needed, you may contact the Technical Specialist Coordinator in the OSC to determine when the runner will deliver the form.

NOTE

If Security requests a copy of completed forms ER 3.3M for the Control Room/TSC and the OSC because the accountability computer is unavailable, make a copy and provide it to the Security Leader for delivery to Guard Island.

(6) Review the completed forms ER 3.3M and identify first shift ERO positions in the Control Room, TSC and OSC that are not filled.

(7) Contact the Administrative Services Coordinator in the EOF.

(a) Identify the Control Room, TSC and OSC positions that are not filled.

(b) Request that additional personnel be called-out to fill position vacancies as well as fill any other onsite needs.

(c) Inform the Administrative Services Coordinator that you will telecopy the completed form ER 3.3M for the Control Room/TSC and the OSC to the EOF.

(8) Telecopy the completed form ER 3.3M for the Control Room/TSC and the OSC to the Administrative Services Coordinator in the EOF.

3. ACCIDENT ASSESSMENT

a. Coordinate maintenance input to repair and corrective action analysis.

b. During event briefings conducted by the Site Emergency Director, advise TSC staff of any known limitations to instrumentation accuracy resulting from accident conditions.

4. ACCIDENT MITIGATION/EMERGENCY REPAIR

a. Determine the location(s) of defective equipment and systems.

b. Determine the nature of other hazardous conditions that may affect repair or corrective action efforts (e.g., smoke, fire, steam, chemical spill, etc.).

c. Evaluate any radio communication difficulties that may be experienced in the field and recommend communication alternatives to the OSC Coordinator.

d. If the emergency is declared during an outage, ensure that use of outage personnel for emergency repair efforts is coordinated between the Outage Coordinator and OSC Coordinator. Ensure that accountability is maintained for any outage worker personnel brought back into the Protected Area.

e. Assemble information needed for instructing the OSC to dispatch a team (e.g., purpose, priority, suggested team composition, special preparation instructions, etc.).

f. As needed, request the Technical Services Coordinator to obtain Site Emergency Director approval to direct the dispatch of a team from the OSC.

g. Following Site Emergency Director approval, request the Work Control Supervisor to provide necessary instructions for team dispatch to the OSC Coordinator or OSC Communicator. Instructions should be provided over the 4-way data link.

h. Provide specific information for briefing repair and corrective action teams to the Technical Specialist Coordinator in the OSC. Consider instructions concerning:

(1) Details of equipment operation, maintenance and failure modes

(2) Exact location and designation of equipment

(3) Proper tools

(4) Procedures, manuals or drawings required

(5) Use of Specialty Technical Assistants

i. In conjunction with the TSC Work Control Supervisor, update OSC Team Activity board and record team activities on form ER 3.1P.

j. Provide summaries of the findings and results of OSC team missions to the Site Emergency Director, Technical Services Coordinator and Emergency Operations Manager.

k. Maintain required records of completed repairs and corrective actions.

5. STAFFING/EQUIPMENT NEEDS

a. Direct requests for additional staffing resources to the Assembly Area Coordinator or Administrative Services Coordinator.

b. Direct requests for additional equipment resources to the Administrative Services Coordinator.

c. Consider requesting the Administrative Services Coordinator to call out Work Control Specialty Technical Assistants to support preparations for emergency repair activities.

6. OSC EVACUATION

a. If the OSC Coordinator indicates that OSC evacuation is required, determine with the OSC Coordinator what OSC staff should relocate to a reassigned OSC and what OSC staff should evacuate to the EOF.

b. Review OSC evacuation and relocation with the Technical Services Coordinator.

7. REENTRY AND RECOVERY

Provide reentry and recovery support per ER 6.0 as directed by the Site Emergency Director.

8. DEACTIVATION

Submit all emergency documentation to the Site Emergency Director.

REACTOR ENGINEER CHECKLIST

INITIAL

1. ACTIVATION

a. Report to the TSC. Sign in on TSC roster board. _____

b. Obtain the Reactor Engineer emergency materials at the assigned work station. Clip on the position badge. Do not obscure your station badge. _____

c. Turn on the LAN PC. Log on with username and password posted on the PC terminal. _____

(1) Select the SDS for Windows icon and open the program.
(2) Select "EMER RESPONSE."
(3) Select "LOGGER TREND."
(4) Press F1.
(5) At prompt "ENTER ITEM NUMBER," type the line that corresponds to the TSC Logger Trend Report and press Enter.
(6) Once activated, a multi-page report of plant process parameters will be printed every 15 minutes on the TSC DCC printer.
(8) To deactivate the TSC Logger Trend Report, press F3, at the prompt type the line that corresponds to the TSC Logger Trend Report and press Enter.

NOTE
Turn-on codes for access to other MPCS screens are available from the MPCS help menu.

d. Synchronize Technical Support Center facility clocks with the Main Plant Computer System (MPCS) time display. _____

e Obtain a briefing from the Engineering Coordinator _____

f. Provide an initial Critical Safety Function status report to the Site Emergency Director and Emergency Operations Manager. _____

g. If needed, request the Maintenance Coordinator to request the Administrative Services Coordinator to call out Information Management Technical Specialty Assistants to effect MPCS changes or repairs _____

h. Advise the Technical Services Coordinator when activation steps are complete. _____

i. Maintain a log using form ER 2.0E, Emergency Facility Log. _____

2. ACCIDENT ASSESSMENT

   a. Provide the first page of the LOGGER TREND printout (DOSE ASSESSMENT DATA POINTS) to the Health Physics Coordinator as requested. Add process points to the LOGGER TREND reports as requested.

   b. Provide support, as requested, in use of the MPCS.

   c. Review plant responses to mitigation actions to identify possible inconsistencies or unexpected responses.

   d. As requested, assist the Nuclear Safety Advisor with completing a form ER 3.1L, Core Damage Assessment Information Worksheet.

   e. As needed, refer to the following technical references maintained in the lateral file cabinet next to the door leading to the rear stairwell:

      - MPCS Operator Guide for MPCS operating instructions
      - Seabrook Station Core Damage Assessment Methodology

3. NOTIFICATIONS

   Provide the Emergency Operations Manager with any core damage data necessary for completion of the NRC Notification forms.

4. ACCIDENT MITIGATION

   a. Provide the Site Emergency Director and the Emergency Operations Manager with recommendations for protection of the reactor core.

   b. Monitor Severe Accident Management (SAM) parameters when informed that the Control Room operators have entered SACRG-1, Severe Accident Control Room Guideline for Initial Response.

   c. Perform SAM Evaluator functions when informed that the Control Room operators have entered SACRG-2, Severe Accident Control Room Guidelines for Transients after the TSC is Activated.

5. STAFFING/EQUIPMENT NEEDS

   a. Direct requests for additional staffing or equipment resources to the Technical Services Coordinator.

   b. If requested by the Operations Technician, activate the Emergency Response Data System (ERDS) link on the MPCS by performing the following steps:

      (1) From the main menu screen, select "BOP."

(2) From the BOP menu screen, select "EMERGENCY RESPONSE."

(3) From the Emergency Response menu screen, select "ERDS ACTIVATION."

(4) From the ERDS menu screen, select "ACTIVATE."

c. Refer to Supplemental Material 99-07, which identifies parameters transmitted by ERDS.

d. If the LAN does not operate, activate ERDS from the MPCS terminal in the computer room.

e. In the event of a total or partial Main Plant Computer System (MPCS) failure, assist the Technical Services Coordinator in devising appropriate compensatory arrangements.

6. DEACTIVATION

a. When directed by the Emergency Operations Manager, deactivate the ERDS link on the MPCS by performing the following steps:

(1) Select "Cancel" (this will return screen to main menu).

(2) From the main menu screen, select "BOP."

(3) From the BOP menu screen, select "EMERGENCY RESPONSE."

(4) From the Emergency Response menu screen, select "ERDS ACTIVATION."

(5) From the ERDS menu screen, select "TERMINATE."

b. Deactivate the LOGGER TREND on the MPCS workstation.

c. Submit all documentation to the Site Emergency Director.

CORE DAMAGE ASSESSMENT INFORMATION WORKSHEET

NOTE
Obtain Chemistry-related information from the Chemistry Coordinator in the OSC.

1. Average Core Burnup _____ EFPD Attained in Cycle No.

2. Reactor trip date: ____/____/____ time: _____ am/pm

3. Post LOCA Monitor Radiation Readings at _____ am/pm:

   RM-6576A _____ R/hr

   RM-6576B _____ R/hr

4. Liquid Archive Sample Results:

   Check ☐ RCS ☐ RHR

   Sample Time _____ am/pm

   Radionuclide Analysis (attach sample analysis results)

5. Letdown Monitor, RM 6520 (if in service):
   Reading:_____ mR/hr Time _____ am/pm

6. PASS Sample Line monitor (if taken):
   Reading:_____ R/hr Time _____ am/pm

7. Estimated coolant activity per PASS sample line monitor correlation _____.

8. RWST dilution volume - injected at sample time _____ gals

9. Highest core exit temperature readings (MAX) _____ °F

   Core exit temperature readings at sample time _____ °F

   Number of core exit thermocouples exceeding 700°F:

   Number of core exit thermocouples exceeding 1,400°F:

   Number of core exit thermocouples exceeding 2,000°F:

10. Reactor Vessel Water Level (from RVLIS) _____ % (static)

    _____ %(dynamic)

CORE DAMAGE ASSESSMENT INFORMATION WORKSHEET
(Continued)

11. Containment Air Sample Results:

    Sample Time _____ am/pm

    Hydrogen concentration _____ % H_2

    Radionuclide Analysis (attach sample analysis results)

    Containment Hydrogen Monitor:

    Highest Reading: _____ volume %

    Current Reading: _____ volume %

12. RTD Hot Leg Temperature:

    Highest Reading: _____ °F

    Current Reading: _____ °F

13. Source Range Monitor:

    Highest Reading: _____ cps

    Current Reading: _____ cps

14. RCS Pressure:

    Highest Reading: _____ psig

    Current Reading: _____ psig

15. Volume of water (other than RWST) injected into the RCS: _____ gallons

COMPLETED BY: _____ Date: ____/____/____ Time:

PLANNED RADIOLOGICAL RELEASE DATA

SECTION 1: (To be completed by the Site Emergency Director)

A. Reason for release:

B. Proposed time of release:

(Time)

Date: _____/_____/

C. Define the proposed release pathway:

D. Record the containment dose rate: _____ R/hr

E. Record the time of the containment monitor reading:

F. Record the containment pressure at the time of the proposal:

_____ psig

G. Record the containment pressure expected due to the release:

_____ psig

H. Estimate the release point diameter: _____ ft

I. Record any isotopic data available from containment air or WRGM sampling:

J. Transmit this form to the EOF Coordinator.

PLANNED RADIOLOGICAL RELEASE DATA
(Continued)

SECTION 2

A. Meteorological Conditions (To be completed by the Dose Assessment Specialist)

	Available from MPCS		Weather Forecast Data
1.	Current Wind Direction (°from)_____	Forecasted Wind Direction (°from)	
2.	Current Wind Velocity (mph) _____	Forecasted Wind Velocity (mph)	
3.	Current Stability Class _____	Estimated Stability Class for the Proposed Release Period	
4.	Precipitation (in/hr) _____	Probability of Precipitation for the Proposed Release Period	

B. Radiological Conditions Based on Release in Progress (To be completed by the Dose Assessment Specialist)

1. Projected Site Boundary Dose Rate _____ mrem/hr Analysis Time

2. Projected 2 Mile Dose Rate _____ mrem/hr Analysis Time

3. Projected 5 Mile Dose Rate _____ mrem/hr Analysis Time

4. Projected 10 Mile Dose Rate _____ mrem/hr Analysis Time

5. Measured Dose Rate _____ mrem/hr Report Time
Report Distance _____ mi.

PLANNED RADIOLOGICAL RELEASE DATA
(Continued)

6. Measured Dose Rate _____ mrem/hr — Report Time Report Distance _____ mi.

7. Measured Dose Rate _____ mrem/hr — Report Time Report Distance _____ mi.

C. Projected Radiological Impact of Planned Release
(To be completed by the Dose Assessment Specialist)

Evaluate using Section I information in conjunction with the forecasted meteorological conditions recorded in Section 2A and the Cont option of the Raddose-V program.

	Dose Rate (mrem/hr)	Thyroid Dose Rate (mrem/hr)
1. Site Boundary Dose Rate	_____	
2. 2 Mile Dose Rate	_____	
3. 5 Mile Dose Rate	_____	
4. 10 Mile Dose Rate	_____	

NOTE

The actual duration will depend on the time it takes to reduce the pressure to the proposed level (i.e., vent time). This will be provided by the program.

5. Record the "vent time," if applicable _____ hours

6. Calculate the maximum integrated Dose _____ mrem — Record Location From Station _____ degree/mile

PLANNED RADIOLOGICAL RELEASE DATA
(Continued)

7. Calculate the maximum integrated Thyroid Dose _____ mrem

Record Location From Station _____ degree/mile

Dose Assessment Specialist _____ Date/Time

D. Transmit this form to the EOF Coordinator.

SECTION 3: (To be completed by the EOF Coordinator)

After discussions with offsite authorities, determine:

Additional Protective Actions that would be required:

_____

_____

Status of Offsite Emergency Response Actions:

_____

_____

EOF Coordinator:

Date: ____/____/____ Time:

Transmit this form to the Response Manager.

PLANNED RADIOLOGICAL RELEASE DATA
(Continued)

SECTION 4: (To be completed by the Response Manager)

Document the planned release authorization.

ACTIONS TO BE TAKEN
(inform the Site Emergency Director)

_____

_____

_____

_____

_____

Approval:

(Response Manager)

Date:__/__/__ Time:

1. Notify the Site Emergency Director of the final decision.
   Record the notification time:

2. Notify the Emergency News Manager of the action.
   Record the notification time:

OSC Team Activity

TIME OUT	TIME IN	TEAM ID	TEAM ASSIGNMENT	STAFFING

NUCLEAR SAFETY ADVISOR CHECKLIST

INITIAL

1. ACTIVATION

   a. Report to the TSC. Sign in on the TSC roster board. _____

   b. Obtain the Nuclear Safety Advisor emergency materials at the assigned work station. Clip on the position badge. Do not obscure your station badge. _____

   c. Obtain a briefing from the Engineering Coordinator. _____

   d. Maintain a log using form ER 2.0E, Emergency Facility Log. _____

2. ACCIDENT ASSESSMENT

   a. To arrange for core damage assessment support, contact the Westinghouse Primary Responder or designated alternates as listed in the Emergency Response Telephone Directory.

   b. Complete Form 3.1L with as much information as is available, and relay this form (information) to Westinghouse.

   c. Coordinate core damage assessment activities with the appropriate Westinghouse emergency response personnel.

   d. Keep the following personnel informed of core damage assessments as they become available:

      - Reactor Engineer
      - Engineering Coordinator
      - Emergency Operations Manager
      - NRC Reactor Safety Personnel

   e. Evaluate overall effects of plant events and TSC response actions based on applicable probabilistic risk assessment (PRA) and core damage assessment information.

NUCLEAR SAFETY ADVISOR CHECKLIST
(Continued)

3. ACCIDENT MITIGATION

   a. Advise the Engineering Coordinator on corrective actions and resource allocation strategies based on PRA evaluation, core damage assessment, and inputs from Westinghouse.

   b. Provide brief discussion of vulnerabilities and likely accident scenarios during briefings.

   c. Monitor Severe Accident Management (SAM) parameters when informed that the Control Room operators have entered SACRG-1, Severe Accident Control Room Guideline for Initial Response.

   d. Perform SAM Evaluator functions when informed that the Control Room operators have entered SACRG-2, Severe Accident Control Room Guideline for Transients after the TSC is Activated.

4. DEACTIVATION

   Submit all emergency documentation to the Engineering Coordinator.

OPERATIONS TECHNICIAN CHECKLIST

INITIAL

1. ACTIVATION

a. Obtain a briefing from the Short Term Emergency Director/Site Emergency Director in the Control Room. _____

Determine the following:

(1) station status
(2) emergency initiating conditions
(3) accident mitigation and corrective actions taken
(4) status of the emergency response organization
(5) status of offsite notifications

b. Obtain from the Control Room Communicator a copy of any forms ER 2.0D (Event Notification Worksheet) completed for NRC notification. _____

c. Report to the TSC. Sign in on the TSC roster board. _____

d. Obtain the Operations Technician emergency materials at the assigned work station. Clip on the position badge. Do not obscure your station badge. _____

e. Contact the Shift Manager and determine:

(1) if initial notification has been made to the NRC over the Emergency Notification System (ENS). _____

(2) suitable time/conditions exist for the TSC to assume responsibility for NRC communications from the Control Room. _____

(3) if the Emergency Response Data System (ERDS) has been activated. _____

CAUTION

The NRC must be notified within one hour of the declaration of an emergency (or of any subsequent reclassification).

f. Take over NRC communications from the Control Room Communicator. When the ENS Communicator reports to the TSC: _____

(1) Provide the ENS Communicator any completed forms ER 2.0D. _____

(2) Direct the ENS Communicator to staff the ENS line to the NRC. _____

f. Provide copies of completed forms ER 2.0D used for NRC notification to the Site Emergency Director and Emergency Operations Manager. _____

h. If the Control Room has not activated the ERDS, request the Reactor Engineer to activate the ERDS link. _____

i. Ensure that all on-shift Operations personnel are accounted for using ER 3.3M, ERO Staff Planning, and provide results to the Maintenance Coordinator. _____

j. Maintain a log using form ER 2.0E, Emergency Facility Log. _____

2. NOTIFICATIONS

a. Direct any State Health Department callbacks to the Site Emergency Director.

b. Assume responsibility for the Emergency Notification System (ENS) by initiating contact with the NRC Operations Center using the red ENS phone or, if ENS is not available, a commercial line. Telephone numbers are listed on the ENS handset and also in the Emergency Response Telephone Directory.

c. During initial contact with the NRC, verify with the NRC official that ERDS data are being received satisfactorily by the NRC. If they are not, request the Reactor Engineer to reconnect the ERDS Link.

d. As station conditions change or as events warrant, complete a new form ER 2.0D, Event Notification Worksheet. If needed, see ER 2.0, Figure 1, for instructions for completing form ER 2.0D.

NOTE

If ERDS is activated, it may not be necessary to provide all operational or radiological data requested by form ER 2.0D. Check with the NRC Communicator to determine what information is needed from form ER 2.0D and what information is being provided satisfactorily by ERDS. Refer to Supplemental Material 99-07, which identifies parameters transmitted by ERDS.

e. As needed, obtain chemistry-related information from the Chemistry Coordinator in the OSC.

f. Provide emergency information to the NRC (e.g., on form ER 2.0D). Use the FTS-2001 handset phone if available. (This task may be delegated to the ENS Communicator.)

g. Ensure that the ENS line is staffed as requested by the NRC. Assist the Communicator as necessary with this function.

h. If the Communicator cannot provide information to the NRC in a satisfactory manner, staff the ENS line.

i. If the NRC requests establishment of the Health Physics Network (HPN) and the EOF is activated, contact the EOF Coordinator and relay the NRC request to establish the HPN.

j. If the NRC requests establishment of the HPN and the EOF is not activated, relay the NRC request to establish the HPN to the Health Physics Coordinator.

k Fax copies of any documentation used for NRC updates (usually form ER 2.0D) to the Licensing Coordinator at the EOF.

3. CLASSIFICATION

Provide the Site Emergency Director or Emergency Operations Manager input for reclassification per Procedure ER 1.1, Classification of Emergencies.

4. ACCIDENT ASSESSMENT

NOTE

Utilize available information sources within the TSC to obtain necessary data (e.g., MPCS, logger trend printouts, etc.). Minimize the number of calls to the Control Room to obtain data.

a. If a reactor trip has occurred, confer with the Shift Manager to determine if the Critical Safety Function Status Trees (CSFSTs) have been verified (i.e., MPCS displays are accurate based on hardwired indications). Advise the TSC staff and Technical Assistant at the EOF when the CSFSTs have been verified.

b. Provide assistance in event evaluation.

c. Periodically verify that status boards are being updated with current and accurate information.

d. During event briefings conducted by the Site Emergency Director, advise TSC staff members of any known limitations to instrumentation accuracy resulting from accident conditions.

e. Raddose users may request data pertaining to containment spray status, plant vent filter status, and steam flow rate depending on the accident type for which dose projections are calculated. The data can be obtained via SDS as follows:

- Containment spray status – On SDS select CGS PRI/MISC MENU, then select CONTM SPRAY for status of containment spray pumps and valves.

- Plant vent filter status – On SDS, type in WRGM. WRGM detail will be displayed. Press F5 to show data points. If QUAL code for any of the PLANT VENT or WRGM flow rates is other than GOOD, filter status is NO. Also, if the logger trend shows the QUAL code for either CONTM AVG PRESS (Point ID C0726) or CONTN ENC/OUTSIDE DP (Point ID A3778) is other than GOOD, filter status is NO.

- Steam flow rate – On SDS, type in SGFEED. Steam generator flow rates will be displayed in KLB/HR.

5. ACCIDENT MITIGATION

a. Monitor Severe Accident Management (SAM) parameters when informed that the Control Room operators have entered SACRG-1, Severe Accident Control Room Guideline for Initial Response.

i. Perform SAM Evaluator functions when informed that the Control Room operators have entered SACRG-2, Severe Accident Control Room Guideline for Transients after the TSC is Activated.

6. STAFFING/EQUIPMENT NEEDS

Direct requests for additional staffing or equipment resources to the Technical Services Coordinator.

7. DEACTIVATION

Submit all emergency documentation to the Emergency Operations Manager.

TSC LOGKEEPER CHECKLIST

INITIAL

1. ACTIVATION

   a. Sign in on the TSC roster board. _____

   b. Report to the Site Emergency Director. _____

   c. Obtain the TSC Logkeeper emergency response position materials at the assigned work station and initiate this checklist. _____

   d. Clip on the position badge. Do not obscure your station badge.

   e. Initiate a form ER 2.0E, Emergency Facility Log. _____

2. LOGKEEPING

   a. Monitor Site Emergency Director (SED) actions and communications

   b. Log noteworthy items on form ER 2.0E. The log may be maintained on the work station PC if desired. Noteworthy items include, but are not limited to, the following:

      (1) Facility activation time
      (2) Operating mode changes.
      (3) Emergency classification changes
      (4) Changes in radiological release status
      (5) Site personnel injuries or accidents
      (6) Protective measures directed for site personnel
      (7) Offsite notifications originating from the TSC
      (8) Offsite protective action recommendations made in the TSC
      (9) Time and content of SED communications with the NRC
      (10) Time and content of SED communications with the EOF
      (11) Time and content of SED TSC briefings
      (12) Emergency termination and facility deactivation times

   c. Monitor SED telephone calls; take messages if the SED is not available to take calls.

   d. Update the Emergency Classification Board as classification levels change.

3. DEACTIVATION

   a. Assist the SED with assembly of TSC staff emergency documentation.

   b. Provide completed logs and documentation to the SED

SITE EMERGENCY DIRECTOR BRIEFING FORM

BRIEFING ITEMS	NOTES
1. Beginning – Announce "This is a brief."	
2. Direct TSC staff to: • minimize side discussions and distractions, • terminate non-urgent telephone calls, and • use 3-way communication to confirm assigned actions.	
3. Current emergency classification level:_____	
4. Initiating Condition and EAL in effect:_____	
5. Summarize events from initial emergency classification to now.	
6. Review status of mitigation items and event prognosis: • Repair and corrective actions underway and planned • Other mitigating actions underway or planned (e.g., INPO assistance, vendor assistance, equipment acquisition, etc.) • Immediate and near-term goals (the next 4 to 8 hours) • Previously assigned action items (who, what, when, where) • Current priorities • Additional expectations • Contingencies	
7. Status of Seabrook Station personnel (e.g., site personnel evacuated to home or remote monitoring, personnel injuries, accountability results)	
8. Status of Seabrook Station ERO and facilities	
9. In-plant radiological conditions	
10. Results from offsite radiological assessments (say "unknown" if results are unknown)	
11. Current protective action recommendations to the states	
12. Protective actions being implemented by the states (say "unknown" if protective actions are unknown)	
13. Summary of NRC response activities	
14. Open discussion/questions and answers	
15. Review action assignments.	
16. Set time for next briefing	

EMERGENCY NOTIFICATION SYSTEM (ENS) COMMUNICATOR CHECKLIST

1. ACTIVATION

   a. Sign in on the TSC roster board. _____

   b. Obtain the ENS Communicator procedure materials and position badge. _____

   c. Clip on the position badge. Do not obscure your station badge. _____

   d. Report to the Operations Technician and obtain a briefing. _____

   e. Obtain completed forms ER 2.0D, Event Notification Worksheet. _____

   f. Obtain completed forms ER 2.0B, State Notification Fact Sheet. _____

   g. Fax copies of completed forms ER 2.0B to the EOF Coordinator. _____

   h. Initiate a form ER 2.0E, Emergency Facility Log. Use the log to document significant emergency information requests made by the NRC via the ENS telephone and significant plant status events conveyed to the NRC. _____

2. ENS COMMUNICATIONS

   a. At the direction of the Operations Technician, establish communications with the NRC Headquarters Operations Officer (HOO):

      (1) If the Control Room is currently maintaining an open line with the HOO via the ENS telephone, pick up the ENS telephone handset in the TSC (red phone) to join the call. The Control Room may terminate an open line at this time. The Control Room and TSC ENS telephones are extensions on the same line.

      (2) Press the push-to-talk button on the handset to communicate to the HOO.

      (3) If the Control Room is <u>not</u> currently on the ENS line with the HOO, dial 1-(301) 816-5100 (primary) or 1-(301) 951-0550 (backup). If the FTS phone is inoperable, dial either number via the commercial line at your station.

      (4) When connected with the HOO, state your name and identify yourself as the Seabrook Station ENS Communicator in the Technical Support Center. Inform the HOO that you are taking over ENS communications in the TSC.

      (5) Request the HOO to establish a Seabrook Station ENS bridge and provide the HOO the Control Room/TSC ENS telephone number – (700) 661-5931.

      (6) When you are on an ENS communications bridge, you may hang up the handset and rejoin the bridge at anytime without re-dialing the HOO number.

2. ENS COMMUNICATIONS (con't)

(7) If you are on an ENS communications bridge and want to communicate new information, press * 0 to signal the HOO that you need their attention.

b. Obtain updated forms ER 2.0D from the Operations Technician as conditions change.

c. Provide copies of completed forms ER 2.0D to the SED and Technical Services Coordinator.

d. Fax copies of completed forms ER 2.0D to the Licensing Coordinator in the EOF.

e. Communicate updated form ER 2.0D information to the HOO via the ENS line.

f. If the NRC requests establishment of the Health Physics Network (HPN) and the EOF is activated, contact the EOF Coordinator and relay the NRC request. If the EOF is not activated, relay this request to the Health Physics Coordinator in the TSC.

g. When communicating to the HOO, keep the following precautions in mind:

(1) Summarize the event or changes in events into a couple of sentences.

(2) Be patient as you may have to brief additional people as they join the bridge.

(3) When relaying an EAL include the text description as well as the number.

(4) Do not use plant specific acronyms without saying what they represent.

h. Communicate the following information updates to the HOO as soon as possible:

(1) Change in emergency classification level

(2) Loss of any safety related system

(3) New information that affects the accuracy of information previously reported

i. For a reactor trip, the HOO will ask the following typical questions:

(1) What caused the trip?

(2) Did all control rods insert?

(3) How is the core being cooled?

(4) What is the heat sink in use?

2. ENS COMMUNICATIONS (con't)

   (5) Unexpected pressure or level transients?

   (6) Availability of offsite and emergency power?

   (7) Radiation release status – none, occurred and terminated, or ongoing?

   (8) Actuation of emergency core cooling systems?

   (9) Complications or unusual characteristics of the trip?

3. DEACTIVATION

   Submit all emergency documentation to the Operations Technician.

SECURITY LEADER CHECKLIST

INITIAL

1. **ACTIVATION**

   a. Sign in on the TSC roster board. _____

   b. Obtain the Security Leader emergency response materials at your work station and initiate this checklist. _____

   c. Clip on the position badge. Do not obscure your station badge. _____

   d. Report to the Site Emergency Director and obtain a briefing. _____

   e. Contact CAS and SAS and advise of arrival in the TSC _____

   f. Contact the SSS and determine the status of site Security operations and implementation of GN1332.00 actions. _____

   g. Monitor status of site evacuation of non-essential personnel and report site evacuation status to the Site Emergency Director. _____

   h. Contact the Security Coordinator in the EOF. _____

   i. Inform the Security Coordinator of the status of site Security operations, site evacuation status and status of implementation of GN1332.00 actions._____

   j. Maintain a log using form ER 2.0E, Emergency Facility Log. _____

2. **SHIFT STAFFING AND ACCOUNTABILITY**

   a. Determine from the Maintenance Coordinator if any assistance is required in completing form ER 3.3M, Staff Planning, for the OSC, TSC and Control Room.

   b. Facilitate delivery of form ER 3.3M to Guard Island if it is required for completion of accountability.

   c. Facilitate communication of accountability results from Guard Island to the Technical Services Coordinator.

   d. If a search and rescue operation is required for missing persons, assist the Technical Services Coordinator with required documentation and forming a search and rescue team in the OSC.

   e. If the Assembly Area has been activated for a normal working hours response (0700 – 1630 weekdays), remain aware of Assembly Area status and facilitate any support required for deactivation of the Assembly Area and dismissal of Assembly Area personnel from the site.

3. COORDINATION

a. Maintain awareness of accident status and TSC directed mitigating actions (e.g., areas of the plant affected by accident conditions; affected structures, systems or components; OSC repair team deployment, in-plant radiological concerns).

b. Monitor communications with CAS via the 4-way data link and relieve the CAS Operator from participation on the 4-way link as determined to be appropriate.

c. Keep the Security Shift Supervisor apprised of changing accident conditions and significant emergency response activities in the plant.

d. Inform the Security Shift Supervisor of any accident conditions or mitigating actions that may impact Security staffing or Security activities.

e. Determine from the Health Physics Coordinator of any radiological conditions in the plant that may affect Security staffing or operations.

f. If relocation of Security personnel from required posts is necessary, coordinate with the Security Shift Supervisor.

g. Report any impacts that accident conditions have on the ability to maintain required Security staffing and operations to the Site Emergency Director.

h. If Security positions cannot be maintained per the Security Plan and adequate compensatory measures cannot be taken, inform the Site Emergency Director of the need to invoke 10 CFR 50.54(x).

i. Report any impacts on Security staffing and operations to the Security Coordinator.

j. Coordinate deployment of personnel to the site from the EOF (e.g., shift relief staff, vendor/contractor personnel, NRC site team personnel) with the Security Coordinator.

k. Determine from the Health Physics Coordinator the appropriate site access routing given existing and potential radiological conditions and report the results to the Security Coordinator.

l. Inform the Security Shift Supervisor and Guard Island of deployment of personnel from the EOF to the site (e.g., number, when expected, escort or badge requirements).

4. REENTRY AND RECOVERY

Provide reentry and recovery support per ER 6.0 as directed by the Site Emergency Director.

5. DEACTIVATION

Submit emergency response documentation to the Site Emergency Director.

SEABROOK STATION

ADMINISTRATIVE PROCEDURE

Operational Support Center Operations

ER 3.2

Rev. 44

Procedure Owner:
D. Currier

OPERATIONAL SUPPORT CENTER RESPONDER ACTION SUMMARY

1. UNUSUAL EVENT ACTIONS

No actions are assigned to Operational Support Center (OSC) staff at an Unusual Event. If in the plant, follow Control Room plant announcement instructions.

2. ALERT AND HIGHER EMERGENCY CLASSIFICATION LEVEL ACTIONS

OSC responders assigned responsibilities in Section 2.0 of this procedure report to the OSC and implement actions contained in this procedure.

Radiation Protection and Chemistry Technicians report to the OSC and implement actions contained in Figure 4 of this procedure depending on order of arrival, then standby for assignments.

Other OSC staff identified in Figure 1 of this procedure, report to the OSC and standby.

During normal working hours (0700-1630), Maintenance Technicians onsite report to the onsite Assembly Area in the Seabrook Station Conference Center.

Maintenance Technicians who are onsite on weekdays between 1630 and 0700 hours, on weekends and on holidays, report to the OSC.

During planned outages, all personnel working outage assignments report to the onsite Assembly Area at any time.

3. CODE YELLOW SECURITY EVENT- NO EMERGENCY CLASSIFICATION DECLARED

No actions are assigned to OSC staff. If in the plant, follow Control Room plant announcement instructions.

4. CODE YELLOW SECURITY EVENT – EMERGENCY CLASSIFICATION DECLARED

- UNUSUAL EVENT – No actions assigned to OSC staff. If in the plant, follow Control Room plant announcement instructions.
- ALERT OR HIGHER EMERGENCY CLASSIFICATION – OSC responders report to the OSC and implement actions contained in this procedure. Listen for Control Room plant announcement instructions (e.g., prohibition on use of radios, two person line-of-sight rule for vital area entry).

5. CODE RED – ANY EMERGENCY CLASSIFICATION LEVEL DECLARED

- If offsite, OSC subject-to-call pager wearers report to the EOF per pager message sent by the Control Room
- If onsite, follow the Control Room plant announcement instructions.

Contents and Revision Status

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Contents and Revision Status

1.0 OBJECTIVES

This procedure provides instruction for the activation and operation of the Operational Support Center (OSC), and the techniques and precautions to take when performing radiological surveys on site during a radiological emergency.

2.0 RESPONSIBILITIES

2.1 OSC Coordinator

Directs emergency response activities performed at, and by, the OSC.

2.2 Radiological Controls Coordinator

Directs implementation of in-plant radiation protection measures associated with Station emergency response efforts.

2.3 Technical Specialist Coordinator

Provides assistance in the evaluation of, and preparations for, repair and corrective actions.

2.4 OSC Communicator

Maintains communications with the Technical Support Center, Control Room and Central Alarm Station (CAS).

2.5 Chemistry Coordinator

Coordinates post-accident sampling and analysis functions during an emergency.

2.6 Work Control Supervisor

Assists the OSC Coordinator with formation, briefing, deployment, and debriefing of emergency teams.

3.0 PRECAUTIONS

1. In the event that immediate actions are required to prevent or mitigate an emergency, all or parts of the team formation and briefing process described in this procedure may be suspended by the OSC Coordinator. Examples include fire brigade responses, dispatching personnel to provide medical assistance, etc. Required documentation shall be completed after the needed immediate actions have been completed.

2. All OSC personnel are responsible for ensuring accountability is maintained at the OSC.

3. Take actions to prevent the spread of contamination.

4. Monitor exposure and dose rates frequently.

5. Radiation levels may be considerably higher during emergencies. Beta energies may be considerably higher and transuranic isotopes (alpha emitters) may exist in large quantities.

6. If the event involves a bomb threat within the plant, prohibit repair teams deployed into the plant from using radio or cell phone communications. Radio signals may detonate an explosive device. Use other communications methods (e.g., telephones) in this event.

4.0 PREREQUISITES

1. An Alert, Site Area Emergency or General Emergency has been declared in accordance with Procedure ER 1.1, Classification of Emergencies,

   OR

   The Site Emergency Director (SED) has ordered activation of the OSC.

2. All radiation worker qualified personnel reporting to the OSC should obtain appropriate dosimetry from the Thermoluminescent Dosimeter (TLD) rack located on the first floor of the Administration Building (Radiologically Controlled Area [RCA] access hall). (Protected: Ref. 6.9)

5.0 ACTIONS

NOTE
Telephone numbers for contacts referenced in the checklists are available in the Emergency Response Telephone Directory.

1. Refer to form ER 3.2A, OSC Coordinator Checklist, for required actions for this position.

2. Refer to form ER 3.2B, Radiological Controls Coordinator Checklist, for required actions for this position.

3. Refer to form ER 3.2C, Chemistry Coordinator Checklist, for required actions for this position.

4. Refer to form ER 3.2D, OSC Communicator Checklist, for required actions for this position.

5. Refer to form ER 3.2E, Technical Specialist Coordinator Checklist, for required actions for this position.

6. Refer to form ER 3.2H, Work Control Supervisor Checklist, for required actions for this position.

6.0 REFERENCES

1. ER 1.1, Classification of Emergencies

2. ER 2.0, Emergency Notification Documentation Forms Procedure

3. ER 3.3, Emergency Operations Facility Operations

4. ER 4.3, Radiation Protection During Emergency Conditions

5. ER 4.6, Offsite Monitoring and Decontamination

6. ER 5.2, Site Perimeter and Offsite Monitoring and Environmental Sampling

7. HX0956.04, Radiological Environmental Sampling of Food Crops and Vegetation

8. CS0925.10, Preparation for Post-Accident Sampling

9. HD0955.01, General Count Room Guidelines

10. NRC Inspection Report No. 50-443/86-10-12

11. NRC Inspection Report No. 50-443/88-09-01

12. NRC Inspection Report No. 86-18, Item 86-18-15

13. SS #25564, Establishing Efficiencies for Field Calculations of Radioactive Activity on Air Sample Cartridges, June 16, 1986

14. NRC Inspection Report No. 89-19, NUREG 0737 Audit

15. NRC Inspection Report No. 50-443/93-07

FIGURE 1
OPERATIONAL SUPPORT CENTER (OSC) STAFF

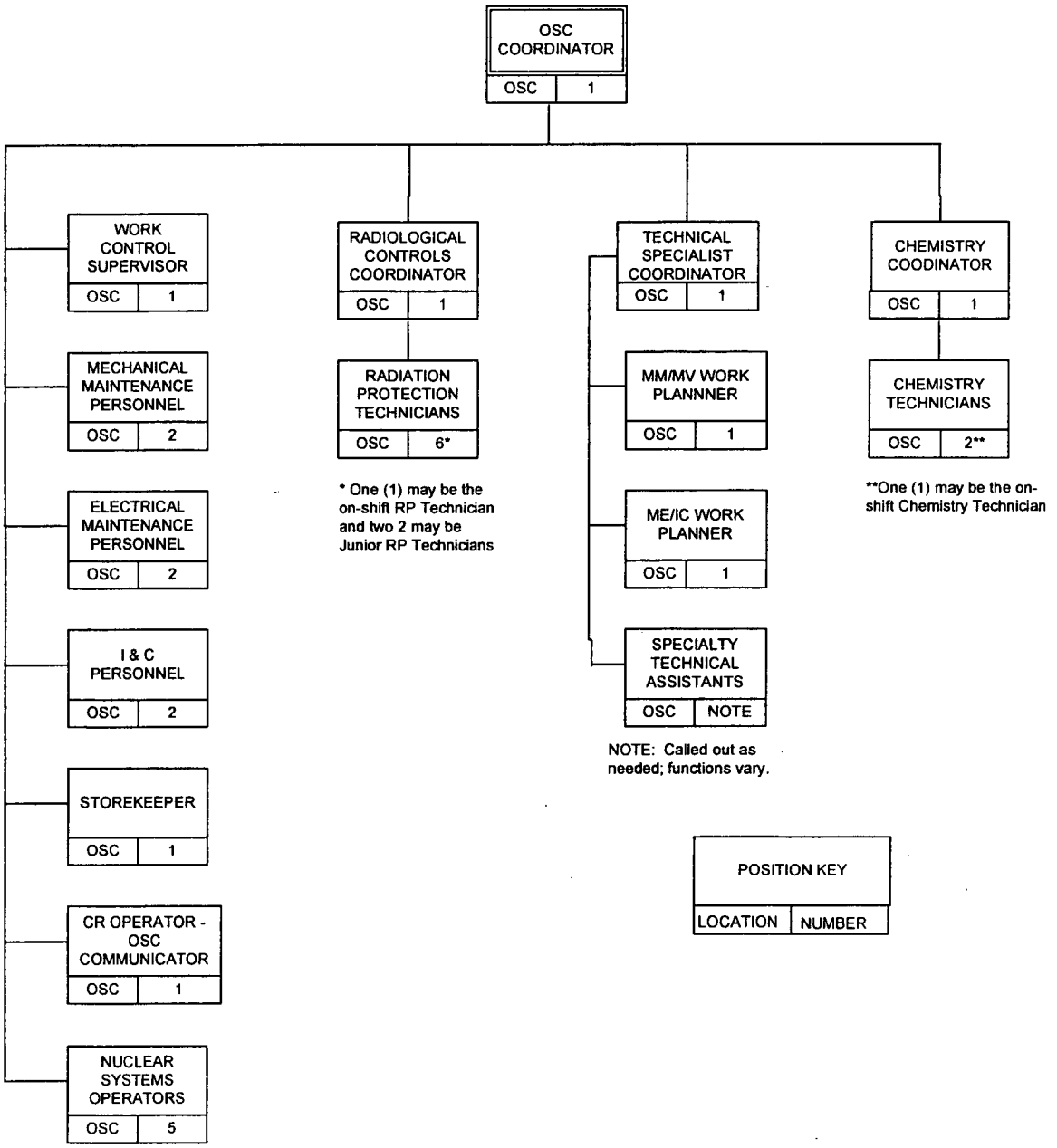
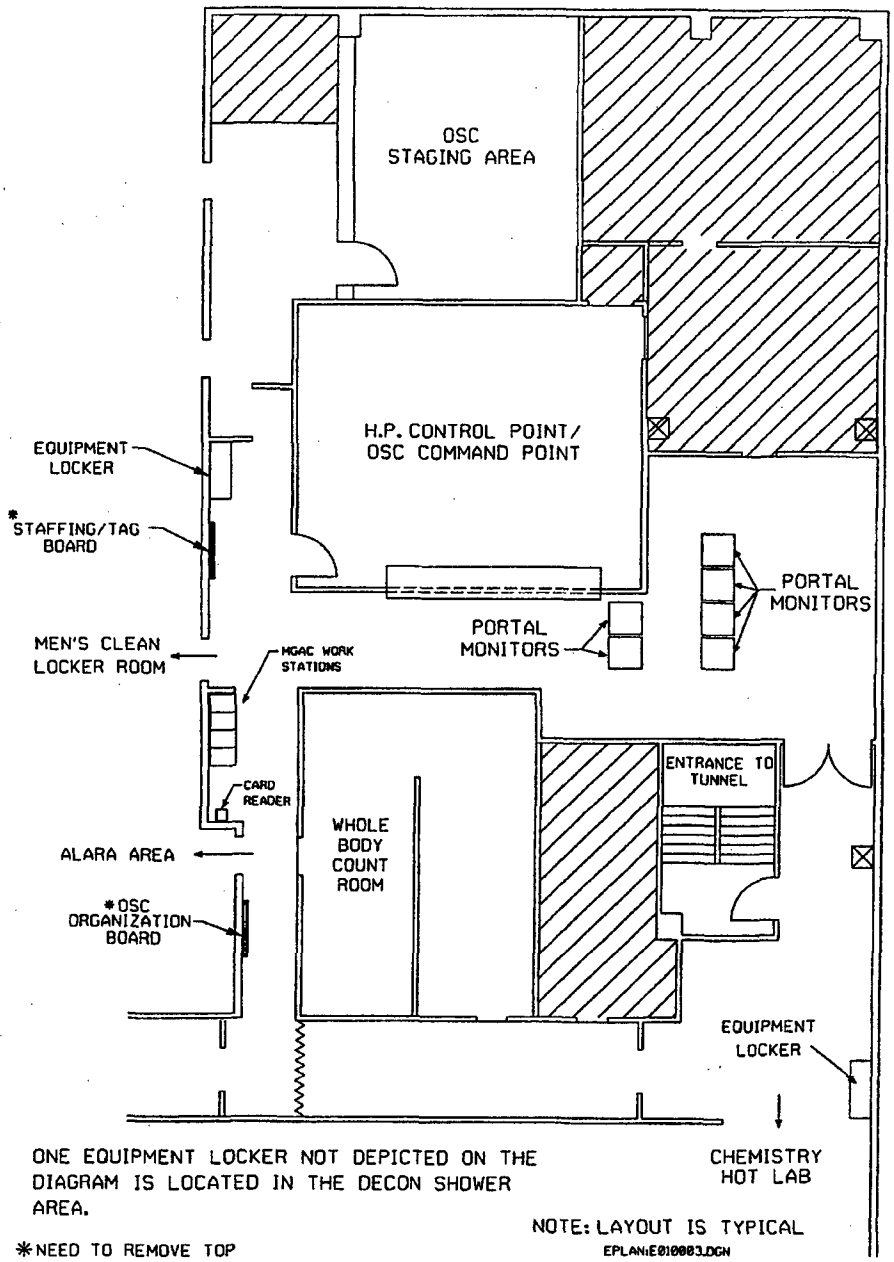


FIGURE 2
OPERATIONAL SUPPORT CENTER (OSC) AREA



ONE EQUIPMENT LOCKER NOT DEPICTED ON THE DIAGRAM IS LOCATED IN THE DECON SHOWER AREA.

*NEED TO REMOVE TOP COVER BOARD

EPLAN\E010003.DGN
5/4/04

FIGURE 3
HP CONTROL POINT/OSC COMMAND POINT
(Typical)

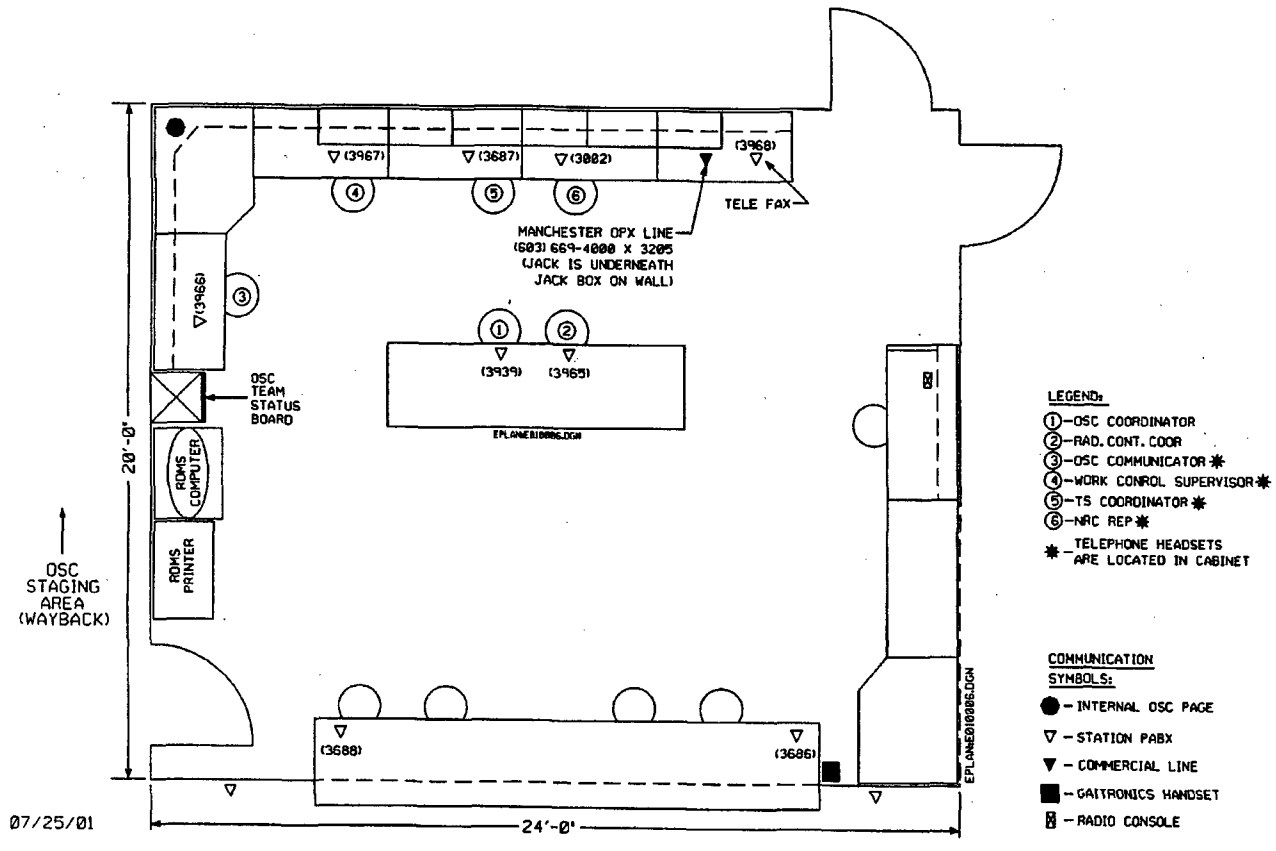


FIGURE 4
OSC TAGBOARD ASSIGNMENTS

Initial

1. Radiation Protection Technician #1

   a. Remove the cover boards to the following mounted facility boards: OSC Organization (Roster) Board, Team Status Board and Staffing/Tag Board. _____

   b. Sign in on board and take tag. _____

   c. Obtain clipboard with form ER 3.3M, showing OSC positions followed by blank copies of form ER 3.3M, and place at the HP checkpoint entrance. _____

   d. Remove the Emergency Response position tote boxes and place them at their assigned locations per Figure 3. _____

   e. Perform phone checks.

   f. Obtain site maps from the RP Supervisor's office; post them on the HP count room door. _____

   f. Bring tag back to tagboard and put tag in the complete column on board. Sign off the "completed" signature. _____

   g. Remain on standby in HP Operations area. _____

2. Radiation Protection Technician #2

   a. Sign in on board and take tag. _____

   b. Obtain an air sampler and survey meters as necessary from the emergency locker. _____

   c. Check operability of instrumentation. Perform battery/response check on instrumentation if not done in past 24 hours. _____

   d. Verify habitability of the OSC following normal survey procedures. _____

   e. Bring tag back to tagboard and put tag in the complete column on board. Sign off the "completed" signature. _____

   f. Remain on standby in HP Operations area. _____

FIGURE 4
OSC TAGBOARD ASSIGNMENTS
(Continued)

Initial

3. Radiation Protection Technician #3

a. Sign in on board and take tag. _____

b. Obtain emergency dosimetry equipment (whole body and extremity TLDs) from the emergency locker. _____

c. Set up a Dosimetry Issue station with forms and equipment. Issue dosimetry in accordance with Supplemental Material 01-02, OSC Dosimetry Issue Actions. _____

> NOTE
>
> During normal operations, electronic dosimeters for the EOF will be maintained at the EOF. During outages, collect the electronic dosimeters for the EOF from the supplies at the HP Control Point.

d. During an outage, fill the EOF emergency dosimetry tote with 100 DMC 2000 electronic dosimeters and arrange to transport it to the EOF immediately. _____

e. Check OSC responders to ensure they are wearing TLDs. Issue a TLD to any responder who does not have an assigned TLD available on the TLD rack. _____

f. Determine with the Radiological Controls Coordinator if special dosimetry (e.g., extremity TLDs) is needed for specific assignments. If it is needed, contact the Dosimetry Records personnel in the EOF to coordinate assignment of special dosimetry to personnel requiring it. _____

g. Bring tag back to tagboard and put tag in the complete column on board. Sign off the "completed" signature. _____

h. Maintain the Dosimetry Issue station. _____

i. If a worker arrives at the OSC with a TLD and ED issued at the EOF, do the following:

1) If the worker is a qualified Seabrook Station radiation worker, direct the worker to obtain the worker's assigned TLD from the HP Point TLD rack. _____

2) Take possession of the EOF-assigned TLD and set it aside for later return to the EOF. _____

3) Process the worker per Supplemental Material 01-02. _____

FIGURE 4
OSC TAGBOARD ASSIGNMENTS
(Continued)

Initial

3. Radiation Protection Technician #3 (con't)

4) Record any transit dose from the EOF issued ED and turn the ED off. issued ED. _____

5) Contact the Dosimetry Records Personnel in the EOF, provide the EOF-issued TLD number and the transit dose recorded from the EOF _____

6) Inform the Dosimetry Records Personnel that the TLD and ED will be retained at the OSC for later return to the EOF. _____

4. Chemistry Technician #1

a. Sign in on board and take tag. _____

b. Go to chemistry lab and initiate lab set-up. Obtain additional instructions from the Chemistry Coordinator. _____

c. Request the RCC to provide RP support to establish radiological boundaries in the chemistry lab per CS0925.10, Figure 4, Preparation for Post Accident Sampling. _____

d. Discuss post-accident sampling activities with the Chemistry Coordinator to determine if the initial conditions identified in CS0925.02, Post-Accident Activity, have been met. _____

e. Obtain field copies of the following applicable procedures and provide them to the Chemistry Coordinator to prepare them for the job briefings _____

- CS0925.01 or CS0925.16 for PASS sampling
- CS0925.07 for Plant Vent (WRGM) Sampling or for CGC Sampling

f. Obtain O&M radios for team use and check radio communications with the Control Room and with the HP Control Point. _____

g. Request RP to source check appropriate survey meters (e.g., RO-2, RO-7, extender type instrument) required for sample collection coverage. _____

h. Provide the name of each sampling team member to the RCC to initiate dose extensions per emergency RWP 16. _____

FIGURE 4
OSC TAGBOARD ASSIGNMENTS
(Continued)

4. Chemistry Technician #1 (con't)

   i. Obtain appropriate sample collection hardware identified in the applicable procedures from the dedicated inventory in the chemistry laboratory. _____

   j. Notify the Chemistry Coordinator when sampling team preparation is complete and continue with laboratory preparation as necessary. DO NOT delay the sampling team briefing due to laboratory preparations being incomplete. _____

   k. Participate in the sampling team briefing by the Chemistry Coordinator. _____

   l. Obtain a radiological briefing from the Radiological Controls Coordinator. _____

   m. Complete laboratory preparation for receipt of samples per applicable procedure (e.g., CS0925.04, CS0925.08, etc.). _____

   n. Return the tag. Sign-off the completed signature. _____

FIGURE 5
TEAM STATUS BOARD

OSC TEAM STATUS BOARD				
TEAM NO./ID	TEAM DESTINATION	TIME DISPATCHED	TIME RETURNED	MISCELLANEOUS INFORMATION

FIGURE 6
EMERGENCY ONSITE RADIOLOGICAL SURVEYS

The following instructions should be followed unless otherwise directed by the Radiological Controls Coordinator (RCC). Use standard radiological survey forms to document in-plant survey results.

A. IN-PLANT SURVEYS

1. Radiation/Contamination Surveys

   a. Consider the use of a extender-type instrument over other types of hand-held instruments.

   b. Whenever handling samples, obtain a contact dose rate and a dose rate at 30 centimeters.

   c. Use extension on survey instrument when possible.

   d. Start with instrument on highest scale and switch downward when entering areas of unknown radiation level.

   e. Check dose rates on contamination samples and take care to prevent the spread of contamination.

   f. Contact the RCC prior to entry into areas with a dose rate greater than 10 rem/hr, unless a lower dose rate was specified in the Operational Support Center (OSC) briefing.

   g. Use an RO2, RO2A or equivalent when beta dose rate surveys are necessary.

      (1) Beta correction factors may change due to accident conditions.

      (2) Check with the RCC for an appropriate beta correction factor to use.

2. Air Sampling

   a. Use iodine specific cartridges (e.g., silver zeolite) instead of charcoal.

   b. Do not use Silver Zeolite cartridges in explosive environments.

   c. Consider running air sampler for a shorter time than normal when high airborne levels are expected. Use dose rates on sample when practicable to limit sample time.

   d. Take noble gas samples when requested, in small volume geometry sample size (e.g., 10 ml).

   e. Check dose rates on samples and keep samples at a distance when necessary.

FIGURE 6
EMERGENCY ONSITE RADIOLOGICAL SURVEYS
(Continued)

3. Sample Transport

a. Bag samples and keep samples at a distance when possible. Count noble gas samples as soon as possible to account for short-lived isotopes.

b. Any sample (i.e., other than PASS samples) reading greater than 10 R/hr (i.e., gamma) on contact should not be transported back to the administration building without contacting the RCC first.

4. Sample Analysis

a. Purge iodine sample cartridges (charcoal, Ag Ze) that read more than 5 mR/hr on contact (i.e., gamma R02) in Chemistry fume hood for at least 5 minutes.

b. Count any sample reading greater than 5 mR/hr gamma on contact in the Chemistry post-accident counting system.

c. Request Chemistry to check radioiodine cartridges for sample breakthrough by doing a front-to-back ratio.

d. Use the following methods for quick analysis of iodine cartridges based on sample activity.

(1) Place a frisker probe on the collection face of the cartridge and determine corrected counts per minute (ccpm). Use a counting efficiency of 0.0025 counts/disintegration to determine sample activity.

$$\text{I-131 } \mu\text{Ci/cc} = \frac{\text{Net cpm}}{(0.0025 \text{ c/d})(\text{Vol Ft}^3)(28{,}320 \text{ cc/ft}^3)(2.22 \text{ E+6 dpm}/\mu\text{Ci})}$$

(2) For higher activity samples place an R02 or R02A on the collection face of the cartridge open window. Use the dose rate conversion of 0.5 mR/hr/μCi to determine sample activity.

$$\text{I-131 } \mu\text{Ci/cc} = \frac{\text{Net (mR/hr)}}{(.5 \text{ mR/hr}/\mu\text{Ci})(\text{Vol. ft}^3)(28{,}320 \text{ cc/ft}^3)}$$

e. Otherwise, count samples on the HP gamma spectrometry counting system in accordance with Radiation Protection Department procedures.

FIGURE 6
EMERGENCY ONSITE RADIOLOGICAL SURVEYS
(Continued)

B. OUT-OF-PLANT SURVEYS

1. Radiation Surveys

a. Radios for use outside the protected area are stored in the Assembly Area (Seabrook Conference Center).

b. Use Figure 7, Protected Area Survey Map, Figure 8, Site Layout, or Figure 9, Site Boundary, as applicable to identify location of readings.

c. Normally use an RO2 or RO2A type instrument.

d. Take open window and closed window readings.

e. A higher open-window-to-closed-window reading will indicate ground level cloud.

f. When requested by the RCC, scan a square meter about two inches above ground for highest open window/closed window reading to indicate ground deposition.

g. Perform smear surveys as directed by the RCC.

2. Air Sampling

a. Using the battery operated portable air sampler (i.e., Radeco Model H809B2), take air sample in accordance with §A.2 of this figure.

b. Use the protected area survey map, the site area survey map or the site boundary survey map as applicable to identify location of samples.

c. Check dose rate on samples and transport back to Chemistry or RP counting room in accordance with §A.3 of this figure.

3. Other Samples

a. Snow samples are taken in accordance with ER 5.2, Site Perimeter and Offsite Monitoring and Environmental Sampling.

b. Vegetation samples are taken in accordance with Radiation Protection Department procedures.

FIGURE 6
EMERGENCY ONSITE RADIOLOGICAL SURVEYS
(Continued)

C. SAMPLE INVENTORY AND CONTROL (Protected: Ref. 6.13)

1. Air Samples

   a. Save air samples with activity concentration greater than 10 DAC iodine/particulate or 1000 DAC noble gas.

   b. Store samples as directed by the RCC.

   c. Dispose of samples greater than seven days old or as directed by the RCC.

   d. Log sample disposition on Figure 11, Emergency Sample Log, using air sample number.

2. Other Samples

   a. Save other samples such as smears, vegetation, snow, etc., as directed by the RCC.

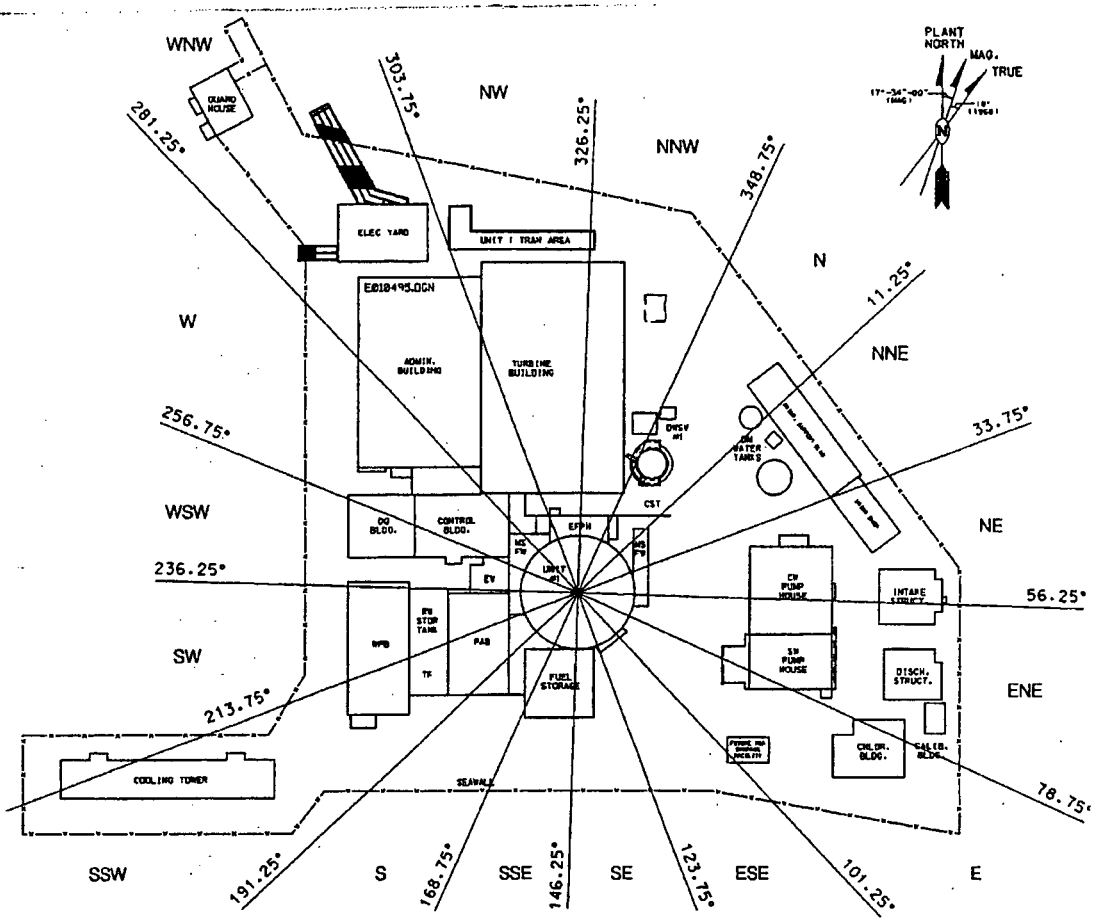
   b. Assign a sequential number to each sample (e.g., S1, S2) and place number on RAM tag.

   c. Store samples as directed by the RCC.

   d. Dispose of samples as directed by the RCC.

   e. Log sample disposition on Figure 11.

FIGURE 7
PROTECTED AREA SURVEY MAP



No.	ACTIVITY	No.	ACTIVITY	No.	ACTIVITY	No.	ACTIVITY	No.	ACTIVITY

FIGURE 7
PROTECTED AREA SURVEY MAP
(Continued)

GUIDELINES FOR COMPLETING RADIOLOGICAL SURVEY MAPS

Indicate radiation readings and smear locations in appropriate areas of the map using the following notations:

Dose Rates	- assumed mR/hr unless otherwise noted
Smears	- the smear number in a circle
Beta	- the reading noted as mrad/hr
Neutron	- reading followed by an N (assumed mrem/hr unless otherwise noted)
Contact	- reading noted with an *
Alpha Smear	- α symbol in activity column
Contamination Area Boundaries	- noted by dashed lines ------

Record smear number and activity. Activity is assumed to be in units of DPM/100 cm^2 unless otherwise noted.

FIGURE 8
SITE LAYOUT

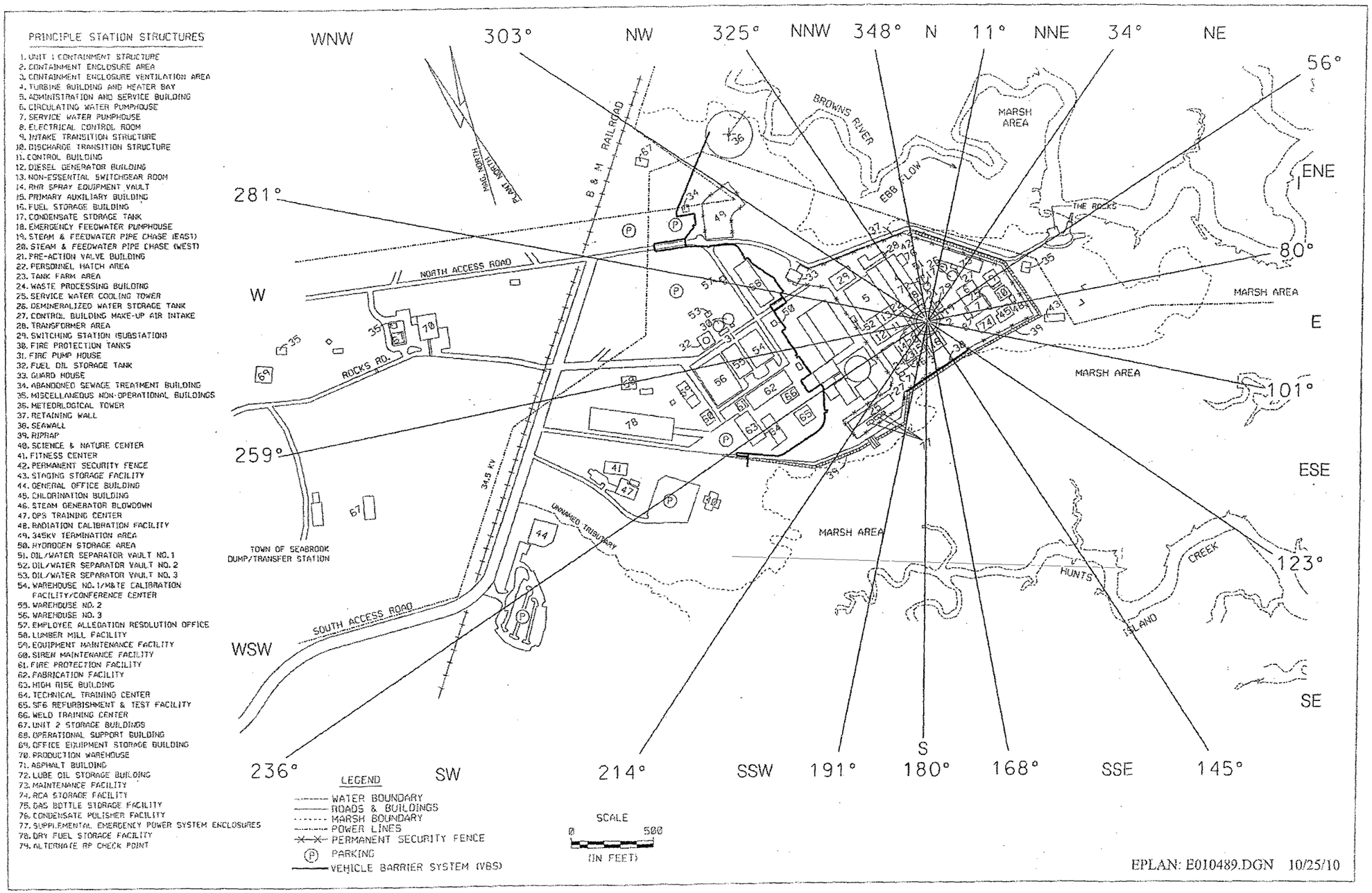


FIGURE 8
SITE LAYOUT
(Continued)

GUIDELINES FOR COMPLETING RADIOLOGICAL SURVEY MAPS

Indicate radiation readings and smear locations in appropriate areas of the map using the following notations:

Dose Rates	- assumed mR/hr unless otherwise noted
Smears	- the smear number in a circle
Beta	- the reading noted as mrad/hr
Neutron	- reading followed by an N (assumed mrem/hr unless otherwise noted)
Contact	- reading noted with an *
Alpha Smear	- α symbol in activity column

Contamination Area Boundaries - noted by dashed lines ------

Record smear number and activity. Activity is assumed to be in units of DPM/100 cm^2 unless otherwise noted.

FIGURE 9
SITE BOUNDARY

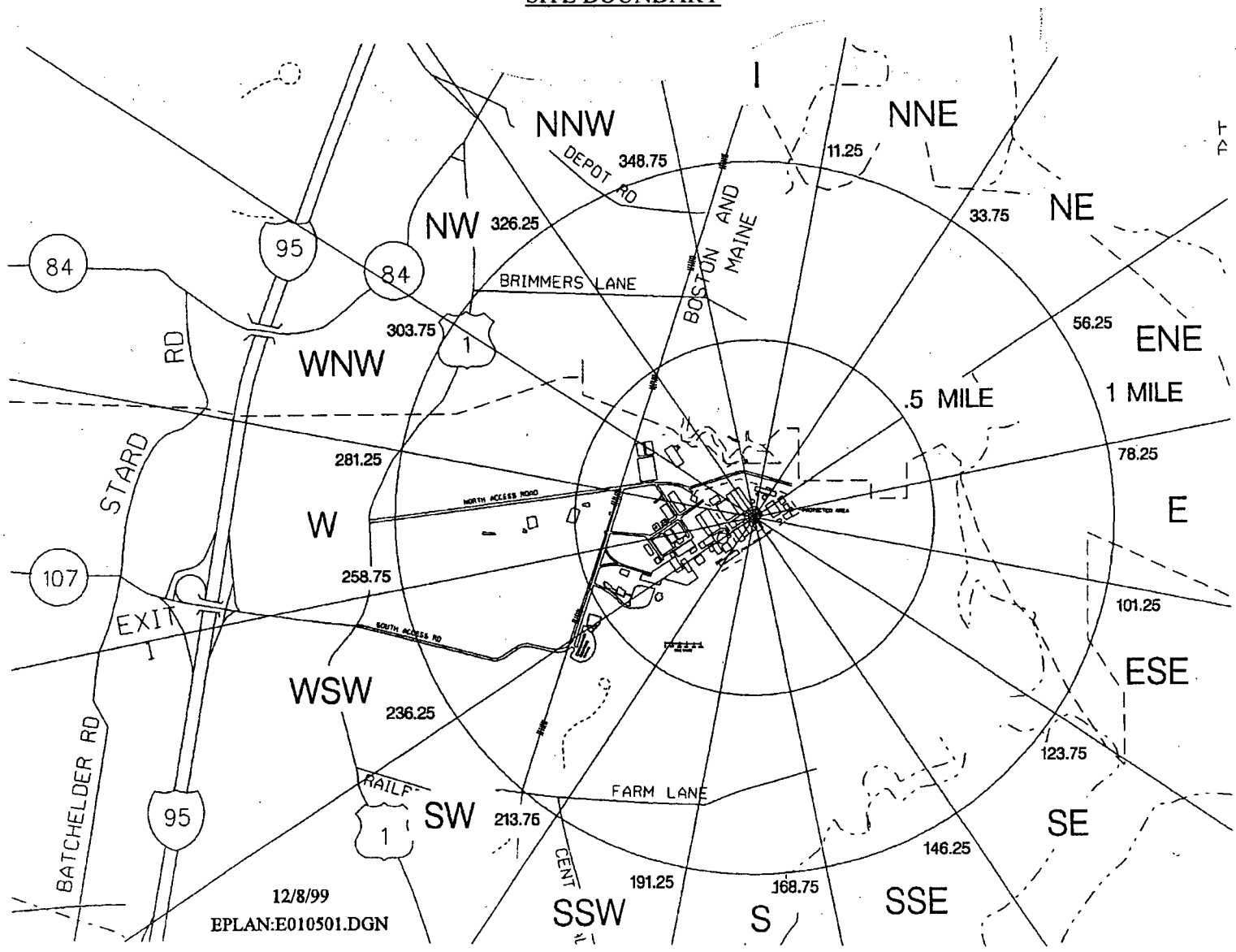


FIGURE 9
SITE BOUNDARY
(Continued)

GUIDELINES FOR COMPLETING RADIOLOGICAL SURVEY MAPS

Indicate radiation readings and smear locations in appropriate areas of the map using the following notations:

Dose Rates	- assumed mR/hr unless otherwise noted
Smears	- the smear number in a circle
Beta	- the reading noted as mrad/hr
Neutron	- reading followed by an N (assumed mrem/hr unless otherwise noted)
Contact	- reading noted with an *
Alpha Smear	- α symbol in activity column

Contamination Area Boundaries - noted by dashed lines ------

Record smear number and activity. Activity is assumed to be in units of DPM/100 cm^2 unless otherwise noted.

FIGURE 10
UNIT 1 LOCATION REFERENCE DRAWING

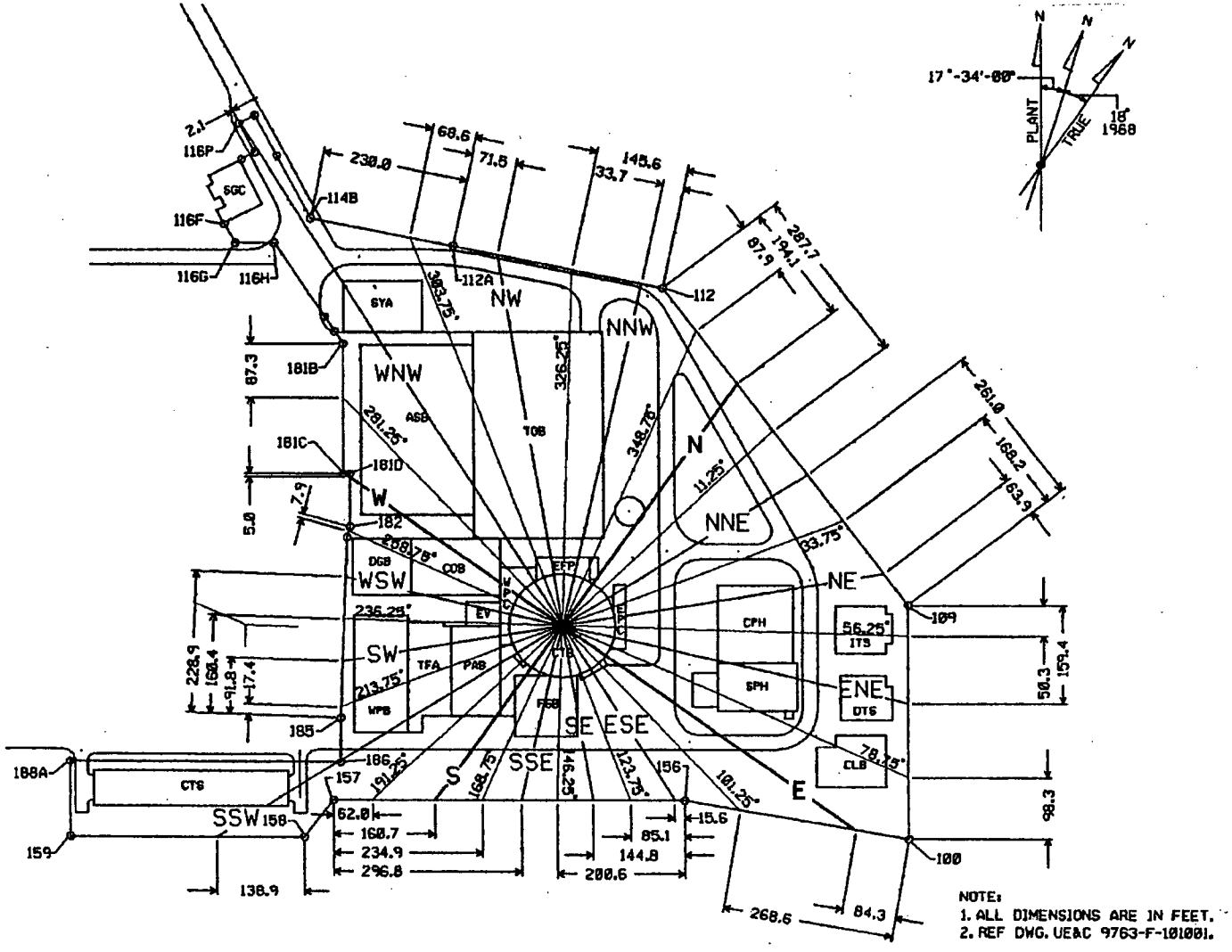


FIGURE 11
EMERGENCY SAMPLE LOG

Sample No.	Type of Sample	Date of Sample	Storage Location	Date Disposed

Figure 12
Summary of Changes
(Sheet 1 of 3)

Rev. 44:

On Figure 1, OSC Staffing Chart, added positions of Mechanical/Valve Maintenance Work Planner and Electrical Maintenance/I&C Work Planner. (AR#004611).

On Figure 4, OSC Tagboard Assignments, corrected the order of actions for RP Technician #1, revised the Chemistry Technician #1 actions to correspond better to PASS sample procedures, and added place keeping spaces on the figure. Removed references to specific brand of radiation monitor extender. AR#215219 and AR#216597)

On form ER 3.2B, Radiological Controls Coordinator Checklist, revised the NOTE re: location of radios for use outside of the PA to identify their location in the Assembly Area. Also changed reference to location of the radios in Figure 6, §B.1. (AR#219941)

On form ER 3.2C, revised the Chemistry Coordinator Checklist to add references to applicable Chemistry Department procedures and to address various WRGM operational and contingency actions. (AR#392135)

On form ER 3.2E, added guidance to the Technical Specialist Coordinator Checklist for providing direction to the new OSC Work Planner positions. (AR#004611)

Rev. 43:

Revised Figure 4, OSC Tagboard Assignments, to delete actions for RP Technician #3 pertaining to preparing electronic dosimeter for delivery to the TSC. TSC dosimeters have been relocated from the OSC to the TSC. Deleted an associated step in the RCC checklist (ER 3.2B). (AR 6349)

Added a NOTE in §5 of form ER 3.2A, OSC Coordinator Checklist, indicating that the Technical Specialist Coordinator and Radiological Controls Coordinator are the qualified OSC positions to operate the OSC base radios and that they should be assigned to operate the radios until another OSC position holder can be briefed and assigned to operate them. (AR 6332)

Added a new §6, Loss of Offsite Power, to form ER 3.2A containing directions to assign personnel to start the telephone diesel generator and the GOB diesel generator. (AR 2201)

On from ER 3.2C, Chemistry Coordinator Checklist, corrected the EAL reference concerning RCS activity levels determined per chemistry procedure CS0925.01 and removed the requirement to obtain TSC permission to deploy sampling teams requested by the TSC.

Rev. 42:

Revised Figure 8, Site Layout, to show locations of the Dry Fuel Storage Facility, Condensate Polisher Structure, Alternate HP Checkpoint, and SEPS. (CR 06-10369)

Figure 12
Summary of Changes
(Sheet 2 of 3)

Rev. 41:

In Figure 4, corrected instructions for RP Technician #3 concerning disposition of an EOF issued electronic dosimeter and providing transit dose information to the EOF and corrected dose rate reference in step 3.f(2). (CR 07-04310 and CR 07-09549))

Added a new form ER 3.2J, SBK Access Levels (RALs). (CR 07-01182)

On form ER 3.2A, OSC Coordinator Checklist, added a reference to form ER 3.2J.

On form ER 3.2F, Emergency Team Briefing/Debriefing Form, added a reference to form ER 3.2J and added an instruction to review the five activity preview questions with team members prior to deployment. (CR 07-01182)

Rev. 40:

On reverse side of cover page, added an Operational Support Center Responder Action Summary. This page summarizes responder actions per emergency classification levels and security events. (CR 05-10703).

On Figure 4, OSC Tagboard Assignments, Radiation Protection Technician #3, deleted instructions for manually recording ED dose information and referred to use of Sentinel to capture dose information.

On Figure 4, OSC Tagboard Assignments, Chemistry Technician #1, added instructions for setting up the chemistry lab and making preparations for post-accident sampling. (CR 06-08456)

On form ER 3.2A, OSC Coordinator Checklist, added an instruction to contact the SSS or CAS Operator if access level upgrades are required for OSC team members. (CR 06-08464)

On form ER 3.2A, added an instruction to assign an available OSC responder to monitor Operations and Radiation Protection radio communications in the OSC. (CR 06-08456)

On form ER 3.2B, added an activation step to the Radiological Controls Coordinator checklist to activate the emergency RWP if radiological conditions warrant its use. (CR 06-07027)

On form ER 3.2B, added guidance concerning use of SCBAs for response team members assigned to enter airborne fields under failed fuel conditions. (CR 06-03119)

On form ER 3.2B, revised instructions for recording YTD exposure data for each team member to refer to obtaining this data from Sentinel.

Rev. 39:

In Figure 4, OSC Tagboard Assignments, incorporated instructions for Health Physics Technician #3 to manually enter dose information in Sentinel Rad Access Module.

On form ER 3.2B, Radiological Controls Coordinator Checklist, incorporated a reference to instructions in ER 4.3, §5.1.2, for entering administrative dose extensions in Sentinel.

Figure 12
Summary of Changes
(Sheet 3 of 3)

Rev. 38:

In §3.0, added a precaution to prohibit use of radios or cell phones by repair teams deployed into the plant if the event involves a bomb threat in the plant. (CR 05-07566)

Rev. 37:

Throughout, changed badge instructions to reflect new ERO position badges.

In Figure 4, OSC Tagboard Assignments, revised HP Technician #3 instructions to reflect maintenance of EOF electronic dosimeters at the EOF except during outages.

OSC COORDINATOR CHECKLIST

INITIAL

1. ACTIVATION

a. Obtain the OSC Coordinator emergency materials tote-box from the OSC emergency equipment cabinet. _____

b. Clip on the position badge. Do not obscure your station badge. _____

c. Check workstation telephone for operability. _____

d. Contact the Maintenance Coordinator in the TSC to determine the emergency classification, general Station status and priorities for OSC tasks. (Protected: Ref. 6.15) _____

e. Direct that appropriate personnel be available to unlock tool cribs and issue tools. _____

f. Ensure that OSC tagboard assignments are in progress, or have been completed (refer to Figure 4). _____

g. Using the OSC page system, direct all personnel to sign in on the OSC organization board and form ER 3.3M, ERO Staff Planning, and card in at the card reader. _____

h. In the event that more than the required number of individuals are available to fill a given position, determine which individual(s) shall remain in the OSC to serve as the position holder(s). All excess personnel should be directed to the Assembly Area (if activated), or to evacuate the site to their homes or Schiller Station. _____

i. Assign Control Room Operators, Supervisory Control Room Operators and Unit Supervisors reporting to the OSC as follows: _____

CROs or SCROs	Unit Supervisors
(1) One (1) to 4 way data link in the Control Room	(1) One (1) as Work Control Supervisor in the TSC
(2) One (1) as OSC Communicator on the 4-way data link in the OSC	(2) One (1) as Work Control Supervisor in the OSC

INITIAL

j. Direct the OSC Communicator to:

(1) Complete form ER 3.2D, OSC Communicator Checklist. _____

(2) Maintain a log using form ER 2.0E, Emergency Facility Log. _____

k. Assess OSC staffing level; the following positions should be filled prior to declaring the OSC activated. _____

(1) OSC Coordinator
(2) Radiological Controls Coordinator
(3) Chemistry Coordinator
(4) Technical Specialist Coordinator
(5) 2 Mechanical Maintenance Personnel
(6) 2 Electrical Maintenance Personnel
(7) 1 I&C Personnel
(8) 5 RP Technicians
(9) 1 Chemistry Technician

l. If it appears that the suggested staffing level for OSC activation (step k above) will not be met within about 60 minutes of emergency declaration, review available staffing with the Maintenance Coordinator to determine if the OSC should be declared activated. _____

m. When ready, declare the OSC activated by OSC page announcement, and notify the Maintenance Coordinator. Record time:_____ _____

n. Maintain a log using form ER 2.0E, Emergency Facility Log. _____

2. ACCOUNTABILITY

a. Verify with the Technical Specialist Coordinator that a runner was dispatched to deliver a completed copy of the form ER 3.3M listing of OSC personnel to the Maintenance Coordinator in the TSC.

b. Maintain accountability for OSC personnel using form ER 3.2F, Emergency Team Briefing/Debriefing Form, and/or the OSC team status board.

3. TEAM FORMATION/DISPATCH

NOTE
In the event that the immediate dispatch of a team is required, all or parts of the team formation and briefing process described below may be suspended on your authority. Examples include the need to perform in-plant actions to prevent imminent core damage, fire brigade responses, dispatching personnel to provide medical assistance, etc. Required documentation shall be completed after the needed immediate actions have been completed.

a. For miscellaneous tasks routinely performed by NSOs, form an NSO team designated to perform these actions. Ensure the team is provided updated RP briefings as it is dispatched. Additional job briefing requirements specified below do not apply to this team.

b. Authorize the Radiological Controls Coordinator to form and deploy radiological survey teams that can be deployed with RP briefings only as they are dispatched.

c. Direct formation of teams as instructed by the Maintenance Coordinator, or as instructions are received by the OSC Communicator.

d. Designate team members and a team leader. Consider recommendations from the Maintenance Coordinator or OSC personnel concerning team composition.

e. If access level upgrades are required for team members, contact the Guard Island Lead Security Officer to obtain a temporary access level authorization. Refer to form ER 3.2J for SBK Access Levels (RALs).

f. Complete form ER 3.2F, Emergency Team Briefing/Debriefing Form (may be delegated).

g. Brief the team (may be delegated) regarding:

(1) Information from form ER 3.2F

(2) Repair and corrective action information provided by the Technical Specialist Coordinator

(3) Communication instructions, including

(a) Primary and backup means of communications

(b) Frequency of communications

(c) Any special techniques, precautions or protocols

(4) Special search and rescue instructions, as necessary

(a) Name of missing, stranded or disabled individual

(b) Location where individual was last seen or reported

(c) Expected location of individual

(d) Conditions restraining the individual's mobility (e.g., plant structures, equipment, water, fires, radiation levels)

(e) Medical condition of individual

(f) Conditions restricting the search and rescue of the individual

(g) Instructions to keep team in voice or visual contact

h. When teams are ready for dispatch, deploy the teams unless directed otherwise by the TSC. Inform the TSC via the 4-way data link of deployment and current status.

> NOTE
>
> The OSC Coordinator may redirect an already deployed team to another task if
> 1. the primary task for which the team was deployed has been completed satisfactorily,
> 2. no radiological or other safety hazard exists in the area where the team is deployed,
> 3. the task is relatively simple and clearly explained, and
> 4. the Maintenance Coordinator is informed of the redeployment and its purpose.

i. Debrief the team (may be delegated)

(1) Use form ER 3.2F, Emergency Team Briefing/Debriefing Form, to document information from team members.

(2) Provide pertinent debriefing information to the Maintenance Coordinator, Radiological Controls Coordinator and Technical Specialist Coordinator.

j. Personnel dispatched to non-Radiologically Controlled Areas (RCA) with no release in progress.

(1) Personnel dispatched to non-RCAs (e.g., stores/warehouse)

(a) Complete form ER 3.2F, Emergency Team Briefing/Debriefing Form.

(b) Ensure the OSC team status board is updated.

(2) Personnel re-assigned to other facilities (e.g., TSC)

(a) Inform destination facility of personnel being dispatched.

(b) Using form ER 2.0E, log name, destination, purpose and time dispatched from the OSC.

(c) Instruct personnel to sign in on destination facility ERO Staff Planning form ER 3.3M, and inform the OSC of arrival.

(d) Remove names of personnel from OSC form ER 3.3M and OSC Organization Board.

4. PLANT STATUS

a. Establish a briefing schedule with the Maintenance Coordinator (e.g., on the half hour, etc.) to avoid trying to contact one another during scheduled facility briefings in the OSC and TSC.

b. Provide periodic OSC and team status updates to the Maintenance Coordinator. (This task may be delegated to the Technical Specialist Coordinator.)

c. Request periodic event and response status updates from the Maintenance Coordinator. (This task may be delegated to the OSC Communicator.)

d. Provide periodic event updates/briefings to OSC personnel. Consider holding a briefing:

(1) Every 30 minutes or at intervals agreed to with the Maintenance Coordinator
(2) Following a significant change in accident conditions
(3) Following a change in the emergency classification level
(4) Following a significant change in radiological conditions
(5) Following a change in response status or priorities

e. Conduct OSC staff briefings with the following format in mind:

(1) **B**eginning: This is a brief
(2) **R**eview: Discuss what has happened in a brief sequence of events
(3) **I**nput: Does anyone have any questions or anything to add
(4) **E**xpectations: Where are we going, what are the concerns, what are our priorities
(5) **F**inish: The brief is over

5. STAFFING AND EQUIPMENT NEEDS

   a. Direct requests for additional staffing or equipment resources to the Maintenance Coordinator.

> NOTE
>
> The Technical Specialist Coordinator and the Radiological Controls Coordinator are the OSC positions qualified by ERO training to operate the OSC base radios. Assign either position to operate the base radios as necessary to communicate with deployed teams until they brief another OSC position to operate the radios.

   b. Assign an available OSC responder to monitor Operations and Radiation Protection radio communications to record reports from teams made via radio and to ensure response to team requests via radio.

6. LOSS OF OFFSITE POWER

   a. In the event of a loss of offsite power, assign an NSO to start the telephone diesel generator per ON1050.02, Operation of the Emergency Generator for the Site Telephone System. Ensure that an adequate fuel supply is available to maintain diesel operation.

   b. Direct the Technical Specialist Coordinator to call in Maintenance Services personnel to monitor operation of, and start if necessary, the GOB diesel generator required for operation of the LAN system and to ensure an adequate fuel supply is available to maintain operation of the GOB diesel.

7. EVACUATION

   a. Notify the Maintenance Coordinator when evacuation of the OSC is required and discuss where the OSC should be relocated.

> NOTE
>
> Consider using an area on the 75-foot level of the Control Building. Depending on radiological conditions, other areas may be utilized.

   b. Review the OSC organization size with the Maintenance Coordinator and determine what staff should relocate to the new OSC and what staff should evacuate to the Emergency Operations Facility (EOF).

   c. Review protective measures with the Radiological Controls Coordinator prior to directing the evacuation process.

d. Announce evacuation of the OSC and relocation instructions. Ensure all in-plant and onsite teams are informed of the evacuation.

e. Coordinate and direct the evacuation of selected OSC staff to the new OSC location.

f. Ensure all documentation is moved to the new OSC location.

g. Verify that selected personnel have reported to the new OSC location.

8. DEACTIVATION

Submit all OSC emergency documentation to the Administrative Services Coordinator.

RADIOLOGICAL CONTROLS COORDINATOR CHECKLIST

INITIAL

1. ACTIVATION

   a. Obtain the RCC emergency materials tote-box from the OSC emergency equipment cabinet. _____

   b. Clip on the position badge. Do not obscure your station badge. _____

   c. Sign in on form ER 3.3M, ERO Staff Planning, and card-in at card reader. _____

   d. Check workstation telephones for operability. _____

   e. Obtain a briefing from the OSC Coordinator. _____

   f. Assist/direct the implementation of the OSC tagboard assignments listed in Figure 4. _____

   g. Confer with the Health Physics Coordinator concerning existing and expected radiological conditions, and appropriate protective measures. _____

   h. If radiological conditions warrant its use, activate the emergency plan RWP. _____

   i. Maintain a log using form ER 2.0E, Emergency Facility Log. _____

2. TEAMS

   a. If additional RP support is required to assist with the preparation and briefing of teams, contact the Maintenance Coordinator in the TSC and request that appropriate personnel from the Assembly Area be dispatched to the OSC.

   b. As warranted by event conditions, request the OSC Communicator to inform the Control Room and the Central Alarm Station (CAS) of any special radiation protection precautions to be observed by the on-shift NSOs or Security personnel.

   c. Provide radiological data for team briefings. This includes appropriate entries on form ER 3.2F, Emergency Team Briefing/Debriefing Form.

NOTE

The OSC Coordinator may designate a team of NSOs to perform miscellaneous tasks of a routine nature and authorize deployment of radiological survey teams. These teams will be exempt from the prescribed OSC team briefing requirements, but will require updates on radiological conditions as they are dispatched.

(1) Available RDMS data.

(2) Available inplant survey data including information from previous team debriefings.

(3) Obtain latest Year to Date (YTD) exposure on each team member from Sentinel and enter it on form ER 3.2F, Emergency Team Briefing/Debriefing Form. (Protected: Ref. 6.10)

(4) Access and egress routes, and stay times, as necessary.

(5) Protective clothing, dosimetry, respiratory protection and other special requirements.

(6) ALARA input.

(7) Emergency exposure authorization as necessary, per Procedure ER 4.3, Radiation Protection During Emergency Conditions. Enter administrative dose extensions in Sentinel System Configuration Module in accordance with ER 4.3, §5.1.2.

(8) Provide Potassium Iodide (KI) issuance guidance and appropriate exposure control practices per Procedure ER 4.3, Radiation Protection During Emergency Conditions.

d. When entry into airborne fields with failed fuel is necessary and actual air sample data is not available, direct response team members to wear SCBAs consistent with the requirements of procedure HN0960.03.

e. For debriefing, obtain information from team and record on form ER 3.2F, Emergency Team Briefing/Debriefing Form. Ensure individual exposure records are updated.

f. If a release is in progress or suspected, request the OSC Coordinator to obtain TSC approval for dispatch of an onsite survey team. Refer to Figure 6, Emergency Onsite Radiological Surveys.

> NOTE
>
> Radios for use outside the protected area are stored in the Assembly Area (Seabrook Station Conference Center).

3. EVACUATION OF SITE

a. If site personnel are being directed to evacuate to the Remote Monitoring Area at Schiller Station for monitoring, confer with the Health Physics Coordinator concerning assignment of a least two Radiation Protection Technicians to activate the Remote Monitoring Area and supervise monitoring and decontamination team(s).

b. Contact the Assembly Area Coordinator and request deployment of radiation workers to Schiller Station to assist with Remote Monitoring Area operations.

c. Brief RP Technicians assigned to the Remote Monitoring Area on radiological release conditions and any special precautions.

4. HABITABILITY

a. Brief OSC personnel on prohibitions against eating and drinking while a release is in progress. (Ref. 6.15)

b. Direct Radiation Protection support to periodically survey and verify habitability of the OSC, Secondary Alarm Station (SAS), Assembly Area and Guard Island, as necessary.

c. Establish access control measures, as necessary.

d. Coordinate establishment of contamination controls (e.g., step-off pads at Administration Building and the Control Room entrances, control of potentially affected drinking water and food supplies) with the HPC. (Protected: Ref. 6.15)

5. STAFFING/EQUIPMENT NEEDS

Direct requests for additional staffing or equipment resources to the Maintenance Coordinator.

6. OSC EVACUATION

   a. In the event that the OSC radiological conditions exceed the evacuation limits of Procedure ER 4.3, Radiation Protection During Emergency Conditions, inform the OSC Coordinator that the center must be evacuated.

   b. Recommend possible areas for relocating OSC operations to the OSC Coordinator.

NOTE
Consider using an area on the 75-foot level of the Control Building. Depending upon radiological conditions, other areas may be utilized.

   c. Establish the best egress route for the OSC staff.

   d. Direct Radiation Protection personnel regarding the supplies and equipment that should be moved.

   e. Notify Dosimetry Records Personnel at the EOF that the exposure record keeping function is being transferred to the EOF.

   f. Coordinate contamination control measures for Control Room entry with the HPC in the TSC for those personnel requested to report to the 75-foot level of the Control Building.

   g. Accompany the OSC staff during the evacuation and provide Health Physics coverage.

7. DEACTIVATION

Submit all emergency documentation to the OSC Coordinator.

CHEMISTRY COORDINATOR CHECKLIST

INITIAL

1. ACTIVATION

   a. Sign in on form ER 3.3M, ERO Staff Planning, and card-in at card reader. ____

   b. Obtain the Chemistry Coordinator emergency materials tote-box from the OSC emergency equipment cabinet. ____

   c. Clip on the position badge. Do not obscure your station badge. ____

   d. Obtain a briefing from the OSC Coordinator. ____

   e. Maintain a log using form ER 2.0E, Emergency Facility Log. ____

   f. Report to the Chemistry Hot Lab and direct the implementation of Procedure CS0925.10, Preparation for Post-Accident Sampling. ____

   g. Verify operability of the Chemistry lab telephone. ____

   h. Verify power availability to the Count Room, WRGM and Hi Range pump, and determine compensatory measures as needed in accordance with CD0905.10, Response to Electrical Outages/Transients. ____

2. ACCIDENT ASSESSMENT

   a. Contact the Technical Services Coordinator in the TSC to discuss what post-accident samples are required to support accident assessment activities, and their priorities.

   b. Review form ER 3.2G, Post-Accident Contingency Matrix, and identify if any contingency actions for accident assessment are being (or should be) taken by circling on the form. Brief the Technical Services Coordinator in the TSC if any contingency measures have been, or should be, implemented.

   c. As needed direct the Chemistry Technicians to prepare the chemistry lab for post-accident samples per appropriate Chemistry Department procedures.

   d. Determine if any previous analysis had been completed prior to the accident condition as a means of establishing a baseline for future findings.

   e. Determine appropriate times and conditions to obtain post-accident samples, and brief the Chemistry Technicians.

f. Direct when post-accident samples are to be collected:

- ☐ RCS sample/priority _____
- ☐ RHR sample/priority _____
- ☐ CGC sample/priority _____
- ☐ WRGM sample/priority _____

g. Refer to CS0905.10, Chemistry Response to RDMS or Waste Gas Oxygen Monitor Failure or Alarm for Rad Monitors in Alarm.

h. If the WRGM is operable, address/verify WRGM OPS/Contingencies and replace WRGM filters if necessary.

i. If the WRGM is out of service, contact the Health Physics Coordinator and determine if any assistance is required in the use of the backup WRGM or verify contingency plans that are in effect for performing offsite dose assessment (e.g., onsite/offsite field teams).

j. Make a determination whether normal sample methods can be used. Refer to ER 3.2I, RCS/RHR Sample Logic.

k. Notify the OSC Coordinator and TSC Technical Services Coordinator immediately if PASS monitor reading indicates RCS activity levels that exceed the fuel clad barrier loss EAL for RCS activity based on values obtained per CS0925.01 or CS0925.16.

l. Review release data and approve release permits as necessary.

m. Determine which coolant archive sample (RCS or RHR) should be taken and direct sample analysis based on radiation levels.

n. Brief the Technical Services Coordinator on the status of post-accident sampling and analysis.

o. Report sample analysis results to the Health Physics Coordinator in the TSC as they become available. This may include delivering copies of analysis printouts.

p. Telecopy sample analysis printouts to the EOF Coordinator.

q. As needed, refer to Supplemental Material 94-04, Chemistry Coordinator Information.

3. CHEMISTRY SAMPLING TEAMS

a. Direct formation of requested post-accident sampling teams.

b. Assist with sampling team deployment briefings.

c. Specify which post-accident sampling procedures are to be implemented.

d. Coordinate with the Radiological Controls Coordinator (RCC) to obtain the following items to support sampling team deployment.

- RP Technician coverage (if needed)
- Dose extensions
- Special dosimetry (e.g., hand and head TLDs)

e. Assist with sampling team debriefings.

4. STAFFING/EQUIPMENT NEEDS

a. Assess the need for additional staffing and equipment.

b. Consider the need to call out additional Chemistry Technicians to the OSC based on the following:

- actual and projected accident trajectory
- current and anticipated sample analysis needs
- any known time constraints on obtaining or analyzing samples

c. Direct requests for additional staffing and equipment to the Maintenance Coordinator.

5. PLANNED RELEASES

a. Assess proposed planned releases and determine whether or not normal release permits are adequate and/or required (gas, iodine, and particulate samples).

b. Review release data and approve release permit as required.

6. REENTRY AND RECOVERY

Provide reentry and recovery support as directed by the OSC Coordinator.

7. DEACTIVATION

a. Replace WRGM filters if necessary.

b. Verify the WRGM is in service.

c. Collect emergency-related documentation from the Chemistry Technicians.

d. Submit all emergency-related documentation to the OSC Coordinator.

OSC COMMUNICATOR CHECKLIST

INITIAL

1. ACTIVATION

a. Clip on the position badge. Do not obscure your station badge. _____

b. Sign in on form ER 3.3M, ERO Staff Planning, and card-in at card reader. _____

c. Synchronize OSC facility clocks with the MPCS time display. _____

d. When the 4-way data link rings, complete the following actions: _____

___ Remove the cordless handset and attached headset from its charging cradle
___ Put on the headset, adjusting it to fit the head

> NOTE
> The next action you take will automatically connect you to the 4-way data link stations in the TSC, Control Room and Central Alarm Station.

___ Turn on the cordless handset
___ Inform other stations that the OSC Communicator is on the line

> NOTE
> A facility beacon light will remain illuminated as long as two stations in the circuit are on the line.

___ Communicate with other stations as needed.

> NOTE
> The cordless phone has a mute button. Pressing this button mutes the user's headset microphone, allowing the user to talk without the other system contacts hearing the conversation. Pressing the button again reactivates the headset microphone.

___ Notify other stations on the circuit when you mute your headset microphone.
___ If communications on the cordless phone begins to fail, do the following :

- Inform other stations that you will temporarily go off-line
- Remove the headset and the place the handset back in the charging cradle
- Pick-up the backup phone handset and resume communications. The cordless phone will recharge in approximately one (1) hour.

OSC COMMUNICATOR CHECKLIST

2. LOGS

   a. Maintain a log using form ER 2.0E, Emergency Facility Log.

   b. Record plant status conditions periodically.

   c. Record outside ambient temperature, wind speed and wind direction periodically on the form ER 2.0E

   d. Brief the Radiological Controls Coordinator on any changes to ambient temperature, wind speed and wind direction.

3. TEAM TRACKING

   a. Assign team numbers to the teams requested by the OSC Coordinator.

   b. Record team in/out times, and team number on the OSC Team Status Board.

NOTE
Do not erase team number if the team has been canceled.

   c. Record team destination in the team destination column and list of team members in the miscellaneous information column of the OSC team status board (e.g., 1-Electrician, 2-Mechanics).

   d. Inform the TSC of the team in/out times.

4. COMMUNICATIONS

   a. Keep communications brief and concise. Detailed technical questions or problem-solving discussions be directed to the Technical Specialist Coordinator.

   b. Initiate requests for plant status and weather conditions on a periodic basis. Provide this information to the OSC Coordinator.

   d. As requested by the Radiological Controls Coordinator, inform the Control Room of any special radiation protection precautions to be observed by the on-shift NSOs.

5. DEACTIVATION

Submit all emergency documentation to the OSC Coordinator.

TECHNICAL SPECIALIST COORDINATOR CHECKLIST

INITIAL

1. ACTIVATION

   a. Obtain the Technical Specialist Coordinator emergency materials tote-box from the OSC emergency equipment cabinet. _____

   b. Clip on the position badge. Do not obscure your station badge. _____

   c. Sign in on form ER 3.3M, ERO Staff Planning, and card in at card reader. _____

   d. Check workstation telephones for operability. _____

   e. Obtain a briefing from the OSC Coordinator. _____

   f. Assist the OSC Coordinator with initial staffing assessments to support OSC activation. _____

   g. Request the OSC Coordinator to designate an individual to go to the Control Room to obtain the firefighters' radios and deliver them to the OSC. _____

   h. In the event that more than the required number of individuals are available to fill a given position, determine which individual(s) shall remain in the OSC to serve as the position holder(s). Direct excess personnel to the Assembly Area (if activated), or to evacuate the site to their homes or Schiller Station.

   i. Maintain a log using form ER 2.0E, Emergency Facility Log. _____

2. OSC ACCOUNTABILITY

   a. Verify that form ER 3.3M is placed at the HP checkpoint entrance.

   b. Direct and ensure completion of form ER 3.3M, ERO Staff Planning, for all OSC positions.

   c. In conjunction with the OSC Coordinator, identify a runner to deliver the form ER 3.3M for the OSC to the Maintenance Coordinator in the TSC.

NOTE
The form ER 3.3M for the OSC should be delivered to the Maintenance Coordinator by runner, not by telecopy. Request the OSC Coordinator to designate a Nuclear Systems Operator (NSO) as the runner if one is available.

d. Brief the runner to:

(a) Deliver form ER 3.3M for the OSC to the Maintenance Coordinator in the TSC.

(b) Remain on standby with the Maintenance Coordinator until directed to deliver copies of form ER 3.3M for the Control Room/TSC and the OSC to the Guard Island Supervisor and Assembly Area Coordinator.

e. Dispatch the runner to deliver form ER 3.3M for the OSC to the Maintenance Coordinator in the TSC.

3. STAFFING ASSESSMENTS/CONSIDERATIONS

a. Determine the current status of in-plant work that was in progress when the emergency was declared, and brief the Maintenance Coordinator and the OSC Coordinator.

b. Based on current and anticipated OSC tasks,identify Specialty Technical Assistants that may provide specific technical or job expertise in responding to the emergency (e.g., system engineers, craft labor, etc.).

c. Request the Maintenance Coordinator facilitate callout of the appropriate Specialty Technical Assistants.

d. Provide periodic OSC staffing assessments to the Maintenance Coordinator based on:

(1) Number of teams and frequency of deployments

(2) Current and anticipated OSC tasks

(3) Long-term shift scheduling

(4) Permissible Accumulated Dose (PAD) of OSC personnel

(5) Status of Specialty Technical Assistants, and current or anticipated special needs

4. WORK PLANNERS

a. Assign Mechanical/Valve Maintenance Work Planner and Electrical/I&C Work Planner to assemble work packages in support of repair teams as required.

b. Designate an appropriate work location for the Work Planners (e.g., OCC). If the work location is outside the OSC, ensure the work planners are informed of emergency status announcements made in the OSC and of any protective measures directed for OSC staff.

5. SPECIALTY TECHNICAL ASSISTANT (STA)

   a. Ensure the STA signs in on the OSC roster board, and cards in at card reader.

   b. Instruct the STA to attach security badge to the green identification tag located in the OSC storage locker.

   c. Brief the STA on current plant conditions and ongoing work.

   d. Assign STA tasks as required to support repair and corrective actions.

6. TEAM FORMATION

Initially assist the OSC Coordinator, and later the Work Control Supervisor, in the repair and corrective action team formation and briefing process as follows:

   a. As needed, provide technical clarification and guidance concerning proposed repair and corrective actions by obtaining additional information from appropriate TSC staff members.

   b. As assigned by OSC Coordinator, use form ER 3.2F to brief teams.

   c. Remind maintenance personnel and Specialty Technical Assistants that should they have specific technical questions concerning their assigned tasks that you can not readily answer, it is acceptable for them to contact a member TSC engineering staff to request additional information or clarification.

   d. Attempt, to the degree practical, to verify that team members possess the required knowledge and skills and/or have the required training and/or qualifications to perform their assigned tasks.

   e. Identify required procedures, forms, prints, etc.

   f. Identify nonradiological safety considerations such as smoke, steam, chemical spill, explosive atmosphere, flooding, etc.

   g. Identify needed work control measures and precautions.

   h. Assist with formulation of special/temporary repair procedures.

7. DEACTIVATION

   a. Submit all emergency documentation to the OSC Coordinator.

   b. Designate an individual to return radios to the Control Room.

EMERGENCY TEAM BRIEFING/DEBRIEFING FORM

Team ID#:_____ Date:

Destination:

Purpose:

Team Members	Badge #	Department	YTD Exposure
		(team leader)	

OPERATIONAL DATA

Explosive ATM (use explosive proof tools/equipment, no Ag Ze Sampling) ☐ Yes ☐ No

Electricity Available ☐ Yes ☐ No

Security Access Allowed ☐ Yes ☐ No - Refer to form ER 3.2J for SBK Access Levels (RALs)

Suggested route:

Communications methods (frequency of contact, OSC phone #, radio):

Special precautions instructions (e.g., unique situations, safety issues, job hazards:

RADIOLOGICAL DATA

(Complete for teams dispatched into the RCA and other radiologically affected areas)

General Area:_____mR/hr

Prot. Cloth: ☐ Full ☐ Plastics ☐ Other

Resp. Prot: ☐ Full Face ☐ SCBA

Dosimetry Requirements (TLDs, EDs/SRPDs, Extremities/Multiple):

Special Rad. Instructions:

EMERGENCY TEAM BRIEFING/DEBRIEFING FORM
(Continued)

Survey Requirements (Radiation Protection Personnel): ☐ Air Sample P/I/G ☐ Rad ☐ Cont ☐ Lapel Sampler

Administrative Dose Extension (up to 4500 mR) ☐ yes ☐ no New Limit _____ mR

Emergency Dose Extension ☐ yes ☐ no Dose Extension _____mR
(complete ER 4.3, Figure 4)

KI Issued ☐ yes ☐ no Radios issued ☐ yes ☐ no If yes, perform radio check to base in use.

Prior to team deployment review the five (5) activity preview questions with team members.

Briefed By:

Authorized By (RCC/OSC Coor.)_____Time

DEBRIEF
Time Back _____
Task Completed: ☐ yes ☐ no Status: _____
Observed Abnormal Radiological Conditions ☐ yes ☐ no Explanation: _____
Observed Personnel Hazards (i.e., Steam, Water, Electrical, Radiological Conditions)
Comments: _____
Debriefed By: _____ Date/Time _____
OSC Coordinator Reviewed: _____
RCC Reviewed: _____

POST-ACCIDENT SAMPLE CONTINGENCY MATRIX

SAMPLE/LOCATION	ANALYSIS	PLANT ASSESSMENT PARAMETER	CONTINGENCY ACTION
RCS (PASS Panel)	Activity	Core Damage	RDMS Correlation
RHR (PASS Panel)	Activity	Core Damage	RDMS Correlation
CONT AIR (EFW Pipechase)	Hydrogen	Core Damage	RDMS Correlation
	Activity	Core Damage	RDMS Correlation
PLANT VENT (WRGM-PAB 51')	Activity	Effluent Release	RM 6495

Identify if any contingency actions for accident assessment are being taken by circling above.

Chemistry Coordinator

Date _____ Time

WORK CONTROL SUPERVISOR CHECKLIST

INITIAL

1. ACTIVATION

   a. Obtain the Work Control Supervisor emergency materials tote-box from the OSC emergency equipment cabinet. _____

   b. Clip on the position badge. Do not obscure your station badge. _____

   c. Sign in on form ER 3.3M, ERO Staff Planning, and card in at the card reader. _____

   d. Obtain a briefing from the OSC Coordinator. _____

   e. Maintain a log using form ER 2.0E, Emergency Facility Log. _____

2. TEAM FORMATION

Assist the OSC Coordinator in the repair and corrective action team formation, briefing, deployment and debriefing process as follows:

   a. As needed, provide technical clarification and guidance concerning proposed repair and corrective actions by obtaining additional information from appropriate TSC staff members.

   b. Remind maintenance personnel and Specialty Technical Assistants that if they have specific technical questions concerning their assigned tasks that you cannot readily answer, it is acceptable for them to contact a member of the TSC engineering staff to request additional information and clarification.

   c. Attempt to the degree practical to verify that team members possess the required knowledge, skills, training and qualifications to perform assigned tasks.

   d. Identify required procedures, forms, prints, etc., that team members need to perform assigned tasks.

   e. Identify non-radiological safety considerations such as smoke, steam, chemical spill, explosive atmosphere, flooding, etc.

   f. Identify needed work control measures and precautions.

   g. Assist with formulation of special/temporary repair procedures.

   h. Make appropriate non-radiological data entries on form ER 3.2F, Emergency Team Briefing/Debriefing Form.

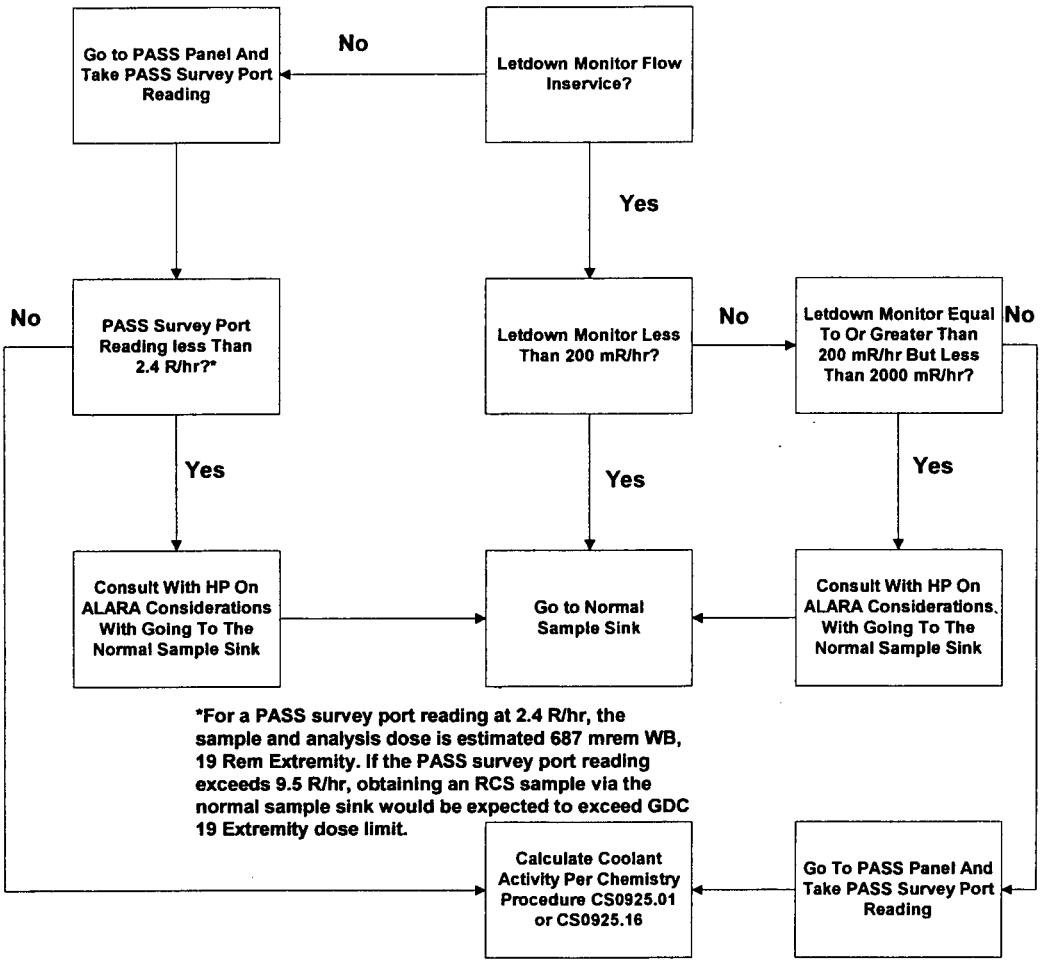
I. If the OSC is requested to support generation of clearance sections, access the Shift Operations Management System (SOMS) clearance module on an available LAN in or near the OSC (e.g., on HP Control Point counter, in office entered from the HP Control Point). A printed version of the SOMS Clearance Module Desktop Guide is maintained in the OSC Work Control Supervisor emergency materials tote-box and labeled Supplemental Material 01-09. Tags can only be printed in the Tagging Office. If the Tagging Office is inaccessible, manual tags will have to be generated.

3. DEACTIVATION

Submit all emergency documentation to the OSC Coordinator.

RCS/RHR Sample Logic

RCS/RHR SAMPLE LOGIC



Note: This figure is for general guidance. Sample needs, planning time and other considerations may lead the Chemistry Coordinator to deviate from this flow chart.

p:ap_p/visio/sser/3.2i.vsd
12-18-01

SBK Access Levels (RALs)

Personnel deployed into the plant must have the proper access level authorization for the areas they are expected to enter. The following list shows the access level number and the corresponding area description. **OSC/TSC ERO members are authorized access to any areas of the plant they would be expected to enter under emergency conditions.** The access levels shown below with an asterisk are the levels that OSC/TSC ERO members are already authorized to enter.

If there is any doubt about an OSC team member's authorized access level, check the SBK Access Level numbers on the back of the team member's badge against the following list of access level numbers. If the number for the area to which the team member is to be deployed does not appear on the badge, and there is no available replacement who has the proper authorization, the OSC Coordinator should contact Guard Island Security for a temporary access level change.

Level Number	Area Description
0	Owner Controlled Area only
1*	Protected Area only
12*	Exterior Radiological Controlled Area Doors
16	Turbine Radio Room
17	Secondary Alarm Station Radio Room
18	Secondary Alarm Station UPS Room
19	Central Alarm Station Radio/UPS Room
20*	Discharge Transition Structure
21*	Intake Transition Structure
22*	Service Water Pump House
23*	Cooling Tower
24*	Condensate Storage Tank
25*	East Steam Chase/Electrical Tunnels/Essential Switchgear
26*	Emergency Feedwater Pump Room
27*	Fuel Storage Building
28*	Primary Auxiliary Building/Containment/West Pipe Chase/ Refueling Water Storage Tank
29*	Cable Spread/Diesel Generator/Stairway C, Control Building
30*	Control Room
31	Secondary Alarm Station
32	Central Alarm Station

SEABROOK STATION

ADMINISTRATIVE PROCEDURE

Emergency Operations Facility Operations

ER 3.3

Rev. 46

Procedure Owner:
D. Currier

EMERGENCY OPERATIONS FACILITY RESPONDER ACTION SUMMARY

1. UNUSUAL EVENT ACTIONS

Emergency Response Procedure ER 1.2, Emergency Plan Activation, contains Unusual Event actions for the following Emergency Operations Facility Primary Responders:

- Response Manager
- EOF Coordinator
- Emergency News Manager
- ERO Technical Liaison

When notified of an Unusual Event, the on-duty Response Manager calls the Control Room, obtains an event briefing, contacts the Emergency News Manager and EOF Coordinator, authorizes dissemination of information to the media and state authorities, and confirms notification of NextEra Energy executive management via the nuclear duty officer. Other EOF Primary Responders implement actions per ER 1.2.

NOTE: For an Unusual Event, the on-duty ERO Technical Liaison reports to the Control Room/TSC to obtain event status and to make notifications to offsite stakeholders. At higher emergency classification levels, this position reports directly to the EOF.

2. ALERT AND HIGHER EMERGENCY CLASSIFICATION LEVEL ACTIONS

For an Alert or higher emergency classification level, EOF Primary and Secondary Responders report to the EOF and implement actions and checklists contained in this procedure.

3. CODE YELLOW SECURITY EVENT – NO EMERGENCY CLASSIFICATION DECLARED

EOF Primary Responders who are offsite report to the EOF per Control Room pager message and implement appropriate actions contained in Figure 17 of this procedure.

4. CODE YELLOW SECURITY EVENT – EMERGENCY CLASSIFICATION DECLARED

- Unusual Event – EOF Primary Responders implement ER 1.2 actions.
- Alert or higher emergency classification – EOF Primary and Secondary Responders report to the EOF and implement actions and checklists contained in this procedure.

NOTE: For this contingency, the Security Coordinator position in the EOF will not be filled. In this event, implement the Response Manager's actions in the note in Figure 17 for this contingency.

5. CODE RED – ANY EMERGENCY CLASSIFICATION DECLARED

- If offsite, EOF Primary and Secondary Responders report to the EOF per pager message sent by the Control Room and implement actions contained in Figure 17 of this procedure.
- If onsite, follow the Control Room plant announcement instructions.

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Contents and Revision Status

1.0 OBJECTIVES

This procedure specifies the actions required to activate and operate the Emergency Operations Facility (EOF). It also provides instruction for recovery from Site Area Emergency or General Emergency conditions.

2.0 RESPONSIBILITIES

2.1 Response Manager

1. Provides overall direction to the emergency response organization.
2. Authorizes notification of offsite authorities, approves protective action recommendations, and approves company news releases.
3. Authorizes requests for external assistance (e.g., INPO, NEI).
4. Obtains NRC and State concurrence of a plan for termination of emergency conditions.
5. Provides management direction and guidance to the Site Emergency Director in the effort to return the Station to a safe condition once the emergency mitigation phase of a Station response has been completed.

2.2 EOF Coordinator

1. Coordinates radiological and protective action assessment activities conducted from the EOF.
2. Performs State notifications.

2.3 Dose Assessment Specialist

1. Determines projected/actual offsite dose conditions from radiological release data.
2. Develops initial projected information regarding the location and extent of contamination of the environment following the termination of a release and its eventual complete dispersal. Coordinates the evaluation of sample analysis data obtained from all groups performing ingestion pathway sampling and develops information useful for the establishment of long-term protective actions.

2.4 Technical Assistant

Coordinates technical assessment and support activities conducted from the EOF.

2.5 Offsite Monitoring Coordinator

Coordinates offsite radiological monitoring and sampling during an emergency.

2.6 Security Coordinator

Coordinates security response actions during an emergency.

2.7 Radiological Assistant

Coordinates radiological control measures at the EOF.

2.8 Administrative Services Coordinator

Provides administrative support and obtains additional resources to support the emergency effort.

2.9 HPN Communicator

Maintains Health Physics Network (HPN) communication with the NRC.

2.10 Licensing Coordinator

Coordinates interfaces with regulatory agencies during an emergency.

2.11 Industry Liaison

Coordinates interfaces with industry organizations and the Joint Owners during an emergency.

2.12 EOF Support Staff

Provides administrative and clerical support.

2.13 Raddose Operator

Operates the Raddose-V dose projection system.

2.14 Document Control Center Coordinator

1. Coordinates retrieval of documents maintained in the EOF Document Control Center.
2. Coordinates INPO Nuclear Network activities.

2.15 Material and Logistics Coordinator

Provides the EOF staff with the resources necessary to complete their assignments and assists in the acquisition of those resources not readily available.

2.16 Dosimetry Records Personnel

Issues dosimetry, tracks doses of offsite monitoring teams and dose reporting for emergency response personnel.

2.17 Dose Assessment Personnel

Provides administrative and clerical support to the Dose Assessment Specialist.

2.18 ERO Technical Liaison

Notifies and interacts with the New Hampshire Public Utilities Commission (NHPUC) and the Massachusetts Emergency Management Agency (MEMA) Nuclear Preparedness Manager.

2.19 Training Center Staff

Assists the Technical Assistant with monitoring plant operational data.

2.20 Offsite Monitoring Communicator

Relays messages to and from offsite teams and maintains a continuous log of field team location and radiological data.

3.0 PRECAUTIONS

1. Activation of the New Hampshire Incident Field Office (IFO) is not the responsibility of the Seabrook Station emergency response organization.

2. When notified of an Alert or higher emergency classification level, primary and subject-to-call responders should report immediately to their emergency response facilities. TSC primary responders may receive a briefing directly from Control Room staff. EOF primary responders should call appropriate TSC staff to be briefed.

3. EOF primary and subject-to-call responders who are offsite during certain security events may be directed by pager message to report to the Emergency Operations Center at Newington. Figure 17 of this procedure contains actions for EOF Primary Responders for this contingency.

4.0 PREREQUISITES

1. An Alert, Site Area Emergency or General Emergency has been declared in accordance with Procedure ER 1.1, Classification of Emergencies.

2. Prior to declaring Recovery, the following plant conditions exist:

   a. Radiation levels of in-station areas are stable or are decreasing with time.

   b. As appropriate to the emergency condition, the reactor and associated systems are in a safe and stable condition as indicated by the following:

      (1) The reactor is shut down and criticality controls are in effect (only if reactor shutdown was required by the emergency condition).

      (2) The core is being adequately cooled.

      (3) Control has been established over containment pressure and temperature.

      (4) An adequate heat transfer path to an ultimate heat sink has been established.

      (5) Primary system pressure is under control.

   c. Any fire, flooding, earthquake or similar initiating events are either under control or have ceased.

   d. Releases of radioactive material to the environment are either under control or have ceased.

   e. Specified corrective emergency actions have been completed and the Station is in the appropriate operating mode, and notifications are complete.

   f. ER 6.0, Recovery Planning, should be initiated prior to declaring recovery in effect.

3. Radiation Safety & Control Services (RSCS) support for radio-analysis of environmental samples in the EOF will be implemented in accordance with RSCS procedures.

5.0 ACTIONS

NOTE

Telephone numbers for contacts referenced in the checklists are available in the Emergency Response Telephone Directory.

5.1 Dose Assessment Personnel Checklist

Refer to form ER 3.3C, Dose Assessment Personnel Checklist, for required actions for this position.

5.2 Response Manager

Refer to form ER 3.3D, Response Manager Checklist, for required actions for this position.

5.3 EOF Coordinator

Refer to form ER 3.3E, EOF Coordinator Checklist, for required actions for this position.

5.4 Dose Assessment Specialist

Refer to form ER 3.3F, Dose Assessment Specialist Checklist, for required actions for this position.

5.5 Technical Assistant

Refer to form ER 3.3H, Technical Assistant Checklist, for required actions for this position.

5.6 Offsite Monitoring Coordinator

Refer to form ER 3.3I, Offsite Monitoring Coordinator Checklist, for required actions for this position.

5.7 Security Coordinator

Refer to form ER 3.3J, Security Coordinator Checklist, for required actions for this position.

5.8 Radiological Assistant

Refer to form ER 3.3K, Radiological Assistant Checklist, for required actions for this position.

5.9 Administrative Services Coordinator

Refer to form ER 3.3L, Administrative Services Coordinator Checklist, for required actions for this position.

5.10 HPN Communicator

Refer to form ER 3.3Q, HPN Communicator Checklist, for required actions for this position.

5.11 Licensing Coordinator

Refer to form ER 3.3R, Licensing Coordinator Checklist, for required actions for this position.

5.12 Industry Liaison

Refer to form ER 3.3S, Industry Liaison Checklist, for required actions for this position.

5.13 EOF Support Staff

Refer to form ER 3.3W, EOF Support Staff Checklist, for required actions for this position.

5.14 Raddose Operator

Refer to form ER 3.3Y, Raddose Operator Checklist, for required actions for this position.

5.15 Document Control Center Coordinator

Refer to form ER 3.3Z, Document Control Center Coordinator Checklist, for required actions for this position.

5.16 Material and Logistics Coordinator

Refer to form ER 3.3AA, Material and Logistics Coordinator Checklist, for required actions for this position.

5.17 Dosimetry Records Personnel

Refer to form ER 3.3DD, Dosimetry Records Personnel Checklist, for required actions for this position.

5.18 ERO Technical Liaison

Refer to form ER 3.3KK, ERO Technical Liaison, for required actions for this position.

5.19 Training Center Staff

Refer to form ER 3.3LL, Training Center Staff Checklist, for required actions for this position.

5.20 Offsite Monitoring Communicator

Refer to form ER 3.3MM, Offsite Monitoring Communicator Checklist, for required actions for this position.

6.0 REFERENCES

1. ER 1.1, Classification of Emergencies
2. ER 2.0, Emergency Notification Documentation Forms Procedure
3. ER 3.5, Media Center Operations
4. ER 4.3, Radiation Protection During Emergency Conditions
5. ER 5.2, Site Perimeter and Offsite Monitoring and Environmental Sampling
6. ER 5.3, Operation of the RADDOSE-V System
7. ER 5.4, Protective Action Recommendations
8. GN1332.00, Security Response to a Declared Radiological Emergency
9. NRC Inspection Report No. 50-443/86-18-01
10. Memo SEP901118, NHPUC Contacts During Emergencies
11. System Design Specification for Seabrook Station, Raddose-V, Rev. 1, Nov. 2007
12. Detailed Design Manual for Seabrook Station, Raddose-V, Rev. 1, Nov. 2007
13. Operator's Manual for Seabrook Station, Raddose-V, Nov. 2007
14. Ingest System Manual for Seabrook Station
15. SS# 25564, Establishing Efficiencies for Field Calculations of Radioactive Activity on Air Sample Cartridges, June 16, 1986
16. NRC Inspection Report No. 50-433/89-19
17. Radiation Protection Department Procedures
18. ER 4.6, Offsite Monitoring and Decontamination
19. Memorandum SEP921168
20. NRC Inspection Report No. 50-443/94-15
21. SEP#20000030, Response to A/R #00004326 from CR #00-1882
22. NYN 03081, Supplemental Information Pertaining to License Amendment Requests 02-06 and 02-07
23. NRC Regulatory Issue Summary (RIS) 2009-10
24. ER 6.0, Recovery Planning

REV. DATE: 09/29/10

EPLAN:E010144.DGN

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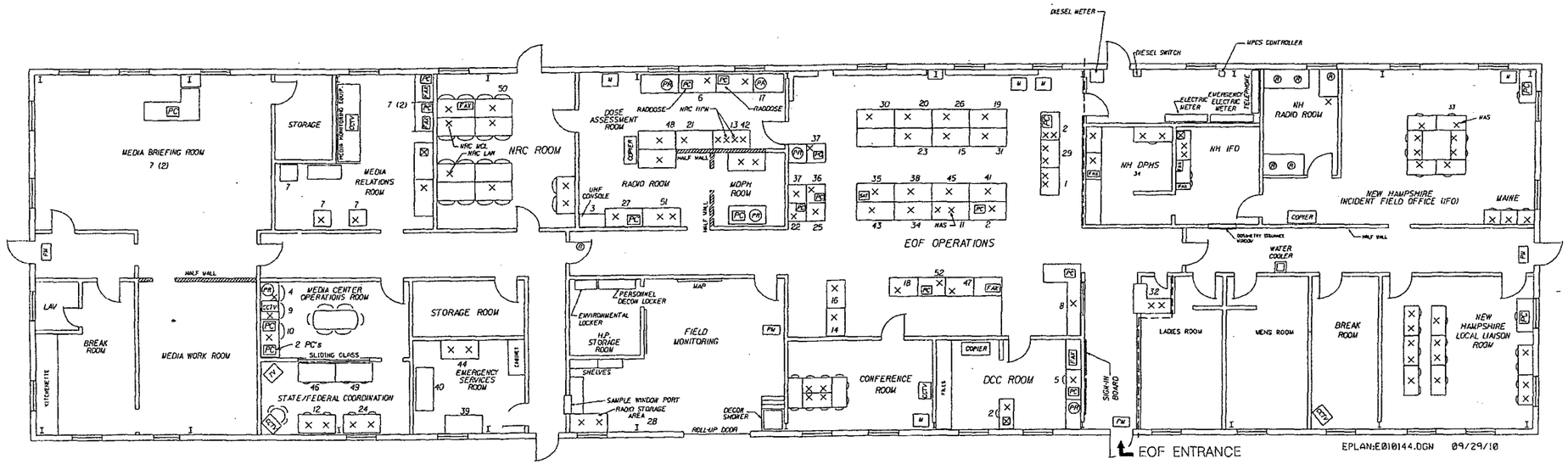
FIGURE 1
EMERGENCY OPERATION FACILITY LAYOUT



EOF EMERGENCY RESPONSE ORGANIZATION PERSONNEL LEGEND

1 – ADMINISTRATIVE SERVICES COORDINATOR
2 – EOF SUPPORT STAFF
3 – OFFSITE NON COMMUNICATOR
4 – ASST. EMERGENCY NEWS MANAGER
5 – DOCUMENT CONTROL CENTER COORDINATOR
6 – DOSE ASSESSMENT SPECIALIST
7 – MEDIA CENTER SUPPORT STAFF
8 – DOSIMETRY RECORDS PERSONNEL
9 – MEDIA CENTER TECHNICAL ADVISOR (MC)
10 – EMERGENCY NEWS MANAGER
11 – EOF COORDINATOR
12 – FEMA PIO
13 – HPN COMMUNICATOR
14 – INDUSTRY LIAISON
15 – LICENSING COORDINATOR
16 – MATERIAL AND LOGISTICS COORDINATOR
17 – RADDOSE OPERATOR
18 – NHPUC REPRESENTATIVE
19 – NRC SITE TEAM DIRECTOR
20 – NRC RESPONSE COORDINATION LEADER
21 – NRC ENV. DOSE ASSESSOR
22 – NRC TECHNICAL ASSESSMENT SPECIALIST
23 – NRC PROTECTIVE MEASURES BRANCH LEADER
24 – NRC PUBLIC INFORMATION LEADER
25 – NRC TECHNICAL ASSESSMENT BRANCH LEADER
26 – NRC EOF LIAISON
27 – OFFSITE MONITORING COORDINATOR
28 – RADIOLOGICAL ASSISTANT
29 – RESPONSE MANAGER
30 – FEMA LIAISON
31 – SECURITY COORDINATOR
32 – SECURITY PERSONNEL
33 – NH HSEM IOF COORDINATOR
34 – NH DPHS LFO RHTA
35 – MEDIA CENTER TECHNICAL ADVISOR (EOF)
36 – TECHNICAL ASSISTANT
37 – TRAINING CENTER STAFF
38 – MEMA
39 – RSCS ENV. SAMPLE ANALYST
40 – RSCS ENV. SAMPLE ANALYST
41 – ERO TECHNICAL LIAISON
42 – NRC PROTECTIVE MEASURES COMMUNICATOR
43 – NHHSEM EOF LIAISON
44 – WESTINGHOUSE REPS
45 – MDPH
46 – NH PIO
47 – MEMA SUPPORT
48 – DOSE ASSESSMENT PERSONNEL
49 – MA PIO
50 – NRC SITE TEAM
51 – NHDPHS MONITORING COORDINATOR
52 – MAINE RCP

EQUIPMENT SYMBOLS

- ⊠ ANSWERING MACHINE
- Ⓡ RADIO
- (PR) PRINTER
- FAX FAX
- PC PERSONAL COMPUTER
- × PHONE
- M MONITOR
- PM PORTAL MONITOR
- CCTV CLOSED CIRCUIT TV

B-11"X17"

Figure 2
Emergency Operations Facility Staff

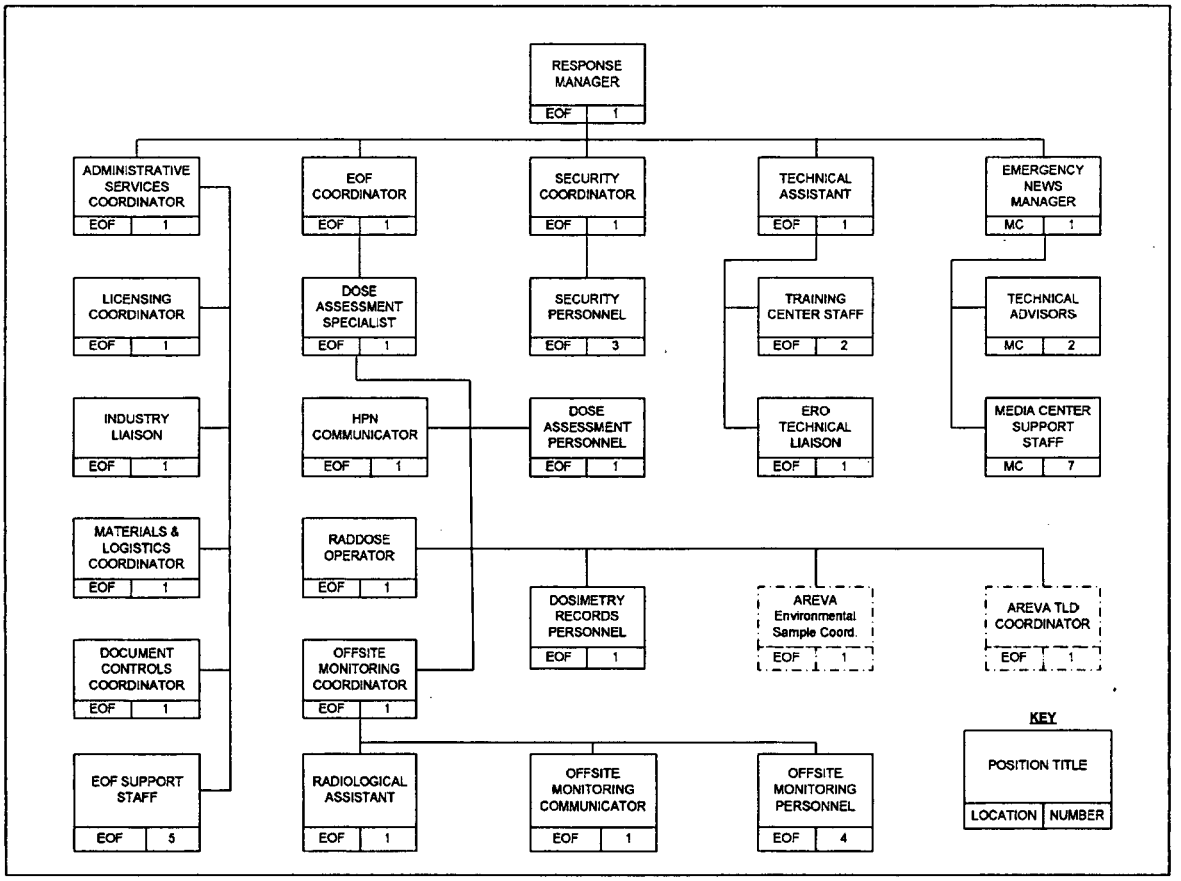
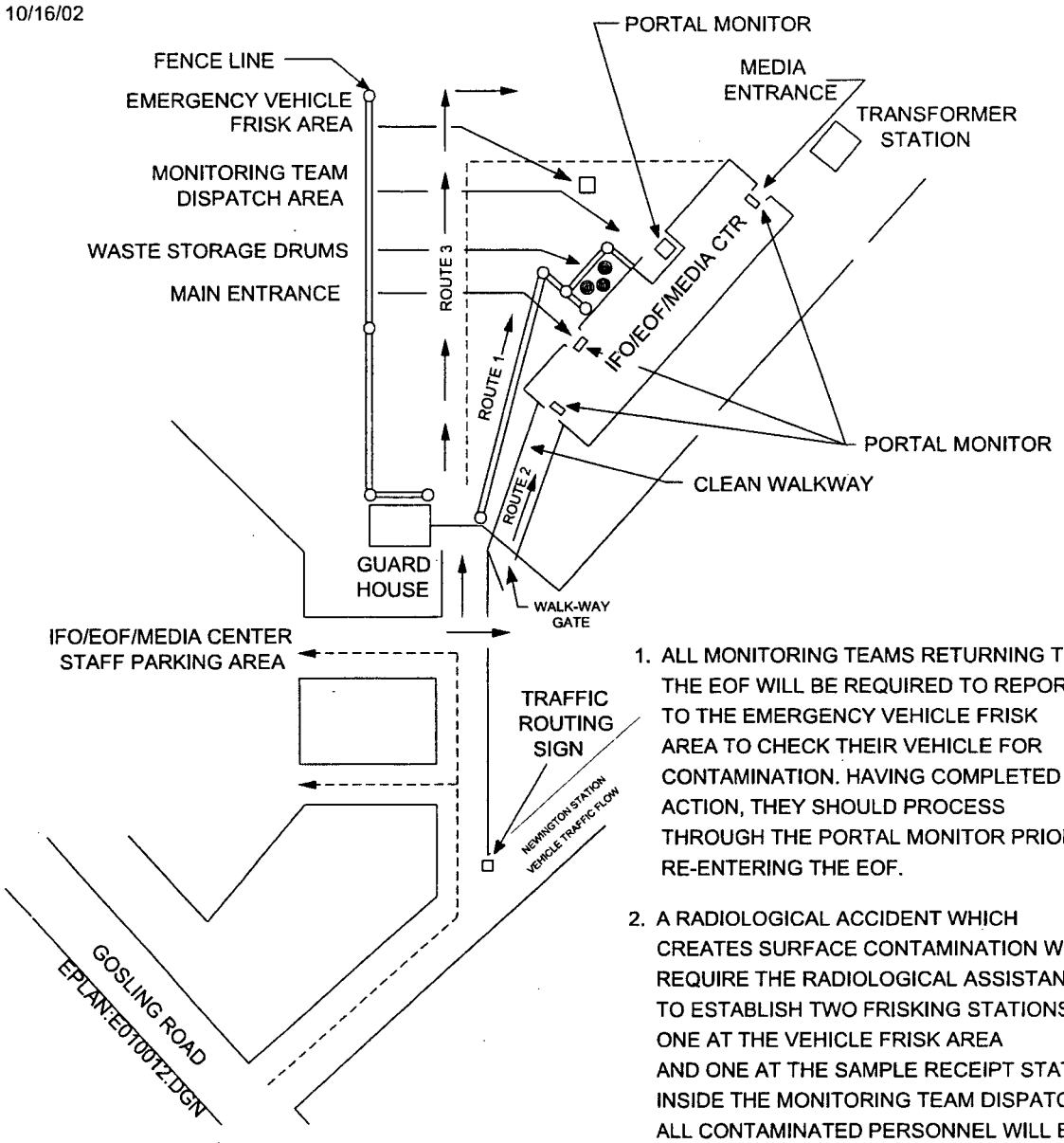


Figure 3
Emergency Access Control Measures for the EOF

10/16/02



1. ALL MONITORING TEAMS RETURNING TO THE EOF WILL BE REQUIRED TO REPORT TO THE EMERGENCY VEHICLE FRISK AREA TO CHECK THEIR VEHICLE FOR CONTAMINATION. HAVING COMPLETED THIS ACTION, THEY SHOULD PROCESS THROUGH THE PORTAL MONITOR PRIOR TO RE-ENTERING THE EOF.

2. A RADIOLOGICAL ACCIDENT WHICH CREATES SURFACE CONTAMINATION WILL REQUIRE THE RADIOLOGICAL ASSISTANT TO ESTABLISH TWO FRISKING STATIONS, ONE AT THE VEHICLE FRISK AREA AND ONE AT THE SAMPLE RECEIPT STATION INSIDE THE MONITORING TEAM DISPATCH AREA. ALL CONTAMINATED PERSONNEL WILL BE REQUIRED TO ENTER VIA ROUTE 1 (ie,THE POTENTIAL CONTAMINATION ZONE) AND REPORT TO THE RADIOLOGICAL ASSISTANT WHEREUPON PERSONNEL DECON-TAMINATION EFFORTS, INCLUDING SHOWERING, WILL BE INITIATED. ALL RESPONDING PERSONNEL WHO HAVE NOT BEEN EXPOSED TO THE PLUME WILL BE ALLOWED TO ENTER/EXIT THE EOF THROUGH THE NH IFO VIA ROUTE 2.

3. MOBILE NEWS MEDIA VANS REQUIRING CABLE CONNECTION TO THE MEDIA CENTER WILL BE ALLOWED TO PARK IN THE VICINITY OF THE MEDIA ENTRANCE TO THE MEDIA CENTER. THEY WILL BE ALLOWED TO ENTER/EXIT VIA ROUTE 3. CREDENTIALED NEWS MEDIA REPRESENTATIVES WILL BE DIRECTED TO WALK TO THE MEDIA CENTER ENTRANCE VIA ROUTE 3.

E010012

Figure 4

(DELETED)

Figure 5
EOF Sample Return Area Layout

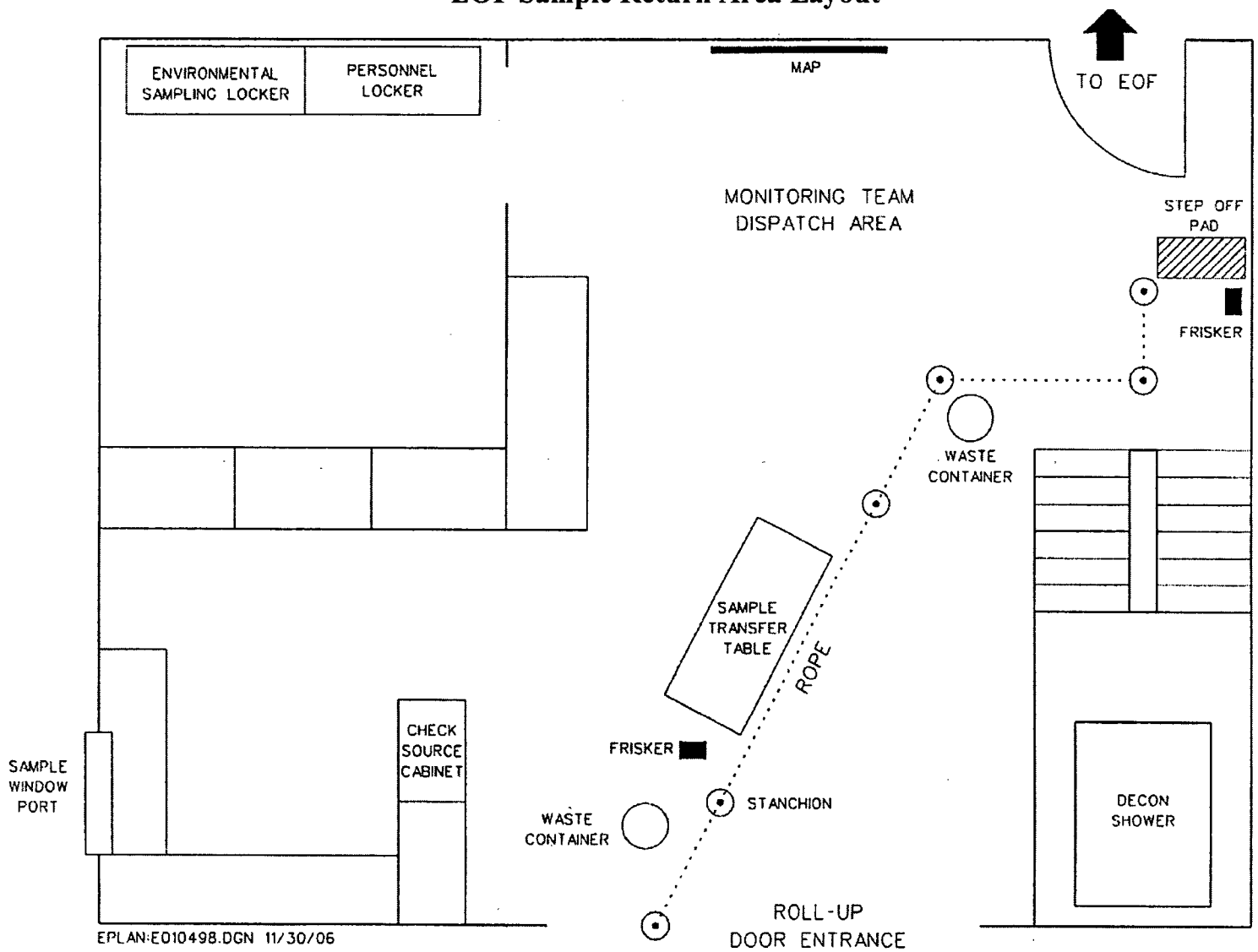


Figure 6
Release Definition

A "release" for purposes of completing form ER 2.0B, State Notification Fact Sheet, Block 5, is defined as follows:

Radioactive material is being released to the environment as indicated by

A. Wide Range Gas Monitor (WRGM) Alert or High Alarm (RM-6528-4)

OR

B. Main Steam Line Monitor Alert or High Alarm with an Open ASDV or Main Steam Safety Valve on the Affected Main Steam Line

OR

C. Main Steam Line Monitor Alert or High Alarm and the Steam Driven EFW Pump Operating and Fed from the Affected Line

OR

D. The results of effluent analysis (i.e., an ODCM calculation) or site boundary monitoring indicate that a release is in progress.

OR

E. Site Emergency Director or Response Manager judgement that a radiological release has occurred and been terminated, or is continuing.

AND

F. Release of material is directly attributable to the event.

A "release" for the purposes of requiring offsite dose projection and activation of the remote monitoring and decontamination area at Schiller Station is based on a high alarm only for conditions A, B and C above.

Figure 7

Loss of Power to the EOF

1. EOF lighting and power circuits are shown in Figure 8, Emergency Operations Facility Lighting Plan, and Figure 9, Emergency Operations Facility Electrical Plan. These figures are also displayed on the door to the EOF utility room.

2. On Figure 8, EOF overhead lighting fixtures that would be powered by the Newington Station auto-start diesel generator are displayed in **bold**. The lighting fixtures powered by the Newington Station auto-start diesel generator are also identified on the emergency power panels 2A and 2B.

3. Figure 8 also shows the locations of emergency flood lights that would illuminate automatically when normal AC power is lost in the EOF prior to activation of the emergency diesel generator.

4. On Figure 9 wall outlets and power strips that would be powered by the Newington Station auto-start diesel generator are displayed in **bold**. The outlets and power strips powered by the Newington Station auto-start diesel generator are also identified on emergency power panels 2A and 2B.

5. The EOF diesel will restore power to EOF/IFO/Media Center lighting, electrical outlets, and the heating and air conditioning units.

6. If normal AC power is lost in the EOF, the Administrative Services Coordinator should ensure that all EOF and Media Center computers are turned off prior to start-up of the emergency diesel generator.

7. The emergency standby diesel will auto-start if normal AC power to the EOF is lost. If the diesel fails to auto-start after a loss of power, call SBE, Inc., the diesel vendor, to come to the EOF to manually start the diesel. The telephone number is in the Emergency Response Telephone Directory. If SBE, Inc. cannot be contacted and/or cannot respond, call-out an electrician from the OSC to manually start the diesel.

8. When emergency power to the EOF is started, the Administrative Services Coordinator should call in appropriate Specialty Technical Assistants for the following:

   - Information Management to assist restarting EOF personal computers, the MPCS computer, Security computer and communications equipment if necessary.

   - Maintenance Services to assist resetting HVAC thermostats.

FIGURE 8
EMERGENCY OPERATIONS FACILITY LIGHTING PLAN

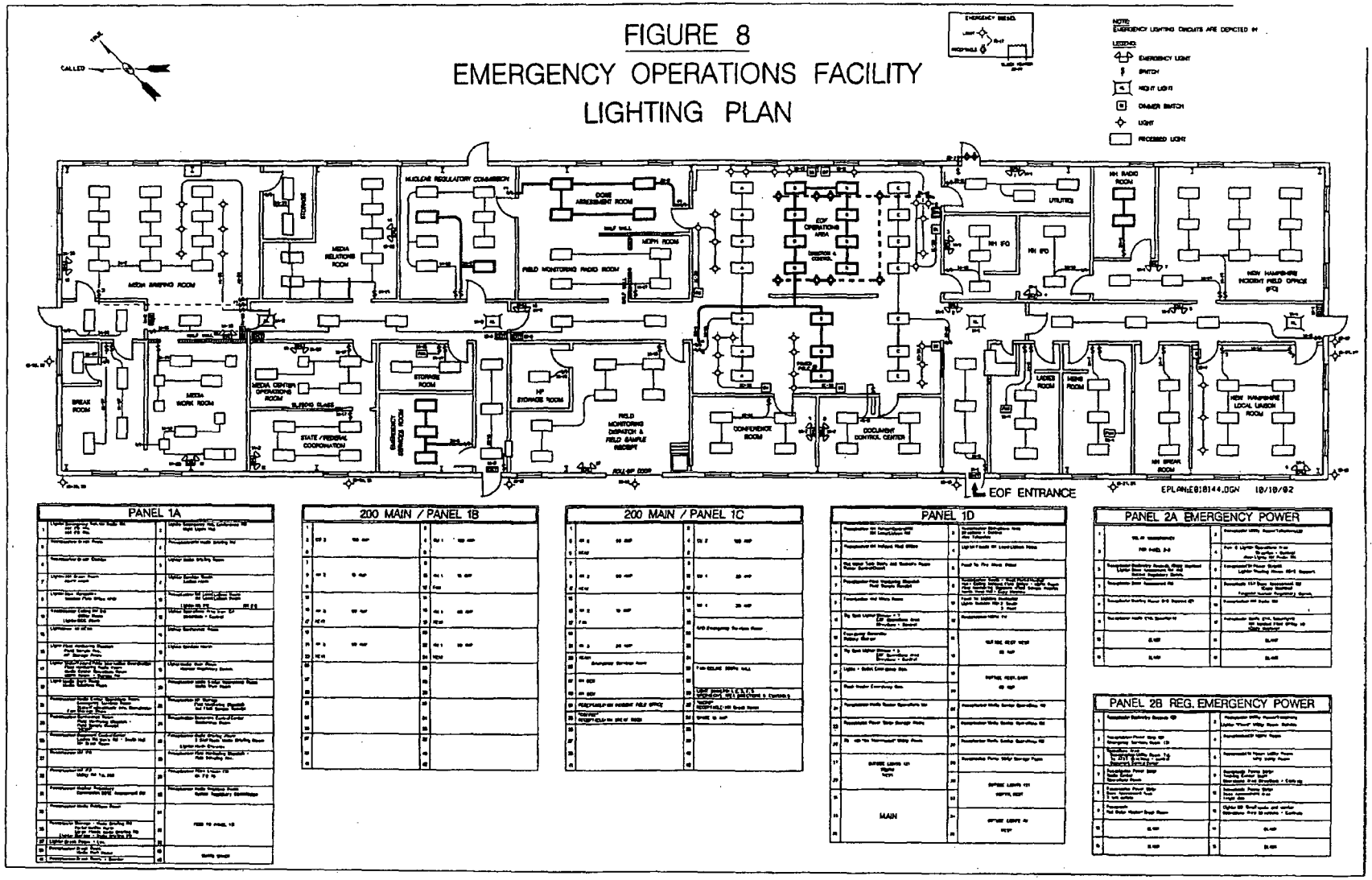
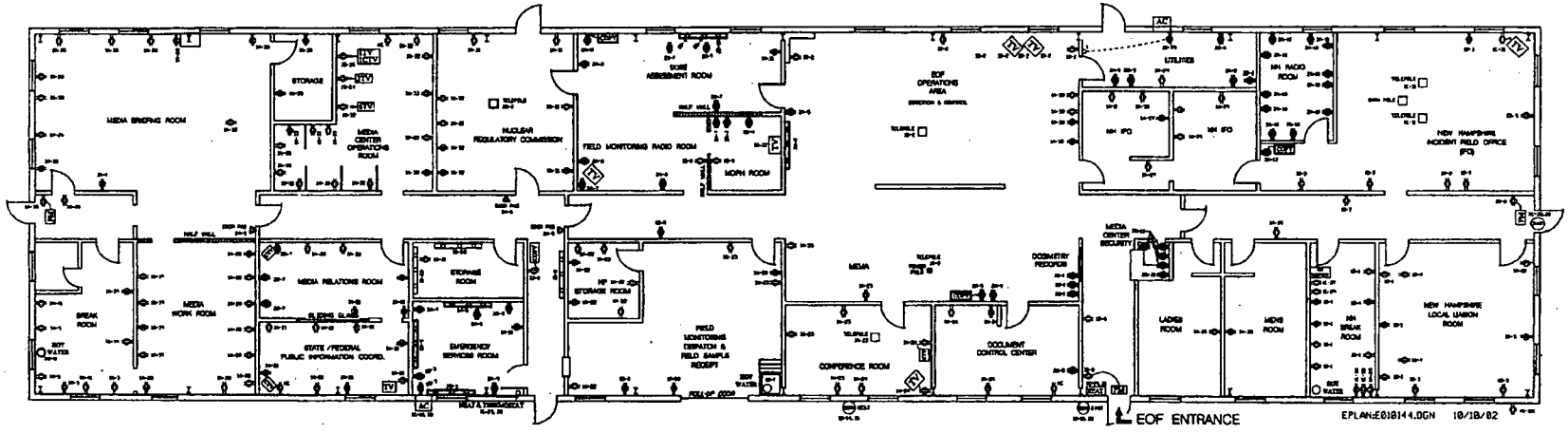


FIGURE 9
EMERGENCY OPERATIONS FACILITY
ELECTRICAL PLAN



NOTE
1. EMERGENCY OUTLETS ARE DEPICTED IN BOLD
2. HOT WATER TANKS - 3

LEGEND:
- DUPLEX OUTLET
- EMERGENCY POWER OUTLET

LEGEND
- TV - EOF STATION
- CTV - CLOSED CIRCUIT TV

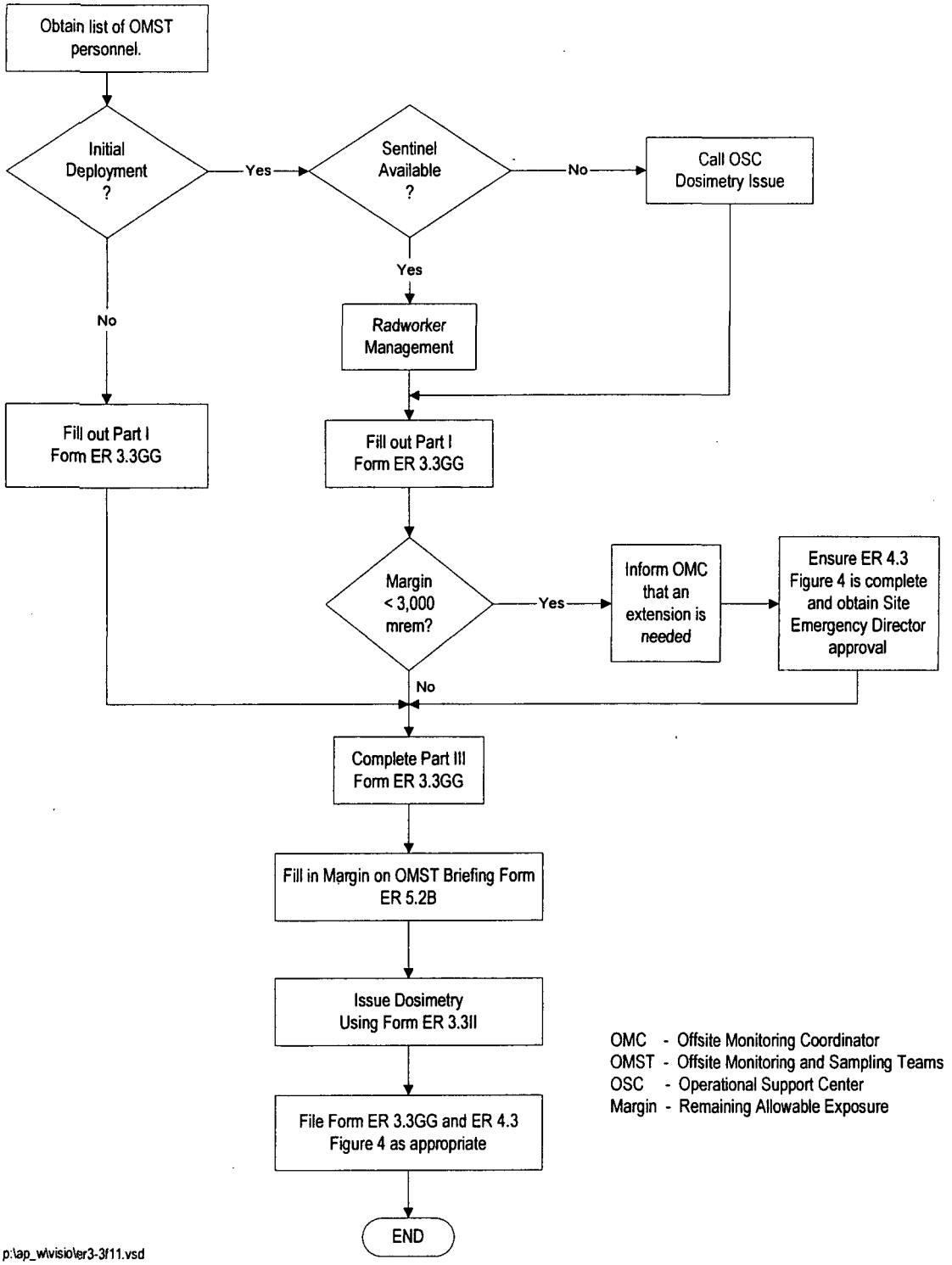
Figure 10
Summary of Typical TSC/EOF Communications
(Sheet 1 of 2)

FACILITY TO FACILITY	SUBJECT	WHO TO WHOM	CONTENT	WHEN INITIATED	FREQUENCY
TSC > EOF	Activation of the TSC	SED > Response Manager	TSC responsibilities and emergency status	When TSC is activated	Once
TSC > EOF	Reclassification of the emergency	SED > Response Manager	EAL in effect and emergency classification level	Immediately upon reclassification of the emergency	Whenever the SED reclassifies the emergency
TSC > EOF	Dose assessment, PARs and health physics network (HPN)	Health Physics Coordinator > EOF Coordinator	Transfer responsibility for dose assessment, PARs and HPN.	When EOF is activated	Once
TSC > EOF	Offsite contamination control measures for site personnel	Health Physics Coordinator > EOF Coordinator	Activation of Remote Monitoring Area; need for buses to transport personnel	When onsite radiological conditions indicate need	As necessary
TSC > EOF	Coordinate field monitoring team deployment	Health Physics Coordinator > Dose Assessment Specialist	Deployment of onsite and offsite teams for unmonitored releases	If and when an unmonitored release occurs	As necessary
TSC > EOF	Planned releases	SED > EOF Coordinator	Copy of completed Section I of form ER 3.1M, Planned Radiological Release Data	When determined that planned releases will exceed Tech Spec allowable limits	Telefaxed from the TSC to the EOF as necessary
TSC > EOF	Planned releases	SED > Response Manager	Release termination	When terminated	As necessary
TSC > EOF	Verification of CSFSTs	Emergency Operations Manager > Technical Assistant	CSFSTs verified by hardwired indications in Control Room	Reactor trip occurs	Once
TSC > EOF	Manual plant data	Technical Services Coordinator > Technical Assistant	To whom in the EOF manual plant data should be transferred	Loss of MPCS	As necessary
TSC > EOF	2nd Shift ERO staffing	Technical Services Coordinator > Administrative Services Coordinator	Schedule for 2nd shift staffing of TSC and OSC positions	As time and conditions allow	Once per 24 hour period.
TSC > EOF	Imminent emergency reclassification	SED > Response Manager.	TSC staff considering reclassification	Changing conditions	Based on conditions
TSC > EOF	Radiological release	SED > Response Manager	Radiological release status changes	Release occurs, changes, or terminates	Based on conditions
TSC > EOF	Site evacuation	SED or HPC > EOF Coordinator	Evacuate to Remote Monitoring Area	Radiological conditions warrant site evacuation	Based on conditions
TSC > EOF	Periodic briefings	SED > Response Manager	Classification; IC and EAL exceeded; plant status; accountability status; radio-logical release status; etc.	Periodically based on schedule established by the SED and Response Manager at time of facility activation	At least once every hour and more frequently as requested by the Response Manager
TSC > EOF	Downgrade or termination of emergency classification	SED > Response Manager	Plant operational and radiological status indicate downgrade or termination	Conditions change to lower level EAL or below any EALs	Based on conditions

Figure 10
Summary of Typical TSC/EOF Communications
(Sheet 2 of 2)

FACILITY TO FACILITY	SUBJECT	WHO TO WHOM	CONTENT	WHEN INITIATED	FREQUENCY
EOF > TSC	Activation of the EOF	Response Manager > SED	Time of activation; takeover of EOF responsibilities; establish briefing schedule; status	When EOF is activated	Once
EOF > TSC	ERO staffing	Admin. Services Coordinator > Maintenance Coordinator.	Status of onsite ERO staffing; Assembly Area deactivation	When TSC and EOF are both activated	Once
EOF > TSC	Onsite radiological data for the Health Physics Network link	HPN Communicator > Health Physics Coordinator	Data for reports to NRC via the Health Physics Network	When EOF is activated	As requested by the HPN Communicator
EOF > TSC	Protective action recommendations	Response Manager > SED	PARs recommended to states; actions implemented by states	When PARs are made; when states implement actions	As necessary
EOF > TSC	Dose estimates or dose rate values that exceed AS1 or AG1 IC limits	Response Manager > SED	Dose estimates or dose rate values identified by EOF dose assessment personnel	When dose or dose rate is recognized by EOF staff to exceed AS1 or AG1 ICs	As required for reclassification of the emergency by the SED
EOF > TSC	Planned releases	Response Manager > SED	Discuss form ER 3.1M Section 1 contents with the SED.; authorize planned releases	After review of form ER 3.1M data in the EOF and with offsite officials	As necessary
EOF > TSC	Plant operation status	Technical Assistant > Emergency Operations Manager	Request information on affected systems and components, operation status, release pathways, EOPs, etc.	On arrival of the Technical Assistant in EOF and completion of previous activation actions per checklist	As requested by the Technical Assistant
EOF > TSC	Estimated release termination	Technical Assistant > Emergency Operations Manager	Determine estimated time when a release in progress can be terminated	When a radiological release above Tech Spec allowable limits is in progress	As requested by the Technical Assistant
EOF > TSC	NRC responders	Licensing Coordinator > Tech. Services Coordinator	Number, names, expected time of NRC responders to the site	When NRC personnel are ready to deploy to the site	As necessary
EOF > TSC	Dose assessment	Dose Assessment Specialist > Health Physics Coordinator	Onsite radiological data for dose assessment calculations	For Raddose input	As requested by the Dose Assessment Specialist
EOF > TSC	Emergency exposure limit extensions >4500 mr	Dosimetry Records Personnel > SED	For approval of OSMT individual extensions	When needed for deployment of offsite monitoring teams	As necessary
EOF > TSC	Engineering inquiries	Training Center Staff > TSC Engineering Staff	Plant system and component status	As directed by the Technical Assistant	As requested by the Technical Assistant
EOF > TSC	Downgrade or termination of emergency classification	Response Manager > SED	Review of emergency classification downgrade or termination with state and federal authorities	After notified by SED of conditions allowing downgrade or termination of the emergency classification	Based on conditions
EOF > TSC	Recovery	Response Manager > SED	Decision to enter recovery and direction to develop onsite recovery organization	After downgrade of emergency classification level	Once

Figure 11
Offsite Monitoring and Sampling Team Deployment Flowchart



OMC - Offsite Monitoring Coordinator
OMST - Offsite Monitoring and Sampling Teams
OSC - Operational Support Center
Margin - Remaining Allowable Exposure

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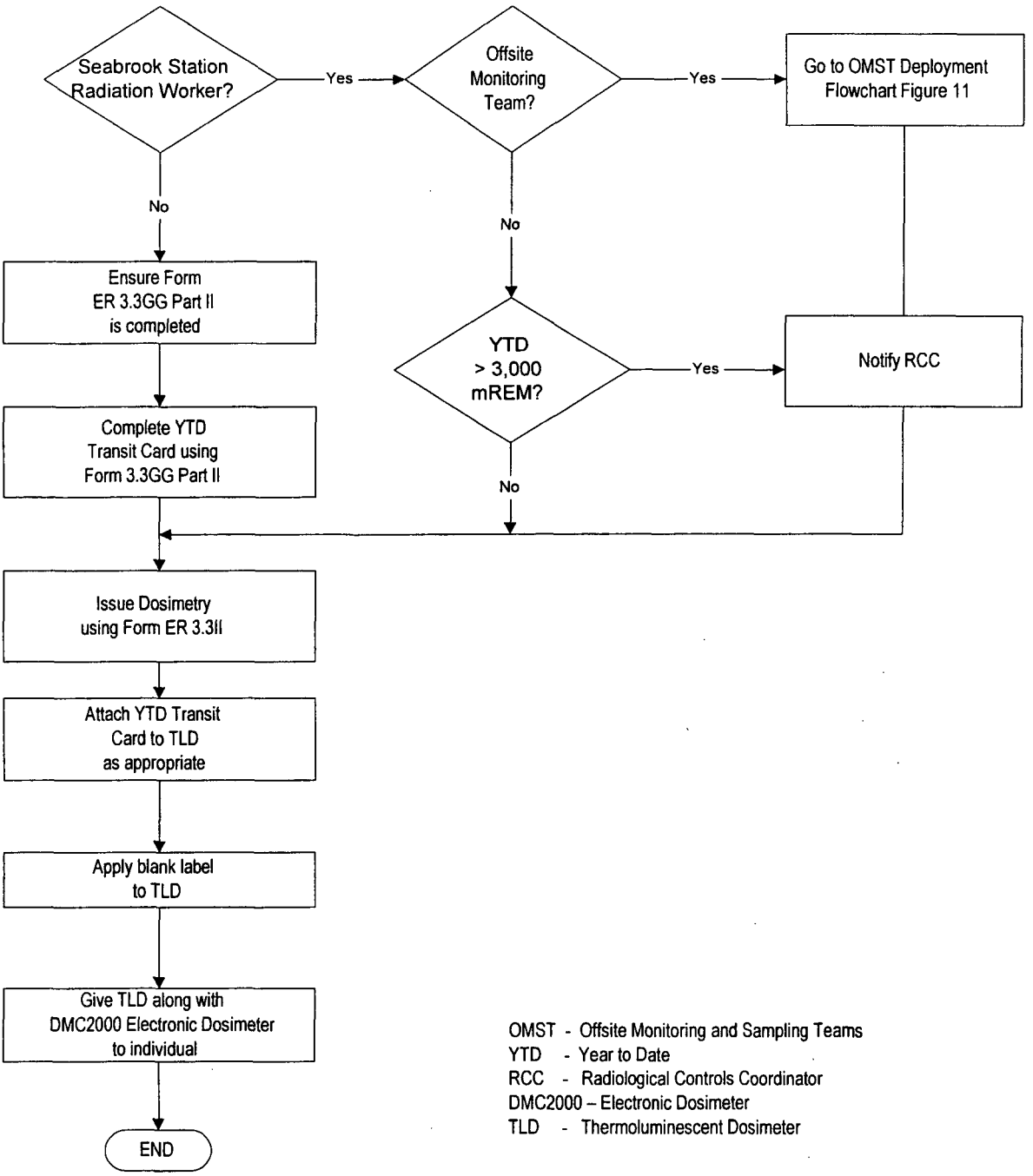
Figure 12
EOF Dosimetry Issue Flowchart



OMST - Offsite Monitoring and Sampling Teams
YTD - Year to Date
RCC - Radiological Controls Coordinator
DMC2000 – Electronic Dosimeter
TLD - Thermoluminescent Dosimeter

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Figure 13
TEDE YTD Transit Card

TEDE YTD TRANSIT CARD

Name:

SSN:

TEDE YTD: _____ mrem
estimate/record

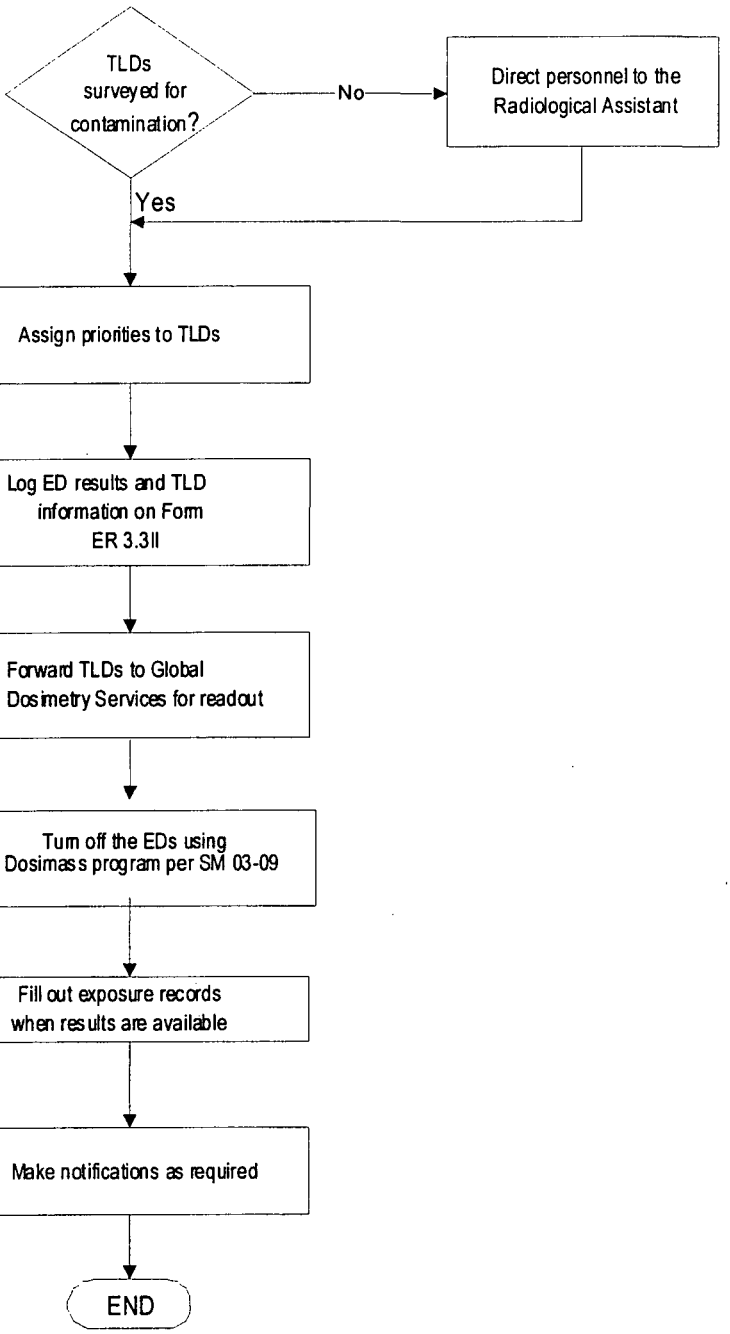
Dose Limit Extended to _____ mrem

Initial

Figure 14

(DELETED)

Figure 15
EOF Dosimetry Return Flowchart



ED – Electronic Dosimeter
TLD Thermoluminescent Dosimeter

Figure 16
Post-Emergency Organizations

(DELETED)

Figure 17
EOF Primary Responder Actions During a Security Event
(Sheet 1 of 3)

Prerequisites

1. An emergency classification level has been declared due to a security event.

2. ERO pagers have been activated either with a text message announcing the emergency classification due to a security event or with the numeric code "22222".

Actions:

1. Response Manager

   a. Establish command structure in the EOF. Supplemental Material 01-08 contains guidance for staging TSC/OSC personnel in the EOF.

   b. Initiate a Response Manager log.

   c. Confer with the Site Emergency Director; determine plant status, emergency status, and security event status. Coordinate roles and responsibilities.

NOTE

If the Security Command Center is activated onsite, the Security Coordinator position in the EOF will not be staffed. Security management staff will be located in the Security Command Center. For this contingency, perform the following actions:

- **Assign a senior off-duty EOF responder (e.g., an off-duty Response Manager, Admin Services Coordinator, EOF Coordinator) to establish and maintain telephone communications with the Security Command Center (SCC) using the PrivateL telephone. This responder will be identified as the Response Manager's designated SCC Communicator.**
- **Direct the SCC Communicator to establish contact with a TSC designated responder in the SCC or with Security management staff in the SCC.**
- **Ensure via the Emergency News Manager that any Communications staff responding to the SCC maintains contact only with the Response Manager or the Response Manager's designated SCC Communicator until communications can be established and maintained with the TSC designated SCC responder or with Security management staff in the SCC.**

   d. Brief ERO Technical Liaison and EOF Coordinator on status and determine appropriate offsite points of contact and frequency of briefings of offsite officials.

   e. Ensure security measures are in place at the EOF. If Seabrook Station Security cannot provide security, direct the EOF Coordinator to contact the Newington Police Department and request a police detail to be assigned to the EOF. The telephone number for the Newington Police Department is in Section 5.3 of the Emergency Response Telephone Directory.

Figure 17
EOF Primary Responder Actions During a Security Event
(Sheet 2 of 3)

Response Manager actions (cont'd)

f. Brief the Emergency News Manager, authorize dissemination of information to the news media, and determine controls to be implemented for any media personnel and media vehicles that arrive at the EOF.

g. If not already done, confirm notification of NextEra Energy executive management via the Nuclear Division Duty Officer. Determine method of updating NextEra Energy executive management.

h. Brief personnel in the EOF on conditions by either a group meeting or via the public address system.

i. Assign an available Administrative Services Coordinator to establish EOF access control and sign-in, to assess EOF and Media Center staff availability and to report to you on EOF position staffing and total number of ERO personnel available in the EOF.

j. Direct the assigned Administrative Services Coordinator to complete a form ER 3.3M to document 1st and 2nd shift EOF staffing.

k. Consider activation of the EOF.

l. Confer with the Site Emergency Director and the EOF Coordinator to consider taking over state notifications, PARs, and industry support requests.

m. Establish action tracking in the EOF.

n. Confirm with the Emergency News Manager that the Employee Information Line and the external Seabrook Station Info Line have been updated.

o. Confer with the EOF Coordinator to determine the need for food and beverages at the EOF. If yes, request the Administrative Services Coordinator to make arrangements.

p. As the next shift reporting hour approaches, request the Administrative Services Coordinator to work with TSC staff to contact any non-ERO employees needed at the station to direct them to report to the EOF.

q. Confer with the Site Emergency Director to determine if special transportation arrangements are required for transport of personnel to and from the station. If yes, request the Administrative Services Coordinator to make arrangements.

r. Coordinate with the Site Emergency Director and the OSC Coordinator the release of personnel who are not required for facility staffing and to determine instructions to be provided to dismissed personnel.

Figure 17
EOF Primary Responder Actions During a Security Event
(Sheet 3 of 3)

Response Manager actions (cont'd)

s. On an on-going basis:

1) provide frequent updates to the building staff
2) monitor media activity and rumors
3) verify security measures at the EOF are effective
4) review action list
5) monitor communications with offsite officials
6) speak with state emergency management directors as appropriate
7) monitor information on the Employee Information Line and the external Info Line
8) monitor questions directed to the EOF from employees and replies provided
9) prepare for family inquiries about employees, including security personnel
10) ensure affected contractor management is notified
11) work with the Emergency News Manager to prepare for inquires from public office holders.
12) monitor EOF preparations for arriving personnel

2. EOF Coordinator

a. Assist the Response Manager with oversight of EOF operations and communications with state emergency management and public health officials.

b. As directed by the Response Manager, contact the Newington Police Department and request a police detail to be assigned to the EOF. The number for the Newington Police Department is in Section 5.3 of the Emergency Response Telephone Directory.

3. ERO Technical Liaison

Assist the Response Manager with communications with state and local officials.

4. Emergency News Manager – Refer to ER 3.5, Media Center Operations, Figure 3

Figure 18
Summary of Changes
(Sheet 1 of 4)

Rev. 46

In Figures 1 and 2, and throughout the procedure, replaced references to AREVA radiological support services personnel with Radiation Safety & Control Services (RSCS) support personnel for purposes of providing environmental sample analysis capability in the EOF. (AR#571263)

On form ER 3.3D, Response Manager Checklist, reordered §1 activation steps to facilitate timely activation of the EOF. (AR#3220062)

On form ER 3.3F, Dose Assessment Specialist, replaced references to AREVA with RSCS support for environmental sample analysis and added a new §7 titled Environmental Sample Analysis that contains guidance for designating laboratories for sample analysis and for notifying GEL Labs if needed for augmented sample analysis. (AR#571263)

On form ER 3.3H, Technical Assistant, added a step 2.d under §2 Accident Assessment that alerts the Technical Assistant to potential requests for containment spray status, status of plant vent filters, and steam flow and refers to guidance in ER 3.3LL for obtaining this information. (AR#571247)

On form ER 3.3H, Technical Assistant, deleted action to assign Training Center Staff to manually start the EOF diesel if a power outage occurs. (AR#218978)

On form ER 3.3I, Offsite Monitoring Coordinator, revised environmental sampling guidance in §2.ii to replace references to AREVA Westborough Lab with GEL Labs and added guidance to §4, Environmental Sample Analysis, for segregating samples in accordance with preparation requirements for shipping and for arranging for transport of samples to GEL Labs. (AR#571263)

On form ER 3.3K, Radiological Assistant, added new steps d. and m. to §3, Radiation/Contamination Controls, that directs posting a restricted area sign on the exterior door next to Emergency Services Room and informing Security when release conditions require full implementation of contamination controls for the EOF and requesting a public address announcement of implementation of the contamination controls. (AR#222758)

On form ER 3.3K, §5, changed references to AREVA radiological analysis support in the EOF to RSCS and added guidance in §6, Environmental Sample Preparation, for segregating samples for designated laboratory analysis and for shipping preparation requirements. Changed references to AREVA Westborough Lab to GEL Labs. (AR#571263)

On form ER 3.3L, Administrative Services Coordinator, replaced references in §4. step a (1) to AREVA support personnel with RSCS support personnel (2nd shift staffing). (AR#571263)

On form ER 3.3M, ERO Staff Planning, added to the list of OSC positions Work Planner – Mechanical/Valve Maintenance and Work Planner – Electrical/I&C Maintenance. (AR#4622)

Figure 18
Summary of Changes
(Sheet 2 of 4)

Rev. 46 (con't)

On form ER 3.3R, Industry Liaison, §2 replace references to AREVA with RSCS, provide direction to confirm deployment of RSCS support personnel to the EOF and, at request of the Dose Assessment Specialist, to contact GEL Labs and make arrangements for receipt of environmental samples. (AR#571263)

On form ER 3.3W, EOF Support Staff, corrected obsolete references (e.g., NHBEM).

On form ER 3.3AA, Material and Logistics Coordinator, corrected references (e.g., FPL).

On form ER 3.3DD, Dosimetry Records Personnel, replaced references to AREVA TLD support services to Mirion Technologies Dosimetry Services Division (GDS) and in step 2.e.(3)(c) added guidance to use PADS if applicable (e.g., contractors) to determine current year exposure for personnel who may have been monitored by other plant programs. (AR#216054)

On form ER 3.3KK, ERO Technical Liaison, updated title references (Seabrook Station State EOC Technical Representative to State EOC Technical Liaison, MEMA Nuclear Engineer to MEMA Nuclear Preparedness Manager). (AR#572010)

On form ER 3.3LL, Training Center Staff, added to §2, Accident Assessment, new step i with guidance for obtaining via SDS information for dose assessment staff on status of containment sprays, status of plant vent filters, and steam generator steam flow data. (AR571247)

Rev. 45:

In §6.0, added a reference to NRS RIS 2009-10, Communications Between the NRC and Reactor Licensees During Emergencies and Significant Events. (AR 203953)

In Figure 4, deleted instructions for manual start of the EOF standby diesel generator, because of the installation of an auto-start feature.

On Figure 7, Loss of Power to the EOF, added instructions for calling in the diesel generator vendor or an OSC electrician if the diesel generator failed to auto-start on loss of power.

In Figure 17, EOF Actions for Security Events, deleted security event actions for the Emergency News Manager and referred to actions listed in ER 3.5 for the Emergency News Manager.

On form ER 3.3D, Response Manager Checklist, added guidance in step 5.b for the Response Manager to review release status uncertainty with the Site Emergency Director, EOF Coordinator and Technical Assistance and to make the final decision on the release status. (AR 204055)

Figure 18
Summary of Changes

(Sheet 3 of 4)

Rev. 45 (con't):

On form ER 3.3D, included guidance for communicating with the NRC Executive Team Director and included a set of questions likely to be asked per NRC RIS 2009-10. (AR 203953)

On form ER 3.3D, updated guidance for conducting EOF briefings.

On form ER 3.3E, EOF Coordinator, at guidance at step 5.b for referring questions about the status of a release to the Response Manager and indicating the Response Manager will make the final decision concerning release status. (AR 204055)

On form ER 3.3I, Offsite Monitoring Coordinator Checklist, corrected references to steps in SM 08-03 for displaying the field monitoring team data form from the desk top computer and removed reference to obsolete SM 02-05. (AR 201546 and AR 203934).

On form ER 3.3J, Security Leader, added references to the TSC Security Leader position.

On form ER 3.3L, Administrative Services Coordinator, added instructions for failure of the satellite controlled clocks and for responding to a fire alarm in the EOF. (AR 201552).

On form ER 3.3M, Staff Planning, added the Security Leader position to TSC staffing.

On form ER 3.3DD, corrected the KI storage location in step 2.e (4) a. (AR 216054)

On form ER 3.3LL, Training Center Staff, removed direction to manually start the EOF standby emergency diesel per Figure 4. Augmented instructions for checking the fuel gauge and ensuring sufficient fuel for operation of the diesel.

On form ER 3.3MM, Offsite Monitoring Communicator, added reference to actions in SM 08-03 for displaying the field monitoring team data sheet in the EOF via desk top computer.

Rev. 44:

In Figure 1, revised the EOF layout to reflect arrangement of new furniture (CR 08-13049).

In Figure 7, revised EOF Loss of Power actions to recognize that the EOF HVAC system is powered by the emergency diesel generator.

On Form ER 3.3C, added an action for the Dose Assessment Personnel to obtain completed copies of form ER 5.2C, EOF Survey/Air Sample Calculation Worksheet, from the Offsite Monitoring Coordinator for distribution to EOF staff and offsite personnel. (CR 08-15346)

On Form ER 3.3E, added an action for the EOF Coordinator to provide completed copies of the State Notification Fact Sheet to the HPN Communicator for timely reports to the NRC. (CR 08-12328)

Figure 18
Summary of Changes

(Sheet 4 of 4)

Rev. 44 (con't)

On Form ER 3.3I, revised the Offsite Monitoring Coordinator's actions for obtaining and assigning field monitoring team vehicles and for communicating with field teams to recognize addition of dedicated vehicles, the UHF communications system and use of WebEOC. (CR 08-12328)

On Form ER 3:3W corrected numbering sequence.

On Form ER 3.3AA, Material and Logistics Coordinator added a reference to supplemental material for operation of the work station personal computer.

On Form ER 3.3MM, revised the Offsite Monitoring Communicator Checklist to recognize the UHF field monitoring team communications system and to delete the requirement to contact Fallon Ambulance to vacate the VHF frequency. (CR 08-17391)

Rev. 43:

Throughout, revised position checklists to remove references to tote boxes. Refer to position materials maintained at the position work station instead.

Throughout, recognized conversion to NEI 99-01 emergency action levels and revised associated references to be consistent with NEI 99-01 emergency action levels.(CR 07-07969)

Throughout, recognized conversion to the Raddose-V dose projection system and revised associated references and procedure instructions to be consistent with the Raddose-V system.

In Figure 6, Release Definition, changed the definition in item D to be consistent with the Raddose-V dose projection program. (CR 07-00229)

On form ER 3.3E, EOF Coordinator Checklist, added a step to ensure that, where a wind shift changes a PAR, the changed PAR includes any ERPAs included in the previous PAR.

On form ER 3.3F, Dose Assessment Specialist Checklist, made changes to instructions for operating the dose projection system to be consistent with the Raddose-V system.

On form ER 3.3G, conformed Meteorological Conditions form to the EOF status board.

On form ER 3.3LL, Training Center Staff Checklist, changed the indication of a two-phase flow condition from >100% wide range level to >99% wide range level to be consistent with the value used by the Raddose-V dose projection system.

On form ER 3.3MM, Offsite Monitoring Communicator Checklist, added space for recording the contact name, telephone number and time of contact with Fallon Ambulance to clear the radio channel. (CR 08-02349)

RESPONSE MANAGER BRIEFING FORM

NOTES

1. Introductions – Identify yourself by name and ERO position. Request EOF staff persons present to do the same. Request offsite participants to identify themselves by name, agency and position.
2. Current emergency classification level is:_____
3. Initiating Condition and EAL in effect is:_____
4. Summarize events from initial emergency classification to now.
5. Review current plant status:
   - % power (shutdown rate and anticipated time of shutdown if applicable)
   - operating mode - explain
   - emergency operating procedure in effect and its purpose
   - safety equipment in operation and its purpose
   - plant structures, systems and components affected
   - radiological release status
   - in-plant radiological conditions
   - plant stability status – see Supplemental Material 03-01
6. Repair and corrective actions underway or planned
7. Other mitigating actions underway or planned (e.g., INPO assistance, vendor assistance, equipment acquisition)
8. Status of Seabrook Station personnel (e.g., site personnel evacuated to home or remote monitoring, personnel injuries, accountability results)
9. Status of Seabrook Station ERO (e.g., facilities activated, field monitoring teams deployed)
10. Results of offsite monitoring and radiological assessments
11. Protective action recommendations made by Seabrook Station ERO
12. Solicit from offsite officials information on precautionary or protective actions being considered or implemented by the states (e.g., beaches closed, school relocation, sirens and emergency alert system)
13. Solicit from offsite officials state and local response status (e.g., facilities activated, traffic and access controls) NOTE: Discuss requirements for access of Seabrook Station responders through traffic and access control points.
14. Solicit from offsite officials any additional information requirements they have, challenges they face in response to the event, and additional support Seabrook Station can provide.
15. Solicit from federal officials status of the federal response (e.g., NRC response mode at headquarters and the region, site team response)
16. Review level of media interest (e.g., presence in Media Center, questions asked, content of briefings, content of media reports)
17. Review available answers to any open questions from prior briefings
18. Throw discussion open to participants/take questions.
19. Review actions and actions assignments.
20. Set time for next briefing

EMERGENCY RESPONSE PERSONNEL REQUIRING SITE ACCESS

The Security Department is requested to badge the following individuals for site access and to provide the route to be taken to access the site. These individuals have been briefed on the plant conditions, have received the required dosimetry, and have been informed where and to whom they are to report.

DATE	NAME	AFFILIATION	SIGNATURE

INDUSTRY LIAISON SIGNATURE

DOSE ASSESSMENT PERSONNEL CHECKLIST

INITIAL

1. ACTIVATION

   a. Sign in on the EOF roster board. ____

   b. Obtain the Dose Assessment Personnel emergency response position materials at your work station and initiate this checklist. ____

   c. Clip-on the position badge. Do not obscure your station badge. ____

   d. Verify operability of copy machines and adequacy of the paper supply. ____

   e. Ensure the paper trays are present for documentation handling. ____

   f. Assist the Raddose Operator and Dose Assessment Specialist in establishing adequate supply of dose assessment forms. ____

2. ACCIDENT ASSESSMENT

   a. Obtain logger trend printouts from the Technical Assistant and provide it to the Raddose Operator. Make 3 copies of each logger trend report and place in appropriate mail slot in the Dose Assessment Room for state public health personnel identified under step 2.c.

   b. Obtain completed copies of form ER 5.2C, EOF Survey/Air Sample Calculation Worksheet from the Offsite Monitoring Coordinator and distribute per step 2.c.

   c. After each Raddose run , copy the following documents into one package for distribution and distribute as follows:

Documents	Distribution
1. Forecast Summary Report	- Response Manager
2. 10 Mile Map	- EOF Coordinator (hand-deliver)
	- HPN Communicator (hand-deliver)
	- MA Public Health Department* (MDPH)
	- NRC Protective Measures Coordinator*
	- NH Public Health Department* (DPHS)
	- Maine Department of Health Engineering*
	- NH Emergency Management

* Place in the appropriate mail slot in the Dose Assessment Room.

   d. Using form ER 3.3G, update the Meteorological Conditions board in the Emergency Operations area as directed by the Dose Assessment Specialist.

   e. Depict approximate plume location on the plume EPZ map based on the 10 Mile Map plots or as otherwise directed.

3. DEACTIVATION

   Place original documentation in chronological order and provide to the Dose Assessment Specialist.

RESPONSE MANAGER CHECKLIST

INITIAL

1. ACTIVATION

a. Sign in on the EOF roster board. ____

b. Obtain the Response Manager emergency response position materials at your work station and initiate this checklist. ____

c. Clip-on the position badge. Do not obscure your station badge. ____

d. Direct the Administrative Services Coordinator to assign an individual to maintain a log for you using form ER 2.0E, Emergency Facility Log. ____

e. Determine EOF staffing status from the Administrative Services Coordinator. ____

f. Brief the EOF staff on the emergency status using the EOF page system and ensure that EOF staff has completed or is nearing completion of the activation sections of their checklists. ____

g. The following personnel should be present before the EOF is declared activated: (Protected: Ref. 6.19) ____

(1) Response Manager
(2) EOF Coordinator
(3) Dose Assessment Specialist
(4) Offsite Monitoring Coordinator
(5) Administrative Services Coordinator
(6) Technical Assistant
(7) ERO Technical Liaison
(8) Personnel for 2 offsite monitoring teams (2 monitors and 2 drivers)

NOTE
During security events, the Security Coordinator position in the EOF will not be filled. Refer to Figure 17 for instructions for this contingency.

h. Declare the EOF activated. ____

i. Contact the Site Emergency Director and assume the following non-delegable responsibilities from the Site Emergency Director. (Protected: Ref. 6.9) ____

(1) Authorization of PARs
(2) Authorization of State notifications
(3) Authorization of news releases
(4) Authorization of requests for industry emergency response assistance

INITIAL

j. Inform the SED of EOF activation. ____

2. ACCIDENT ASSESSMENT/MITIGATION

a. Establish a briefing schedule with the Site Emergency Director (e.g., on the half hour, etc.) to avoid trying to contact one another during scheduled facility briefings.

b. Obtain regular plant status briefings from the SED. See Figure 10 for a Summary of Typical TSC/EOF Communications.

c. Conduct regular briefings for the EOF Staff.

d. Document and periodically review "action items" needed to respond to the emergency (e.g., what is needed, who is responsible, due dates/times, priorities, coordination among affected facilities and individuals, etc.).

e. Ensure that "action item" assignments, expectations and priorities are communicated to the appropriate individuals.

3. CLASSIFICATION

a. If the EOF staff recognizes a dose or dose rate condition that meets or exceeds Initiating Conditions AS1 or AG1, notify the SED immediately to reclassify the emergency.

b. If the TSC determines an estimated release duration of less than the four (4) hour Raddose default value, validate the basis of the shorter release duration with the SED, then make the final decision on the estimated release duration to be used.

CAUTION

State notifications shall be initiated within 15 minutes of reclassification.

c. After the SED reclassifies the emergency, authorize the EOF Coordinator to notify the states.

4. PROTECTIVE ACTION RECOMMENDATIONS (PARs)

CAUTION

State notifications shall be initiated within 15 minutes of Response Manager Approval of a new PAR.

a. Review proposed PARs as provided by the EOF Coordinator.

b. Authorize the PAR by signature in Block 6 of form ER 2.0B.

c. Direct the EOF Coordinator to make necessary PAR notifications.

d. Convene a meeting of available State and Federal agency representatives to discuss Seabrook Station's PAR and receive input from the offsite organizations on their intended actions/responses.

e. Review each step listed above upon reclassification of the event.

5. NOTIFICATIONS AND BRIEFINGS

a. Authorize State notifications; review and sign forms as required.

> NOTE
>
> The criteria to be used in determination of a radiological release are in Figure 6.

b. Ensure the states are notified of any change in radiological release status. If there is any question about the initiation of a release or the termination of a release, discuss the release status with the EOF Coordinator, Technical Assistant and Site Emergency Director to confirm the release status. Make the final decision on release status.

c. Notify and provide a briefing to NextEra Energy executive management.

d. Conduct regular briefings with the EOF staff and offsite representatives in the EOF operations area using the EOF public address system as appropriate. Refer to for ER 3.3A, Response Manager Briefing Form, for guidance. Consider holding a staff briefing:

(1) At intervals agreed to with the Site Emergency Director
(2) Following a significant change in accident conditions
(3) Following a change in emergency classification level
(4) Following a change in radiological conditions
(5) Following a change in protective action recommendations
(6) Following a change in response actions or priorities

e. Conduct EOF staff briefings with the following format in mind:

(1) **B**eginning: This is a brief
(2) **R**eview: Discuss what has happened in a brief sequence of events
(3) **I**nput: Does anyone have any questions or anything to add
(4) **E**xpectations: Where are we going, what are the concerns, what are our priorities
(5) **F**inish: The brief is over

f. Identify Seabrook Station ERO personnel who should participate in the briefing, for example:

- Technical Assistant – plant status
- EOF Coordinator – radiological conditions and dose assessment
- Emergency News Manager or Media Center Technical Advisor – media interest, information being issued, content of media reports

g. If the NRC is attending the briefing, ensure that the Licensing Coordinator captures any commitments made to NRC personnel.

h. Following the briefing, ensure that action items and commitments discussed in the briefing are assigned to appropriate individuals.

i. Depending on the nature and severity of the event (e.g., involving onsite or offsite protective actions or a security event), the NRC Executive Team Director (NRC Chairman or designated Commissioner) will want to be briefed by the licensee's management representative (i.e., Response Manager) on key issues for which the NRC may be able to provide assistance or to inform briefings. Following are questions the Executive Team Director is likely to ask: (Protected Ref: 6.23)

- What are the licensee's current top priorities for the station?
- Are there significant uncertainties about any aspect of the event (e.g., is the situation improving or degrading)?
- Does the licensee need help from the NRC or other Federal agencies?
- Is the licensee having any communication or staffing problems?

j. If the Executive Team Director briefing would interfere with Response Manager primary responsibilities (i.e., authorization of PARs and state notifications), the Response Manager may delegate the briefing to another senior ERO position holder (e.g., Licensing Coordinator).

k. Ensure the Media Center, through the Technical Advisor, is aware of changing plant status and response actions.

l. Ascertain the status of media briefings taking place in the media center and how media are responding to information being released by Seabrook Station and state public information officers. Review and approve news statements, if generated.

m. Review and approve news statements, if generated.

6. STAFFING/EQUIPMENT NEEDS

   a. Direct requests for additional staffing or equipment resources to the Administrative Services Coordinator.

   b. Monitor and approve requests for assistance to various industry and support groups (e.g., Westinghouse and INPO), as necessary.

   c. If the State of New Hampshire or Massachusetts requests additional support staff or resources, consider asking INPO for help in meeting these requests through industry mutual assistance. If industry support is requested for state monitoring and decontamination activities, instruct INPO to have the contacted utility ensure that designated personnel are not part of the Massachusetts Nuclear Incident Advisory Team (NIAT).

7. PLANNED RELEASES

   a. Review Section 1 of form ER 3.1M, Planned Radiological Releases Data. Discuss the information with the Site Emergency Director.

   b. Review Sections 2 and 3 of form ER 3.1M. Discuss the information with the EOF Coordinator. When possible, discuss protective actions associated with the pending release and obtain concurrence of offsite authorities before a planned release is authorized.

   c. Complete Section 4 of form ER 3.1M.

   d. Direct the SED to implement the release and associated sampling and monitoring actions.

   e. Direct the EOF Coordinator to inform the States of the release and its projected duration.

   f. Direct the Emergency News Manager to draft a news statement on the event.

   g. Notify offsite authorities when the action has been completed.

8. EMERGENCY TERMINATION AND RECOVERY

When the risk posed by the emergency is clearly decreasing or has ceased, downgrade or closeout of the emergency is appropriate. A combination approach is used and summarized in the table below.

	Classification Downgrading Allowed?	Event Closeout via Termination?	Event Closeout via Recovery?
Unusual Event	N/A	Yes	No
Alert	Yes	Yes	No
Site Area Emergency with no long-term station damage	Yes	Yes	No
Site Area Emergency with long-term station damage	Yes	No	Yes; may occur after downgrading
General Emergency	Yes	No	Yes; may occur after downgrading

NOTE

Prior to downgrading an emergency classification from a Site Area Emergency or a General Emergency, perform the following:

(1) Confer with the Site Emergency Director, Technical Assistant and EOF Coordinator to verify that the EALs, which required the current classification, are no longer met by existing (and/or projected) operational or radiological parameters.

(2) Review the basis for downgrading with cognizant State and Federal authorities.

(3) Inform state authorities that no protective action recommendations will be made when the emergency classification is downgraded. The states must decide whether to maintain or modify previous protective action decisions.

a. Confer with the Site Emergency Director, Technical Assistant and EOF Coordinator to determine whether actual/potential conditions warrant entry into a recovery mode.

b. If recovery is appropriate, direct the Site Emergency Director, Technical Assistant and EOF Coordinator to confer with their respective staffs and determine whether any radiological and/or operational conditions exist which would preclude entry into a recovery mode.

NOTE
Conditions required for declaring recovery are listed in Section 4, Prerequisites.

c. Direct development of an EOF recovery organization and EOF recovery work plans taking into account incident specifics. Refer to emergency response procedure ER 6.0, Recovery Planning, for specific Response Manger actions pertaining to recovery planning, an example recovery organization and recovery work plan templates.

9. DEACTIVATION

Submit all emergency documentation to the Administrative Services Coordinator.

EOF COORDINATOR CHECKLIST

INITIAL

1. ACTIVATION

a. Sign in on the EOF roster board. ____

b. Obtain the EOF Coordinator's emergency response position materials at your work station and initiate this checklist. ____

c. Clip-on the position badge. Do not obscure your station badge. ____

d. Check workstation telephones for operability. ____

e. Maintain a log using form ER 2.0E, Emergency Facility Log. ____

f. Obtain a briefing from the Response Manager. ____

g. If the Response Manager is unavailable, contact the Site Emergency Director (SED) for a briefing on the following: ____

(1) Station status
(2) radiological releases, if applicable
(3) classification
(4) offsite notification status
(5) protective action recommendations (PARs) status

h. Ensure that the HPN Communicator maintains the Health Physics Network (HPN), if requested to do so by the NRC. ____

i. Inform the Response Manager when responsibility for notifications and protective action recommendations can be assumed. ____

j. If a radiological release has occurred or is in progress, advise the Administrative Coordinator and the Security Coordinator concerning release instructions for personnel in the Assembly Area. ____

k. Obtain copies of all completed State notification forms from the TSC (fax from the Site Emergency Director). Provide copies to the HPN Communicator. ____

2. ACCIDENT/DOSE ASSESSMENT

NOTE
The criteria to be used in determination of a Radiological Release are in Figure 6.

a. Coordinate offsite radiological and protective action assessments with the Dose Assessment Specialist and Offsite Monitoring Coordinator.

b. As needed, obtain Station operational data from the Technical Assistant.

c. As needed, obtain onsite radiological data from the HP Coordinator.

3. CLASSIFICATION

CAUTION

Initiating Conditions AS1 and AG1 are based on EOF dose projections or field monitoring team dose rate readings when the EOF is activated.

a. Review offsite dose projections or field monitoring data that may affect the emergency classification or protective action recommendations.

b. Inform the Response Manager immediately when dose estimates or dose rate values exceed Initiating Condition AS1 or AG1 levels.

4. PROTECTIVE ACTION RECOMMENDATIONS (PARs)

CAUTION

When performing PAR assessments using ER 5.4A, obtain Critical Safety Function Status Tree (CSFST) information from the Technical Assistant.

CAUTION

When completing ER 5.4A during a General Emergency, remember that the radiological criteria used to select a PAR Group B is based on the TEDE and adult thyroid CDE dose at 5 miles, not dose rate.

a. As changes in station and radiological conditions warrant, complete form ER 5.4A, Plume Exposure Protective Action Recommendation (PAR) Worksheet.

b. If a new PAR is identified by completion of ER 5.4, complete form ER 2.0B, State Notification Fact Sheet, with the PAR results.

c. If a wind direction shift causes another ERPA to be affected by a PAR, the PAR must not change for any previously affected ERPA. Any previous PAR must remain in effect.

d. Review form ER 2.0B with the Response Manager and obtain his authorization.

e. Transmit the information on ER 2.0B to the State Emergency Operations Centers using the Nuclear Alert System (NAS) Group Call Number **A2**. If the NAS Group Call number fails, establish contact the backup method in Supplemental Material 97-02 - "Nuclear Alert System (NAS) and Backup Phone Instructions."

f. Verify that State personnel have correctly received ER 2.0B information by asking one or both to read back the information.

g. Notify the appropriate State and NRC personnel present at the EOF of any PARs transmitted to the State EOCs, and give them a copy of form ER 2.0B.

h. Direct an EOF Support Staff to fax the completed form ER 2.0B to the Site Emergency Director (SED) in the TSC and to provide a copy to the HPN Communicator.

i. Periodically review protective actions implemented by State authorities, including precautionary actions. Ensure that protective action-related information is posted and kept current on the protective action status board.

j. When the evaluation process above results in no PAR, carefully review the Station conditions and prognosis with the Response Manager and Technical Assistant. Depending on the results of this review, consider issuing a precautionary PAR that is appropriate to the Station prognosis.

CAUTION

Ensure that public protective actions within the 10 Mile EPZ have been completed before recommending PARs for the public beyond the 10 Mile EPZ.

k. If a projected dose based on field measurement data is TEDE ≥ 1 rem or CDE Thyroid ≥ 5 rem at 10 miles downwind or farther, do the following:

(1) Consult with NRC and DOE dose assessment personnel to determine if their models obtain similar dose projections.
(2) Review the dose projections with MA, ME, and NH public health personnel present at the EOF.
(3) Determine with MA, ME, and NH public health and emergency management personnel present at the EOF what public protective actions are warranted for specific jurisdictions beyond the 10 mile EPZ jurisdictions.
(4) Complete form ER 2.0L, State Notification of Protective Action Recommendations Beyond the 10 Mile EPZ.
(5) Obtain the Response Manager's approval signature on form ER 2.0L.

(6) Notify the states via telephone numbers shown on form ER 2.0L.

(7) Direct an EOF Support Staff to fax completed form ER 2.0L to the SED in the TSC and to provide a copy to the HPN Communicator.

(8) Post PAR and specific towns affected on the EOF accident time log board.

5. NOTIFICATIONS

CAUTION

Notifications shall be initiated within 15 minutes upon reclassification of the event or formulation of a new PAR.

a. Complete form ER 2.0B following reclassification, change in radiological release condition or to recommend protective actions. The definition of a "release" as used in Block 5 of the form is provided in Figure 6.

b. If there is any question about the initiation of a radiological release or the termination of a release, discuss it with the Response Manager. The Response Manager will make the final decision on the release status.

c. If notification is for a downgraded emergency classification, check "None" in block 4 of form ER 2.0B.

d. Review form ER 2.0B with the Response Manager and obtain authorization.

e. Transmit the information on ER 2.0B to the State Emergency Operations Centers using the Nuclear Alert System (NAS) Group Call number **A2**. If the NAS Group Call number fails, establish contact the backup method in Supplemental Material 97-02 - - "Nuclear Alert System (NAS) and Backup Phone Instructions."

f. Verify that State personnel have correctly received ER 2.0B information by asking one or both to read back the information.

g. Notify the appropriate State and NRC personnel present at the EOF of any notifications transmitted to the State EOCs, and give them a copy of form ER 2.0B.

h. Ensure state personnel in the EOF are aware of any radiological release status.

i. If a radiological release has occurred and been terminated or is in progress, inform state personnel in the EOF either that the release magnitude does not require offsite actions or that the release magnitude may require offsite actions.

j. Direct an EOF Support Staff to fax completed forms ER 2.0B to the SED in the TSC and to provide a copy to the HPN Communicator.

k. Direct the HPN Communicator to report changes in emergency status, offsite radiological status, and protective action recommendations to the NRC via the Health Physics Network phone.

l. When contact is established with State personnel present at the EOF, provide them periodic updates of plant and radiological conditions. Use form ER 2.0C, Follow-up Information Form, for this purpose if State personnel request it.

m. If State personnel are not present at the EOF, use form ER 2.0C to transmit follow-up information as requested to the State EOCs.

6. STAFFING/EQUIPMENT NEEDS

Direct requests for additional staffing or equipment resources to the Administrative Services Coordinator.

7. RELEASE OF ASSEMBLY AREA PERSONNEL

a. Inform the Administrative Services Coordinator if station radiological conditions require directing site personnel to the Remote Monitoring Area.

b. Inform the Administrative Services Coordinator if the Health Physics Coordinator recommends use of alternate transportation to the Remote Monitoring Area as a contamination control measure.

8. PLANNED RELEASES

a. Upon receipt of form ER 3.1M from the Site Emergency Director, direct the Dose Assessment Specialist to complete Section 2 of the form.

b. Using the dose rate information from Part C of Section 2 of form ER 3.1M, evaluate appropriate protective actions associated with the planned release using Procedure ER 5.4, Protective Action Recommendations, and document the results on form ER 2.0B, State Notification Fact Sheet. Obtain the Response Manager's authorization and report the results to the states.

NOTE

Use Section 3 of form ER 5.4A to complete the required evaluation referenced by Step b above. The wind direction used should be the forecasted wind direction for the period that the release is to be initiated. The release duration used should be the actual time it would take to vent the entire source term through the defined release path.

c. Having completed Section 2 of form ER 3.1M, coordinate discussions with offsite authorities (NH, MA, NRC). The following topics should be reviewed:

(1) Reason for release,

(2) Meteorological conditions and forecast information,

(3) Protective actions currently in effect,

(4) Additional protective actions required as a result of a planned release,

(5) Offsite agency concerns regarding a planned release, particularly the release start time,

(6) Appropriate media announcements regarding a planned release,

(7) Monitoring activities associated with the planned release condition, and

(8) Reporting requirements concerning release termination.

d. After discussing the planned release with offsite authorities, complete Section 3 of form ER 3.1M. Sign in the appropriate space and provide the entire form to the Response Manager.

e. Notify the remaining EOF representatives of the planned release.

f. Direct the Dose Assessment Specialist to appropriately position Offsite Monitoring Teams and periodically report any recorded field observation.

9. REENTRY AND RECOVERY

a. Provide reentry and recovery support per ER 6.0 as directed by the Response Manager.

b. Recommend that represented organizations make full use of available assessment resources at the EOF and other locations for the prompt determination of reentry and recovery strategies.

c. Ensure that Seabrook Station provides the required services and equipment to expedite the assessment of radiological samples taken in support of reentry and recovery activities.

d. Coordinate arrangements for use of additional sampling and measurement teams from other utilities as needed.

10. DEACTIVATION

Submit all emergency documentation to the Administrative Services Coordinator

DOSE ASSESSMENT SPECIALIST CHECKLIST

INITIAL

1. ACTIVATION

   a. Sign in on the EOF roster board. ____

   b. Obtain the Dose Assessment Specialist emergency response position materials at your work station and initiate this checklist. ____

   c. Clip-on the position badge. Do not obscure your station badge. ____

   d. Check workstation telephone for operability. ____

   e. Obtain an event and response briefing from the EOF Coordinator or the Response Manager. ____

   f. Ensure the Raddose-V computer is activated in accordance with Procedure ER 5.3, Operation of the Raddose-V. ____

   g. Periodically advise the EOF Coordinator as the activation status of the dose assessment, dosimetry, and offsite monitoring functions. ____

   h. Maintain a log using form ER 2.0E, Emergency Facility Log. ____

2. ACCIDENT ASSESSMENT

   a. Direct the activities of personnel performing dose assessment, dosimetry, and offsite monitoring functions.

   b. Control activities and noise levels in the dose assessment area to minimize distractions to dose assessment and offsite monitoring staff. (Protected: Ref. 6.20)

   c. Until the Raddose Operator reports, operate the Raddose-V program in accordance with Procedure ER 5.3.

   d. Direct activities of the Raddose Operator, including selection of program analysis and output options. Ensure the Raddose Operator verifies meteorology data on the logger trend report against input data. (Protected: Ref. 6.20)

> NOTE
>
> Two-phase flow- If the affected S/G wide range level exceeds 99%, a two-phase flow condition exists. The Raddose-V program recognizes this condition automatically and will calculate a significant CDE thyroid dose that can drive an increased PAR (Protected: Ref. 6.12)

e. If a radiological release is in progress, confer with the Technical Assistant to obtain an estimated time when the release will be terminated (i.e., release parameters return to within Technical Specification allowable limits). Provide this information to the Raddose Operator.

f. Determine with the Technical Assistant, the EOF Coordinator and the Health Physics Coordinator if there is a basis to change the four (4) hour default release duration assumed by Raddose-V. If there is consensus among EOF and TSC staff on a shorter or longer release duration, establish a new duration (# of hours) and ensure the Raddose Operator adjusts the release duration in the Raddose-V program. If there is disagreement on the release duration that should be used, the Response Manager will make the final decision on the release duration to be used for dose assessment purposes.

NOTE
The release rate calculation switches from the low to mid range channel at approximately 1.0E-2 μCi/cc.

g. Computer point C5200 identifies the operational channel of the WRGM monitors. If there is a question about the operational WRGM channel, refer to Supplemental Material 02-12, WRGM Channel Selection.

h. Use the Dose Assessment Specialist's Raddose computer to evaluate any "worst case" or "what if" release scenarios to assist in the Protective Action Recommendation review process.

i. As needed, obtain onsite radiological data from the HP Coordinator.

j. After each Raddose-V run, provide copies of the following items to the Dose Assessment Personnel for intra-facility distribution:

- Forecast Summary Report
- 10 Mile Map

k. Provide any additional input to the Dose Assessment Personnel for updating status boards.

l. Obtain weather forecast information by calling National Weather Services (NWS) at the numbers listed in the emergency response telephone directory or, as a backup, by calling the PSNH Control Center in Manchester (also listed in the emergency response telephone directory). Tune the weather services radio maintained in the dose assessment room to the 162.550 frequency for area forecast information.

m. Periodically review data reported by field monitoring team and compare with Raddose-V projections.

n. Raddose-V can be run in manual mode using grab sample isotopic analysis results or field monitoring data, instead of the Raddose-V accident default isotopic mix. If this is done, caution must be taken to ensure previous Raddose-V results using the default isotopic mix are not invalidated unless there is assurance that the grab sample analysis or field monitoring data are completely accurate. Obtain EOF Coordinator and Response Manager approval prior to changing from using the accident default isotopic mix to using the manually input grab sample analysis results or field monitoring data.

o. Periodically review status boards to verify that they contain current radiological and meteorological information.

p. As needed, refer to the following technical references maintained in the EOF dose assessment work area:

- System Design Specification for Seabrook Station, Raddose-V, Rev. 1, Nov. 2007
- Operator's Manual for Seabrook Station, Raddose-V, Rev. 1, Nov. 2007
- Detailed Design Manual for Seabrook Station, Raddose-V, Rev. 1, Nov. 2007
- EPA 400 for information on Protective Action Guides (Supplemental Material 94-07)
- Ingest System Manual for Seabrook Station

3. CLASSIFICATIONS

a. Periodically check the status of Initiating Conditions AS1 and AG1 and monitor the status of their associated EALs.

b. If Raddose trending indicates the potential to meet or exceed initiating condition AS1 or AG1, alert the Technical Assistant to validate the estimated release duration with the Emergency Operations Manager.

c. Inform the EOF Coordinator immediately when dose projections or dose rate values exceed Initiating Conditions AS1 or AG1 or any PAR criteria contained on form ER 5.4A. Refer to page 3 of the Forecast Summary Report for PAR results.

4. STAFFING/EQUIPMENT NEEDS

a. Direct requests for additional staffing or equipment resources to the EOF Coordinator.

b. Determine requirements for TLD readouts with Dosimetry Records Personnel.

c. When notified by the Security Coordinator that personnel are to be dispatched from the EOF to the site, provide a recommendation as to the best site access route(s) to use based on dose considerations and contamination levels.

5. PLANNED RELEASES

a. Obtain the latest weather forecast from NWS or the PSNH Control Center.

b. Enter in Section 2 of form ER 3.1M the current meteorological conditions and forecasted data for the period of release as specified in Section 1.

c. Evaluate the radiological conditions for the 15-minute time interval during which form ER 3.1M is being completed.

(1) Record the projected straightline centerline dose rate at 0.6, 2, 5 and 10 mile distances in Part B of Section 2 of form ER 3.1M.

(2) Record any available field data indicating the location and time of the report.

d. Evaluate the projected doses resulting from the planned release and record in Part C of Section 2 of form ER 3.1M.

NOTE
Use the containment vent option using the data recorded in Section 1 of form ER 3.1M. The Dose Assessment Specialist has to determine the forecasted meteorological conditions appropriate to the selected release period.

e. Assuming persistence of the selected meteorological conditions, determine and record the projected doses associated with the release condition.

f. Provide any comments or concerns regarding the planned release condition in the space provided.

g. Sign Parts A, B and C of Section 2 of form ER 3.1M, attach the corresponding dose estimate printouts or plume plots, and forward to the EOF Coordinator.

6. OFFSITE MONITORING

a. Establish an appropriate environmental monitoring and sampling program in concert with the Offsite Monitoring Coordinator and Radiological Assistant.

b. Provide the Offsite Monitoring Coordinator with meteorological data and dose projections that may affect the deployment or activities of monitoring teams.

c. In the event of an unmonitored radiological release, coordinate with the Health Physics Coordinator for dispatch of an onsite or offsite monitoring team(s) to obtain actual site boundary dose rates (or as close to the site boundary as practical).

CAUTION

Inform OMST members of potential KI side effects if they are allergic to shellfish or iodide. Replace any OMST members who know they have such allergies in lieu of directing them to ingest KI.

d. Consider the need to direct offsite monitoring and sampling (OMST) team personnel to ingest potassium iodide (KI) tablets. The use of KI should be considered for team members where the projected thyroid CDE is greater than or equal to 5 rem.

7. ENVIRONMENTAL SAMPLE ANALYSIS

NOTE
Samples sent to MA and NH state labs must have activity levels $\leq$1 mr/hr

a. Designate laboratories (e.g., EOF, GEL Laboratories, onsite lab, DOE federal lab, NH and MA state labs) to receive monitoring and field environmental samples for analysis.

b. Brief the EOF Coordinator, Offsite Monitoring Coordinator and Radiological Assistant of laboratory analysis requirements.

c. If GEL Labs support is required for augmented analysis of environmental samples, request the Industry Liaison to contact GEL and to make necessary arrangements with GEL to receive environmental samples for analysis.

d. Provide overall direction to designated laboratory managers in determining which field samples are to be analyzed and their priority.

8. REENTRY AND RECOVERY

Short-Term Actions

NOTE

The objective during the implementation of short-term actions is to develop a potential contamination pattern in order to establish the initial sampling strategies in conjunction with the offsite organizations.

a. Following the termination of the release, obtain either the I-131 deposition pattern or the most reliable estimate of the thyroid dose, H_{th}, for each sector block of the affected area. Refer to the Grid Isotopic Report for the deposition pattern or the Survey Points Report for thyroid dose estimates for specific locations.

NOTE

A sector block is an area defined by a one-mile by 22.5 degree region.

c. Raddose-V will produce a 50 mile impact map to aid in the development of sampling strategies.

d. Refer to Supplemental Material 99-12 for operating the INGEST program on the Dose Assessment Specialist's computer.

c. Collect available environmental sample data (i.e., soil, vegetation or air samples) which have undergone gamma spectral analysis for radionuclide identification. Enter the reported sample radionuclide concentrations in the Ingest program. The program will calculate exposures to deposited materials and compare the projected year one dose to the PAG for relocation (i.e., 2 rem).

d. Refer to Supplemental Material 07-04, Electronic Transfer of Environmental Data, for instructions on computer transfer of data to the state laboratories.

Long-Term Actions

NOTE

The objective of long-term actions is to coordinate, correlate and manage all sampling and measurement data from all groups and provide reports and visual aids of the data in a cohesive form.

a. Direct the Raddose Operator or other available personnel to enter the offsite sample and measurement data into the Ingest program per the Ingest System Manual.

b. Periodically run the reports and plot 10 mile and 50 mile maps of the sample areas. The maps will indicate whether an area has exceeded the committed effective dose equivalent PAG of 0.5 rem or the committed dose equivalent to an organ PAG of 5 rem.

c. Participate in meetings with offsite organizations. Obtain all available sets of environmental data and merge results using Ingest to produce more comprehensive reports.

8. DEACTIVATION

Submit all emergency documentation to the Administrative Services Coordinator.

METEOROLOGICAL CONDITIONS STATUS BOARD UPDATE FORM

METEOROLOGICAL CONDITIONS

Report Time: _____

Current Wind Speed: _____

Current Wind Direction: _____

Weather Forecast Information:

Field Team Results

Field Location:	Dose Rate:		Adult Thyroid CDE:	

TECHNICAL ASSISTANT CHECKLIST

INITIAL

1. ACTIVATION

   a. Sign in on the EOF roster board. ____

   b. Obtain the Technical Assistant emergency response position materials at your work station and initiate this checklist. ____

   c. Clip-on the position badge. Do not obscure your station badge. ____

   d. Check workstation telephone for operability. ____

   e. Obtain a briefing from either the EOF Coordinator or the Response Manager. ____

   f. Verify operability of the Main Plant Computer System (MPCS) terminal. If the terminal is not operating properly, request the Administrative Services Coordinator to call-out an Information Management technician to make repairs. ____

   g. Review plant status information available on the MPCS. ____

   h. Review plant status with the Response Manager. ____

   i. Verify that the current emergency classification is correct. ____

   j. Direct a member of the Training Center Staff to trend plant data and activate the Logger Trend (Log Name - EOF), using the BOP/EMERGENCY RESPONSE menu on the MPCS workstation. Refer to Supplemental Material 99-06 for SDS Operations instructions. Once activated, a multi-page report of the plant process parameters will be printed every 15 minutes on the EOF logger. Provide the first page of the Logger Trend printout (Dose Assessment Data Points) to the RADDOSE Operator. The remaining pages are for trending purposes. ____

   k. Contact the Emergency Operations Manager to determine plant status. ____

   l. Maintain a log using form ER 2.0E, Emergency Facility Log. ____

2. ACCIDENT ASSESSMENT

   a. Assess and interpret operational data and trends for the Response Manager. Respond to questions as required.

   b. Assign a Training Center Staff member to update the operational trend status board and the system status board.

c. As requested, provide briefings and logger trend printouts to the Dose Assessment Specialist and ERO Technical Liaison.

d. Raddose users may request data pertaining to containment spray status, plant vent filter status, and steam flow rate depending on the accident type for which dose projections are calculated. The Training Center Staff Checklist (ER 3.3LL) contains guidance for accessing this information via SDS.

e. Maintain an organized set of computer printouts.

f. If a reactor trip has occurred, confer with the Emergency Operations Manager to determine if the Critical Safety Function Status Trees (CSFSTs) have been verified, i.e., MPCS displays are accurate based on hardwired indications. Advise the Training Center Staff when the CSFSTs have been verified.

f. Periodically review status boards to verify that they contain current operational and response information.

h. If a Westinghouse emergency response representative is stationed at the EOF, request the Westinghouse representative to keep you informed of the results from any core damage assessments as they become available. Provide this information to the Response Manager, Licensing Coordinator and NRC Technical Assessment Branch Leader.

3. NOTIFICATIONS

Provide information to the NRC over the telephone if the TSC is unable to perform this function. If available, use the FTS-2001 handset. A commercial phone may be used as a backup.

> NOTE
>
> In addition to verbal communication with the NRC, the TSC maintains an Emergency Response Data System (ERDS) link with NRC headquarters. The data transmitted via this electronic link are shown in Supplemental Material 99-07.

4. ACCIDENT MITIGATION

a. If radiological conditions do not preclude use of the Station simulator and where deemed appropriate, coordinate the development of simulated operational sequences with the Emergency Operations Manager.

b. Direct members of the Training Center organization to run proposed operational sequences on the Station simulator.

5. PROTECTIVE ACTION RECOMMENDATIONS

CAUTION

Due to the time required for plant equipment to change states following a reactor trip or containment isolation signal, a Critical Safety Function Status Tree (CSFST) may briefly proceed along one path before changing to another. For example, if containment pressure exceeds 18 psig, the containment (Z) CSFST will briefly indicate a red path while the containment isolation valves are closing and then indicate an orange path after all valves have closed. Exercise appropriate judgment when using the CSFSTs for protective action decision-making.

a. Monitor CSFSTs for S, C, H, P and Z CSFs for status per ER 5.4 Figure 1 for a Site Area Emergency PAR decision. Provide status to the EOF Coordinator. Expedite providing this information when the fifteen minute PAR notification clock is running.

b. Monitor CSFSTs for C Red or Z Red status per form ER 5.4A for a General Emergency PAR decision. Provide status to the EOF Coordinator. Expedite this step when the fifteen minute PAR notification clock is running.

c. If a radiological release is in progress, determine, in conjunction with the Emergency Operations Manager, an estimated time when the release will be terminated (i.e., release parameters return to within Technical Specification allowable limits). Provide this information to the Dose Assessment Specialist.

CAUTION

Perform the following step as quickly as possible to ensure a timely classification decision based on Initiating Condition AS1 or AG1.

d. If the TSC determines that there is a sound basis for a release duration of less than the four hour RADDOSE-V default value, inform the Response Manager of the need to validate this determination with the Site Emergency Director.

6. STAFFING/EQUIPMENT NEEDS

a. Assist the Response Manager with planning and scheduling of resources.

b. Assist the Emergency Operations Manager planning and scheduling of resources.

c. In the event of a total or partial Main Plant Computer System (MPCS) failure, consider the following guidance as appropriate to the extent and nature of the failure:

(1) Designate an individual to receive data from the TSC. Personnel assigned to this role should have a basic working knowledge of station operations, operating parameters, and the MPCS.

(2) Remind the assigned individual to use forms ER 2.0H through K to facilitate data transfer activities.

(3) Contact the Technical Services Coordinator and specify who at the EOF should receive data (and their phone number), and at what desired frequency (e.g., as needed, an established callback schedule, continuous open line, etc.). Set realistic expectations for data flow timeliness given current conditions and constraints at the site.

(4) Brief the Response Manager and EOF Coordinator on the compensatory arrangements for data transfer, including realistic expectations for timeliness and other limitations.

(5) If forms ER 2.0H through K are used, copies of the completed sheets should be provided to the individual(s) maintaining the operational and system status boards so that the data can be posted.

(6) Consider the need for headsets for the individual receiving data.

(7) If available, consider use of a telecopy machine to facilitate inter-facility communication of data.

(8) Request the Reactor Engineer to coordinate dispatch of appropriate Information Management personnel to the EOF to make needed repairs to computer equipment.

7. REENTRY AND RECOVERY

Provide reentry and recovery support per ER 6.0 as directed by the Response Manager.

8. DEACTIVATION

a. Direct a member of the Training Center Staff to deactivate the Logger Trend (Log Name - EOF), using the BOP/EMERGENCY RESPONSE menu on the MPCS workstation.

b. Submit all emergency documentation to the Administrative Services Coordinator.

OFFSITE MONITORING COORDINATOR CHECKLIST

INITIAL

1. ACTIVATION

   a. Sign in on the EOF roster board. ____

   b. Obtain the Offsite Monitoring Coordinator emergency response position materials at your work station and initiate this checklist. ____

   c. Clip-on the position badge. Do not obscure your station badge. ____

   d. Check workstation telephones for operability. ____

   e. Immediately report any problems with the field team radio to the Dose Assessment Specialist. ____

   f. If more than 2 monitoring team monitors or drivers are available for assignment to field monitoring teams, determine which individuals shall be initially assigned. Any excess personnel should be directed to return to their homes and await further instructions. ____

   g. Advise the Administrative Services Coordinator of the staffing arrangements for the field monitoring teams. ____

   h. Perform a source check on the three (3) portal monitors located at entrances to the EOF/Media Center by using Supplemental Material 99-13. ____

   i. Maintain a log using form ER 2.0E, Emergency Facility Log. ____

2. OFFSITE MONITORING

   a. Review station emergency operational, radiological and meteorological conditions with the EOF Coordinator and Dose Assessment Specialist.

   b. Provide an initial briefing to the NH Monitoring Team Coordinator and Nuclear Incident Advisory Team (NIAT) Field Team Coordinator, and determine any State monitoring support needs.

   c. Coordinate requests from State organizations regarding field team dispatch and sample analysis.

   d. Go to the field team dispatch area to determine availability of ERO field team personnel.

   e. As field team personnel are available form two (2) teams of one monitor and one driver.

   f. Ensure that assigned field team personnel log in on the EOF personnel roster.

g. Ensure OMST vehicles 08-004 and 08-005 are available at the EOF. If one or both are not available, arrange with the Administrative Services Coordinator to have the vehicle(s) driven from the site to the EOF.

h. Assign the teams to the OMST vehicles and have them complete pre-deployment actions per ER 5.2, §5.1.2.

i. If an OMST vehicle is not available or if deploying more than two teams, consider the following actions for obtaining vehicles for use by the monitoring and sampling teams.

   (1) Request that offsite monitoring team personnel use a personal vehicle(s) and implement actions in ER 5.2, §5.1.3 to equip the vehicle(s).

   (2) Request the Administrative Services Coordinator to obtain a rental vehicle(s) from the vendor(s) listed in the ERTD, and have OMST personnel equip the vehicle(s) per ER 5.2, §5.1.3..

   (3) If vehicles are still needed, request the Administrative Services Coordinator to obtain available Seabrook Station, Newington Station or Schiller Station vehicles, and have OMST personnel equip the vehicle(s) per ER 5.2, §5.1.3.

j. Ensure field team personnel complete the Pre-deployment Checklist, form ER 5.2A.

k. Provide a blanket extension up to 4500 mrem/current year for the offsite monitoring teams. Notify Dosimetry Records of any approved dose limits greater than 4500 mrem.

l. Have monitoring personnel request Dosimetry Records personnel to establish current dose information.

m. Complete an ER 5.2B briefing form for each team and make a copy of the briefing form for each team member.

n. When notified that the field teams have completed the pre-deployment checklist and are ready for dispatch, go to the dispatch area to brief the teams per ER 5.2B. Steps o through t below include specific information to include in the briefing.

o. In coordination with the NIAT Field Team Coordinator and the NH Monitoring Team Coordinator, brief teams on station emergency conditions, projected plume location, and exposure considerations using form ER 5.2B, Offsite Monitoring and Sampling Personnel Briefing Form.

   - The NH Monitoring Team Coordinator and NIAT Field Team Coordinator retain the right to assign their monitoring teams.

- With the NH and MA Team Coordinators, establish team designators for each ERO, NH, and MA team (e.g., FPL: ERO1, ERO2; NH: MT1, MT2; MA: MA1, MA2).

p. As directed by the Dose Assessment Specialist, review the location of the projected plume, local population, and meteorological considerations and dispatch the survey teams to traverse these offsite areas. Direct offsite teams to identify the locations of maximum ground level concentration and plume boundaries at various locations, if possible.

q. Ensure that precise survey locations are identified. In many cases monitoring at the site boundary may not be feasible because of the terrain.

r. Direct offsite team members to check ED dose readings at appropriate frequencies based on prevailing radiological conditions.

s. Evaluate the benefit of respiratory protection, considering the radiological hazard and interference with the performance of required action.

t. Determine the need to dispense potassium iodide (KI) tablets to emergency response personnel based upon a projected or actual thyroid CDE $\geq$ 5 rem. Administering KI after an uptake may limit thyroid CDE depending on time after exposure.

u. Direct the Offsite Monitoring Communicator to maintain communications with all offsite monitoring and sampling teams per SM 08-02 or phone communications per SM 02-04 and other means as appropriate.

v. Launch WebEOC by clicking on the desktop icon and follow SM 08-03 steps 2.c through 2.g to open the Field Monitoring Information screen.

w. Direct the Offsite Monitoring Communicator to relay messages to and from offsite survey teams and to maintain a continuous log of location and radiological data on form ER 5.2C, EOF Survey/Air Sample Calculation Worksheet.

x. As survey teams call in radiological data, calculate the particulate and iodine activity concentration of the samples using the formula on form ER 5.2C. Notify the Dose Assessment Specialist, the NIAT Field Team Coordinator, and the NH Monitoring Team Coordinator when offsite data becomes available.

y. As forms ER 5.2C are completed, provide copies to the Dose Assessment Personnel for distribution to EOF staff and offsite personnel per the Dose Assessment Personnel checklist.

z. Distance of the survey location from the plant for entry on form ER 5.2C can be determined using the map software per SM 00-06, OMTC Map Computer Checklist.

aa. For higher activity samples place an R02 or R02A on the collection face of the cartridge open window. Divide the dose rate (net) of the sample by 0.5 mR/hr/μCi to determine sample activity. (Protected: Ref. 6.1)

$$\text{I-131 } \mu\text{Ci/cc} = \frac{\text{Net (mR/hr)}}{(.5 \text{ mR/hr/}\mu\text{Ci})(\text{Vol. ft}^3)(28{,}320 \text{ cc/ft}^3)}$$

bb.. Attempt to identify actual plume characteristics and centerline values. Review offsite team distribution with the NIAT Field Team Coordinator and NH Monitoring Team Coordinator, and assign locations in accordance with the estimated plume characteristics.

cc. Evaluate and control the radiological exposures being accumulated by offsite teams. Update teams on plant emergency conditions, plume location and exposure considerations.

dd. When appropriate or upon completion of their assignments, direct survey teams to report to the EOF for sample delivery.

ee. As air sample analysis data becomes available, notify the Dose Assessment Specialist.

ff. When appropriate, discuss environmental sampling strategy (sample type, location, laboratory resources, and priority) with the Dose Assessment Specialist.

gg. After sampling strategy discussions, coordinate team deployment with the NIAT Field Team Coordinator and the NH Monitoring Team Coordinator.

hh. Using form ER 5.2B, Offsite Monitoring and Sampling Personnel Briefing Form, brief environmental sampling teams on expected radiological conditions and type/location of environmental samples to be obtained

ii. Consider the following guidelines for environmental sampling:

(1) Using the fifty-mile maps, identify up to three different sample locations per team.

(2) Direct sample teams to contact the EOF upon arrival and prior to departure from each sample location.

(3) With Seabrook Station Environmental Sampling Teams, review appropriate procedure steps listed in the Radiological Services Environmental Procedures, and document any deviation from procedure on form ER 5.2B.

(4) As Environmental Sampling Teams return, direct the Radiological Assistant to maintain facility contamination control measures, review completed Environmental Lab Sample Submission Form ER 5.2E for errors, and weigh and package samples as appropriate for shipment.

(5) Evaluate type of analysis using Figure 2, Analysis Matrix, as a guideline. Instruct the Radiological Assistant to ensure appropriate analyses are checked off in the Analysis To Be Performed section of form ER 5.2E.

(6) Prioritize, coordinate and direct environmental sample dispatch to the GEL Labs in Charleston, SC or other designated labs. Notify the Dose Assessment Specialist if special courier services are required to transport samples. Use the guidance in §4 below to determine shipping requirements.

(7) As environmental sample analysis data becomes available from the GEL or other laboratories designated to analyze samples, notify the Dose Assessment Specialist.

3. CLASSIFICATION

Inform the Dose Assessment Specialist immediately when any dose rate measurements exceed the emergency action level values for Initiating Condition AS1 or AG1.

4. ENVIRONMENTAL SAMPLE ANALYSIS

a. With assistance from the Radiological Assistant, RSCS support personnel and available environmental sampling team personnel, determine sample shipping requirements based on the following criteria:

(1) If the sample concentration and total activity values are exempt per 10 CFR 71 Appendix A, Table A-2, (or 49 CFR 173.436) there are no radiological shipping considerations required. Assign to RSCS support personnel to prepare and package for shipping.

(2) If the sample concentration and total activity exceed the above referenced values, call-in Seabrook Station qualified radiological material shippers to prepare and package for shipping. Qualified personnel are listed in the Emergency Response Telephone Directory.

NOTE
Samples sent to MA and NH state laboratories must have activity levels that are $\leq$ 1 mR/hr.

b. With assistance from the Radiological Assistant and RSCS support personnel, arrange for an appropriate shipper to transport samples to a designated laboratory (e.g., GEL Labs). Contact information for FedEx Custom Critical shipping is listed in the Emergency Response Telephone Directory.

5. STAFFING/EQUIPMENT NEEDS

   a. Direct requests for additional staffing or equipment resources to the Dose Assessment Specialist.

   b. If the Remote Monitoring Area (RMA) at Schiller Station has been activated, request Dose Assessment Specialist permission to dispatch any excess offsite monitoring team monitors to assist the Health Physics Technicians with RMA monitoring and decontamination activities.

   c. Monitor Remote Monitoring Area communications through the Offsite Monitoring Communicator. Report manpower, equipment or other assistance needs of the Remote Monitoring Area to the Dose Assessment Specialist and Radiological Assistant.

6. REENTRY AND RECOVERY

   Provide reentry and recovery support as directed by the Dose Assessment Specialist.

7. DEACTIVATION

   Submit all documentation to the Administrative Services Coordinator.

SECURITY COORDINATOR CHECKLIST

INITIAL

1. ACTIVATION

   a. Sign in on the EOF roster board. ____

   b. Obtain the Security Coordinator emergency response position materials at your work station and initiate this checklist. ____

   c. Clip-on the position badge. Do not obscure your station badge. ____

   d. Check workstation telephones for operability. ____

   e. Direct EOF security personnel to implement appropriate checklists in GN1332.00, Security Response to a Declared Radiological Emergency. ____

   f. Contact the Security Leader in the TSC or the Security Shift Supervisor to determine accountability status and any Station security problems. ____

   g. Brief the Administrative Services Coordinator on Station and EOF security status. ____

   h. When notified by the Emergency News Manager that the Media Center is activated and ready for news media arrival, instruct the EOF Access Gate Security Officer to direct news media representatives to the Media Center entrance. ____

   i. Maintain a log using form ER 2.0E, Emergency Facility Log. ____

2. CLASSIFICATION

   Provide the Response Manager with input regarding any security threat which may exceed a Category H Initiating Condition contained in Procedure ER 1.1, Classification of Emergencies.

3. RESPONSE ACTIONS

   a. Coordinate Seabrook Station interface with law enforcement agencies.

   b. Implement Procedure GN1332.00 as applicable.

   c. Provide periodic updates on emergency conditions and response actions to Guard Island Personnel.

   d. Periodically, determine from the Security Leader radiation precautions directed by the Radiological Controls Coordinator for security personnel. Dose limits for security personnel will differ based on radiological conditions, the RWP in effect, and dose limit extensions established by the Radiological Controls Coordinator or approved by the SED.

4. STAFFING/EQUIPMENT NEEDS

   a. Direct requests for additional staffing or equipment resources to the Administrative Services Coordinator.

   b. When informed that response personnel will proceed to the site from the EOF (e.g., second shift, industry support) perform the following:

      (1) Confer with the Dose Assessment Specialist as to the appropriate site access route(s) and Station radiological conditions.

      (2) Advise the Security Leader or Security Shift Supervisor of the impending arrival of personnel at the site (e.g., who, their purpose).

      (3) As needed, provide a briefing to personnel proceeding to the site concerning site access route(s), site layout, reporting locations, and any special security considerations.

   c. Coordinate establishment of shift schedules for security personnel with the Administrative Services Coordinator.

   d. Ensure the NRC site team has access to designated NRC parking in the EOF parking lot, and coordinate access by the NRC equipment van to the EOF to unload equipment.

   e. Coordinate parking area arrangements with Newington Station management and appropriate NH State and local law enforcement agencies. Consider using Schiller Station property for overflow parking and coordinate with Schiller Station management.

5. RELEASE OF ASSEMBLY AREA PERSONNEL

   a. Consult with the Administrative Services Coordinator to determine if personnel should be sent home or to the Remote Monitoring Area.

   b. If the Remote Monitoring Area is to be used, inform the Security Shift Supervisor to set up appropriate traffic control based on the exit route.

6. REENTRY AND RECOVERY

   Provide reentry and recovery support per ER 6.0 as directed by the Response Manager.

7. DEACTIVATION

   Submit all emergency documentation to the Administrative Services Coordinator.

RADIOLOGICAL ASSISTANT CHECKLIST

INITIAL

1. ACTIVATION

   a. Sign in on the EOF roster board. ____

   b. Obtain the Radiological Assistant emergency response position materials at your work station and initiate this checklist. ____

   c. Clip-on the position badge. Do not obscure your station badge. ____

   d. Check workstation telephones for operability. ____

   e. Obtain a radiological status briefing from the Offsite Monitoring Coordinator. ____

   f. Maintain a log using form ER 2.0E, Emergency Facility Log. ____

2. OFFSITE MONITORING/SAMPLING SUPPORT

   a. Notify the Offsite Monitoring Coordinator when offsite monitoring and sampling team personnel have completed pre-deployment actions and are ready to be briefed.

   b. Assist with the deployment of monitoring and sampling teams from the EOF.

   c. Contact the EOF security officer each time a team is dispatched or a team is returning.

   d. Establish and maintain the sample receipt and transfer process within the EOF.

3. RADIATION/CONTAMINATION CONTROLS

   a. Obtain dosimetry and exposure status from Dosimetry Records Personnel.

   b. Establish appropriate radiological and sample return controls using Figures 3 and 5 as guidance. For detail, refer to Supplemental Material 98-01.

   c. Post the Emergency Services Room as a "Radiological Materials Area" (e.g., affix a pocket sign to the door).

   d. Post inside of the exterior door next to the Emergency Services Room as a restricted area.

   e. Ensure all personnel entering the EOF Radiologically Controlled Area (RCA) have obtained proper dosimetry.

   f. Brief the Offsite Monitoring Coordinator and Dosimetry Records Personnel on EOF contamination monitoring and control measures once the teams have been dispatched.

g. Direct monitoring and decontamination activities conducted at the EOF. Obtain guidance as needed from the Dose Assessment Specialist and the Offsite Monitoring Coordinator.

h. Direct returning monitoring and sampling teams to park their vehicles parallel to one another inside the potential contamination zone shown on Figure 3.

i. If a portal monitor at an EOF entrance alarms, do the following:

> NOTE
>
> Notification of an alarming portal monitor may occur via the intercom in the Field Team Dispatch Area or in the EOF Radio Room. Refer to Supplemental Material 99-05 for operation of the intercom system.

1) Respond to the portal monitor location.
2) Identify the person who caused the portal monitor to alarm.
3) Direct the person to pass through the portal monitor a second time.
4) If the portal monitor alarms again, direct the person to go outside through the same entrance where the portal monitor is located and to proceed to the EOF decontamination area.
5) Attempt to determine the location of contamination on the person.
6) Implement appropriate decontamination methods.

j. If a portal monitor at an EOF entrance fails to operate properly, do the following:

1) Disconnect power to the portal monitor.
2) If the failed portal monitor is at the NH IFO or the main EOF entrance, close off the entrance and direct personnel to enter through the entrance with the operating portal monitor.
3) If the portal monitor is at the Media Center entrance or in the EOF decontamination area, set up a manual frisker station.
4) If necessary to support manual monitoring of personnel entering the Media Center or other location, request the Administrative Services Coordinator to obtain qualified personnel to operate the frisker station.

k. Document personnel and vehicle contamination using Procedure ER 4.6 as guidance.

l. Establish and monitor a sample storage area.

m. If a release is in progress, inform Security of the full implementation of radiological controls for the EOF and request a public address system announcement of implementation of full radiological controls for the facility.

4. REMOTE MONITORING AREA SUPPORT

   a. Assist Remote Monitoring Area Radiation Protection Technicians in obtaining monitoring and decontamination kits and equipment.

   b. Issue two portable radios to the Remote Monitoring Area Radiation Protection Technicians for communications between the monitoring area, decontamination facilities, and Emergency Operations Facility.

   c. Receive reports of assistance required by the Remote Monitoring Area staff from the Offsite Monitoring Coordinator and provide direction and/or assistance as needed.

5. RADIATION SAFETY & CONTROL SERVICES (RSCS) SUPPORT

   a. Notify the Dose Assessment Specialist and Offsite Monitoring Coordinator upon arrival of the RSCS personnel.

   b. Assist RSCS personnel in establishing their activities at the EOF.

6. ENVIRONMENTAL SAMPLE PREPARATION

   a. Accept environmental samples from sample collection teams and survey them for removable contamination on the outside of containers and/or paperwork. Decontaminate or re-bag any samples with removable contamination.

   b. Review all forms to ensure that information is correct and the form is complete. Pay particular attention to sample location; the sample location indicated on form ER 5.2E should match the sample location marked on the environmental sample. Guidance for completing this form is in Procedure ER 5.2, Figure 2, Environmental Lab Sample Submission Form Instructions.

   c. Use the following general dose rate guidelines to segregate samples for appropriate analysis locations:

NOTE
Samples sent to MA and NH state laboratories must have activity levels that are $\leq$ 1 mr/hr.

   (1) Samples $\leq$1 mr/hr may be analyzed by RSCS in the EOF or sent to a state lab

   (2) Samples greater than 1 mr/hr but less than 5 mr/hr should be set aside for the Dose Assessment Specialist to determine if it is appropriate to analyze in the EOF or refer to the onsite laboratory, GEL Labs, or a federal lab (e.g., DOE or PNSY).

   (3) Samples $\geq$5 mr/hr should be set aside separately for referral to the onsite laboratory, GEL Labs, or to a federal laboratory as appropriate (e.g. DOE or PNSY)

d. Evaluate type of analysis using ER 5.2, Figure 1, Analysis Matrix, as a guideline. Ensure appropriate analyses are checked off in the Analysis To Be Performed section of form ER 5.2E. Request guidance for additional analysis from the Offsite Monitoring Coordinator.

e. Assist the Offsite Monitoring Coordinator with making shipping arrangements for environmental samples to be transported for laboratory analysis using the following criteria:

(1) If the sample concentration and total activity values are exempt per 10 CFR 71 Appendix A, Table A-2, (or 49 CFR 173.436) there are no radiological shipping considerations required. Assign to RSCS support personnel to prepare and package for shipping.

(2) If the sample concentration and total activity exceed the above referenced values, call-in Seabrook Station qualified radiological material shippers to prepare and package for shipping. Qualified personnel are listed in the Emergency Response Telephone Directory.

f. Assist the Offsite Monitoring Coordinator with arranging for an appropriate shipper to transport samples to a designated laboratory (e.g., GEL Labs). Contact information for FedEx Custom Critical shipping is listed in the Emergency Response Telephone Directory.

g. Inform the Offsite Monitoring Coordinator when samples are ready for transport.

7. STAFFING/EQUIPMENT NEEDS

Direct requests for additional staffing or equipment resources to the Offsite Monitoring Coordinator.

8. DEACTIVATION

Submit all emergency documentation to the Offsite Monitoring Coordinator.

ADMINISTRATIVE SERVICES COORDINATOR CHECKLIST

INITIAL

1. ACTIVATION

a. Sign in on the EOF roster board. ____

b. Obtain the Administrative Services Coordinator emergency response position materials at your work station and initiate this checklist. ____

c. Clip-on the position badge. Do not obscure your station badge. ____

d. Check the accuracy of the EOF clocks with the Main Plant Computer digital time display and adjust as needed. ____

e. Check status boards in the EOF operations area, dose assessment area, EOF conference room, and NRC room and ensure they are cleared of outdated and unrelated information and notations. ____

f. Check operation and volume of the EOF public address system using Supplemental Material 03-05 (located at the Security Desk) ____

g. Check workstation telephones for operability. ____

h. Assign an EOF Support Staff person to monitor calls on the EOF Answering Unit. Direct that individual to implement form ER 3.3W. ____

i. Assign one EOF Support Staff person to maintain a log for the Response Manager. Direct that individual to implement form ER 3.3W. ____

j. Assign one EOF Support Staff person to the Media Center. Direct that individual to report to the Emergency News Manager. ____

k. Assign one EOF Support Staff person to maintain the EOF Chronolog and to access other screens on the Administrative Services Coordinator PC. ____

l. If any of the following EOF positions are not staffed within 60 minutes of the emergency declaration, implement applicable section 3 actions immediately to fill the position(s) ____
   (1) Response Manager
   (2) EOF Coordinator
   (3) Dose Assessment Specialist
   (4) Offsite Monitoring Coordinator
   (5) Technical Assistant
   (6) ERO Technical Liaison
   (7) Personnel for 2 offsite monitoring teams (2 monitors and 2 drivers)
   (8) Administrative Services Coordinator

m. Obtain an event and response briefing from the Response Manager. ____

n. Maintain a log using form ER 2.0E, Emergency Facility Log. ____

2. EOF OPERATIONS

a. As soon as practical after EOF activation, initiate a brief discussion of State interface responsibilities and expectations with the Response Manager, Technical Assistant and EOF Coordinator. Discuss ways that the Response Manager may be insulated from requests that can be answered or handled by others. The goal is to allow the Response Manager to focus on overall management of Seabrook Station ERO response efforts.

b. Coordinate EOF activities during those periods when the Response Manager, EOF Coordinator and Technical Assistant are in conference.

c. Periodically monitor EOF status boards, including the Emergency Classification Level and Radiological status boards, to determine if they are being kept current. As needed, obtain additional assistance to ensure that status boards are properly maintained.

d. Monitor the EOF chronological log to ensure information posted is accurate and complete. As new information is added to the PC-based electronic log, check the information to ensure its accuracy.

e. If the EOF satellite controlled clocks fail, check the controller unit located in the corner next to the door way outside of the Emergency Services Room to ensure it is powered. If the battery light on the unit is lit, the battery power is drained. If this case, re-route the power to another outlet.

f. If the EOF fire alarm sounds, do the following:

(1) Use the Response Manager's PA microphone to instruct all personnel in the EOF, NH IFO and the Media Center to exit the building calmly and assemble in the parking lot on the far side of the guard house. Assembling personnel in this location will move them away from responding fire apparatus outside the EOF.

(2) Call 911 to report the alarm. Do not use a plant extension phone to call 911.

(3) Take the EOF sign-in sheets from the Security desk to the assembly area.

(4) Using the sign-in sheets, coordinate personnel accountability with EOF Security personnel and senior offsite representatives at the assembly area.

(5) Coordinate any decision to re-enter into the EOF/NH IFO/Media Center with responding fire officials and the Response Manager.

3. INITIAL STAFFING

a. Review the sign-in boards for the EOF and the Media Center, and document the individuals filling each first shift ERO position on form ER 3.3M, ERO Staff Planning.

> NOTE
>
> Form ER 3.3M has been downloaded to the Administrative Services Coordinator's PC and the PC located in the DCC. Either PC may be used instead of a hard copy form. Access by clicking the icon labeled ER 3.3M.

b. Call out telephone and radio system technicians from personnel listed in the Emergency Response Telephone Directory, and direct them to report to the EOF. On arrival, they should be instructed to remain on standby to effect telephone or radio system repairs, as needed.

f. During a daytime response (i.e., 0700 to 1630), perform Steps 3.d. through 3.j. During an off-hours response (i.e., 1630 to 0700), proceed to Step 3.k and perform Steps 3.k. through 3.m.

d. Contact the Assembly Area Coordinator.

(1) Provide a brief summary of emergency conditions.

(2) Using the ERO Roster at your workstation, determine if any individuals qualified to fill vacant first shift ERO positions at the EOF or Media Center are available at the Assembly Area.

(3) Request the Assembly Area Coordinator to brief identified individuals to report to their assigned facilities. Document which individuals were dispatched to which facilities on form ER 3.3M.

(4) Determine status of personnel requested by the Maintenance Coordinator.

(5) Request the Assembly Area Coordinator to fax you copies of completed forms ER 3.3M for the Control Room, TSC and OSC when they are available.

NOTE

If the emergency is declared during an outage, the Assembly Area Coordinator will also provide copies of contact telephone number listings for maintenance technicians, contractor craft personnel and vendor technical representatives. Retain this information to support the return-to-work callout of these individuals once the emergency is terminated.

e. Obtain a briefing from the EOF Coordinator on site radiological conditions potentially or actually affecting the vicinity of the Assembly Area. Also determine whether or not personnel released from the Assembly Area need to proceed to the Remote Monitoring Area at Schiller Station.

f. Contact the Maintenance Coordinator in the TSC and determine the following:

   (1) Whether the Assembly Area should be deactivated based on onsite needs and radiological conditions.

   (2) Which personnel, if any, should remain staged at the Assembly Area instead of being released.

   (3) Time the Assembly Area should be deactivated.

g. Request the Security Coordinator to specify which egress route should be used by personnel released from the Assembly Area

h. Brief the Response Manager on plans for Assembly Area deactivation and release of personnel.

i. Contact the Assembly Area Coordinator, and perform the following:

   (1) Provide a briefing on plans for Assembly Area deactivation and release of personnel.

   (2) Request the Assembly Area Coordinator to announce to personnel in the Assembly Area that ALL personnel called out for second shift staffing must report to the EOF, including those assigned to onsite facilities, prior to relieving first-shift personnel.

   (3) Discuss release instructions to be given to personnel at the Assembly Area including where they should go, the route to use, and a time that second-shift personnel should report to the EOF.

NOTE

Under most circumstances, Assembly Area personnel will leave the site, either to their homes or to the Remote Monitoring Area, in their own vehicles.

(4) If informed by the EOF Coordinator that alternate transportation should be used to transport Assembly Area personnel to the Remote Monitoring Area, perform the following actions:

(a) Contact the New Hampshire IFO Coordinator and request assistance to obtain the requisite number of buses (36 persons/bus) for dispatch to the site to transport personnel to the Remote Monitoring Area.

(b) Arrange with the Security Coordinator to have the buses met at the site access road, directed to the appropriate location on site to pick up Assembly Area personnel, and provided with a map to the Remote Monitoring Area (ER 3.6, Figure 2).

(c) Contact the Assembly Area Coordinator to advise that buses have been directed to the site to transport personnel to the Remote Monitoring Area.

j. Inform the Security Coordinator when the Assembly Area has been deactivated.

k. If the initial response is an off-hours response (i.e., 1630 to 0700), obtain the RapidNotify reports telefaxed to the EOF.

l. Receive a briefing from the Maintenance Coordinator concerning the status of onsite ERO vacancies and staffing needs.

m. Using the ERO Roster at your workstation, call out additional personnel as needed to fill open first-shift ERO positions. Document the results on form ER 3.3M.

4. SHIFT STAFFING

a. Develop a list of second-shift responders and establish two 12-hour shifts consisting of personnel qualified for their respective positions. Document the results on form ER 3.3M, ERO Staff Planning.

(1) Direct the Industry Liaison to contact RSCS to identify their second shift responders to the EOF and inform RSCS management of Seabrook Station Fitness-for-Duty requirements (Security Manual, Chapter 7) and provisions for voluntary alcohol testing at the EOF.

(2) Coordinate development of shift schedules for the Control Room staff with the Emergency Operations Manager in the TSC.

(3) Coordinate development of shift schedules for security personnel with the Security Coordinator.

(4) When completed, provide a copy of the second shift roster to the Dosimetry Records Personnel.

NOTE
If Sentinel is not available to confirm Margins for second-shift personnel, have the EOF Coordinator establish a blanket authorization for the ERO with the concurrence of the Response Manager.

b. Contact second-shift personnel.

(1) Confirm their assignment to the second shift.

(2) Specify time they should report to the EOF.

(3) Remind individuals assigned to onsite facilities that they must report to the EOF prior to relieving first-shift personnel.

(4) Remind individuals contacted of Fitness-for-Duty requirements (Security Manual, Chapter 7) and provisions for voluntary alcohol testing at the EOF.

(5) Provide a telephone number to call in case they are delayed or unable to report.

c. If individuals identified for second-shift duty have been evacuated from their homes and cannot be contacted, request the Emergency News Manager prepare and issue a news statement with instructions for Seabrook Station ERO members to contact the EOF.

d. Provide the time that second-shift ERO responders are to report to the EOF to the Emergency News Manager (ENM) and request the ENM to update the Seabrook Station Employee Information Line.

e. Assign EOF support staff at the EOF Answering Unit to periodically check the Seabrook Station Employee Information Line for messages using Supplemental Material 98-08 and to document any call-ins by ERO personnel on form ER 3.3EE, Emergency Worker Call-In Report. Make additional adjustments to shift schedules as required by the call-ins.

f. Provide the NH IFO Radiological Exposure Clerk with a list of names of those personnel that will require access to the exclusion area for shift turnover.

g. Ensure that all relief personnel reporting to the Station receive an accident briefing from the Industry Liaison.

h. Ensure that all relief personnel receive appropriate dosimetry prior to departure to the Station.

4. STAFFING/EQUIPMENT NEEDS

a. Coordinate responses to requests for additional staffing and equipment resources.

b. Coordinate arrangements for acquisition and distribution of food and beverages to Seabrook Station emergency response facilities.

c. Provide direction to the Material and Logistics Coordinator.

d. As needed, direct the Industry Liaison to request staffing and equipment resources from industry support groups.

e. If the EOF loses normal AC power requiring activation of the stand-by diesel generator, refer to Figure 7 for guidance.

f. If an employee is killed or seriously injured while performing response duties, coordinate notification of the victim's family (next-of-kin).

g. Review procedure NM 11800, Hazardous Condition Response Plan, to identify additional logistical and recovery considerations that may be useful in responding to the emergency. Brief the Response Manager on any recommendations.

h. Monitor and help coordinate requests for assistance to various industry and support groups (e.g., RSCS, GEL Labs, NextEra Energy, Westinghouse or INPO). Periodically brief the Response Manager on the status of requests and responses.

5. EMERGENCY TERMINATION AND RECOVERY

   a. Provide reentry and recovery support per ER 6.0 as directed by the Response Manager.

   b. If the emergency was declared during an outage, perform the following steps:

      (1) Contact the Outage Coordinator and request that all contact telephone number listings for non-Seabrook Station craft personnel and vendor technical representatives not already provided be forwarded to you.

      (2) Develop a return-to-work callout plan for the above outage workers with the Response Manager. Consider who will perform callout and what information will be provided.

      (3) Brief appropriate personnel on the return-to-work callout plan.

      (4) If needed, direct procurement of additional dosimetry required to support the processing of outage workers through the EOF (e.g., from Station stock, vendor, etc.).

6. DEACTIVATION

   a. Collect all ERO emergency-related documentation.

   b. Provide copies of documentation as requested.

   c. Ensure that appropriate emergency-related documentation is archived.

ERO STAFF PLANNING

Date/Time:

EMERGENCY RESPONSE POSITION	LOCATION	FIRST SHIFT (Last Name, First Initial)	BADGE NO.	SECOND SHIFT (Last Name, First Initial)	HOME PHONE NO.	COMMENTS
Shift Manager	Control Room					
Unit Supervisor	Control Room					
Work Control Supervisor	Control Room					
Control Room Operator	Control Room					
Control Room Operator	Control Room					
Nuclear Systems Operator	Control Room					
Nuclear Systems Operator	Control Room					
Nuclear Systems Operator	Control Room					
Nuclear Systems Operator	Control Room					
Nuclear Systems Operator	Control Room					
Fire Fighter / EMT	Control Room					

ERO STAFF PLANNING
(Continued)

Date/Time:

EMERGENCY RESPONSE POSITION	LOCATION	FIRST SHIFT (Last Name, First Initial)	BADGE NO.	SECOND SHIFT (Last Name, First Initial)	HOME PHONE NO.	COMMENTS

ERO STAFF PLANNING
(Continued)

Date/Time:

EMERGENCY RESPONSE POSITION	LOCATION	FIRST SHIFT (Last Name, First Initial)	BADGE NO.	SECOND SHIFT (Last Name, First Initial)	HOME PHONE NO.	COMMENTS
BOP Support Engineer	TSC (C306)					
Electrical Support Engineer	TSC (C306)					
Emergency Operations Manager	TSC					
Engineering Coordinator	TSC					
ENS Communicator	TSC					
Health Physics Coordinator	TSC					
I&C Support Engineer	TSC (C306)					
Maintenance Coordinator	TSC					
NSSS Support Engineer	TSC (C306)					
Nuclear Safety Advisor	TSC					
Operations Technician	TSC					
Reactor Engineer	TSC					

ERO STAFF PLANNING
(Continued)

Date/Time:

EMERGENCY RESPONSE POSITION	LOCATION	FIRST SHIFT (Last Name, First Initial)	BADGE NO.	SECOND SHIFT (Last Name, First Initial)	HOME PHONE NO.	COMMENTS
Security Leader	TSC					
Site Emergency Director	TSC					
Technical Services Coordinator	TSC					
TSC Electrical Engineer	TSC					
TSC Logkeeper	TSC					
TSC Mechanical Engineer	TSC					
TSC RMD Personnel	TSC					
TSC Work Control Supervisor	TSC					

ERO STAFF PLANNING
(Continued)

Date/Time:

EMERGENCY RESPONSE POSITION	LOCATION	FIRST SHIFT (Last Name, First Initial)	BADGE NO.	SECOND SHIFT (Last Name, First Initial)	HOME PHONE NO.	COMMENTS

ERO STAFF PLANNING
(Continued)

Date/Time:

EMERGENCY RESPONSE POSITION	LOCATION	FIRST SHIFT (Last Name, First Initial)	BADGE NO.	SECOND SHIFT (Last Name, First Initial)	HOME PHONE NO.	COMMENTS
Chemistry Coordinator	OSC					
Chemistry Technician	OSC					
Chemistry Technician	OSC					
Control Room Operator	OSC					
Control Room Operator	OSC					
Electrical Maintenance Personnel	OSC					
Electrical Maintenance Personnel	OSC					
Health Physics Technician	OSC					
Health Physics Technician	OSC					
Health Physics Technician	OSC					
Health Physics Technician	OSC					

ERO STAFF PLANNING
(Continued)

Date/Time:

EMERGENCY RESPONSE POSITION	LOCATION	FIRST SHIFT (Last Name, First Initial)	BADGE NO.	SECOND SHIFT (Last Name, First Initial)	HOME PHONE NO.	COMMENTS
Health Physics Technician	OSC					
I&C Personnel	OSC					
I&C Personnel	OSC					
Mechanical Maintenance Personnel	OSC					
Mechanical Maintenance Personnel	OSC					
Nuclear Systems Operator	OSC					
Nuclear Systems Operator	OSC					
Nuclear Systems Operator	OSC					
Nuclear Systems Operator	OSC					
Nuclear Systems Operator	OSC					
OSC Coordinator	OSC					
Rad Controls Coordinator	OSC					

ERO STAFF PLANNING
(Continued)

Date/Time:

EMERGENCY RESPONSE POSITION	LOCATION	FIRST SHIFT (Last Name, First Initial)	BADGE NO.	SECOND SHIFT (Last Name, First Initial)	HOME PHONE NO.	COMMENTS
Specialty Technical Assistant	OSC					
Specialty Technical Assistant	OSC					
Specialty Technical Assistant	OSC					
Storekeeper	OSC					
Technical Specialist Coordinator	OSC					
Work Control Supervisor	OSC					
Work Planner – Mechanical/Valve Maintenance	OSC					
Work Planner – Electrical/I&C Maintenance	OSC					

ERO STAFF PLANNING
(Continued)

Date/Time:

EMERGENCY RESPONSE POSITION	LOCATION	FIRST SHIFT (Last Name, First Initial)	BADGE NO.	SECOND SHIFT (Last Name, First Initial)	HOME PHONE NO.	COMMENTS

ERO STAFF PLANNING
(Continued)

Date/Time:

EMERGENCY RESPONSE POSITION	LOCATION	FIRST SHIFT (Last Name, First Initial)	BADGE NO.	SECOND SHIFT (Last Name, First Initial)	HOME PHONE NO.	COMMENTS
Administrative Services Coordinator	EOF					
DCC Coordinator	EOF					
Dose Assessment Personnel	EOF					
Dose Assessment Specialist	EOF					
Dosimetry Records Personnel	EOF					
EOF Coordinator	EOF					
EOF Support Staff	EOF					
EOF Support Staff	EOF					
EOF Support Staff	EOF					
EOF Support Staff	EOF					
EOF Support Staff	EOF					
ERO Technical Liaison	EOF					

ERO STAFF PLANNING
(Continued)

Date/Time:

EMERGENCY RESPONSE POSITION	LOCATION	FIRST SHIFT (Last Name, First Initial)	BADGE NO.	SECOND SHIFT (Last Name, First Initial)	HOME PHONE NO.	COMMENTS
HPN Communicator	EOF					
Industry Liaison	EOF					
Licensing Coordinator	EOF					
Material & Logistics Coord	EOF					
Offsite Mon Team - Driver	EOF					
Offsite Mon Team - Driver	EOF					
Offsite Mon Team - Monitor	EOF					
Offsite Mon Team - Monitor	EOF					
Offsite Monitoring Communicator	EOF					
Offsite Monitoring Coordinator	EOF					
RADDOSE Operator	EOF					
Radiological Assistant	EOF					
Response Manager	EOF					

ERO STAFF PLANNING
(Continued)

Date/Time:

EMERGENCY RESPONSE POSITION	LOCATION	FIRST SHIFT (Last Name, First Initial)	BADGE NO.	SECOND SHIFT (Last Name, First Initial)	HOME PHONE NO.	COMMENTS
Security Coordinator	EOF					
Security Officer	EOF					
Security Officer	EOF					
Security Officer	EOF					
Technical Assistant	EOF					
Training Center Staff	EOF					
Training Center Staff	EOF					

ERO STAFF PLANNING
(Continued)

Date/Time:

EMERGENCY RESPONSE POSITION	LOCATION	FIRST SHIFT (Last Name, First Initial)	BADGE NO.	SECOND SHIFT (Last Name, First Initial)	HOME PHONE NO.	COMMENTS

ERO STAFF PLANNING
(Continued)

Date/Time:

EMERGENCY RESPONSE POSITION	LOCATION	FIRST SHIFT (Last Name, First Initial)	BADGE NO.	SECOND SHIFT (Last Name, First Initial)	HOME PHONE NO.	COMMENTS
Emergency News Manager	Media Ctr					
Technical Advisor	Media Ctr					
Technical Adviser	Media Ctr					
Media Center Support Staff	Media Ctr					
Media Center Support Staff	Media Ctr					
Media Center Support Staff	Media Ctr					
Media Center Support Staff	Media Ctr					
Media Center Support Staff	Media Ctr					
Media Center Support Staff	Media Ctr					
Media Center Support Staff	Media Ctr					
Media Center Support Staff	Media Ctr					

ERO STAFF PLANNING
(Continued)

Date/Time:

EMERGENCY RESPONSE POSITION	LOCATION	FIRST SHIFT (Last Name, First Initial)	BADGE NO.	SECOND SHIFT (Last Name, First Initial)	HOME PHONE NO.	COMMENTS

HPN COMMUNICATOR CHECKLIST

INITIAL

1. ACTIVATION

   a. Sign in on the EOF roster board. _____

   b. Obtain the HPN Communicator emergency response position materials at your work station and initiate this checklist. _____

   c. Clip-on the position badge. Do not obscure your station badge.

   d. Check workstation telephones for operability. _____

   e. Obtain a briefing from the EOF Coordinator or Dose Assessment Specialist. _____

   f. Maintain a log using form ER 2.0E, Emergency Facility Log. _____

2. NOTIFICATIONS

   a. As requested by the NRC, establish the Health Physics Network (HPN) and maintain communications per instructions provided by the NRC individual initiating the call. Use the hardwired HPN telephone to connect to the NRC Region 1 HPN bridge. After connecting to the bridge, the cordless telephone may be used for HPN communication.

   b. Use the HPN Event Notification Worksheet, form ER 2.0G, to record radiological information and data. Complete page 1 of form ER 2.0G at a minimum. Use subsequent pages of form ER 2.0G as time allows to document information for response to NRC inquiries.

      - Obtain onsite radiological data from the Health Physics Coordinator.
      - Obtain offsite radiological data and PARs from the EOF Coordinator or Dose Assessment Specialist.

      NOTE

      Consider using a telecopier to provide copies of HPN forms to the NRC.

   c. Periodically brief the EOF Coordinator, Dose Assessment Specialist and Licensing Coordinator on the status of HPN notifications.

   d. If time permits, assist the Dose Assessment Specialist with posting and distributing radiological data in the EOF. (Protected: Ref. 6.20)

HPN COMMUNICATOR CHECKLIST

3. STAFFING/EQUIPMENT NEEDS

Direct requests for additional staffing or equipment resources to the EOF Coordinator.

4. DEACTIVATION

Submit all emergency documentation to the Administrative Services Coordinator.

LICENSING COORDINATOR CHECKLIST

1. ACTIVATION

   a. Sign in on the EOF roster board. _____

   b. Obtain Licensing Coordinator's emergency response position materials at your work station initiate this checklist. _____

   c. Clip-on the position badge. Do not obscure your station badge. _____

   d. Check workstation telephones for operability. _____

   e. Report to and obtain a briefing from the Administrative Services Coordinator. _____

   f. Obtain copies of NRC notification forms (ER 2.0D) completed by the Control Room or TSC from the Emergency Operations Manager. _____

   g. Maintain a log using form ER 2.0E, Emergency Facility Log. _____

2. NOTIFICATION

   As needed, assist the Technical Assistant in supporting open NRC telephone communications if this function is transferred to the EOF. Use form ER 2.0D to support this activity.

3. LICENSING ACTIONS

   Coordinate resolution of all licensing and permit-related issues that may arise during the emergency.

4. NRC INTERFACE

   a. Notify the Technical Services Coordinator of any NRC responders who will be reporting to the site. Provide as much information as is available (e.g., number of personnel, names, expected arrival time at the site, etc.).

   b. Facilitate site access arrangements for NRC Site Response Team members with the Security Coordinator.

   c. As time permits, check NRC workstations and telephones prior to their arrival at the EOF.

d. Obtain information issued to the States and the NRC during the emergency.

(1) Contact the EOF Coordinator for copies of State notifications (forms ER 2.0B and 2.0C).

(2) Contact the Health Physics Network (HPN) Communicator for copies of HPN notifications (form ER 2.0G).

(3) Contact the Emergency Operations Manager for copies of Emergency Notification System (ENS) notifications (form ER 2.0D).

e. Obtain copies of Seabrook Station news statements.

f. Obtain copies of State news releases and EAS messages/advisories.

g. Upon arrival of NRC response personnel at the EOF, perform the following:

(1) Offer them the appropriate NRC position identification badges stored at your workstation.

(2) Coordinate the interface between NRC response team members and the Seabrook Station ERO (e.g., introductions, workstation locations, etc.).

(3) Provide copies of State and NRC notification forms, news releases and EAS messages/advisories issued to date.

(4) Complete the table shown on Page 4 of this checklist. Consider distributing copies to appropriate personnel in the EOF (Seabrook Station, State and Federal).

h. Identify the appropriate NRC personnel at the EOF who should receive Seabrook Station news statements, and request the Media Center Support Staff to make distribution to these individuals as news statements are issued.

i. Make periodic inquiries of NRC personnel and determine if their needs are being met:

(1) Facility workstations (phones, power outlets, seating, etc.).

(2) Information flow and availability (adequate, timely, etc.).

(3) Commitments made in meetings or briefings (being met on time, etc.).

(4) State news releases and EAS messages/advisories (received in a timely manner, etc.)

j. Attend briefings conducted for NRC response personnel, and document the following:

(1) Attendees

(2) Briefing topics and discussions

(3) NRC requests for information or action

(4) Commitments made to the NRC, including due dates or times

(5) Individuals assigned to respond to NRC requests or commitments

k. Periodically track the status of actions items needed to meet NRC requests or commitments. Advise the Response Manager of any actions which will not be complete by the committed due date/time.

l. Ensure reports required by the Regulatory Compliance Manual (NARC) are made in a timely manner.

5. STAFFING/EQUIPMENT NEEDS

Direct requests for additional staffing or equipment resources to the Administrative Services Coordinator.

6. REENTRY AND RECOVERY

Provide reentry and recovery support per ER 6.0 as directed by the Response Manager.

7. DEACTIVATION

Submit all emergency documentation to the Administrative Services Coordinator.

LICENSING COORDINATOR CHECKLIST
(Continued)

KEY PERSONNEL FROM RESPONDING
ORGANIZATIONS AND AGENCIES

SEABROOK STATION EMERGENCY RESPONSE ORGANIZATION	NAME
RESPONSE MANAGER	
TECHNICAL ASSISTANT	
EOF COORDINATOR	
ADMINISTRATIVE SERVICES COORDINATOR	
LICENSING COORDINATOR	
SECURITY COORDINATOR	
EMERGENCY NEWS MANAGER	
NUCLEAR REGULATORY COMMISSION	NAME
SITE TEAM DIRECTOR	
TECHNICAL ASSESSMENT BRANCH LEAD	
PROTECTIVE MEASURES BRANCH LEAD	
RESPONSE COORDINATION LEADER	
SAFEGUARDS/SECURITY BRANCH LEAD	
PUBLIC INFORMATION LEADER	
LIAISON LEADER	
STATE OF NEW HAMPSHIRE (IFO)	NAME
NHHS&EM EOF LIAISON	
NH DPHS RAD HEALTH TECH ADVISOR	
COMMONWEALTH OF MASSACHUSETTS	NAME
MEMA EOF LIAISON	
MDPH COORDINATOR	
FEDERAL EMERGENCY MANAGEMENT AGENCY	NAME
DEPARTMENT OF ENERGY	NAME
OTHER	NAME

INDUSTRY LIAISON CHECKLIST

INITIAL

1. ACTIVATION

   a. Sign in on the EOF roster board. _____

   b. Obtain the Industry Liaison's emergency response position materials at your work station and initiate this checklist. _____

   c. Clip-on the position badge. Do not obscure your station badge. _____

   d. Check workstation telephones for operability. _____

   e. Report to and obtain a briefing from the Administrative Services Coordinator. _____

   f. Maintain a log using form ER 2.0E, Emergency Facility Log. _____

2. RADIATION SAFETY & CONTROL SERVICES (RSCS)

   a. Contact RSCS using the 24 hour number in the Emergency Response Telephone Directory and confirm that RSCS environmental sample analysis support personnel have been notified and have deployed to the EOF.

   b. When requested by the Dose Assessment Specialist, contact GEL Laboratories using the number in the Emergency Response Telephone Directory to determine requirements for initiating transfer of environmental samples from the EOF to GEL Labs and make arrangements for GEL to receive environmental samples.

3. WESTINGHOUSE

   a. Notify the Westinghouse Energy Systems Business Unit Emergency Response Team.

      (1) Provide an event briefing.

      (2) Establish a periodic callback schedule.

      (3) Provide your telephone number and the DCC telecopy number.

4. INPO

   a. Notify INPO

      (1) Provide an event briefing.

      (2) Inform the Duty Officer that Seabrook Station news statements will be faxed to INPO and request the appropriate fax number.

(3) Request that INPO response personnel enter the contents of Seabrook Station news statements on to Nuclear Network.

(4) Establish a periodic callback schedule.

(5) Provide your telephone number and the DCC telecopy number.

b. Ensure DCC Coordinator has the correct INPO telefax number and telefaxes approved news statements to INPO.

c. If needed, develop other messages for the Nuclear Network and request INPO to enter.

> **NOTE**
> The INPO Emergency Resources Manual can be accessed on the INPO website by going to the INPO Home Page, selecting Resource Library, selecting Historical Listing of INPO Documents, and scrolling down to INPO 03-001, or select Emergency Preparedness from the subject matter index on the left hand side of the INPO Home Page.

d. As requested, review the INPO Emergency Resources Manual (or call INPO) to ascertain what equipment and personnel are available for responding to the emergency.

e. As approved by the Response Manager, request resources through INPO.

5. AMERICAN NUCLEAR INSURERS (ANI)

a. Provide an event briefing.

b. Establish a periodic callback schedule.

c. Provide your telephone number and the DCC telecopy number.

6. NUCLEAR ELECTRIC INSURANCE LIMITED/NUCLEAR MUTUAL LIMITED

a. Provide an event briefing.

b. Establish a periodic callback schedule.

c. Provide your telephone number and the DCC telecopy number.

7. NUCLEAR ENERGY INSTITUTE (NEI)

a. Notify NEI and provide an event briefing.

(1) Inform the individual that Seabrook Station news statements will be faxed to NEI and request the appropriate fax number.
(2) Establish a periodic callback schedule.
(3) Provide your telephone number and the DCC telecopy number.

b. Ensure the DCC Coordinator has the correct telefax number and telefaxes approved news statements to NEI.

8. OTHER CONTACTS

a. Ensure the DCC Coordinator telefaxes approved news statements to Joint Owners.

b. If contacted by a Joint Owner representative, provide information as requested.

c. As requested, contact other utilities for additional support.

9. VISITORS REPORTING TO THE EOF OR THE SITE

NOTE

For events that have resulted in a release of radioactive materials to the environment, all individuals reporting to the site should be

1. Radiation worker qualified at Seabrook Station, or

2. Radiation worker qualified at another commercial nuclear power plant, or

3. Broadly familiar with the concepts of ionizing radiation and contamination as a result of their normal work activities.

a. Notify the EOF Coordinator of any visitors who will be reporting to the EOF or the site. Request input for visitor briefings.

b. Notify the Security Coordinator of any visitors who will be reporting to the EOF or the site. Request input for visitor briefings.

c. Notify the Technical Services Coordinator of any visitors who will be reporting to the site. Request input for visitor briefings.

d. Notify the Health Physics Coordinator of any visitors who will be reporting to the site. Request input for visitor briefings.

e. Brief visitors on the following:

(1) where to report

(2) ERO interfaces/counterparts

(3) accident and response status

(4) travel and access route(s) to the EOF or site (if needed)

(5) radiological or other precautions

(6) instructions to report to the Dosimetry Records Personnel for dosimetry (if needed)

f. Ensure all personnel reporting to the site obtain a pass from the NH IFO Radiological Exposure Clerk allowing entry into the exclusion area.

g. Instruct all visitors who will be reporting to the site to complete form ER 3.3B upon receiving their briefing.

h. Submit form ER 3.3B to the Security Coordinator for processing of site visitors.

i. Notify the Technical Services Coordinator when personnel reporting to the site have departed from the EOF.

10. REENTRY AND RECOVERY

Provide reentry and recovery support per ER 6.0 as directed by the Response Manager.

11. DEACTIVATION

Submit all emergency documentation to the Administrative Services Coordinator.

EOF SUPPORT STAFF CHECKLIST

INITIAL

1. ACTIVATION

   a. Sign in on the EOF roster board. _____

   b. Report to the Administrative Services Coordinator for assignment. _____

   c. Obtain the EOF Support Staff emergency response position materials at your work station and initiate this checklist. _____

   d. Clip-on the position badge. Do not obscure your station badge. _____

   e. Verify date and time on EOF fax machines and correct them if necessary. _____

2. ADMINISTRATIVE SUPPORT

   a. If you are assigned to support the Response Manager, implement the following actions:

      (1) Report to the Response Manager.

      (2) Monitor Response Manager actions and communications, and log noteworthy items on:

         (a) The electronic log PC, or, if this PC is not available,
         (b) Form ER 2.0E, Emergency Facility Log.

      (3) If requested, accompany the Response Manager to conferences. Record noteworthy items such as (a) discussions with the NRC or States concerning PARs; (b) approval of news statements; and (c) classification changes.

      (4) At the direction of the Response Manager, contact the TSC Logkeeper to obtain or verify information. The TSC Logkeeper can be contacted at the Site Emergency Director telephone number in the Emergency Telephone Directory.

      (5) At the termination of the emergency, submit the log to the Administrative Services Coordinator.

   b. If assigned to monitor the EOF Answering Unit, implement the following actions:

      (1) Periodically monitor the Answering Unit for messages left for EOF staff. The message window on the unit will indicate the number of messages recorded.

      (2) Access messages by pressing and releasing any "MBox" button that is lit.

(3) Record the time, date and content of each telephone message in the applicable sections of form ER 3.3EE and provide the completed forms to the Administrative Services Coordinator.

(4) When the last stored message is played, the unit will announce, "End of message." After recording the last message, delete messages by pressing and releasing the "delete" key followed by pressing and releasing the lit "MBox" button.

(5) At the termination of the emergency, submit the telephone message log to the Administrative Services Coordinator.

(6) Provide assistance to the DCC Coordinator or other EOF staff as directed by the Administrative Services Coordinator (e.g., send copies, make copies of documents, deliver copies, etc.).

(7) At the direction of the Administrative Services Coordinator, periodically check the Seabrook Station Employee Information Line for messages using Supplemental Material 98-08. Provide messages to the Administrative Services Coordinator.

c. If assigned to maintain the electronic EOF Chronolog, do the following:

(1) Refer to Supplemental Material 97-01, EOF Logkeeper PC Instructions.

(2) Log significant events. Significant events include but are not limited to:

- EOF activation time
- Emergency classification in effect
- Emergency operating procedures in effect
- Status of safety equipment
- Significant structure, system and component failures
- Radiological release status
- Access control measures in effect at the EOF and the station
- Security event status, if applicable
- Actions directed for site personnel
- Remote monitoring area activation if required
- Protective action decisions by offsite authorities

(3) When the EOF Chronolog screen is filled, print out a hard copy of the log.

(4) Post the hard copy of the log, in sequence, on the EOF accident time log status board.

d. If assigned to the Media Center, implement the following actions:

EOF SUPPORT STAFF CHECKLIST
(Continued)

(1) Report to the Emergency News Manager (ENM).

(2) Copy approved news statements at the direction of the ENM and distribute in accordance with distribution instructions in ER 3.5, Figure 9, located in the Media Center Support Staff totebox in the Media Center Operations Room. Ask the Media Center Support Staff or Technical Advisor for assistance in identifying personnel and locations on the distribution list.

(3) Do not leave the Media Center Operations Room unattended when other Media Center personnel are away from their work stations. Obtain other EOF Support Staff assistance to complete copying or distribution tasks.

(4) Monitor telephones in the Media Center Operations Room, answer telephones when Media Center personnel are away from their work stations, and log telephone messages.

(5) Monitor telecopiers in the Media Center and deliver telecopied material to intended recipients.

(6) If requested to transmit outgoing telecopies, the telecopier for outgoing transmittals in the Media Relations room is equipped with auto-fax features for the NRC, Associated Press, and NH HS&EM and MEMA public information officers.

(7) At the termination of the emergency, submit all documentation to the Emergency News Manager.

RADDOSE OPERATOR CHECKLIST

INITIAL

1. ACTIVATION

   a. Sign in on the EOF roster board. _____

   b. Obtain the RADDOSE Operator's emergency response position materials at your work station and initiate this checklist. _____

   c. Clip-on the position badge. Do not obscure your station badge. _____

   d. Check workstation telephones for operability. _____

   e. Activate the RADDOSE program in accordance with Procedure ER 5.3, Operation of the Raddose-V System. _____

   f. Inform the Dose Assessment Specialist when the Raddose program is operational. _____

2. ACCIDENT ASSESSMENT

   Perform offsite dose projections using the Raddose-V program as directed by the Dose Assessment Specialist.

3. CLASSIFICATIONS

   Inform the Dose Assessment Specialist immediately when dose or dose projection values exceed Initiating Condition AS1 or AG1 per the Initiating Condition matrices.

4. STAFFING/EQUIPMENT NEEDS

   Direct requests for additional staffing or equipment resources to the Dose Assessment Specialist.

5. REENTRY AND RECOVERY

   a. Provide reentry and recovery support as directed by the Dose Assessment Specialist.

   b. Enter offsite sampling and measurement data into the Ingest program in accordance with the Ingest System Manual for Seabrook Station.

   c. Provide guidance to personnel assigned to assist in the Ingest program data entry process.

d. Produce requested reports and plots in accordance with the Ingest System Manual for Seabrook Station.

6. DEACTIVATION

Submit all emergency documentation to the Dose Assessment Specialist.

DOCUMENT CONTROL CENTER COORDINATOR CHECKLIST

INITIAL

1. ACTIVATION

   a. Sign in on the EOF roster board. _____

   b. Obtain the Document Control Center Coordinator's emergency response position materials at your work station and initiate this checklist. _____

   c. Clip-on the position badge. Do not obscure your station badge. _____

   d. Check workstation telephones for operability. _____

   e. Report to Administrative Services Coordinator for an accident briefing. _____

   f. Maintain a log using form ER 2.0E, Emergency Facility Log. _____

2. NOTIFICATIONS

   a. Telefax approved news statements to INPO and NEI.

   b. If requested by the Administrative Services Coordinator to access the INPO Nuclear Network, to access the ERO Staff Planning form (ER 3.3M), to access PASSPORT, or to send a pager message, refer to Supplemental Material 97-11 for instructions.

   c. Telefax approved news statements to the Joint Owner Contacts listed in the Emergency Response Telephone Directory.

   d. Contact a representative of each Joint Owner using the telephone numbers listed in the Emergency Telephone Directory. Inform them that a Seabrook Station news statement has been telefaxed and provide the telefax number to which it was sent.

   e. Provide telecopier support as requested.

3. ACCIDENT ASSESSMENT

   Coordinate and support document retrieval for the EOF staff.

4. DEACTIVATION

   a. Restore/replenish controlled document files used by the EOF staff, as necessary.

   b. Submit all emergency documentation, including Nuclear Network transmissions, to the Administrative Services Coordinator.

MATERIAL AND LOGISTICS COORDINATOR CHECKLIST

INITIAL

1. ACTIVATION

   a. Sign in on the EOF roster board. _____

   b. Obtain the Material and Logistics Coordinator's emergency response position materials at your work station and initiate this checklist. _____

   c. Clip-on the position badge. Do not obscure your station badge. _____

   d. Check workstation telephones for operability. _____

   e. Report to Administrative Services Coordinator for an accident briefing. _____

   f. Maintain a log using form ER 2.0E, Emergency Facility Log. _____

2. STAFFING/EQUIPMENT NEEDS

   a. Refer to Supplemental Material 00-05, Material and Logistics Coordinator Computer Instructions for operation of the work station PC.

   a. Obtain and coordinate vendor support of the ERO response effort.

   b. Confer with the Administrative Services Coordinator and determine if an inventory department (warehouse) individual should be called out to assist with locating or receiving materials.

   c. Coordinate and establish logistical arrangements for ERO response personnel (e.g., food, lodging, transportation, supplies).

   d. Interact with the Industry Liaison to obtain equipment resources through industry sources (e.g., INPO, NextEra Energy).

   e. Advise the Security Coordinator of any scheduled personnel arrivals or product deliveries to ERO facilities (onsite or offsite).

   f. If a radiological release has occurred, advise the EOF Coordinator of any scheduled personnel arrivals or product deliveries to the site.

   g. Request additional assistance, as needed, from the Administrative Services Coordinator.

   h. As needed, contact a service provider for any onsite or offsite emergency facility telephone or equipment repairs.

MATERIAL AND LOGISTICS COORDINATOR CHECKLIST
(Continued)

3. REENTRY AND RECOVERY

Provide reentry and recovery support per ER 6.0 as directed by the Response Manager.

4. DEACTIVATION

Submit all emergency-related documentation to the Administrative Services Coordinator.

DOSIMETRY RECORDS PERSONNEL CHECKLIST

INITIAL

1. ACTIVATION

   a. Sign in on the EOF roster board. _____

   b. Turn on the work station computer. _____

   c. Obtain the Dosimetry Records Personnel emergency response position materials your work station and initiate this checklist. _____

   d. Clip-on the position badge. Do not obscure your station badge. _____

   e. Check workstation telephones for operability. _____

2. EMERGENCY DOSIMETRY PROCESSING

NOTE
Refer to Figure 12 for an overview of the process described below.

   a. Preparation

      (1) Activate the DMC 2000 dosimeters using supplemental material SM 03-09.

      (2) Arrange dosimetry on TLD rack for Offsite Monitoring and Sampling Teams (OMST) in preparation for personnel issue. Provide a DMC 2000 electronic dosimeter and a TLD to each team member.

   b. Offsite Monitoring and Sampling Team (OMST) Initial Deployment

      (1) Obtain a form ER 3.3GG, Exposure Tracking Sheet, from each assigned OMST member with their name and badge number properly entered on the form.

      (2) Perform the following steps to determine exposure status (see Figure 11).

(a) Launch Sentinel Radworker Management Module and find the individual

- Enter workers badge # in the keyword area of the Open Individuals Screen
- Click "Open"
- Double Click on the worker's name in the left column.

(b) Determine the current TEDE Total Year To Date (YTD) for an individual as follows:

Click on the Dose Data Tab and obtain the TEDE Total Dose. This value is the TEDE YTD.

(c) If Sentinel is unavailable, contact the Dosimetry Issue Technician at the OSC for the current TEDE YTD exposure status.

(d) Enter the value established for the current TEDE YTD on form ER 3.3GG, Part I.

(e) Subtract the TEDE YTD from the administrative limit (4500 mrem) and enter the value for the Dose Margin (Margin) on form ER 3.3GG, Part I; and, in pencil, write the Margin value on the TLD.

(f) If the Margin is less than 3000 mrem, inform the Offsite Monitoring Coordinator that an exposure extension may be required and note in

Part III of form ER 3.3GG.

(g) If extension is required, ensure Figure 4 of ER 4.3, Emergency Dose Limit Extension, is completed. Call the Site Emergency Director for approval of individual exposure extension and note approval on the SED signature block. Using Figure 4 of ER 4.3, complete Part III of form ER 3.3GG.

(3) Enter the current Margin (or extended Margin if extension is given) on form ER 5.2B, Offsite Monitoring and Sampling Team Briefing Form, when requested.

(4) Issue TLD by using form ER 3.3II, Emergency Dosimetry Issue Log.

(5) Enter the TLD number on form ER 3.3GG, Part IV.

(6) Give the individual the assigned TLD along with an electronic dosimeter (ED), write his/her name and (in pencil) on the TLD.

(7) Instruct the individual to return dosimetry to the EOF Dosimetry Records Personnel following use unless otherwise directed by the Offsite Monitoring Coordinator.

(8) File form ER 3.3GG pending return of dosimetry.

(9) File Figure 4 of ER 4.3 as appropriate.

c. OMST Exposure Tracking

(1) Each time an OMST member returns from the field, record date, time, and ED accrued dose reading on form ER 3.3GG, Part IV.

(2) Determine new Margin by subtracting the ED accrued dose reading from the current or extended Margin, whichever is greater, and document on form ER 3.3GG, Part IV. Note return time on form ER 3.3II.

(3) If the TLD readout is requested, make arrangements with Mirion Technologies Dosimetry Services Division (GDS) for emergency readout of the TLDs. GDS contact information is in the Emergency Response Telephone Directory.

(4) Upon receipt of TLD dose results, fill out the appropriate sections on forms ER 3.3GG and ER 3.3II.

(5) Calculate the revised Margin using form ER 3.3GG, Part IV.

(6) Notify the Offsite Monitoring Coordinator if the TLD and ED accrued dose values differ by more than a factor of 2.

(7) Notify the Offsite Monitoring Coordinator of the TLD results and indicate on form ER 3.3II in the "Notification Made" column.

d. Offsite Monitoring and Sampling Team (OMST) Redeployment

(1) Perform the following steps to determine exposure status:

(a) Initiate a new form ER 3.3GG for each OMST member.

(b) Fill in the current Margin using the revised Margin from the member's previous form ER 3.3GG.

(c) The Offsite Monitoring Coordinator will determine if an exposure extension is necessary. Fill out Part III of form ER 3.3GG, as appropriate.

(d) If an extension is given, ensure Figure 4 of ER 4.3 is completed.

(e) Issue TLD and an electronic dosimeter per Steps 2.b.4 through 2.b.10.

e. Personnel Deployment to the Site

(1) Issue dosimetry to personnel authorized site access per form ER 3.3B.

(2) Obtain a completed form ER 3.3M, ERO Staff Planning from the Administrative Services Coordinator and begin dosimetry issue process for second shift personnel.

(3) Initial Deployment to the Site

(a) If the individual is a currently monitored Seabrook radiation worker, determine if the TEDE YTD is greater than 3000 mrem by calling the OSC if Sentinel is unavailable.

(b) If the individual's TEDE YTD is greater than 3000 mrem, notify the Radiological Controls Coordinator (RCC) at the OSC for further instructions.

(c) If the individual is not a currently monitored Seabrook radiation worker, ensure form ER 3.3GG, Part II, Current Year Exposure, is completed. Unless official final dosimetry results are available, the current year exposure is considered an estimate. Use PADS if applicable.

(d) Complete TEDE YTD Transit Card for the individual (see Figure 13).

(e) Issue dosimetry per step 2.e.6.

(4) If the Health Physics Coordinator directs issuance of potassium iodide (KI) to personnel deployed to the site: (Protected: Ref. 6.21)

(a) Obtain KI vials from the field monitoring bay storage room.

(b) Ask each individual to be deployed to the site whether he/she is allergic to iodide.

(c) If he/she is allergic to iodide, request to Administrative Services Coordinator to assign a replacement.

(d) Issue one (1) vial of KI to each individual deployed to the site.

(e) Log any issuance of KI tablets on form ER 4.3, Figure 6, KI Issue Log.

(5) Redeployment to the Site

Issue dosimetry per step 2.e.6.

(6) Dosimetry Issue

(a) If it is determined that site TLDs can be used, proceed to Step 2.e.7.

(b) Using form ER 3.3II, Emergency Dosimetry Issue Log, enter the following for Seabrook Worker: date, time, and security badge number. For all others enter date, time, social security number, name and organization.

(c) Attach a TEDE YTD Transit Card (Figure 13) to the TLD, as appropriate. Apply label to the TLD with the individual's name.

(d) Give the individual the TLD along with an electronic dosimeter.

(e) If dosimetry is requested for State emergency workers, the State emergency organization is responsible for exposure records and controls. Record issue of dosimetry only.

(7) Instruct the individual to return the dosimetry to the EOF Dosimetry Records Personnel following use unless otherwise directed by supervisory personnel.

NOTE
For workers deployed to the OSC, the OSC will contact you to advise that it is retaining the electronic dosimeters issued to personnel who will enter the RCA.

f. Dosimetry Return

(1) Verify that all returned dosimetry has been surveyed for contamination. If not surveyed, direct personnel to the Radiological Assistant.

(2) Dosimetry assigned to an individual not requiring readout may be reused by the same individual for subsequent shifts.

(3) Prioritize TLD readout from ED accrued dose estimates according to the following, unless otherwise directed.

(a) 0-1000 mR Low Priority

(b) 1001-2000 mR High Priority

(c) 2001-3000+ mR Immediate Readout

(4) Log all dosimetry returned for processing on form ER 3.3II even if not originally issued from the EOF.

(5) Turn off the electronic dosimeters.

(6) Forward TLDs for readout to the GDS for processing.

(7) Obtain the TLD report when readout is complete and update TLD and exposure records as follows:

(a) For whole body dosimetry indicate DDE, LDE and SDE-ME on form ER 3.3II.

(b) For extremity dosimetry enter value under SDE-ME heading on form ER 3.3II.

(8) Notify the following of dose results, as appropriate:

(a) Personnel deployed to site - Dosimetry Issue Technician at OSC.

(b) OMST Personnel - OMC at EOF.

(c) MA State Personnel - Director of Radiation Control Program.

(d) NH State Personnel - NH Radiation Exposure Clerk.

(e) Additional notification per special instructions.

(f) Any exposure greater than 4.5 rem - Dose Assessment Specialist.

g. Expanded Dosimetry Response

(1) Determine the projected dosimetry needs of the Station response organization. If the level exceeds available supplies, notify the Dose Assessment Specialist.

(2) Contact GDS to obtain additional TLDs if needed.

(3) Obtain the badge supply and coordinate issuance.

(4) Continue coordinating dose records update.

3. DEACTIVATION

   a. Document results of all emergency dosimetry analyses.

   b. Reissue dosimetry to recovery organization for RCA access.

   c. Submit all emergency documentation to the Administrative Services Coordinator.

   d. TLD reads should be maintained by Dosimetry Records personnel for subsequent entry into Sentinel.

EMERGENCY WORKER CALL-IN REPORT

This report documents call-ins by ERO individuals who have been evacuated from their home, who are required to be away from their home for a period of time, or who have questions or problems concerning the emergency.

1. Name of caller: _____.

2. ERO Position: _____.

3. Number to be reached at: _____.

4. Are you scheduled to work second shift? yes no

5. Have you or might you be evacuated? yes no

6. Will you be staying at a location more than 30 miles from the EOF? yes no

   If yes, where

7. Will you need lodging? yes no

8. Is a call back required? yes no

9. Additional Comments:

10. Routed to the Administrative Services Coordinator at:

    _____ hours, _____ date.

    by: _____.
    Signature

EXPOSURE TRACKING SHEET

Part I OMST Yes ___ No

Name_____ Security Badge#_____ SSN_____-_____-
(optional/use when no badge#)

Emergency Administrative Limit _____ mrem

Current TEDE YTD _____ mrem

Current Margin _____ mrem

Part II Current Year Exposure (Non-Seabrook Employees)

Mailing Address_____ DOB _____/_____/

Company_____ Onsite Contact

Have you been monitored for occupational radiation exposure during the current calendar year?
YES ____ NO

If YES, current year exposure is:

DDE*	LDE*	SDE WB*	SDE ME*	TEDE*	TODE*

Check one: Individual's Estimate _____
Written Estimate _____
Record Dose _____
*All Exposure calculated in REM

Individual's Signature_____ Date

Part III

Exposure Extension Required? YES ____ NO ____

Dose Limit Extended to _____ mrem
Extended Margin _____mrem

EXPOSURE TRACKING SHEET
(Continued)

Part IV

TLD NO._____ ED NO_____

Return Date / Time_____ ED dose _____mrem New Margin

Return Date / Time_____ ED dose _____mrem New Margin

Return Date / Time_____ ED dose _____mrem New Margin

Return Date / Time_____ ED dose _____mrem New Margin

Return Date / Time_____ ED dose _____mrem New Margin

ED Total _____ mrem**

TLD DDE Dose _____ mrem**

Revised Margin _____ mrem

Note: See subsequent pages of form for instructions to fill out this form.

** Notify the Offsite Monitoring Coordinator if ED total and TLD DDE Readout differ by a factor of 2.

Comments:

EXPOSURE TRACKING SHEET
(Continued)

INSTRUCTIONS FOR FILLING OUT FORM

Page _____ of _____: Refers to number of pages per individual.

PART I

Current TEDE YTD: To be filled in only for initial TLD issue at start of emergency; determine from FINIS, if available, or call Dose Tracking Technician at the OSC. For subsequent TLD issue, fill in N/A.

Current Margin: For initial TLD issue, subtract CURRENT TEDE YTD value from 4500; for subsequent TLD issue, use REVISED Margin value from previous TLD readout.

PART II & PART III

Exposure Extension Required: For initial deployment, the CURRENT Margin must be at least 3000 mrem. If less than 3000 mrem, extension is required; for redeployment, the Offsite Monitoring Coordinator will determine the need for extension.

Dose Limit Extended to: Fill in if there is an EXPOSURE EXTENSION REQUIRED; otherwise, fill in N/A.

Extended Margin: Subtract 4500 mrem from DOSE LIMIT EXTENDED TO value. Add this new value to the CURRENT Margin. If no EXPOSURE EXTENSION REQUIRED, this is N/A.

PART IV

TLD/ED No.: Fill in as appropriate based on the TLD/ED issued.

Return Date/Time: Record date and time each time OSMT member returns from field with an electronic dosimeter reading.

ED: Record ED accrued dose reading.

New Margin: For initial ED reading, subtract that value from the CURRENT Margin (CMargin-ED) or the EXTENDED Margin (EMargin-ED) if an extension was given; subsequent ED readings are subtracted from the previous NEW Margin (NMargin-ED).

SRPD Total: Add up all ED readings and fill in value.

EXPOSURE TRACKING SHEET
(Continued)

TLD H300T Dose: Obtain this data from the TLD dose report or the Emergency Dosimetry Issue Log.

Revised Margin: Use the CURRENT Margin value or EXTENDED Margin, if one is given, and subtract the TLD DDE DOSE value from this value (CMargin-DDE or EMargin-DDE) and fill in value.

Page _____ of

EMERGENCY DOSIMETRY ISSUE LOG

TLD #	DATE	TIME ISSUED	TIME RET'ND	BADGE NO.	NAME (OPTL)	SS# (OPTL)	ORG (OPT)	ED DOSE (mR)	READOUT FILENAME	TLD DOSE (mR)					NOTIFICATION MADE
										DDE	SDE-ME	LDE	SDE-WB	CEDE	

ERO TECHNICAL LIAISON CHECKLIST

INITIAL

1. ACTIVATION

   a. Sign in on the EOF roster board. ____

   b. Obtain the ERO Technical Liaison emergency response materials at your work station and initiate this checklist. ____

   c. Clip-on the position badge. Do not obscure your station badge. ____

   d. Maintain a log using form ER 2.0E, Emergency Facility Log. ____

   e. Contact the Technical Assistant to obtain a briefing on ____

      (1) Station status
      (2) radiological releases
      (3) classification
      (4) notifications
      (5) protective action recommendations (PARs) status

2. ACCIDENT ASSESSMENT

   a. Obtain regular plant status briefings from the Technical Assistant.

   b. As required, obtain copies of logger trend printouts from the Technical Assistant. Other technical material can be obtained from the DCC Coordinator.

3. NOTIFICATIONS

   a. If not done already, call the Rockingham County Dispatch Center (RCDC) and the Massachusetts Emergency Management Agency (MEMA) communications officer and verify that they notified local EPZ communities as follows:

      (1) Tell the RCDC and MEMA contacts your name and ERO position.

      (2) Tell them the current emergency classification level and date and time of declaration.

      (3) Ask them: "Have you made or initiated notifications of local EPZ communities?"

      (4) If the answer is no, tell the RCDC dispatcher and/or the MEMA communications officer to notify local EPZ communities in accordance with their notification procedures.

NOTE

This is a one-time contact of the RCDC and the MEMA communications officer to confirm initial notification of local EPZ communities only. The states are responsible for confirming any subsequent notifications of local EPZ communities.

b. If not done already, notify the Maine State Police of the emergency classification level and time of declaration. If you have already made notification of the initial emergency declaration to the Maine State Police, provide an update to the Maine Emergency Management Agency duty officer. Telephone numbers for these contacts are in the Emergency Response Telephone Directory.

c. Notify and provide periodic briefings to the New Hampshire Public Utilities Commission (NHPUC) Chief Engineer or designated backup contact person (or as conditions warrant). (Protected: Ref. 6.10)

d. Provide periodic briefings to the NH Homeland Security & Emergency Management (HS&EM) representative in the EOF and the Seabrook Station Technical Liaison at NH HS&EM Headquarters. (Protected: Ref. 6.10)

e. Notify and provide periodic briefings to the MEMA Nuclear Preparedness Manager in the MA EOC or the Seabrook Station State EOC Technical Liaison at MEMA Headquarters. (Protected: Ref. 6.18)

f. Provide periodic briefings to the MEMA Liaison at the EOF regarding plant information.

g. Provide plant technical updates every 15-30 minutes to the Seabrook Station State EOC Technical Liaisons at the NH HS&EM and MEMA state EOCs. Coordinate the frequency of these updates with the Response Manager's briefings.

h. As needed, request administrative support from the Administrative Services Coordinator.

4. REENTRY AND RECOVERY

Provide reentry and recovery support per ER 6.0 as directed by the Response Manager.

5. DEACTIVATION

Submit all emergency documentation to the Administrative Services Coordinator.

TRAINING CENTER STAFF CHECKLIST

INITIAL

1. ACTIVATION

   a. Sign in on the EOF roster board. ___

   b. Report to the Technical Assistant and obtain a briefing and instructions. ___

   c. Obtain the Training Center Staff emergency response position materials at your work station, and clip-on the position badge. Do not obscure your station badge. ___

   d. Activate the "EOF Logger Trend Report." Refer to Supplemental Material 99-06, SDS Operations for EOF Users, for MPCS EMERGENCY RESPONSE access instructions. ___

   e. Turn on MPCS SGVA Monitor per Supplemental Material 00-07.

   f. Check the fuel level of the standby diesel generator fuel tank: ___

NOTE
A flashlight, ear protection, and gloves for starting the diesel, if necessary, are in the EOF diesel safety equipment tote located in the EOF utility room.

      (1) This gauge is located at the top of the tank. The red float indicates fuel level. The EOF diesel fuel tank has a 275 gallon capacity, which will run the diesel continuously for 24 hours.

      (2) Request the Materials and Logistics Coordinator to arrange for diesel fuel delivery, if necessary

      (3) The diesel generator will auto-start if power is lost to the EOF. Assuming it starts with a full fuel tank, after 20 hours of operation, prompt the Materials and Logistics Coordinator to obtain a fuel vendor within 2 hours.

2. ACCIDENT ASSESSMENT

   a. Obtain plant parameters to be monitored from the Technical Assistant.

   b. Monitor operational data and trends as directed by the Technical Assistant.

   c. Provide data updates to EOF staff, particularly to the Raddose Operator, as directed by the Technical Assistant. Refer to Supplemental Material 98-12 for logger trend report distribution logic. Request administrative staff support from the Administrative Services Coordinator for copying and distributing the logger trend reports.

d. Assist the Technical Assistant with answering EOF staff inquiries and with obtaining accident assessment assistance from the Engineering Staff.

e. For a steam generator tube rupture event, keep the Dose Assessment Specialist informed of steam generator conditions that could lead to a two-phase flow in a main steam line release pathway (i.e., Steam Generator Wide Range Level >99%).

f. In the event of total or partial failure of the Main Plant Computer System, assist the Technical Assistant with acquisition of plant data from the TSC. Use forms ER 2.0H through K to facilitate data transfer.

g. Ensure that the following status boards are periodically updated and maintained current:

(1) Operational trend status boards
(2) System status board
(3) Critical Safety Function status board

h. Assist the Technical Assistant with monitoring plant operational data, providing pertinent data to offsite liaison personnel, and performing other duties as assigned by the Technical Assistant.

i. Raddose users may request data pertaining to containment spray status, plant vent filter status, and steam flow rate depending on the accident type for which dose projections are calculated. The data can be obtained via SDS as follows:

- Containment spray status – On SDS select CGS PRI/MISC MENU, then select CONTM SPRAY for status of containment spray pumps and valves.

- Plant vent filter status – On SDS, type in WRGM. WRGM detail will be displayed. Press F5 to show data points. If QUAL code for any of the PLANT VENT or WRGM flow rates is other than GOOD, filter status is NO. Also, if the logger trend shows the QUAL code for either CONTM AVG PRESS (Point ID C0726) or CONTN ENC/OUTSIDE DP (Point ID A3778) is other than GOOD, filter status is NO.

- Steam flow rate – On SDS, type in SGFEED. Steam generator flow rates will be displayed in KLB/HR.

3. STAFFING/EQUIPMENT NEEDS

a. Assist the Technical Assistant with determining resource requirements and material purchases needed by plant personnel to support corrective actions.

4. DEACTIVATION

   a. Turn off loggers.

   b. Turn off MPCS SGVA Monitor

   c. Return green position identification tag to tote-box.

   d. Submit all emergency documentation to the Technical Assistant.

OFFSITE MONITORING COMMUNICATOR CHECKLIST

INITIAL

1. ACTIVATION

   a. Sign in on the EOF roster board. _____

   b. Obtain the Offsite Monitoring Communicator emergency response position materials at your work station. _____

   c. Clip-on the position badge. Do not obscure your station badge.. _____

   d. Report to the Offsite Monitoring Coordinator for a briefing. _____

   e. Ready operation of the Field Monitoring Team MC2000 radio remote per Supplemental Material 08-02, Operation of the Field Monitoring Team MC2000 Remote. _____

   f. Assist the Offsite Monitoring Coordinator with launching the WebEOC field monitoring team information screen following steps 2.c through 2.g of SM 08-03. _____

   g. Obtain blank copies of ER 5.2C, EOF Survey/Air Sample Calculation Worksheet, and NH and MA forms for receiving and recording data from field teams. _____

   h. Obtain copies of ER 2.0E, Emergency Facility Log, to maintain a continuous log of communications and events. _____

2. FIELD TEAM DEPLOYMENT

   Receive and acknowledge radio checks of teams preparing for deployment.

3. OFFSITE MONITORING

   a. As deployed teams establish radio communications with the MC2000 radio remote, respond as appropriate.

   b. If more than one team attempts to communicate at the same time, direct other teams to remain on standby while communicating with the original team.

c. At the direction of the Offsite Monitoring Coordinator, relay additional details regarding surveys and techniques. Do not relay any units over the radio.

d. As teams radio in to report data, ensure teams identify themselves as ERO (team #), NH (team #) or MA (team #).

e. Record information radioed in by ERO teams on ER 5.2C.

f. Log all WebEOC Offsite Monitoring Team data records provided by the Offsite Monitoring Coordinator on forms ER 5.2C for dose calculation.

g. Record information radioed by NH and MA teams on the applicable state forms.

h. Ensure that the Offsite Monitoring Coordinator is aware of incoming information.

i. At the direction of the Offsite Monitoring Coordinator, report changes to emergency classification level, radiological release status, and meteorological conditions to field teams.

j. Report other information to the field teams at the direction of the Offsite Monitoring Coordinator.

k. If communications are lost with one or all teams, notify the Offsite Monitoring Coordinator. Use cellular telephones to contact the field teams.

l. If the level of communications activity with the field teams increases to the point that field data cannot be received and recorded promptly, request the Offsite Monitoring Coordinate to initiate call-in of a second Offsite Monitoring Communicator or assignment of an EOF Support Staff to assist with recording field data.

4. DEACTIVATION

When directed to deactivate, submit documentation to the Offsite Monitoring Coordinator.

SEABROOK STATION

ADMINISTRATIVE PROCEDURE

Media Center Operations

ER 3.5

Rev. 32

Procedure Owner:
D. Currier

MEDIA CENTER RESPONDER ACTION SUMMARY

1. UNUSUAL EVENT ACTIONS

Emergency Response Procedure ER 1.2, Emergency Plan Activation, contains Unusual Event actions for the Emergency News Manager and the Response Manager pertaining to media information.

The on-duty Emergency News Manager receives an event briefing from the Response Manager, and is authorized by the Response Manager to disseminate information to the media. The on-duty Emergency News Manager and the Response Manager determine the Emergency News Manager's reporting location – Seabrook Station site, EOF/Media Center, or no need to report.

If reporting to the site, implement appropriate actions in ER 3.4.

If reporting to the Media Center, implement appropriate actions in ER 3.5. Consider need for support by Technical Advisors or Media Center support staff. Utilize other available Emergency News Manager position holders as appropriate.

2. ALERT AND HIGHER EMERGENCY CLASSIFICATION LEVEL ACTIONS

For an Alert or higher emergency classification level, Emergency News Manager position holders, Technical Advisors and Media Center support staff report to the EOF and implement actions delineated in checklists contained in this procedure.

The on-duty Emergency News Manager may utilize other Emergency News Manager position holders to augment Media Center staffing as long as at least one position holder is reserved for relief staffing.

3. SECURITY EVENTS

Code Yellow – no emergency classification declared:

- Emergency News Managers who are offsite report to the EOF per Control Room pager message and implement appropriate actions contained in Figure 3 of this procedure.

Code Yellow – emergency classification declared:

- Unusual Event – Emergency News Managers implement ER 1.2 and ER 3.4 actions.
- Alert or higher emergency classification – Emergency News Managers, Technical Advisors and Media Center support staff report to the Media Center and implement actions contained in this procedure and appropriate actions in Figure 3 of this procedure.

Code Red – any emergency classification level declared:

- If offsite, Emergency News Managers report to the EOF per pager message sent by the Control Room and implement actions contained in Figure 3 of this procedure.
- If onsite, follow the Control Room plant announcement instructions.

Contents and Revision Status

Contents | Page No.

Contents and Revision Status

Contents

1.0 OBJECTIVE

This procedure specifies the actions taken to manage emergency public information at the Media Center located adjacent to the Emergency Operations Facility at Newington Station.

2.0 RESPONSIBILITIES

2.1 Emergency News Manager

Manages the emergency public information function, information dissemination, and media and public relations. Delivers Seabrook Station's statements on the emergency by participating in news briefings and answering media questions. Coordinates emergency public information and rumor control with State and Federal Public Information Officers (PIOs). Assigns Support Staff to perform specific functions.

2.2 Media Center Support Staff

Assist the Emergency News Manager with activation and operation of the Media Center. Assistance activities include set-up of the media briefing area, testing and operation of equipment, preparation of written news statements and, if requested by the Emergency News Manager, briefing outlines, and assistance to media representatives in the Media Center. Media Center support staff also monitor external news coverage for accuracy, trend rumors relating to plant conditions and maintain recorded status reports on the Media Line. Media Center support staff may provide media representatives prepared background information documents (e.g., Emergency Public Information Calendars, Seabrook Station facility description), approved written news statements and verbal information pertaining to operation of the Media Center; however, they will not verbally brief news media on emergency conditions or answer inquiries about emergency conditions (i.e., they will not be put in the position of company spokespersons).

2.3 Technical Advisor (MC)

Maintains contact with the EOF Technical Staff, continuously updates the Emergency News Manager and Support Staff on plant conditions, addresses technical questions during news briefings, and assists in the preparation of news releases and briefing summaries.

3.0 PRECAUTIONS

None

4.0 PREREQUISITES

1. An Alert, Site Area Emergency or General Emergency has been declared in accordance with Procedure ER 1.1, Classification of Emergencies.

2. A decision has been made by the Emergency News Manager to activate the Media Center to facilitate communications with the news media.

5.0 ACTIONS

NOTE

Telephone numbers for contacts referenced in the checklists are available in the Emergency Response Telephone Directory.

5.1 Emergency News Manager

Refer to form ER 3.5E, Emergency News Manager Checklist, for required actions for this position.

5.2 Media Center Support Staff

Refer to form ER 3.5F, Media Center Support Staff Checklist, for required actions for this position.

5.3 Technical Advisor (MC)

Refer to form ER 3.5G, Technical Advisor (MC) Checklist, for required actions for this position.

5.4 News Statements

As appropriate, the Emergency News Manager, the Media Center Support Staff and Technical Advisor prepare news statements in the form of a formal press release for issue to the media. All news statements in the form of a press release shall be approved by either the Response Manager or the Site Emergency Director.

After the Media Center is operational and the media briefings have begun, the frequency of producing formal news statements may be reduced at the discretion of the Emergency News Manager. At this point, the primary source of providing information to the media will be through news briefings. Electronic graphics and hard copy visual displays will supplement information presented orally in the briefings.

The Emergency Operations Facility (EOF) and the plant organization serve as primary sources of plant-related information disseminated by the Media Center. The Response Manager shall be kept advised of information that is being disseminated by the Media Center to ensure completeness and accuracy of the information.

5.5 Briefings

News briefings are the primary source for providing information to the news media and will be conducted on a regular basis, or as events dictate.

News briefings will be conducted according to the following guidance:

1. News briefings at the Media Center will be managed by the Seabrook Station Emergency News Manager. Seabrook Station is responsible for information concerning onsite status and conditions. Seabrook Station news briefing presentations are based on plant status information confirmed by the Response Manager.

2. Public Information Officers from the states are responsible for releasing information relating to the impact of the emergency on the health and safety the public including off-site radiological effects. As each agency prepares its information and statements, designated state spokespersons will participate in the news briefings.

3. At the discretion of the Emergency News Manager, the Technical Advisor may also participate in the news briefing. In a protracted emergency, assistance from subject matter experts and NextEra Energy executives may be obtained.

4. News briefing preparation is coordinated with representatives of the NRC, FEMA, and state agencies that are present at the Media Center.

5. Briefing outlines are optional and may be used for reference purposes by the Emergency News Manager during media briefings. The briefing outlines shall not be distributed to the news media nor used to verbally brief news media by anyone other than the Emergency News Manager or staff specifically designated by the Emergency News Manager to brief the media.

5.6 Responses to Media Inquiries

Only the Emergency News Manager or Seabrook Station personnel specifically designated by the Emergency News Manager may respond to media inquiries regarding the plant status or Seabrook Station emergency response actions.

1. ERO personnel authorized to address media inquiries are as follows:

   - Emergency News Manager
   - Senior company official in accordance with the Seabrook Team Management Manual (STMM), Directive 4.0, Communications
   - Technical Advisor at the discretion and direction of the Emergency News Manager
   - Other Seabrook Station or NextEra Energy technical experts as designated by the Emergency News Manager

5.7 Rumor Control

Rumor control is accomplished as follows:

1. Monitoring news media coverage of the emergency and identifying any incorrect or misleading information so that Seabrook Station or the States may take appropriate action.

2. Coordinating emergency public information with the state and federal agency public information officers and obtaining feedback on rumor trends from the state agency rumor control telephone banks.

3. Expeditiously addressing incorrect or misleading information and rumor trends during news briefings or by direct contact with the source of the information (e.g., media outlet).

4. Maintaining a recorded information line with updated information on Seabrook Station emergency response and plant status. This line is accessible to the general public via a toll-free telephone number published in the annual public information material distributed to residents in the Emergency Planning Zone (EPZ), and provided during news briefings.

5. Monitoring internet sites and other electronic media for incorrect or misleading information.

5.8 Media Requests

1. Media tours of the EOF-portion of the building may be conducted if they do not interfere with emergency and recovery activities. Such visits shall be approved by the Response Manager and arranged by the Media Center Support Staff.

2. Interviews with experts associated with Seabrook Station shall be arranged by the Media Center Support Staff under the direction of the Emergency News Manager.

3. Media tours of Seabrook Station are contingent upon plant conditions. Requests for tours of Seabrook Station shall be approved by the Response Manager and the Security Coordinator and may be conducted by Media Center Support Staff.

5.9 State/Federal Coordination in the Media Center

1. Initial focus of the ERO Media Center staff will be on identification of Seabrook Station key message points for public dissemination.

2. As state/federal public information officials arrive at the Media Center, until Seabrook Station key message points are identified, the Emergency News Manager will assign Media Center staff to orient them to the Media Center and to assist them with establishing their state/federal Media Center operations.

3. After Seabrook Station key message points have been identified, the Emergency News Manager will take the lead in coordinating Media Center activities with state/federal public information officials and exchange key message points with them.

4. After the exchange of key message points between the utility and state/federal public information officials, the Emergency News Manager will determine the readiness of state/federal officials to participate in joint media briefings.

5. If state/federal public information officials are not yet present in the Media Center, or if they are not prepared to participate in joint media briefings, the Emergency News Manager will determine the official status of local, state and federal response (e.g., states have been notified, State Emergency Operations Centers are activated, public information officials are enroute) and brief the media accordingly.

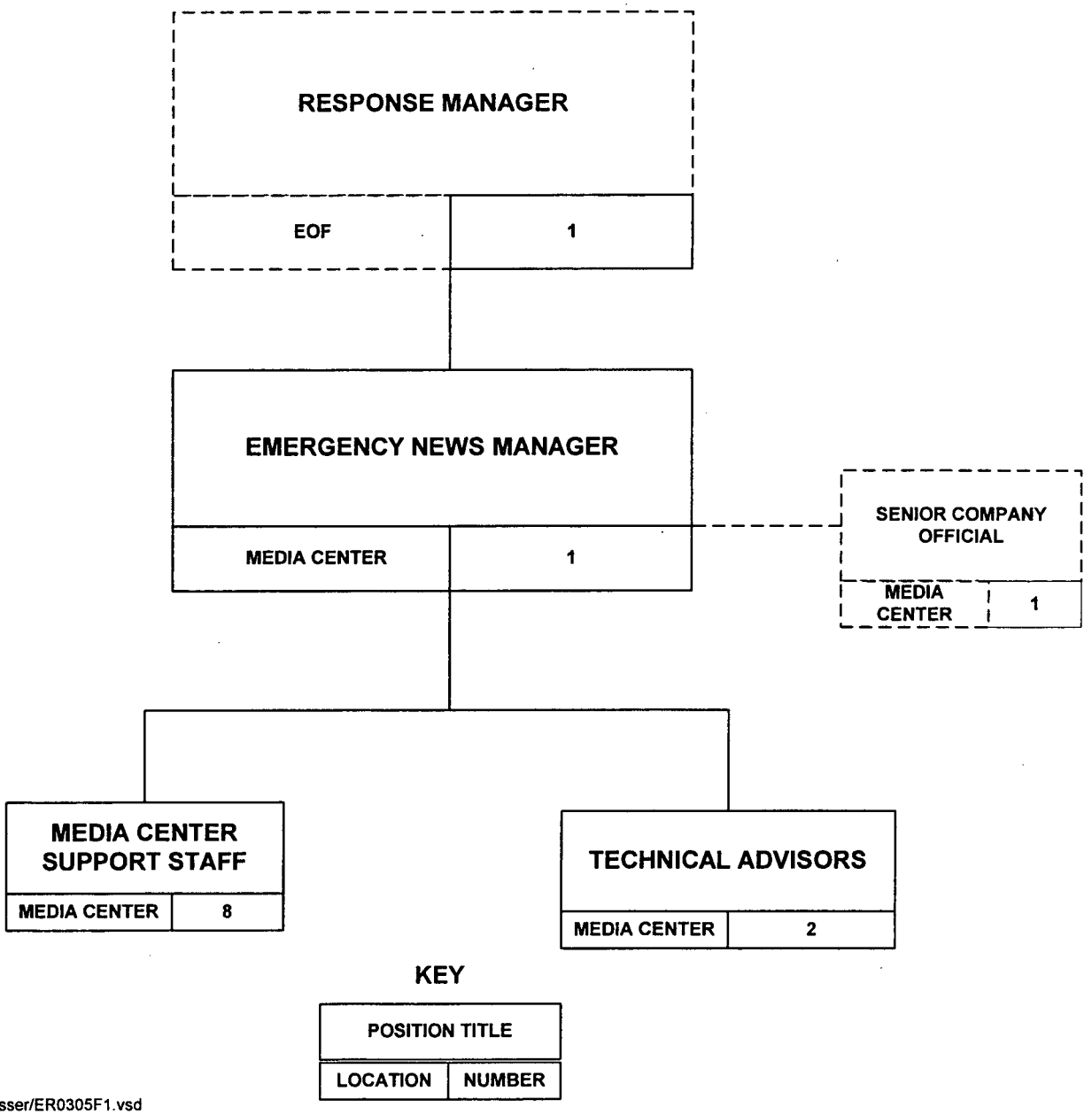
NOTE

The public needs to perceive clearly the cooperation and teamwork between the state and utility emergency response organizations. It is incumbent on the Emergency News Manager to work actively with representatives in the Media Center to establish this perception.

6.0 REFERENCES

1. ER 1.1, Classification of Emergencies
2. ER 2.0, Emergency Notification Documentation Forms Procedure
3. ER 3.3, Emergency Operations Facility Operations
4. ER 3.4, Seabrook Station News Services Operations
5. Seabrook Team Management Manual (STMM), Chapter 3, Directive 4.0
6. NRC Inspection Report 50-443/93-07

Figure 1
Media Center Organization



p:ap_p/visio/sser/ER0305F1.vsd
10-10-02

Figure 2
Media Center Assignments

FUNCTION	NAME (FIRST SHIFT)	NOTES
EMERGENCY NEWS MANAGER		
MC TECHNICAL ADVISOR – assigned to work in the EOF		
MC TECHNICAL ADVISOR – assigned to advise Media Center		
SUPPORT STAFF - ASSIST. TO ENM:	1.	
SUPPORT STAFF - OPS ROOM	1.	
	2.	
SUPPORT STAFF - M. R. ROOM	1.	
	2.	
	3.	
SUPPORT STAFF - MEDIA BRIEFING ROOM	1.	
	2.	

Figure 3
Emergency News Manager Actions During a Security Event

Prerequisites

1. ERO pagers have been activated with a text message announcing a Code Yellow security event and directing Primary Responders to report to the EOF, **OR**

2. ERO pagers have been activated with a text message announcing an emergency classification due to a security event or with the numeric code "22222".

Actions:

1. Report to the Media Center.

2. Obtain staff support as needed (Media Center Support Staff, Technical Advisors, off-duty Emergency News Managers). Request assistance from the EOF Administrative Services Coordinator if necessary.

3. Designate Seabrook Station Communications staff to report to the Security Command Center. Coordinate deployment of this individual with Station Security by contact either with the Security Manager, a Security Supervisor or the Security Shift Supervisor.

> **NOTE**
>
> Ensure that Communications staff at the Security Command Center maintains initial communications with the Response Manager or a Response Manager's designated communicator in the EOF until the Response Manager has established an alternate communications contact in the Security Command Center.

4. Ensure Media Center equipment operability (e.g., media monitoring equipment, Media Line).

5. Contact and update AP as authorized by the Response Manager.

6. Monitor media coverage of the event and inform the Response Manager of media coverage.

7. Inform the Response Manager about any media presence in the Media Center.

8. Update the Response Manager about information disseminated to the media either from the Security Command Center or from the Media Center.

9. Update the Employee Information Line and the Media Line as appropriate.

10. Coordinate media and employee relations activities with NextEra Energy Communications.

11. Coordinate media relations activities with state and federal public information personnel.

12. Determine with the Response Manager when Media Center operations can be terminated.

Figure 4
Media Center Telephone Guidelines

1. Media Line: A Media Line (800-458-2408) is installed in the Media Center. The Media Line provides three (3) options to a caller from the news media.

   - The recorded Info Line plant and emergency status message
   - Recorded directions to the Media Center
   - A voice mailbox for the caller to leave a message and call back information

   Media Center Support Staff will be assigned by the Emergency News Manager to operate the Media Line per Supplemental Material 07-11, Operation of the Media Line.

2. Sources of Official Information for Seabrook Station: Only the Emergency News Manager or personnel specifically designated by the Emergency News Manager shall provide information or answer media inquiries concerning the status of the plant, plant personnel, emergency conditions or emergency response actions. .

   Media Center Support Staff may be assigned by the Emergency News Manager to update the recorded plant and emergency status message based on information provided by the Emergency News Manager.

(3) Receipt of Phone Calls on Other Than the Media Line:

If the call is from a member of the news media requesting information, the caller should be referred to the Media Line number – 800-458-2408

Figure 5
News Statement Development Guidelines

NOTE

For drills, ensure news statements are developed using the drill directory to ensure that the statements are printed as "Drill Only" news statements.

NOTE

As press briefings are held on a routine basis, the development of briefing outlines may reduce the frequency of the preparation of formal news statements.

- Consult with a Technical Advisor on the technical aspects of the news statement.
- Ensure that each news statement contains the following elements:

____ Statement number (sequential)

____ Date and time of the event

____ Event classification

____ Event description

____ Action being taken to mitigate the event

____ Operational status

____ Radiological release status

NOTE

If a radiological release has occurred, consider including one of the following descriptions, if known:

"A minor release below federally approved operating limits has occurred."

OR

"A small release above federally approved operating limits has occurred."

The Emergency News Manager should assign a Technical Advisor to review release conditions with the Dose Assessment Specialist in the EOF to confirm which of the above descriptions apply.

Figure 5
News Statement Development Guidelines
(continued)

____ Injuries associated with the event

____ Status of plant personnel

____ Definition of the classification

____ Information Line number

____ Reminder that public should listen to EAS messages and media broadcasts from NH HSEM & MEMA (Site Area Emergency and General Emergency)

- Provide draft statement to Emergency News Manager for review and approval prior to review and approval by the Response Manager.

News Statement Guidance for Rapidly Changing Conditions

- Under rapidly changing conditions, conditions affecting key message points contained in the news statements may change prior to the Response Manager's approval or prior to dissemination of approved news statements. Under such conditions, the Emergency News Manager should do the following:

  - withdraw the news statement

  - develop a new set of key message points (the Emergency News Manager may choose to use a briefing outline format for key message points)

  - review the message points with the Response Manager for accuracy

  - inform the Response Manager of when the media will be updated verbally on the changing conditions according to the new set of key message points

  - inform the Response Manager that a news statement reflecting the changed conditions will be developed for Response Manager approval after the media have been briefed.

Figure 6
News Briefing Outline Development Guidelines

At the direction of the Emergency News Manager, develop media briefing outlines as follows:

NOTE

For drills, ensure briefing outlines are developed using the drill directory to ensure that the outlines are printed as "Drill Only" news outlines.

- The briefing outline is an option. If the Emergency News Manager decides to use it, ensure that the briefing outline contains the following elements:

___ New information (e.g., key message points)

___ Summary/Review of previous events

- affected plant system or component (nuclear / non-nuclear side)
- mitigating or corrective actions
- notification of offsite authorities and agencies
- radiological release status

NOTE

If a radiological release has occurred, consider including one of the following descriptions, if known:

"A minor release below federally approved operating limits has occurred."

OR

"A small release above federally approved operating limits has occurred."

The Emergency News Manager should assign a Technical Advisor to review release conditions with the Dose Assessment Specialist in the EOF to confirm which of the above descriptions apply.

___ Resolve any inconsistencies and address concerns with media coverage or trends in rumor control

- All outlines should be numbered sequentially and contain the date and time.

Figure 7
Media Briefing Room Operations

NOTE
One support staff member should remain in the Media Briefing Area at all times.

READINESS CHECKLIST

Sound System:

1. Using the power strip, place switch in to the "ON" position. This should power the sound system.

2. Ensure the gain settings on the mixer console are set to the levels indicated on the console labels.

3. Perform a microphone test verifying the audibility of the system in the following locations:

   - Briefing Room
   - Media Work Area
   - Operations Room
   - State Coordination Room

Stage Area:

1. Ensure hard copy graphics and easel for use in media briefings are available in the Media Center storage closet.

2. Logon to the Media Briefing Room PC.

3. Run PowerPoint. Access P:/Communications/misc/Seabrook Station – MC Slides r(latest).ppt

4. Use the remote to turn on the "Smart Board" projector.

5. Display MC slides and leave on slide 1 until directed otherwise by the EMN.

6. Ensure the stage area and podium are ready for conducting news briefings.

   - Easels for stationary graphics displays are available if needed.
   - Laser pointer is available

7. Determine from the Emergency News Manager what graphics should be displayed, if any, on stationary easels.

8. Ensure the Media Center exterior door is locked until the Media Center is activated.

Figure 7
Media Briefing Room Operations
(Continued)

Media Registration Sheets:

Establish the registration area at the Media Center entrance.

- Ensure there are sufficient copies of Media Center Registration (form ER 3.5B) and pens available in the foyer.

General:

1. Remove any paper or materials not relevant to the emergency from the Briefing Room and the Media Work Room.

2. When the briefing room is prepared to receive media representatives, notify the Emergency News Manager and obtain the Emergency News Manager's approval to inform the security officers at the EOF entrance and the EOF gatehouse to allow media representatives to enter.

Greeting the Media

1. As media representatives arrive:

   - Encourage them to sign the registration form
   - Brief them on the accommodations of the Media Center
   - Provide them with the latest Seabrook Station news statement

2. Ensure copies of all official Seabrook Station, state and federal news releases are available in the Media Briefing Area.

3. Provide copies of state public information materials to members of the media, if requested.

4. Keep the Emergency News Manager informed on the news organizations represented in the Media Center.

5. Inform the Emergency News Manager of news media representatives' questions, issues and information needs.

MEDIA BRIEFING CONDUCT:

1. Announce time of next briefing to the media representatives.

2. Prepare lights on stage.

3. Prepare podium; turn on light.

Figure 7
Media Briefing Room Operations
(Continued)

4. Obtain graphics needs from Emergency News Manager or designee, and stage them in the required order.

5. Ensure storage room door is closed.

6. Post "News Briefing in Progress" sign on the door entering into Briefing Room.

7. Turn ON sound system.

8. At the close of the briefing, remove the "News Briefing In Progress" sign.

9. Turn OFF sound system.

10. Following news briefings, take follow-up questions and reinforce information provided in news briefings.

NOTE

In between formal briefings, the Media Center Support Staff assigned to the briefing room may provide the media available informational materials (e.g., emergency public information calendars, facilities descriptions, etc.) or, as directed by the Emergency News Manager, may provide updated information to the media.

Figure 8
Media Monitoring Checklist

READINESS CHECKLIST:

1. Obtain Supplemental Material (SM) 09-01, Operation of the Media Monitoring System.
2. Verify that the displays view the designated stations.
3. Implement the actions in SM 09-01 to verify proper operation of the system.
4. Establish a Media Monitoring Log (form ER 3.5D) for each broadcast station.
5. Verify stereo units are tuned to the designated EAS stations.

MONITORING NEWS COVERAGE:

1. Review all written news statements, EAS messages, and briefing outlines.
2. As coverage on the emergency is broadcast, record the coverage per instructions in SM 09-01. Document the time/date of the coverage on the Media Monitoring Log.
3. Record on a continuous bases the eight (8) selected stations via the Media Monitoring System for the duration of the event.
4. Monitor the news stories for the following:
   - inaccuracies,
   - overemotional or exaggerated statements by members of the general public, or any otherwise misleading information or presentation of the emergency events,
   - Interviews with "experts" that may misrepresent events and that should be balanced by additional statements from the Emergency News Manager or state or federal agency Public Information Officer.
5. Inform the Emergency News Manager of any news stories that contain the characteristics above. Document any action taken on the Media Monitoring Log.
6. Periodically review logs for any trends in biased or misleading coverage. Advise the Emergency News Manager when a trend has been identified.

Figure 9
Media Center Document Distribution Matrix

NOTE: Before documents are distributed, they must be signed / approved.

	Seabrook Station News Statements	State & Federal Agency News Releases/EAS
Media Center		
Media Relations Room	3	3
Media Briefing Room	20*	20*
State Coordination Room	6	
Media Center Hallway	10*	10*
EOF		
Response Manager	1	
ERO Technical Liaison	1	1
Industry Liaison	1	
Licensing Coordinator	1	1
DCC Coordinator	1	
TELEFAX		
NH HSEM(if PIO** is not present at Media Center)	1	1
MEMA (if PIO** is not present at Media Center)	1	1
NRC Public Affairs Headquarters	1	
NRC Public Affairs Region 1	1	
Associated Press (AP) Concord, NH	1	
Total Copies	**50**	**37**

*** Place in Vertical File**
**** Public Information Officer**

Figure 10
Summary of Changes
(Sheet 1 of 4)

Rev. 32:

In §2.2, §5.5, Figure 6, form ER 3.5E and form ER 3.5F, added qualifying statements concerning briefing outlines indicating that they would be prepared only if requested by the Emergency News Manager for reference during media briefings. In Figure 9, Media Center Document Distribution Matrix, removed distribution requirements for briefing outlines.

In Figure 8, Media Monitoring Checklist, added a sentence to record on a continuous basis the selected stations via the Media Monitoring System for the duration of the event. (AR#216885).

Throughout, corrected references to position titles and agency names.

On form ER 3.5F, Media Center Support Staff Checklist, added a caution statement prior to the step to update the Employee Information Line to emphasize that the Employee Information Line message is different from the Information/Media Line message in that it is intended to provide information and instructions to Seabrook Station employees only.

Rev. 31:

Throughout, deleted references to the Seabrook Station Information Line and replaced them with references to the Media Line only.

In §5.6, Response to Media Inquiries, where it indicates that the Technical Advisor is authorized to respond to media inquires added the words "at the discretion and direction of the Emergency News Manager".

In Figure 3, removed instructions for updating the Seabrook Station Information Line. These instructions are contained in Supplemental Material for updating the Media Line which are referenced in Figure 4 and the applicable procedure checklists.

Revised Figure 3 to include Emergency News Manager response actions for a security event. Revised the reference to these actions in the Media Center Responder Action Summary.

Revised Figure 4 to emphasize that any calls from media received in the Media Center should be referred to the Media Line.

On form ER 3.5E, Emergency News Manager Checklist, deleted the action for the ENM to send a site-wide e-mail message announcing an emergency classification because this action is done by Security per GN1332.

On form ER 3.5E, added an activation action for the ENM to establish initial contact with the Response Manager and inform the Response Manager of information provided to the media.

Rev. 30:

In Figure 4, clarified that the Info Line message serves as the Media Line plant status option and removed instructions for direct media support staff contact with news media. (CR 08-14207)

Figure 10
Summary of Changes
(Sheet 2 of 4)

Rev. 30 (con't):

In Figure 8, added reference to Supplemental Material 09-01, Operation of Media Monitoring System, and deleted instructions pertaining to VHS tape recording.

In Figure 9, corrected title of ERO Technical Liaison (CR 08-15235)

Revised form ER 3.5A to Rev. 24, updated its title, added Media Line reference to Information Line Update Checklist and revised the pre-scripted message template. (CR 08-14207)

Revised form ER 3.5D to Rev. 24 and added Identify media outlet channel number to the Description heading.

On form ER 3.5E, added reference to Media Line updates an, revised instructions for contacting AP to do so as soon as practical rather than while traveling to the Media Center. (CR 08-14207)

On form ER 3.5F, deleted instruction to access AP Wire Service via internet and referenced Supplemental Material 09-01 for operating media monitoring equipment.

Rev. 29:

In Figure 3, added a note containing telephone number to call if the Information Line malfunctions during off-hours.

In Figure 4, recognized the Media Line feature added to the Media Center, described its functions, and referenced instructions for its operation. Made appropriate references to the Media Line on forms ER 3.5E and ER 3.5F.

In Figure 7, Media Briefing Room Operations, removed direction to position plant cutaway drawing on the podium easel because it is available electronically and added a direction to lock the exterior door until the Media Center is activated. (CR 07-08651)

On form ER 3.5E, Emergency News Manager Checklist, added an activation step in §2 to establish initial contact with the Response Manager, to keep the Response Manager updated on new information being disseminated to the media and, when possible, to attend Response Manager briefings (may be delegated). (CR 07-12324)

On form ER 3.5E, removed step5.d to review briefing outlines with the Response Manager. (CR 07-12324)

On form ER 3.5F, Media Center Support Staff, removed instruction for the news writers to monitor AP new service and removed instruction for the Media Relations staff to provide information updates to the media via telephone. (CR 07-12324)

Figure 10
Summary of Changes
(Sheet 3 of 4)

Rev. 28:

On reverse side of the cover page added a Media Center Responder Action Summary to summarize responder actions per emergency classification level and for security events. (CR 05-10703)

In §2.2, Media Center Support Staff Responsibilities, revised to more accurately describe what Media Center Support Staff do and to emphasize that they will not act as spokespersons.

In §5.4, News Statements, clarified that news statements in the form of press releases may be issued following Response Manager approval; however, when the Media Center is activated, the primary source of information will be media briefings. Added reference to electronic graphics. Added direction to keep the Response Manager informed of information provided to the media.

In §5.5, Briefings, and §5.6, Responses to Media Inquiries, revised guidance to emphasize that only the Emergency News Manager or persons designated by the Emergency News Manager may brief the media or respond to media inquiries about plant and emergency conditions.

In Figure 4, Media Center Telephone Guidelines, directed Media Center Support Staff to restrict telephone responses to media inquiries to sources of official information, operational status and location of the Media Center and number of the Seabrook Station Info Line.

In Figure 7, Media Briefing Room Operation, added instructions for operation of the electronic graphics capability.

On form ER 3.5E, Emergency News Manager Checklist, added a note that allows the on-duty Emergency News Manager to utilize reporting off-duty Emergency News Managers to staff the Media Center as long as provisions are made for shift staffing. Referenced Emergency News Manager actions in ER 3.3, Figure 17, EOF Primary Responder Actions During a Security Event.

On form ER 3.5F, Media Center Support Staff, revised guidance for Media Briefing Room staff that clarifies that Media Center support staff will not brief news media on plant conditions or emergency response status.

On form ER 3.5G, Technical Advisor, removed an obsolete reference to a Media Center Technical Advisor position manual and referred instead to materials in the position tote.

Rev. 27:

Performed a biennial review of the procedure. No changes were warranted.

In Figures 5 & 6, added to the Note pertaining to characterizing releases as above or below federally allowed limits a statement advising the Emergency News Manager to assign a Technical Advisor to review release conditions with the Dose Assessment Specialist in the EOF to confirm which description applies.

In Figure 9, added a legend spelling out PIO as Public Information Officer. (CR 04-02145)

Figure 10
Summary of Changes
(Sheet 4 of 4)

Rev. 26:

In §5.6, Responses to Media Inquiries, added a statement allowing Media Center staff to respond to media telephone inquiries prior to Media Center activation as long as the information provided is approved by the Emergency News Manager. (CR 04-02145)

On form ER 3.5E, clarified a Note to allow the Emergency News Manager (ENM) to delegate review and approval of news statements to the assistant ENM while the ENM is briefing the media or is otherwise unavailable. (CR 04-02145)

On form ER 3.5F, moved actions for media monitoring personnel from the Media Operations Room section to the Media Relations Room section of the Support Staff Checklist.

MEDIA LINE UPDATE CHECKLIST

Begin each recording with the following greeting:

This message was recorded at _____ on _____
(time) (date)

☐ an Alert

☐ a Site Area Emergency

☐ a General Emergency

(has been declared / continues) at Seabrook Station in Seabrook, N.H.

☐ An Alert is the second lowest of four emergency categories that apply to nuclear power plants.

☐ A Site Area Emergency is the second highest of four emergency categories that apply to nuclear power plants.

☐ A General Emergency is the highest of four emergency categories that apply to nuclear power plants.

New Hampshire and Massachusetts authorities have been notified.

The declaration was made because _____

_____

_____

This line will be updated as more information becomes available. In addition, Seabrook Station and the states of New Hampshire and Massachusetts have activated a joint information media center to coordinate the sharing of information with the public.

_____ _____
Date Time Recorded

Emergency News Manager Initials: _____

Media Center Support Staff Initials: _____

ATTACH NEWS STATEMENT OR BRIEFING OUTLINE USED TO RECORD THIS UPDATE.

NOTE: RESTORE INFO LINE/MEDIA LINE MESSAGE AT END OF (EMERGENCY/DRILL)

MEDIA CENTER REGISTRATION

DATE: _____ Page _____ of _____

NAME	REPRESENTING	TIME IN	TIME OUT

MEDIA INQUIRY LOG

DATE: _____/_____/_____ LOGGED BY:____________________ PAGE ___ OF ____

TIME	REPORTER Name / Contact No.	MEDIA OUTLET	INQUIRY	FOLLOW-UP REQUIRED?
__:___am/pm				YES NO Follow-up Completed:
__:___am/pm				YES NO Follow-up Completed:
__:___am/pm				YES NO Follow-up Completed:
__:___am/pm				YES NO Follow-up Completed:
__:___am/pm				YES NO Follow-up Completed:
__:___am/pm				YES NO Follow-up Completed:
__:___am/pm				YES NO Follow-up Completed:

NOTE: The Massachusetts Rumor Control number is 211.
The New Hampshire Rumor Control number is (800) 458-2407.
The Seabrook Station Recorded Information Line number is (800) 774-4771.

MEDIA MONITORING LOG

STATION: ______________ DATE: _____/_____/_____ PAGE ___ OF _____

TIME / DURATION	DESCRIPTION Identify media outlet channel number	FOLLOW-UP REQUIRED?	MEDIA MONITOR INITIALS
_:___am/pm approx. length: sec./min.		YES NO Follow-up Completed:	
_:___am/pm approx. length: sec./min.		YES NO Follow-up Completed:	
_:___am/pm approx. length: sec./min.		YES NO Follow-up Completed:	
_:___am/pm approx. length: sec./min.		YES NO Follow-up Completed:	
_:___am/pm approx. length: sec./min.		YES NO Follow-up Completed:	
_:___am/pm approx. length: sec./min.		YES NO Follow-up Completed:	
_:___am/pm approx. length: sec./min.		YES NO Follow-up Completed:	

EMERGENCY NEWS MANAGER CHECKLIST

1. NOTIFICATION

   a. Upon notification of an ALERT or higher emergency classification level, obtain a briefing from the Response Manager and obtain the following known information:

      - emergency classification level
      - reason for declaration (initiating condition)
      - time of declaration
      - release in progress (yes/no)
      - state and federal notifications completed
      - protective actions recommended
      - actions directed for site personnel

> **NOTE**
>
> In a security-related event, the Emergency News Manager may be paged with a message to report to the EOF. In this case, the Emergency News Manager should proceed directly to the EOF and obtain event-related information there. Refer to Emergency News Manager actions in Figure 3.

> **NOTE**
>
> If SSNS is operational, conduct a phased activation of the Media Center per Procedure ER 3.4, Seabrook Station News Services Operations.

   b. Update the Media Line with information regarding the emergency status in accordance with Supplemental Material 07-11. (May be delegated to personnel who are immediately available to provide support).

   c. Report to the Media Center. As soon as practicable, contact the Associated Press (AP) in Concord, NH to inform them of the emergency status and pending Media Center activation. Request AP to include the Media Line telephone number as an editor's note (not for public dissemination).

2. ACTIVATION

   a. Enter through the main entrance of the Emergency Operations Facility and sign in with Security.

   b. If practical, establish initial contact with the Response Manager. Inform the Response Manager of the content of media contacts made to this time.

   c. Upon entry into the Media Center, sign in on the board and obtain your Media Center badge.

c. Report to the Media Center Operations Room:

- Initiate an Emergency Facility Log using form ER 2.0E.

d. As Media Center Support Staff arrive, brief them on the status of emergency conditions and any statements provided to the media and recorded on the Media Line.

e. Decide whether to activate the Media Center. The Emergency News Manager may use discretion to declare the Media Center activated based on a determination that media representatives can be accommodated and inquiries addressed. The following minimum staff should be present to activate the Media Center:

(1) Emergency News Manager

(2) One (1) Media Center Support Staff

(3) One (1) Technical Advisor

NOTE

In an actual event, the all-call response will probably result in the presence of multiple Emergency News Manager position holders during the activation phase of the Media Center. In this case, off-duty Emergency News Managers may be assigned in support roles for operation of the Media Center, except that at least one off-duty Emergency News Manager will be dismissed to be available for second shift assignment.

f. When the Media Center is prepared to receive members of the news media, declare the Media Center activated.

- Direct staff to notify the Response Manager
- Direct staff to notify the Security Coordinator that media representatives can be admitted

g. Assign Media Center staff to the following functions/locations:

- Assistant ENM (1)
- Media Operations Room (2)
- Media Relations Room (3)
- Media Briefing Room (2)

Refer to Figure 2, Media Center Assignments, to track assignments.

h. If not done earlier, contact the Response Manager, provide updates to the Response Manager on information being provided to the news media as significant event changes warrant, and, when possible, attend Response Manager briefings with offsite officials. The latter two actions may be delegated to a Technical Advisor who is prepared to inform the Response Manager of information being disseminated to the news media.

NOTE

The Emergency News Manager may delegate to the person assigned as assistant ENM authority to manage Media Center operations, including review and approval of news statements during periods in which the ENM is briefing the news media or is otherwise unavailable.

i. Assign one Technical Advisor to serve as the liaison with the EOF to ascertain plant status and Station response information. Assign the second Technical Advisor to remain in the Operations Room to assist with message development.

j. Assign the administrative assistant to verify forms, prepare photocopier, and follow Figure 9, Media Center Document Distribution Matrix.

k. Ensure all designated functions are staffed and Media Center Technical Advisors are in place and are prepared to support public information needs.

l. Initiate strategy session with key staff to develop key message points.

m. Ensure the Media Line is recorded with updated information.

- Provide the password to Media Relations Staff.

n. Assign Media Relations staff to operate the Media Line per Supplemental Material 07-11.

o. Assign a member of the staff to serve as the principal interface for the Response Manager including attendance at Response Manager staff meetings.

p. Ensure security protection and access control for the Media Center has been established.

NOTE

If additional security is necessary, contact the Security Coordinator at the EOF.

q. As state and federal public information officers arrive at the Media Center, establish contact, brief them on the emergency status and determine the status of state and federal public information response (e.g., news statements issued, status of rumor control, media contacts, EAS messages, Internet homepage information, etc.)

3. STAFF BRIEFINGS

   a. Ensure that the Media Center Staff is periodically briefed on the following:

      - emergency status
      - Seabrook Station key message points
      - media briefings
      - media / website monitoring
      - input from state rumor control
      - Emergency Alert System status
      - Public Alert and Notification System status

NOTE
Ensure that the Media Center Staff obtains current information as soon as possible and has a clear understanding about material that is authorized for release to the news media.

   b. Ensure that the Response Manager is periodically briefed on emergency public information operations. As emergency conditions require, attend the Response Manager's briefings.

   c. Coordinate key message development and news briefing preparation with state and federal agency public information staff. (Refer to §5.9 of this procedure)

4. NEWS STATEMENT DISSEMINATION

   a. Review each news statement for accuracy, obtain concurrence from a Technical Advisor regarding the content, and sign the statement prior to Response Manager review and approval. See Figure 5 guidance for rapidly changing conditions. (Protected: Ref. 6.6)

   b. Coordinate a review of the news statement with state and federal officials, if they are available.

   c. Prior to news media arrival at the Media Center, disseminate any news statements generated to AP Concord and other media outlets deemed to be appropriate.

   d. Ensure news statement is distributed in accordance with Figure 9, Media Center Document Distribution Matrix.

5. MEDIA BRIEFINGS AND INTERVIEWS

a. Establish a press briefing schedule as soon as possible with the state and federal media representatives.

b. If a media briefing outline is desired, assign Support Staff to prepare one containing:

____ Status of Seabrook Station's emergency response and corrective actions associated with the plant conditions.

____ New information to be announced during the briefing

____ Resolution of inconsistencies in media coverage

____ Follow-up on inquiries that went unanswered in previous press conference

____ Input from media relations telephone inquiries obtained from Media Relations Support Staff.

c. Determine the need for the Media Center Technical Advisor (or other subject matter expert) to participate in the press briefing.

d. Ensure content is reviewed with Support Staff and other agency PIOs, if available.

e. If a media briefing outline is desired, ensure that one is completed for the next media briefing.

f. Determine which agency representatives are prepared to participate in the briefing.

g. If other agencies are prepared to participate in the briefing, convene a pre-briefing meeting of all participating parties prior to each news briefing. During the meeting, ascertain the following:

____ the status of the state's respective responses to the events

____ identify new information to be announced during the briefing

____ resolve inconsistencies and address concerns

____ review reports or status of state rumor control response or any trends in inquiries.

____ decide on the order of speakers, briefing length, graphics, and other protocol issues.

h. Ensure logistics and graphics are coordinated as required for news briefing with the Media Center Support Staff.

EMERGENCY NEWS MANAGER CHECKLIST
(Continued)

6. STAFFING/EQUIPMENT NEEDS

   a. Direct the EOF Administrative Services Coordinator to obtain additional staffing or equipment as necessary.

   b. At the request of the EOF Administrative Services Coordinator, direct media relations staff to update the Employee Information Line (603-433-5703) for 2nd shift staffing instructions.

   c. In a protracted response, determine the need for support external to Seabrook Station (e.g., NextEra Energy, industry experts, etc.) and obtain approval. Obtain support from the Administrative Services Coordinator for arrangements.

7. DEACTIVATION

   a. When the emergency has been terminated and media interest has subsided, obtain approval from the Response Manager to deactivate the Media Center.

   b. Ensure a new Media Line message is recorded to reflect the current plant status and deactivation.

   c. Ensure that all emergency response documentation is submitted to the EOF Administrative Services Coordinator.

MEDIA CENTER SUPPORT STAFF CHECKLIST

1. NOTIFICATION

Upon notification that an Alert or higher level emergency has been declared, proceed to the Media Center at the Emergency Operations Facility.

2. ACTIVATION

a. Enter through main entrance of the EOF and sign in with Security.

b. Upon entry into the Media Center,

- sign in on board.

- obtain the appropriate Media Center badge.

c. Report to the Emergency News Manager, and receive assignment:

- Assistant to the Emergency News Manager
- Media Center Operations Room (Go to Section 4)
- Media Relations Room (Go to Section 5)
- Media Briefing Room (Go to Section 6)

3. ASSISTANT TO THE EMERGENCY NEWS MANAGER

a. During periods where the Emergency News Manager is unavailable, periodically check with Media Center Staff on the status of their respective functions.

b. Periodically review the Emergency News Manager checklist to ensure all functions are being performed.

c. Ensure Media Center Support Staff is briefed on new information and key message points as they are developed.

d. Ensure the Media Briefing Room is prepared for each news briefing and the appropriate graphics are displayed.

4. MEDIA CENTER OPERATIONS ROOM

As directed by the Emergency News Manager, perform the following:

MEDIA CENTER SUPPORT STAFF CHECKLIST
(Continued)

a. News Statement Writer

(1) IMPLEMENT Supplemental Material 97-15 instructions for accessing news release and news briefing outline templates on the News Statement personal computer (PC).

(2) Using Supplemental Material 97-15, ESTABLISH an electronic file on the News Statement PC for approved news releases and news briefing outlines for the event.

(3) In conjunction with the Emergency News Manager, DETERMINE appropriate news statement format / briefing outlines and initiate development on the PC using Figures 5 and 6.

(4) OBTAIN technical information from the Media Center Technical Advisor for inclusion in written news statements.

(5) WRITE news statements / briefing outlines in accordance with Figures 5 and 6.

(6) OBTAIN review and approval of technical content of the written news statement / briefing outlines from the Media Center Technical Advisor.

(7) OBTAIN review and approval of the written news statement / briefing outline from the Emergency News Manager.

(8) At the direction of the Emergency News Manager, OBTAIN Response Manager approval of the written news statement.

(9) PROVIDE approved written news statements to the Media Center Administrative Support staff for copying and distribution.

(10) MAINTAIN approved written news statements in the electronic file.

(11) REVIEW the content of the online news stories and consider distribution of news stories within the Media Center.

(12) SUBSTITUTE for the Emergency News Manager at Response Manager conferences and PROVIDE updates on status of official news statements, Media Center briefings, and areas of media interest.

MEDIA CENTER SUPPORT STAFF CHECKLIST

(Continued)

5. MEDIA RELATIONS ROOM

As directed by the Emergency News Manager, perform the following:

a. Media Relations Staff

1) BECOME familiar with status of emergency events and contents of written news statements.

2) OPERATE the Media Line at the direction of the Emergency News Manager per Supplemental Material 07-11, Operation of the Media Line.

3) UPDATE the Information Line/Media Line at the direction of the Emergency News Manager per guidance in Figure 4.

4) MAINTAIN a log of media inquiries using form ER 3.5C.

CAUTION

The message recorded on the Employee Information Line cannot be the same message used for the Information Line/Media Line. It is intended for providing instructions and information to Seabrook Station employees only.

5) UPDATE the Employee Information Line using Supplemental Material 98-08 as directed by the Emergency News Manager.

7) FORWARD requests for media access to emergency response facilities, interviews with Seabrook Station management and other special requests from the media to the Emergency News Manager for disposition.

b. Media Monitor

1) ACTIVATE media monitoring equipment in the Media Center Operations Room using Supplemental Material (SM) 09-01.

2) Using Supplemental Material 98-05, ACTIVATE Internet PC.

3) ACCESS the NRC web site using the internet PC.

4) MONITOR press information issued by NRC (or other pertinent state and federal government agency) via the internet PC.

5) MONITOR TV and radio coverage of the event in accordance with Figure 8.

6) RECORD pertinent TV media coverage per instructions in SM 09-01.

7) DOCUMENT coverage on form ER 3.5D.

8) DOCUMENT any discrepancies between TV and radio coverage and written or verbal Seabrook Station news statements.

9) IDENTIFY and DOCUMENT any biased, misleading or inaccurate news trends or rumors.

10) NOTIFY the Emergency News Manager of discrepancies between reported news and written or verbal Seabrook Station news statements, biased or misleading news coverage, inaccuracies and reported rumors.

11) Periodically BRIEF the Emergency News Manager on the overall accuracy and tone of news stories on the event.

6. MEDIA BRIEFING ROOM

As directed by the Emergency News Manager, perform the following:

a. BECOME familiar with the status of emergency events and contents of written news statements.

b. TAKE CHARGE of the Media Briefing Room operations.

c. ENSURE all equipment is operable and the briefing room is prepared for receiving media representatives and conducting news briefings using Figure 7.

d. ENSURE sufficient copies of approved news statements by Seabrook Station, New Hampshire and Massachusetts, including EAS messages, are available for media representatives in the Media Briefing Room.

e. ENSURE background informational materials (e.g., New Hampshire and Massachusetts public information materials) are available to be provided to the media in response to inquiries.

f. GREET media representatives arriving at the Media Center in accordance with Figure 7.

g. ENSURE media representatives receive the most recent approved Seabrook Station news statement.

h. MAINTAIN presence in the Media Briefing Room between news briefings to provide media representatives prepared news statements approved by the Emergency News Manager or by offsite authorities and background information. DO NOT provide additional verbal briefings on plant conditions or emergency response status.

i. APPRISE news media representatives of news briefing schedule.

j. ATTEND formal news briefings by the Seabrook Station Emergency News Manager, New Hampshire spokesperson, and Massachusetts spokesperson.

k. ENSURE access control to the Media Briefing Room is maintained during news briefings.

l. During formal news briefings, DOCUMENT any media questions that were not answered, to which answers were deferred pending acquisition of further information or that were answered inconsistently with other official information.

m. REVIEW the need for follow-up information or clarification with the Emergency News Manager following the formal news briefing and ensure follow-up with the media representatives in the Media Briefing Room.

7. SPECIAL MEDIA REQUESTS

Coordinate responses to special media requests with the Emergency News Manager. Requests for emergency response facility or station tours shall be approved by the Response Manager before being granted.

8. DEACTIVATION

Submit all emergency response documentation to the Emergency News Manager.

TECHNICAL ADVISOR CHECKLIST

1. NOTIFICATION

Upon notification that an Alert or higher level emergency has been declared, proceed to the Media Center at the Emergency Operations Facility.

2. ACTIVATION

a. Enter through main entrance of the EOF and sign in with Security.

b. Upon entry into the Media Center,

- sign in on board.
- obtain the appropriate Media Center badge.

c. Report to the Emergency News Manager and receive assignment:

- Obtain information from the EOF (Section 3)
- Advise the Media Center (Section 4)

d. Obtain the Technical Advisor emergency response position materials from the tote box in the Media Center and initiate this checklist.

3. TECHNICAL ADVISOR ASSIGNED TO THE EOF

a. Establish contact with the EOF technical staff.

- Obtain plant status and current MPCS digital time.
- Refer to Procedure ER 1.1, Classification of Emergencies, for assistance in evaluating plant conditions.

b. Routinely obtain information from the EOF technical staff and document discussions using form ER 2.0E, Emergency Facility Log.

c. Brief the Emergency News Manager and Media Center Technical Advisor on plant conditions and related information.

NOTE

Information received from the EOF technical staff is gathered for the sole purpose of providing a perspective on, and interpretation of, technical conditions at the plant to the Emergency News Manager. This information may be released to the press only if it further explains existing approved news releases or statements.

TECHNICAL ADVISOR CHECKLIST
(Continued)

4. TECHNICAL ADVISOR ASSIGNED TO THE MEDIA CENTER

   a. Assist Emergency News Manager and Media Center Staff with key message development and briefing outlines.

   b. Verify technical accuracy of news statements and briefing outlines.

   c. Provide guidance to the Emergency News Manager on technical interpretations of plant conditions.

   d. Direct the Media Center Support Staff in the selection of appropriate plant system graphics for use in news briefings.

   e. When requested by the Emergency News Manager, participate in news briefings. Refer to Section 5.0 of this procedure for guidance on news briefings and interviews.

   f. Assist Media Center staff in addressing rumors and misinformation.

5. DEACTIVATION

   Submit all emergency response documentation to the Emergency News Manager.

SEABROOK STATION

ADMINISTRATIVE PROCEDURE

Site Perimeter and Offsite Monitoring and Environmental Sampling

ER 5.2

Rev. 38

Procedure Owner:
D. Currier

Contents and Revision Status

1.0 OBJECTIVES

This procedure specifies the emergency response actions to accomplish site-perimeter and offsite radiological monitoring and environmental sampling.

2.0 RESPONSIBILITIES

2.1 Field Monitoring and Sampling Personnel

Perform emergency environmental sampling and monitoring as directed by the Offsite Monitoring Coordinator.

3.0 PRECAUTIONS

Monitor exposure by frequently reading the electronic dosimeter during monitoring and sampling actions.

4.0 PREREQUISITES

None

5.0 ACTIONS

5.1 Field Monitoring and Sampling Personnel

5.1.1 Pre-deployment Actions

> NOTE
>
> Pre-deployment actions are not required to be performed in order; the Field Monitoring Team Driver and Monitor can divide the actions and perform them concurrently.

1. Use form ER 5.2A, Field Monitoring Team and Sampling Personnel Pre-Deployment Checklist, to track completion of required pre-deployment actions.

2. Ensure you have signed in on the EOF personnel roster.

3. Report to the radio room to obtain assignment status and vehicle keys. If the Offsite Monitoring Coordinator is not available, record your name under the Team ID tag, obtain the appropriate vehicle keys (Team ERO1 uses vehicle 08-004; Team ERO2 uses vehicle 08-005), and report to the dispatch area.

4. Clip on the FMT position badge located in the procedure tote maintained in the dedicated vehicle. Do not obscure your station badge. If a dedicated vehicle is not available obtain the badge from the spare tote in the dispatch area.

5. Obtain a form ER 3.3GG from the posted supply in the dispatch area, enter your name and badge number, and give the form to the Dosimetry Records Personnel.

6. If a dedicated field monitoring team vehicle (i.e., 08-004 or 08-005) is available at the EOF, then complete Section 5.1.2 actions.

7. If one of the dedicated field monitoring team vehicles is unavailable initially or a third field monitoring team will be deployed, coordinate use of team personal vehicles and complete Section 5.1.3 actions

5.1.2 Pre-deployment Actions using either Vehicle 08-004 or 08-005

NOTE

A field monitoring team kit is stored in each dedicated monitoring team vehicle. Exact inventory of consumable supplies in the kit is not necessary. Assess adequacy of stock on hand.

A procedure tote, map books, drill sign, Tom-Tom (location finder) and road hazard kit are stored in each dedicated vehicle.

Each dedicated vehicle has rear flashing lights for night time use.

The laptop wireless card and associated accessories are stored in the glove compartment of each dedicated vehicle.

1. Start the vehicle.

CAUTION

The vehicle must warm up for at least 5 minutes prior to turning on the computer or the computer will crash.

2. Check the procedure tote and ensure you have sufficient forms and required procedures to complete assigned tasks. If uncertain about the number of forms you should have or the current revision status of procedures, confirm requirements with the Offsite Monitoring Coordinator.

NOTE

As soon as the engine is started on the dedicated field monitoring team vehicles, the radio is operational. Do not turn the radio off or, if it is off, push the button on top of the radio to turn it on.

3. Contact the Offsite Monitoring Communicator and conduct the following communication checks.

   a. Using SM 08-04 (in procedure tote), perform a radio check as follows:

      In a normal voice say "EOF, THIS IS ERO (team #) REQUESTING A RADIO CHECK. DO YOU READ ME OVER?"

      Acknowledge EOF response by saying "EOF, THIS IS ERO (team #), RADIO IS OPERATIONAL OUT."

   b. Obtain the assigned Nextel phone and perform a phone check per SM 02-03 (in procedure tote).

4. Open the field monitoring team laptop and logon on the unit per instructions in Supplemental Material 08-03. Notify the Offsite Monitoring Coordinator if this system is not operational.

5. Obtain the following equipment from the dispatch area store room.

   a. **AC POWERED H809VI AIR SAMPLER** and check its operability by performing the following.

      (1) Turn on inverter.

      (2) Plug the air sampler into the inverter box.

      (3) Position the air sampler with the sampler head facing outside of the vehicle away from the tailpipe.

      (4) Turn on the air sampler.

NOTE

The sources needed to check the survey meters are in a locked cabinet next to the Radiological Assistant's work station. To open the cabinet, obtain key #9 from the key box located behind the Security Desk. It is important that each source removed from the cabinet is returned immediately to the cabinet following use of the source.

   b. **E-140 OR EQUIVALENT COUNT RATE METER** and check its operability by performing the following.

(1) Battery check

(2) Instrument Source check

(3) If case is opened to replace batteries, ensure the speaker wire is re-connected to the speaker contact on the meter circuit board. (Protected: Ref. 6.5)

c. **R02 OR EQUIVALENT BETA-GAMMA INSTRUMENT** and check its operability by performing the following.

(1) Battery check

(2) Instrument Source check

6. Obtain two (2) respirator masks and two (2) canisters

7. Check operability of the spare Global Positioning System (GPS) unit in the kit per Supplemental Material 00-02.

8. Obtain TLDs, EDs and exposure status from Dosimetry Records personnel, and record current dose margin on checklist.

9. Set up waste bags in the vehicle for disposal and control of gloves and shoe covers removed while in the vehicle.

10. Select protective clothing supplies that meet the physical needs of the team.

11. If directed by the Offsite Monitoring Coordinator to don protective clothing, don the protective clothing prior to departure.

12. Ensure that a "Drill" A-frame sign, a set of map books and a road sign are located in the dedicated vehicle.

13. When ready for field deployment, inform the Radiological Assistant and remain in the dispatch area to receive a pre-deployment briefing from the Offsite Monitoring Coordinator per ER 5.2B, Field Monitoring Team and Sampling Personnel Briefing Form.

14. Refer to form ER 5.2A to complete pre-deployment actions.

5.1.3 Pre-deployment Actions using Personal Vehicles

NOTE

A spare sealed field monitoring team kit, field monitoring team laptop, field monitoring team radio tote box, and a procedure tote is stored in the dispatch area allowing dispatch of a field monitoring team using a personal vehicle.

1. Park the personal vehicle outside the dispatch area.

2. Check the spare procedure tote and ensure you have sufficient forms and required procedures to complete assigned tasks. If uncertain about the number of forms you should have or the current revision status of procedures, confirm requirements with the Offsite Monitoring Coordinator.

3. Using SM 08-04 (in procedure tote), install the spare radio in the vehicle.

4. Using SM 08-05 (in procedure tote), install the offsite monitoring team laptop in the vehicle and logon the laptop per §B of SM 08-05. Notify the Offsite Monitoring Coordinator if the laptop is not operational.

5. Contact the Offsite Monitoring Communicator and conduct the following communication checks.

   a. Using SM 08-04, perform a radio check as follows:

      In a normal voice say "EOF, THIS IS ERO (team #) REQUESTING A RADIO CHECK. DO YOU READ ME OVER?"

      Acknowledge EOF response by saying "EOF, THIS IS ERO (team #), RADIO IS OPERATIONAL OUT."

   b. Obtain the assigned Nextel phone and perform a phone check per SM 02-03 (in procedure tote).

6. Obtain the following equipment from the dispatch area store room.

   a. Battery cable powered H809C air sampler and check its operability by performing the following.

      (1) Put on safety glasses and gloves.

      (2) Connect the RED clamp of the air sampler to the positive terminal of the vehicle's battery.

      (3) Attach the BLACK clamp of the air sampler to a metal ground (e.g. engine block).

      (4) Position the air sampler with the sampler head facing outside of the vehicle.

      (5) Turn on the air sampler.

NOTE

The sources needed to check the survey meters are in a locked cabinet next to the Radiological Assistant's work station. To open the cabinet, obtain key #9 from the key box located behind the Security Desk. It is important that each source removed from the cabinet is returned immediately to the cabinet following use of the source.

b. **E-140 OR EQUIVALENT COUNT RATE METER** and check its operability by performing the following.

(1) Battery check

(2) Instrument Source check

(3) If case is opened to replace batteries, ensure the speaker wire is re-connected to the speaker contact on the meter circuit board. (Protected: Ref. 6.5)

c. **R02 OR EQUIVALENT BETA-GAMMA INSTRUMENT** and check its operability by performing the following.

(1) Battery check

(2) Instrument Source check

7. Obtain two (2) respirator masks and two (2) canisters.

8. Check operability of the spare Global Positioning System (GPS) unit in the kit per Supplemental Material 00-02.

9. Obtain TLDs, EDs and exposure status from Dosimetry Records personnel, and record current dose margin on checklist

10. Set up waste bags in the vehicle for disposal and control of gloves and shoe covers removed while in the vehicle.

11. Select protective clothing supplies that meet the physical needs of the team.

12. If directed by the Offsite Monitoring Coordinator to don protective clothing, don the protective clothing prior to departure.

13. Ensure that a "Drill" A-frame sign, a set of map books and a road sign are located in the dedicated vehicle.

14. When ready for field deployment, inform the Radiological Assistant and remain in the dispatch area to receive a pre-deployment briefing from the Offsite Monitoring Coordinator per ER 5.2B, Field Monitoring Team and Sampling Personnel Briefing Form.

15. Refer to form ER 5.2A to complete pre-deployment actions.

5.1.4 <u>Monitoring Actions En Route to Survey Locations</u>

1. While en route to the assigned survey location, monitor the radiation levels.

2. Report any readings via radio or Nextel phone. If requested, use the Global Positioning System (GPS) monitor on the laptop or the spare kit GPS monitor to define the measurement location.

3. If the electronic dosimeter assigned to any team member alarms, leave the area immediately and report the incident to the EOF.

5.1.5 Monitoring and Sampling Actions at the Assigned Locations (Protected: Ref. 6.4)

1. Beta-Gamma Dose Rate Survey

   a. Immediately contact the Offsite Monitoring Coordinator when measured dose rates ≥ 500 mR/hr.

   b. At each location, survey for the following and record readings on form ER 5.2D, Field Team Survey/Air Sample Data Form:

      (1) gamma radiation levels (i.e., closed window reading) at waist level,

      (2) beta and gamma radiation levels (i.e., open window reading) at waist level,

      (3) the highest gamma radiation level (i.e., closed window reading) indicated by a square meter scan about two inches above the ground,

      (4) the highest beta radiation level (i.e., open window reading) indicated by a square meter scan about two inches above the ground.

      (5) If readings are measurable, frisker count rates at both waist and two inches above ground.

   c. If no further samples were requested, Go to section 5.1.6 and report the results to the EOF.

2. Air Sampling Using Portable Air Sampler

CAUTION

The AC powered H809VI air sampler referenced in step a. below has a significantly higher flow rate than the DC powered H809C air sampler referenced in step b. below. The H809VI requires less time to draw a 7 cubic feet air sample (~2-3 minutes) than the H809C (~6-7 minutes).

   a. If using the AC powered H809VI air sampler in Vehicles 08-004 or 08-005:

      (1) Install a silver zeolite cartridge and particulate filter (rough side out) in the air sampler head.

(2) With the vehicle running, turn on the inverter located in the rear of the vehicle.

(3) Plug the air sampler into the inverter box.

(4) Position the air sampler with the sampler head facing outside of the vehicle away from the tailpipe.

(5) Turn on the air sampler.

b. If using the DC powered H809C air sampler in personal or other company supplied vehicle: connect the portable air sampler to the vehicle's battery as follows:

(1) Leave the engine running

(2) Install a silver zeolite cartridge and particulate filter (rough side out) in the air sampler head.

(3) Put on safety glasses and gloves

(4) Connect the RED clamp of the air sampler to the positive terminal of the vehicle's battery.

(5) Attach the BLACK clamp of the air sampler to a metal ground (e.g. engine block)

(6) Turn on the air sampler.

c. Check the air sampler head for proper loading of silver zeolite cartridge and paper filter.

d. Air samples should be taken in open areas away from trees, buildings, and shielded from weather conditions.

e. Unless otherwise directed, obtain a minimum 7 cubic feet (196 liters) sample. Record start and stop times and flow rate (use the calibration flow rate from the attached sticker) on form ER 5.2D, Field Team Survey/Air Sample Data Form.

f. Measure the area background count rate using the E-140 W/HP 210 probe after the air sample is completed.

(1) If the background is >300 CPM, move to an area of lower background, take a second measurement and record this second measurement on form ER 5.2D.

(2) If the background is <300 CPM, record the initial reading on form ER 5.2D.

g. Remove the sampler head and separate the filter holder from the cartridge holder.

h. Using the filter holder as the counting geometry, count the filter and record the results on form ER 5.2D.

i. Place the particulate filter paper(s) in whirlibag container(s) for storage and label the whirlibag container with location and time.

j. Count the silver zeolite cartridge (on contact) and record results on form ER 5.2D.

> NOTE
> For higher activity samples, place an RO-2 or RO-2A on the collection face of the cartridge open window. Use the following calculation to determine sample activity:
> $$\text{I-131 } \mu\text{Ci/cc} = \frac{\text{Net (mR/hr)}}{(.5 \text{ mR/hr/}\mu\text{Ci})(\text{Vol. ft}^3)(28{,}320 \text{ cc/ft}^3)}$$

k. Place the silver zeolite cartridge(s) in plastic bag(s) for storage and label the plastic bag with location and time.

l. Bag both samples with the completed Form ER 5.2D.

m. A projected thyroid dose may be estimated from the measured I-131 concentration through the field analysis of silver zeolite cartridges by using the formula located at the bottom of form ER 5.2D.

5.1.6 Reporting Field Sample Results

> **NOTE**
>
> Always report the sample location latitude/longitude coordinates using the digital degree format shown on form ER 5.2D.

1. If the laptop program is operational, enter all form ER 5.2 D results into the program per either SM 08-03 or SM 08-05 dependant upon the vehicle being used and transmit the data by pressing the "Save" button.

   a. Use either the radio or Nextel phone to contact the Offsite Monitoring Communicator to confirm transmission and obtain a new assignment.

2. If the laptop program is not operational, using the completed Form ER 5.2 D, contact the Offsite Monitoring Communicator by either radio or phone to report the results verbally.

3. Remain in low background area and wait for further instructions.

NOTE

If emergency classification levels or projected radiological conditions change, the Offsite Monitoring Communicator will alert all field teams via an Alert 2 tone followed by a coded radio announcement.

If the Offsite Monitoring Communicator transmits a radio page to a team, the team must acknowledge the page.

4. Contact the EOF via radio or phone in the event radiological conditions warrant changing your location.

5.1.7 Return to the EOF

1. When directed to return to the EOF by the Offsite Monitoring Coordinator, park the vehicle in the vehicle monitoring area.

NOTE

Following confirmation of a release of radioactivity, the designated vehicle monitoring area is a posted, contaminated area. Appropriate protective clothing must be worn in this area at all times.

2. Notify the Offsite Monitoring Communicator of your arrival at the EOF.

3. Dispose of all radioactive waste in drum provided inside the vehicle monitoring area.

4. Deliver sample bags and data sheets to the Radiological Assistant.

5. Return to your vehicle and monitor the inside and outside for contamination. Survey for smearable and fixed contamination inside and out paying close attention to the air filter and radiator.

6. Document vehicle survey in accordance with Procedure ER 4.6, Offsite Monitoring and Decontamination, documenting all contamination levels greater than 1,000 dpm/100cm^2 beta gamma smearable and 100 cpm/probe area beta gamma fixed.

7. Remove and dispose of protective clothing in the waste barrels located at the Radiological Assistant's control point.

8. Perform a whole body frisk at the Radiological Assistant control point.

9. Use Procedure ER 4.6 to document and report all personnel contamination greater than 100 cpm/probe area above background beta gamma to the Radiological Assistant.

10. Report to the dosimetry records workstation with thermoluminescent dosimeters (TLD) and electronic dosimeters (ED).

11. Await further assignments. While waiting, assist the Radiological Assistant, as necessary, recheck your survey kit and prepare it for further use. When ready for redeployment report to the dosimetry records workstation for current-quarter exposure update and issue of dosimetry.

12. If directed to deactivate, submit documentation to the Offsite Monitoring Coordinator.

5.1.8 Subsequent Sampling Actions

1. Air Sampling Using Installed Environmental Air Samplers

   a. Obtain Health Physics Department procedure HD0956.01. The equipment necessary to complete the procedure is listed in the procedure and provided at the EOF.

   b. Obtain necessary equipment from the environmental sampling locker prior to leaving EOF. Also obtain a small step ladder.

   c. Obtain keys to the installed environmental air samples from the environmental sampling locker. The keys are labeled with the applicable locations.

   d. Proceed as directed by the Offsite Monitoring Coordinator to the location from which environmental air samples are to be obtained.

   e. Complete the steps for obtaining the sample in HD0956.01.

   f. Report any problems encountered to the Offsite Monitoring Coordinator.

   g. When samples have been collected, labeled, and packaged, complete form ER 5.2E and forward the samples to the Radiological Assistant at the EOF.

2. Smear Sampling

   a. When requested by the Offsite Monitoring Coordinator, obtain a smear sample of approximately $100cm^2$ in the sampling area.

   b. Count the smear using an E140 or equivalent count rate meter.

   c. Record the results on form ER 5.2D. Report the results to the EOF.

   d. Place the smear in a labeled whirlibag container for possible further analysis at the EOF.

3. Grass Sampling

   a. Obtain grass shears, meter stick and plastic bags from the environmental sampling locker prior to leaving EOF.

   b. Select a sufficient number of plastic bags to accommodate the numbers of locations specified by the Offsite Monitoring Coordinator.

   c. Proceed as directed by the Offsite Monitoring Coordinator to the location from which grass samples are to be obtained.

   d. Stake off a 2 meter by 2 meter plot in an open area.

   e. Cut the grass within the staked off area approximately one inch above ground level.

   f. Place the cut grass in a plastic bag.

   g. When the requested number of samples have been collected, return to the EOF.

   h. Weigh each grass sample individually using the scale from the environmental sampling locker in the EOF. Recommended weight for each sample is 2.2 kg or approximately 5 lbs.

   i. Using an indelible marker, identify each bag with the name of the sample location, sample date, sample weight, and the appropriate sample submission code determined in accordance with Figure 3.

   j. Complete form ER 5.2E, Environmental Laboratory Sample Submission Form. For Radiological Analyses, check the Gamma and I-131 blocks. Check any other blocks as directed by the Offsite Monitoring Coordinator.

   k. When samples have been collected, labeled and form ER 5.2E completed, forward the samples to the Radiological Assistant at the EOF.

4. Water Sampling

   a. Obtain one-gallon sample containers from their storage location in the Emergency Services Room in the EOF.

   b. Obtain as many one-gallon sample containers as needed to accommodate the number of locations specified by the Offsite Monitoring Coordinator.

   c. Proceed as directed by the Offsite Monitoring Coordinator to the location from which surface water samples are to be obtained.

   d. Immerse the sample container in the surface water until the container is filled.

   e. Using an indelible marker, identify each container with the name of the sample location, sample date, sample volume, collector's initials, and the appropriate sample submission code determined in accordance with Figure 3.

   f. Complete form ER 5.2E, Environmental Laboratory Sample Submission Form. For Radiological Analyses, check the Gamma and Gross β blocks. Check any other blocks as directed by the Offsite Monitoring Coordinator.

   g. If samples from more than one sample point are mixed together, enter the term "composite" in the Station and Description column of form ER 5.2E in lieu of the latitude/longitude coordinates..

   h. When samples have been collected, labeled, and packaged, complete form ER 5.2E and forward the samples to the Radiological Assistant at the EOF.

5. Snow Sampling

   a. Obtain a meter stick, scoop and plastic bag for snow sampling.

   b. At sampling locations specified by the Offsite Monitoring Coordinator, stake off a one meter square plot in an open area.

   c. Using a scoop, obtain a one inch deep sample from the surface of the entire 1 meter by 1 meter area (avoid any debris such as leaves, twigs, and soil in the sample).

   d. Place snow in a plastic bag for transport to the preparation area. Mark the bag to show the sample location, date, time, and other relevant data.

e. After allowing the snow to melt, transfer the water into a one-gallon container. Using an indelible marker, identify each container with the name of the sample location, sample date, sample volume, collector's initials, and the appropriate sample submission code determined in accordance with Figure 3.

f. Complete form ER 5.2E, Environmental Laboratory Sample Submission Form and identify the sample as snow. For Radiological Analyses, check the Gamma and Gross β blocks. Check any other blocks as directed by the Offsite Monitoring Coordinator.

g. When samples have been collected, labeled and form ER 5.2E completed, forward the samples to the Radiological Assistant at the EOF.

6. Soil Sampling

a. Obtain a scoop and measuring stick from the Environmental Sample locker in the dispatch area storage room.

b. Choose an open area that is free of manmade or environmental disturbances such as mining, erosion or flooding. The area should be easily sampled, free of large stones, trees and other heavy vegetation.

c. Select a sample container capable of holding the volume of soil collected.

d. Label the sample container using a waterproof marker indicating the sample location, date, time, and any other relevant information.

e. Mark off a 20 inch by 20 inch area. Remove vegetation, stones larger than a half inch in diameter, and other debris from the area.

f. Remove the dirt outlined with a sampling scoop to a depth of approximately 1 inch.

g. Transfer the dirt to the sample container and seal securely.

h. Complete form ER 5.2E, Environmental Laboratory Sample Submission Form. For Radiological Analyses, check the Gamma and Gross β blocks. Check any other blocks as directed by the Offsite Monitoring Coordinator.

i. When samples have been collected, labeled and form ER 5.2E completed, forward the samples to the Radiological Assistant at the EOF.

6.0 REFERENCES

1. SS# 25564, Establishing Efficiencies for Field Calculations of Radioactive Activity on Air Sample Cartridges, June 16, 1986

2. ER 2.0, Emergency Notification Documentation Forms Procedure

3. ER 4.6, Offsite Monitoring and Decontamination

4. NRC Inspection Report 50-443/90-85

5. NRC Inspection Report 50-443/95-04

6. HD0956.01, Radiological Environmental Sampling of Air Particulates and Radioiodine

7. HX0956.02, Radiological Monitoring of Direct Radiation

Figure 1
Analysis Matrix

Minimum Analysis for each sample type.

	Air Particulate	Silver Zeolite	Water	Food Crops	Broadleaf Vegetation	Milk
Gross β	X		X			
Tritium(H)			X			
Sr-89, 90						
I-129/131		X			X	X
Gamma (G)	X	X	X	X	X	X

Figure 2
Environmental Lab Sample Submission
Form Instructions

(Sheet 1 of 2)

Complete form ER 5.2E as follows:

1. Client Name: Enter Seabrook Station (pre-entered)

2 Purchase Order/ Contract No: Enter Contract # (Obtain from Materials & Logistics Coordinator)

3. Date of Shipment: Enter date the sample is being shipped

4. Shipping Method: How the sample is being transported to GEL (e.g., Fed Ex Custom Carrier)

5. Requested Turnaround Time. Check Rush (pre-entered)

6. Name/Address of Client Representative - Fill in name of Dose Assessment Specialist who requested the sample analysis. Address is Seabrook Station EOF.

7. Person(s) who should receive the results: Enter name of any other persons who should receive the sample analysis results. If none, enter NONE.

8. E-mail: Enter e-mail address of the Dose Assessment Specialist named in item 6 above.

9. Phone: Enter (603) 433-1435 (pre-entered [wall phone in dose assessment area of the EOF])

10. Fax: Enter (603) 433-1417 or 1420 (pre-entered [fax machines in the DCC room of the EOF])

11. Client Code: Leave blank

12. Media Code: Leave blank

13. Location Code: Leave blank

14. WEEK NO: Enter the week of the year in which the sample was collected. The first week of every year (whether or not it is a full week) will be Week No. 1.

15. YEAR: Enter the last two digits of the year.

16. Location and Sample Type Description and/or Comments: Enter latitude/longitude coordinates of the sample location, type of sample and description of the sample (e.g., type of vegetation, type of fruit, depth of soil, etc.)

Figure 2
Environmental Lab Sample Submission
Form Instructions
(Sheet 2 of 2)

NOTE

Accurate information for the "Collection Period" is required as to the duration of the collection and for the exact time of sampling for grab samples or multiple grab samples that are field composited so the proper correction can be made for decay of activity from the collection time, or midpoint of the collection period, to the time of analysis.

17. COLLECTION PERIOD - Enter the dates, start and stop times for all sample collections

18. TOTAL SAMPLE AMOUNT SHIPPED - The volume or weight of the sample is needed to ensure adequate sample size and to calculate the correct activity by unit volume in the case of charcoal filters and air particulate. All specified samples should be followed by the appropriate units (e.g., L, Kg, etc.)

19. REPORTING UNITS - Specify reporting units requested. Results for environmental bioassay samples are routinely specified in units of pico Curies (pCi) per weight or volumes. Results for 10 CFR 50/61 samples are routinely specified in units of microCuries (μCi) per weight or volume.

20. RADIOLOGICAL ANALYSES - Gamma (G) is the minimum analysis that should be performed. Mark other columns as appropriate per Figure 1.

21. QUARTERLY COMPOSITE – Leave Blank

22. CHAIN-OF-CUSTODY - Self-explanatory.

23. COMMENTS - Document sample preparation provided. Indicate if a sample has been frozen and sectioned. If no field treatment was performed, write in "None."

Figure 3
Environmental Sample Type Codes

AIR

AP Air Particulate
CF Charcoal Filter (Silver Zeolite)

CONTAMINATION ASSESSMENT

SM Smear or wipe samples

WATER

WP Precipitation, Rain or Snow
WF Fresh Water, Lakes or Ponds
WR River Water
WE Estuary Water
WS Seawater
WG Ground Water

TERRESTRIAL

TM Milk
TF Edible Food Crop, except green leafy vegetables (identify - edible) (e.g., cranberry, beans)
TG Non-edible Mixed Vegetation (e.g., grass)
TV Edible Green Leafy Vegetable (e.g., lettuce)
TJ Juices from TV samples, if any
TC Cattle Feed (identify - pellets, silage)
TS Soil - Specify exact depth(s) Gamma
TB Biological Organisms (identify)
TZ Special Terrestrial Sample (identify)
ZZ Miscellaneous

Figure 4
Summary of Changes
(Sheet 1 of 2)

Rev. 38:

In §5.1.2 and §5.1.3 consolidated pre-deployment actions from form ER 5.2A and simplified ER 5.2A entries. (AR#219241)

In §5.1.2.3, corrected reference to supplemental material for conducting radio checks.

On forms ER 5.2C and ER 5.2D, corrected entry items. (AR#219241)

On form ER 5.2E, replaced the AREVA sample submission form with the GEL Labs form and revised Figure 2 instructions for completing the form accordingly. (AR#571263)

Rev. 37:

Throughout, revised pre-deployment actions to be consistent with use of WebEOC equipment. (AR201539)

Consolidated pre-deployment actions in form ER 5.2A, Field Monitoring Team Pre-deployment Checklist. (AR201539)

Revised form ER 5.2C and form ER 5.2D data form and calculation worksheet to be consistent with WebEOC template. (AR193300)

Revised form ER 5.2E, AREVA Environmental Laboratory Sample Submission Form consistent with latest AREVA revision. (AR201539)

Rev 36:

Throughout, change to reflect upgrade in field monitoring communications capability and dedicated vehicles. (CR 08-17391)

In §5.1.8, Subsequent Sampling Actions, revised instructions for taking environmental samples to delete references to RP procedures for water and grass samples and incorporate specific actions required to obtain the samples. (CR 08-13090)

In §6.0, deleted references to RP procedures HD0956.03 and HX0956.04 (water and vegetation samples respectively). (CR 08-13090)

Revised form ER 5.2C to Rev. 35 and updated step reference.

Revised form ER 5.2E to Rev. 31 and removed Framatome from title.

Figure 4
Summary of Changes
(Sheet 2 of 2)

Rev. 35:

In §5.1.3.2.a, added gloves as PPE required for connecting the air sampler to the vehicle battery. (CR 07-03960))

In §5.1.3.2.h, replaced direction to use glassine envelopes to contain air sample filters with direction to use whirlibags for this purpose. (CR 07-11072)

On form ER 5.2A, clarified instructions for obtaining respirator gear to specify that a mask and canister are required for each team member. (CR 07-03960)

On form ER 5.2D, added an instruction and space for recording results of measuring for higher sample activity (CR 07-03960).

Rev. 34:

In §5.1.1, provided direction for monitoring team personnel to report directly to the dispatch area, to notify the Radiological Assistant when ready for dispatch and to remain in the dispatch area to be briefed by the Offsite Monitoring Coordinator. (CR 06-05464)

In §5.1.2, revised the instruction for recording latitude/longitude coordinates of sample locations to include a direction to record the coordinates in digital degree format.(CR 06-05471)

In §5.1.3, added a note under step 5.1.3.2.i with instructions for measuring higher activity samples and calculating the sample activity. (CR 06-0221)

On form ER 5.2B, Offsite Monitoring an d Sampling Personnel Briefing Form, corrected RAE references to read dose margin consistent with terminology recognized by Sentinel and added a note identifying the NEXTEL telephones as the primary communications link to the EOF and the radio system as the backup. (CR 06-06254).

On forms ER 5.2C and ER 5.2D, revised the format for recording the latitude/longitude coordinates to conform to the digital degree format. (CR 06-05471).

On form ER 5.2D, added a reference to the note under step 5.1.3.2.i for measuring higher sample activity and for determining the sample activity. (CR 06-0221)

FIELD MONITORING AND SAMPLING PERSONNEL PRE-DEPLOYMENT CHECKLIST

Field Monitoring Team Number _____ Date _____

	INITIALS
1. Signed in on the EOF personnel roster	_____
2. Obtained assignment	_____
3. Obtained vehicle keys	_____
4. Clipped on FMT position badge	_____
5. Provided form ER 3.3GG to Dosimetry Records Personnel	_____
6. Started vehicle	_____
7. Verified sufficient supplies and forms available in the vehicle	_____
8. Completed communications checks	_____
9. Verified laptop and WebEOC are operating properly	_____
10. Tested portable air sampler; record serial number here_____	_____
11. Completed E-140 or equivalent operational checks; serial number_____	_____
12. Completed RO-2 or equivalent operational checks; serial number_____	_____
13. Obtained 2 respirator masks and 2 cannisters	_____
14. Completed GPS unit operational checks	_____
15. Obtained TLDs, EDs and exposure status from Dosimetry Records Personnel Record current dose margin: Leader _____mrem Driver _____ mrem	_____
16. Obtained supplies of whirl packs and RAM bags (in addition to supplies in the kit)	_____
17. Set-up waste bags in the vehicle for disposal and control of gloves and shoe covers	_____
18. Obtained protective clothing supplies in appropriate sizes for the team members	_____
19. Placed a set of map books, a road sign, and the "Drill" A-frame sign in the vehicle	_____

FIELD MONITORING AND SAMPLING PERSONNEL BRIEFING FORM

Monitoring/Sampling Team Number: _____ Time: _____ Date _____

Leader (Name): _____ Driver (Name): _____

1. Plant Status: _____

2. Radiological Release: _____ in progress _____ expected _____ terminated

3. Source of Release: _____

4. Current Wind Direction from _____ (degrees)

5. Current Wind Speed: _____ mph

6. Projected dose rates at survey locations (when available):

Location	Dose Rate TEDE	Dose Rate CDE
_____	_____mrem/hr	_____mrem/hr
_____	_____mrem/hr	_____mrem/hr
_____	_____mrem/hr	_____mrem/hr

NOTE

The Monitoring Team Coordinator will notify team members to read their electronic dosimeters at appropriate intervals based on current radiological conditions.

7. Instructions/deployment strategies: _____
_____
_____
_____

8. Current dose margin: Leader _____ mrem Driver _____ mrem
Administrative Dose Extension: ☐ yes ☐ no (Leader); ☐ yes ☐ no (Driver)
Revised dose margin: Leader _____ mrem Driver _____ mrem
_____ mrem _____ mrem

9. Directions for use of potassium iodide (KI): ☐ yes ☐ no; KI allergy precaution given: ☐
(Based on a projected or actual thyroid CDE $\geq$ 5 rem)

10. Directions for use of protective clothing: shoe covers__ gloves__Tyvec PCs__, full PCs__ other__.
(Minimum protective clothing following a radiation release will be gloves and shoe covers)

11. Directions for use of respirators: ☐ yes ☐ no
(Evaluate benefit of respirators with the Dose Assessment Specialist. Consider the radiological hazard and whether wearing respirators will interfere with the performance of required actions.)

FIELD MONITORING AND SAMPLING PERSONNEL BRIEFING FORM
(continued)

12. Directions on dose and dose rate turn-back values: dose >2000 mrem or dose rate >3000 mrem/hr will alarm the electronic dosimeters.

13. Review of safety issues/job hazards:

    a. driving safety___
    b. seat belt use___
    c. selection of safe sample location___
    d. obtain road safety kit___
    e. use of drill A-frame sign___
    f. other___

14. Review use of human performance tools:

    a. STAR___
    b. questioning attitude___
    c. appropriate error precursors___
    d. 3-way communication___
    e. other communication expectations___
    f. procedure use___

15. Review of unique situations: _____
    _____

NOTE

An Alert 2 radio tone (i.e., warble) will be used by the Offsite Monitoring Communicator to report changing conditions to the monitoring teams. One of the following coded messages can be announced:

The event has been escalated to **X-Ray** = Site Area Emergency
A **Zulu** condition has been confirmed = Release in Progress
The event has been escalated to **Whiskey** = General Emergency

EOF Survey/Air Sample Calculation Worksheet

TEAM IDENTIFICATION			
Team Affiliation	▼	Team Number	▼
SAMPLE REPORT DATE/TIME			
Sample Date (mm/dd/yy)		Sample time 24-hour clock (hh:mm)	
SAMPLE LOCATION			
Latitude (nn.nn.nnn)		Longitude (nn.nn.nnn)	
Location Description			
DOSE RATE – CLOSED WINDOW			
Waist Level mR/hr		2" level mR/hr	
DOSE RATE – OPEN WINDOW			
Waist Level mR/hr		2" level mR/hr	
FRISKER COUNT RATES			
Waist Level cpm		2" level cpm	
SAMPLE DATA			
Start Time (hh:mm)		Stop Time (hh:mm)	
Total Run Time (min)		Sample Flow Rate (cfm)	
Sample Volume			
Background cpm		SZ Cartridge (gross cpm)	
		Filter Paper (gross cpm)	
TEAM DOSIMETRY READINGS			
Driver - mR		Leader - mR	
SMEAR SAMPLE - OPTIONAL			
Smear sample - cpm			

AIR SAMPLE CALCULATIONS

PARTICULATE

Filter Paper cpm) -- Background cpm =_____ncpm x 1.6 E-10 / Sample Volume = _____uCi/cc

SZ Cartridge (cpm) -- Background cpm =_____ncpm x 6.4 E-9 / Sample Volume = _____uCi/cc x 1.25 E 6 = _____Rem/hr

Field Monitoring Team Survey/Air Sample Data Form

TEAM IDENTIFICATION			
Team Affiliation	▼	Team Number	▼
SAMPLE REPORT DATE/TIME			
Sample Date (mm/dd/yr)		Sample time 24-hour clock (hh:mm)	
SAMPLE LOCATION			
Latitude (nn.nn.nnn)		Longitude (nn.nn.nnn)	
Location Description			
DOSE RATE – CLOSED WINDOW			
Waist Level mR/hr		2" level mR/hr	
DOSE RATE – OPEN WINDOW			
Waist Level mR/hr		2" level mR/hr	
FRISKER COUNT RATES			
Waist Level cpm		2" level cpm	
SAMPLE DATA			
Start Time (hh:mm)		Stop Time (hh:mm)	
Total Run Time (min)		Sample Flow Rate (cfm)	
Sample Volume			
Background cpm		SZ Cartridge (gross cpm)	
		Filter Paper (gross cpm)	
TEAM DOSIMETRY READINGS			
Driver - mR		Leader - mR	
SMEAR SAMPLE - OPTIONAL			
Smear sample - cpm			

IODINE (Adult Thyroid CDE Rate)
SZ Cartridge (cpm) -- Background cpm =_____ncpm x 6.4 E-9 / Sample Volume = _____uCi/cc x 1.25 E 6 = _____Rem/hr

GEL Laboratories LLC

LABORATORY SAMPLE SUBMISSION FORM

Client Name: Seabrook Station

Client Purchase Order/Contract No.: _____

Date of Shipment: _____

Shipping Method: _____

Requested Turnaround Time: ☐ Standard ☒ Rush *cost multiplier may apply)*

Working Days *(specify number)* _____

Name/Address of Client Representative: _____

(Person(s) who should receive the results) _____

E-mail: _____

Phone #: (603) 433-1435 Fax #: (603) 433-1417

Radiological Analyses *(Check All That Apply)*

☐ *Routine 10 CFR 61 = D, E, F, G, H, I, K,, M, N, P, Q, S, T*

Client Code	Media Code	Location Code	Week No.	Year	Location and Sample Type Description and/or Comments	Collection Period (Please check box below to indicate decay to date) Start Date (If Applicable) ☐ Month	Start Date Day	Start Date Year	Start Date Hour	Stop Date (Required) ☐ Month	Stop Date Day	Stop Date Year	Stop Date Hour	Mid-Point Date (If Applicable) ☐ Month	Mid-Point Date Day	Mid-Point Date Year	Mid-Point Date Hour	Total Sample Amount Shipped (Specify Units)	Reporting Units for Results (pCi/ Specify Units)	Gross Alpha (A)	Gross Beta (B)	Ni-59 (D)	Ni-63 (E)	Fe-55 (F)	Gamma (G)	Tritium (H)	I-129 (I)	P-32 (J)	C-14 (K)	Am241/Cm-242,243/244(M)	Np-237 (N)	Pu-238, 239/240 (P)	Pu-241 (Q)	Ra-226 (R)	Sr-89,90 (S)	Tc-99 (T)	U-234,235,238 (U)	Th-228,230,232 (W)	Other (Specify)	Quarterly Composites: Fe-55	Sr-89,90	Other (Specify)

CHAIN OF CUSTODY	
Collected By:	Phone Number: ( )
Relinquished By:	Date/Time:
Received By:	Date/Time:
GEL Comments:	

COMMENTS

Form 240810 rev 0

SEABROOK STATION

ADMINISTRATIVE PROCEDURE

Operation of the Raddose-V

ER 5.3

Rev. 28

Procedure Owner:
D. Currier

Contents and Revision Status

7.0 ATTACHMENTS (con't)

		Rev. No.
ER 5.3A	Stack Release Network Data Entry Actions	01
ER 5.3B	Steamline Release Network Data Entry Actions	01
ER 5.3C	Containment Release Network Data Entry Actions	01
ER 5.3D	Unmonitored Release Data Entry Actions	01
ER 5.3E	Stack Release Manual Data Entry Actions	01
ER 5.3F	Steamline Release Manual Data Entry Actions	01
ER 5.3G	Containment Release Manual Data Entry Actions	01
ER 5.3H	Raddose-V Release Termination Actions	00

1.0 OBJECTIVES

This procedure provides instructions for the operation of Raddose-V, a software package developed to produce dispersion and offsite dose estimates during an accidental release of radioactive material. This procedure addresses both drill and accident mode operations.

2.0 RESPONSIBILITIES

2.1 Raddose Operator/EOF Users

Operates the Raddose-V software for **initial** and **continuous** dose assessment using either the **Network Data** mode, which automatically accesses established MPCS logger trend data, or a **Manual Entry** mode where input data must be entered into the program by the user.

3.0 PRECAUTIONS

1. Raddose-V may be run from the both the Dose Assessment Specialist and Raddose Operator LAN terminals (i.e., WS094981 or WS094982) in the EOF. Raddose-V may also be run from either of the LAN terminals assigned to Maine and Mass State Dose Assessment workstations. All users will logon with the posted generic logon ID and password. Program access is available via a desktop Raddose –V icon.

2. Raddose-V is designed to automatically draw input from Main Plant Computer System Network Data files. If accident conditions impact the availability of this data, Raddose-V operators will be prompted to manually enter data.

3. In the event that the MPCS terminals or LAN PCs become inoperable, the EOF computers with Raddose-V can run the software in the manual mode. Each computer is assigned to a non-LAN printer.

4. The MPCS Network Data logger trend reports, available via the Training Center Staff, will assist users in the verification of automatic MPCS data program input.

5. Entry of invalid data will immediately be noted by program error messages. Incorrect entries will be identified by red font. Data entry input prompts, which identify accident parameter limits, are generally provided at the bottom of each input screen. Unless these invalid entries are corrected the program will not run.

6. All times must be entered in 24-hour-clock notation.

7. Raddose-V automatically defaults to a release period of four hours from the initiating release condition. The TSC may provide technical basis for reduced or increased release periods; however, the decision to change this default release period must be authorized by the Response Manager before implementation.

8. Do not terminate the program in the middle of a run; this may crash the program. Return to the start-up program screen and select exit Raddose-V.

9. If multiple release points (i.e., an elevated and ground release pathway occur is in progress), the meteorological data will default to lower meteorological tower data as a conservative measure.

10. Verify with I&C that no full-scale tests of the MET tower data points have been conducted in the previous 24 hour period. I&C test results may affect data update of MPCS computer points which can impact the availability of logger trend data requiring manual input rather than network update. **(CR 07-11743)**.

11. The primary meteorological tower is supplied backup power from the station's Train A diesel generator. The backup tower is provided from power sources that are different from the primary system. If facility power issues compromise either source of meteorological data, wind speed, wind direction, and stability classification still can be gathered for manual input through dispatch of I&C technicians to the backup tower local recorder.

12. The dose rate projections produced by this procedure represent a best estimate. If projections are significantly different from those measured in the environment, it may be due to inaccuracies in meteorological modeling and/or release rate estimates. The results obtained from this procedure should be carefully analyzed since they may form the basis for protective action recommendations to the public.

13. The existence of a seabreeze can significantly affect plume transport and diffusion as predicted by Raddose-V. Seabreeze effects occur primarily from April through September during the daylight hours. Necessary conditions include sunny days when the sun warms the ground and the ground surface air temperatures rise significantly above the ocean and bay water temperatures.

    A shift of onsite wind direction from offshore to onshore (onshore being defined as winds from 22° clockwise to 173°) occurring sometime during daylight hours can be indicative of a seabreeze front passing the site. Existence of a seabreeze front inland from the site can be confirmed by comparing onsite wind data with wind data from inland stations (e.g., Concord NWS).

    If an inland seabreeze front exists, the plume will rise several hundred feet above ground upon reaching the front and be directed back towards the shoreline. As a result, there will be (i) little dose inland from the seabreeze front, and (ii) a low dose elsewhere between the seabreeze front and the shoreline where the plume passes several hundred feet overhead in the return flow. Raddose-V models the plume in the inland flow and traps the plume underneath the Thermal Internal Boundary Layer (TIBL). Raddose-V does not model the upper level return flow. Field team deployment strategy should investigate the presence of TIBL.

14. Output data are available from menus in Raddose-V, at the end of each 15-minute real time plume projection step or forecast period. Each 15-minute plume projection step must be calculated and sent to a printer for hard copy output.

15. Raddose-V is limited to a maximum of 50 hours of operation.

16. In accident real-time mode, a limitation of the model occurs when an extreme wind (direction) shift takes place or a release is terminated. The model may not calculate doses in sectors that the plume skips or sweeps over entirely within each 15-minute plume projection step. In the case of an extreme wind shift, the user should assume similar dose for sectors the plume may have swept over based on dose in adjacent sectors.

17. Grid receptor dose rates and deposition rates reported by the model are the maximum for the sector, not necessarily the dose rate or deposition rate at the center of the sector. This consideration avoids the situation of a narrow (stable) plume slipping between receptor points and being missed.

18. Deposition data reported are not intended for an environmental evaluation. Its intent is to indicate areas of potentially high ground level concentrations requiring further evaluation.

19. In manual mode, when entering initial data, use of the <tab> key vs. the <enter> key to progress to the next field may cause a field to be skipped. QV&V data entry.

20. If a radiation monitor goes into alarm between the times the 15-minute average printouts become available, the user can enter manually the monitor data obtained from the MPCS.

4.0 PREREQUISITES

For purposes of requiring offsite dose assessment (i.e., a Raddose-V run), a release is defined as follows:

1. Wide Range Gas Monitor (WRGM) High Alarm (RM-6528-4),

2. Main Steam Line Monitor High Alarm with an OPEN ASDV or SRV on the affected main steam line,

3. Main Steam Line Monitor High Alarm with the steam driven EFW pump running and fed from the affected line (Steam Generators A and B),

4. The results of effluent analysis or site boundary monitoring indicate a dose rate greater than an ODCM limit.

5.0 ACTIONS

NOTE

LAN terminals in the EOF are automatically configured to link to Main Plant Computer System Network Data files.

5.1 Raddose-V Software Activation

☐ 1. Press <CTRL><ALT><DELETE> to log on any of the designated LAN computers.

☐ 2. Enter the generic SLID / password posted on the computer in lower case.

☐ 3. ACCESS the Raddose-V software by clicking on the Raddose–V icon available on the computer desktop screen or access Raddose-V software via the Start/Programs menu. This action produces the Raddose–V Title Screen.

a. IF conducting a drill or exercise, SELECT the "**Drill Mode**" button.

b. IF responding to a declared emergency, SELECT the "**Accident Mode**".

NOTE

A pop-up box is displayed requiring user selection of either a "**Network Data Entry**" or "**Manual Data Entry**" operating mode. The default setting is "**Network Data Entry**".

☐ 4. IF station emergency conditions have not affected either LAN or Main Plant Computer System (MPCS) operability, ACCEPT the default option "**Network Data Entry**" and PROCEED to §5.2, Network Data Entry.

☐ 5. IF station emergency condition have affected LAN computer capability, SELECT the "**Manual Data Entry Option**" and PROCEED to §5.3, Manual Data Entry".

5.2 Network Data Entry

☐ 1. CLICK on the "**Continue**" button producing the Start-Up Menu Screen (i.e., Figure 1).

NOTE

The Control Room or TSC may have completed an initial Raddose –V program run prior to the activation of the EOF. The Dose Assessment Specialist /Raddose Operator can access this saved dose projection report and either print the results locally for review or retrieve the report and continue the assessment process with new data entries. To retrieve a saved file, the user must complete the following steps before proceeding:

- Select the "**Load Data from Disk**" option from the Start-Up Menu (i.e., Figure 1).
- Enter P:\ Saved Raddose Data.
- Click "Ok" to load the results. The Program will inform the user when the transfer is complete.
- Select "**Continue Previous Accident**" option from the Start-Up Menu and continue entering meteorological and accident source term data from where either the original report finished.

☐ 2. IF an initial dose projection report was not completed prior to EOF activation or the Dose Assessment Specialist /Raddose Operator wants to initiate their own report, then SELECT the first menu option "**Begin New Accident**".

☐ 3. Answer "**Yes**" to the prompt "**This erases all previous data. Click yes to continue and no to abort**"

NOTE

Selection of the **"Begin New Accident"** option opens the "**Accident Scenario Definition Screen**". Date and time entries for both the reactor trip and release are entered automatically. These values represent the time and date that the user actually logged into the program and may require editing.

☐ 4. ENTER the requested information in the "**Accident Scenario Definition Screen**".

☐ 5. IF a reactor trip has occurred, ACCEPT the default setting of "**Yes**".

☐ 6. IF a reactor trip has not occurred, CHANGE the setting to "**No**".

NOTE

The software automatically advances the time by 15 minutes based on the time entries made in the **Accident Scenario Definition Screen.** In the **Network Data Entry** option, the MPCS data may not have been compiled for release to the program, as the program log-on time is the limiting time value. To ensure that the program can automatically populate the meteorological and source term data, the user is directed to enter a release time at least 15 minutes prior to the time the release prerequisites were met. The user should monitor MPCS release data and manually enter release data that differs from the Network entry to ensure the accurate PAR is obtained.

☐ 7. EDIT the reactor trip time making sure the software format for data entry is followed.

☐ 8. ENTER a release time which is at least 15 minutes prior to the time the release prerequisites were met.

☐ 9. ENTER **EOF** followed by the user's initials (e.g., EOFPDC) to identify the user and location limiting the entry to six characters. This entry is not case sensitive.

☐ 10. DO **NOT** EDIT the default entry of **4 hours** shown for the Release Duration.

NOTE

Eastern Standard Time is in late fall, winter, and early spring months. Daylight Saving Time is during late spring, summer, and early fall months.

☐ 11. SELECT either **EST** (i.e., Eastern Standard Time) or **DST** (i.e., Daylight Saving Time) based on actual time of year.

☐ 12. SELECT "**Accept**" button to proceed to the "**Main Menu**" screen.

☐ 13. DO NOT EDIT the default setting of "**Yes**" for the **"Automatic Forecast after Real Time Calculations"** entry on the Main Menu Screen.

NOTE

The time step 1 entry displayed will always be 15 minutes post the Accident Time Definition screen release time entry.

☐ 14. CLICK on the **"Enter/Edit Meteorological Data"** option. The Meteorological Data Input Screen will be displayed.

NOTE

Answering the query yes, should automatically populate the time step 1 parameters with upper meteorological data displayed in black font. Answering the query no, should automatically populate the time step 1 parameters with lower meteorological data displayed in green font.

When I&C initiates a meteorological tower calibration per IX0654.500, the MPCS meteorological data points are unreliable causing red asterisks or question marks to be displayed.

If meteorological tower information is unavailable due to failed equipment, those points will be displayed as red asterisks or question marks.

Stability classification is calculated and entered based on the criteria defined in Figure 8.

When data has to be entered manually, it is displayed in maroon font.

If meteorological data indicate a wind shift from offshore to onshore (from 22° clockwise to 173°) on a warm sunny day, refer to Precaution 13.

☐ 15. ANSWER the program query.

a. SELECT "**Yes**" for Plant Vent releases.

b. SELECT "**No**" for all other release pathways.

c. PROCEED with step 17 if all parameters of the meteorological data columns are populated with data.

d. COMPLETE step 16 before proceeding if all or some parameters of meteorological data display red asterisks or question marks.

☐ 16. TERMINATE ongoing meteorological tower calibrations or RETRIEVE alternate sources of meteorological data for manual entry, if red asterisks or question marks are displayed in any of the columns.

a. RETRIEVE data from the backup meteorological tower chart recorder, <u>or</u>

b. CONTACT National Weather Service at (207) 688-3224 or WMUR Weather Department at (603) 641-9091, <u>then</u>

c. PLACE the cursor in any field filled with either red asterisks or question marks, <u>and</u> TYPE IN the collected meteorological information manually.

d. PRESS <ENTER> to save the entry before proceeding.

NOTE

Adding a new step will require the user to answer the same program queries required in step 15. The user must enter the same responses to the query as provided for time step 1. The second time step entry will display, advancing the time of data entry by 15 minutes.

☐ 17. If greater than 15 minutes has elapsed since the release commenced, CLICK on the "**Add a new step**" button.

☐ 18. SELECT the "**Accept**" button when all automatic or manual meteorological data entries have been completed for all time steps entered.

NOTE

Acceptance returns the user to the Main Menu Screen. Here, the user must define the event release pathway(s) via data entry to the Source Term Data Input Screen.

☐ 19. CLICK on the **"Enter/Edit Source Term Data"** option from the Main Menu Screen to open the Source Term Data Input Screen.

☐ 20. DOUBLE-CLICK in the path 1/accident type field column to display the Accident Type option box (i.e., **Stack, Steam, Cont, Unmon,** and **None**).

☐ 21. For the Accident Type to be selected, REFER to one of the following:

a. For Stack release option, ER 5.3A

b. For Steam release option, ER 5.3B

c. For Containment release option, ER 5.3C

d. For Unmonitored release option, ER 5.3D

5.3 Manual Data Entry

☐ 1. CLICK on the "**Continue**" button producing the Start-Up Menu Screen (i.e., Figure 1).

NOTE

The Control Room or TSC may have completed an initial Raddose –V program run prior to the activation of the EOF. The Dose Assessment Specialist /Raddose Operator can access this saved dose projection report and either print the results locally for review or retrieve the report and continue the assessment process with new data entries. To retrieve a saved file, the user must complete the following steps before proceeding:

- Select the "**Load Data from Disk**" option from the Start-Up Menu (i.e., Figure 1).
- Enter P:\ Saved Raddose Data.
- Click "Ok" to load the results. The Program will inform the user when the transfer is complete.
- Select "**Continue Previous Accident**" option from the Start-Up Menu and continue entering meteorological and accident source term data from where either the original report finished.

☐ 2. IF an initial dose projection report was not completed prior to EOF activation or the Dose Assessment Specialist /Raddose Operator wants to initiate their own report, then SELECT the first menu option "**Begin New Accident**".

☐ 3. ANSWER "**Yes**" to the prompt "**This erases all previous data. Click yes to continue and no to abort**"

☐ 4. SELECT the first menu option **"Begin New Accident"**.

NOTE

Answering "**Yes**" to the prompt will erase all previous data.

☐ 5. CLICK "**Yes**" to continue or "**No**" to abort.

NOTE

Selection of the **"Begin New Accident"** option opens the "**Accident Scenario Definition Screen**". Date and time entries for both the reactor trip and release are entered automatically. These values represent the time and date that the user actually logged into the program and may require editing.

☐ 6 IF a reactor trip has occurred, ACCEPT the default setting of "**Yes**".

☐ 7. IF a reactor trip has not occurred, CHANGE the setting to "**No**".

NOTE

The software automatically advances the time by 15 minutes based on the time entries made in the **Accident Scenario Definition Screen.**

☐ 8. EDIT the reactor trip time making sure the software format for data entry is followed.

☐ 9. ENTER a release time when release prerequisites were met making sure the software format for data entry is followed.

☐ 10. ENTER **EOF** followed by the user's initials (e.g., EOFPDC) to identify the user and location limiting the entry to six characters. This entry is not case sensitive.

☐ 11. DO **NOT** EDIT the default entry of **4 hours** shown for the Release Duration.

NOTE

Eastern Standard Time is in late fall, winter, and early spring months. Daylight Saving Time is during late spring, summer, and early fall months.

☐ 12. SELECT either **EST** (i.e., Eastern Standard Time) or **DST** (i.e., Daylight Saving Time) based on actual time of year.

☐ 13. SELECT "**Accept**" button to proceed to the "**Main Menu**" screen.

☐ 14. DO NOT EDIT the default setting of "**Yes**" for the **"Automatic Forecast after Real Time Calculations"** entry on the Main Menu Screen.

NOTE

The time step 1 entry displayed will always be 15 minutes post the Accident Time Definition screen release time entry.

☐ 15. CLICK on the **"Enter/Edit Meteorological Data"** option. The Meteorological Data Input Screen will be displayed.

☐ 16. ANSWER the program query.

a. SELECT "**Yes**" for Plant Vent releases.

b. SELECT "**No**" for all other release pathways

NOTE

If **"Yes"** was selected for Plant Vent releases, use upper MET tower values. If **"NO"** was selected for all other release pathways, use lower MET tower values.

If using the Unmonitored Release Data Entry checklist, the user should complete steps 17 through 28 if automatic network data entry of meteorological data is not available.

If meteorological data indicate a wind shift from offshore to onshore (from 22° clockwise to 173°) on a warm sunny day, refer to Precaution 13.

☐ 17. PLACE the cursor in the time step 1 wind speed field.

☐ 18. ENTER the appropriate upper or lower tower value (mph) and PRESS <enter>. The cursor will move to the next field.

☐ 19. ENTER the appropriate upper or lower wind direction in degrees from which the wind is blowing and PRESS <enter>.

☐ 20. REFER to Figure 8 and CHOOSE the appropriate upper or lower delta temperature (T) value that corresponds to the Pasquill Class letter.

☐ 21. ENTER the appropriate upper or lower delta T value and PRESS <enter>.

☐ 22. REFER to Figure 8 and CHOOSE the appropriate default solar radiation value.

☐ 23. ENTER the default solar radiation value and PRESS <enter>.

☐ 24. REFER to Figure 8 and CHOOSE the appropriate default precipitation rate value.

☐ 25. ENTER the default precipitation rate per 15 minute period and PRESS <enter>.

☐ 26. ENTER a second time step by clicking on the "**Add a new step**" button if greater than 15 minutes has elapsed since the release commenced.

☐ 27. REPEAT steps 5.3.18 through 5.3.26 for each new time step added.

☐ 28. SELECT the "**Accept**" button when all manual meteorological data entries have been completed for each time step entered.

NOTE

Acceptance returns the user to the Main Menu Screen. Here, the user must define the release pathway(s) via data entry to the Source Term Data Input Screen.

☐ 29. CLICK on the **"Enter/Edit Source Term Data"** option from the Main Menu Screen and open the Source Term Data Input Screen.

NOTE

A prompt will state **"No automatic monitor data is available. Enter data manually."**

☐ 30. ANSWER the prompt by selecting "**ok**".

☐ 31. DOUBLE-CLICK in the path 1/accident field column to display the Accident type options (i.e., **Stack, Steam, Cont, Unmon,** and **None**).

☐ 32. For the Accident Type to be selected, REFER to one of the following:

a. For Stack release manual data entry option, ER 5.3E

b. For Steam release manual data entry option, ER 5.3F

c. For Containment release manual data entry option, ER 5.3G

d. For Unmonitored release option, ER 5.3D

6.0 REFERENCES

1. ER 1.1, Classification of Emergencies

2. ER 2.0, Emergency Notification Documentation Forms Procedure

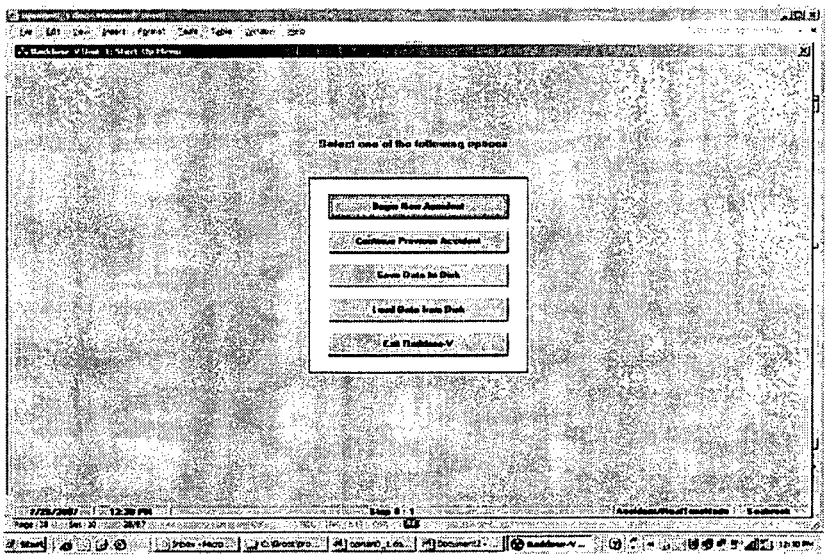
3. ER 5.4, Protective Action Recommendations

4. System Design Specification for Seabrook Station
   Raddose–V Revision 1b, February 2008.

5. Operator's Manual for Seabrook Station
   Raddose–V Revision 1b, February 2008.

6. Detailed Design Manual for Seabrook Station
   Raddose–V Revision 1, November 2007.

Figure 1
Raddose-V Start-Up Menu Screen
(Sheet 1 of 2)



User Options

1- **Begin New Accident**

When the Start-Up Menu is displayed, the option to "**Begin New Accident**" is highlighted. When selecting this option, a pop-up warning message indicates that all data entered from a previous accident will be deleted. If these data are to be cleared, click the Yes button and continue to the Accident Scenario Definition Screen (Figure 4).

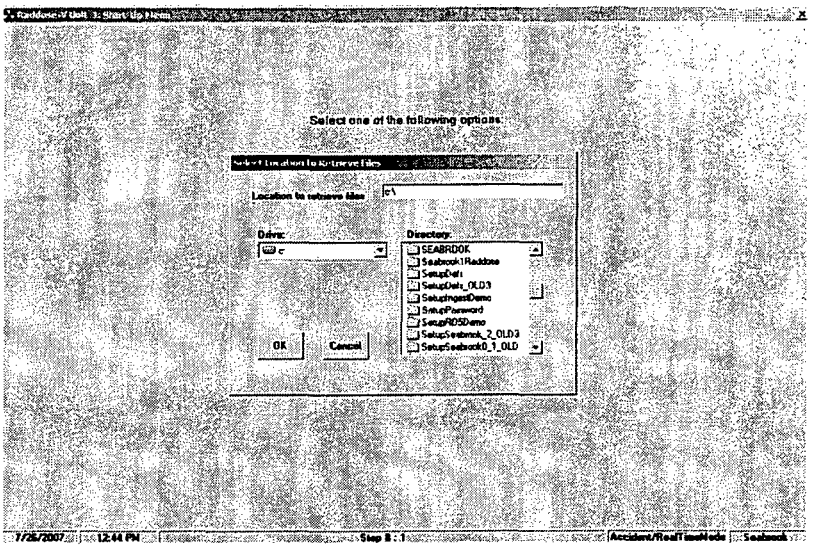
2- **Continue Previous Accident**

To continue entering data and assessing an accident started previously and currently resident on the hard drive in the Raddose-V directory, select the "**Continue Previous Accident**" option. A pop-up box is provided displaying a summary of the previous accident definition data. It lists the trip date and time, the release date and time, the location of the operator who executed the previous run, and the end time of the release duration. Click the **Continue** button to proceed with this accident. At this point, the Main Menu is displayed.

Figure 1
Raddose-V Start-Up Menu Screen
(Sheet 2 of 2)

3- **Save Data to Disk**

If the current data in the Raddose-V directory are to be saved to another location on the hard drive or other drive, select the "**Save Data to Disk**" option. The files dialog box shown below will be displayed.



Control Room and TSC users will be directed to save any of completed files to the T:\Raddose Saved Data folder. Select the T-drive and folder to save the file to and click the OK button. Raddose-V copies the files and informs the user when the transfer is complete.

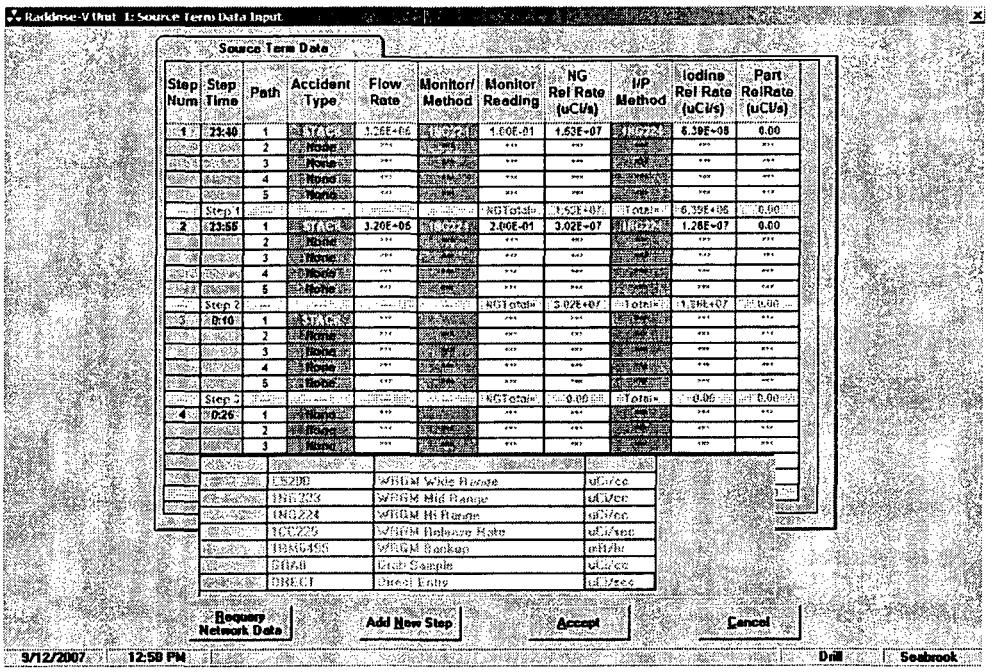
4- **Load Data from Disk**

If either the Control Room or TSC users have initially run Raddose –V prior to EOF activation, the EOF users can access the saved file and continue the assessment. Select the "Load Data from Disk" option. The files dialog box shown above is displayed. Select the P:\ Saved Raddose Data folder and the saved file to load the data from and click the OK button. Raddose-V loads the data as the resident Raddose-V files on the local hard drive and informs the user when finished. Select Continue Previous Accident to run the re-loaded scenario.

5- **Exit Raddose V**

To exit Raddose-V click on the "Exit Raddose-V" button.

Figure 2
Raddose-V Monitor/ Method Menu Screen
(Sheet 1 of 3)



- The Monitors/Methods available are a function of the accident selected.
- Tables 1-4 identify the various options available per accident type.

Table 1		
Accident Type	Radiation Monitor	MPCS Point ID
STACK	RM6528	C5200
STACK	RM6528	1NG223
STACK	RM6528	1NG224
STACK	RM6528	1CC225
STACK	RM6495	Manual entry
STACK	GRAB	Manual entry

Table 2		
Accident Type	Radiation Monitor	MPCS Point ID
STEAM	RM6481	1GM801
STEAM	RM6481	1GM802
STEAM	RM6482	1GM803
STEAM	RM6482	1GM804
STEAM	GRAB	Manual entry

Figure 2
Raddose-V Monitor/ Method Menu Screen
(Sheet 2 of 3)

- Tables 1-4 identify the various options available per accident type. (cont.).

Table 3		
Accident Type	**Radiation Monitor**	**MPCS Point ID**
CONT	RM6576A	1AM106
CONT	RM6576B	1AM107
CONT	RM6536	1AM104
CONT	RM6536	1AM105
CONT	HAND HELD	Manual entry

Table 4		
Accident Type	**Radiation Monitor**	**MPCS Point ID**
UNMON	BACK-Calculate	Manual entry
NONE	DIRECT	Manual entry

Stack Radiation Monitors

1. Selection of either C5200 or 1CC225 is normal data entry.
2. If normal stack monitors are inoperable, selection of RM6495 monitor requires the user to manually enter this reading in mR/hr (must get monitor information from TSC after Chemistry activates it).

Steam Line Monitors

1. If manual data entry, enter the affected steam line monitor reading, in mR/hr. Upon entering these values, the release rates, in uCi/s, are calculated and displayed.

Post-LOCA Monitors

1. If Post-LOCA monitors are inoperable, enter a RM6536 monitor reading. If data are available from the network, the monitor reading (mR/hr) is then displayed.
2. For the hand held unit, the user must enter this data manually in mR/hr. The release rates, in uCi/s, are then calculated and displayed.

Figure 2
Raddose-V Monitor/ Method Menu Screen
(Sheet 3 of 3)

Grab Sample Method (GRAB)

1. From the Source Term Data Input Screen, either double click on any accident type or double click on Monitor Method.
2. From the options displayed, select GRAB to display the GRAB Sample Entry Screen.
3. Manually enter the concentration (μCi/cc) of each isotope present in the effluent based on the grab-sample analysis. 24 isotopes are identified for entry. The user does not need to enter values for all isotopes identified (see Figure 3).
4. When the available isotopic data are entered, press OK to accept the isotopic data.
5. A pop-up will appear with the following text: FOR THIS PATHWAY, should the GRAB sample's fractional isotopic mix be used for the time steps that follow, when data is copied down from the previous steps. Select YES.

NOTE
Flow rates for the plant vent fans are shown in Figure 9. The flow rate for fan WAH-FN-72 for the waste gas system is 22,000 CFM.

6. On the Source Term Data Input Screen, enter a flow rate in cfm.
7. Press Accept. The release rates, in uCi/s, are then calculated and displayed.

Back Calculate Method

1. The field measurement location should be no closer than 0.6 mile from the release point.

Figure 3
Raddose-V Grab Sample Isotopic Data Entry Screen

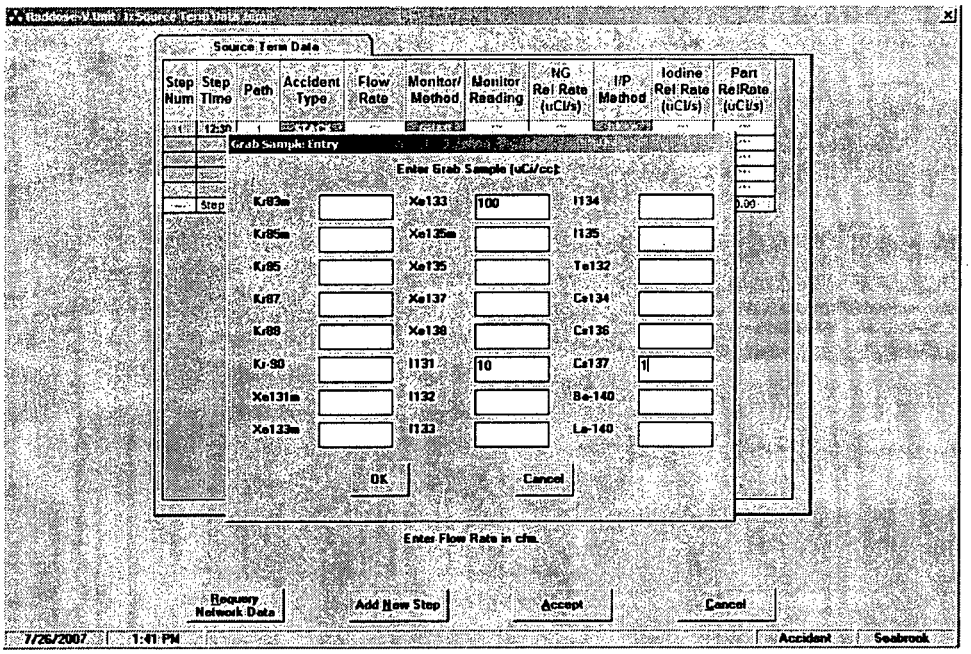
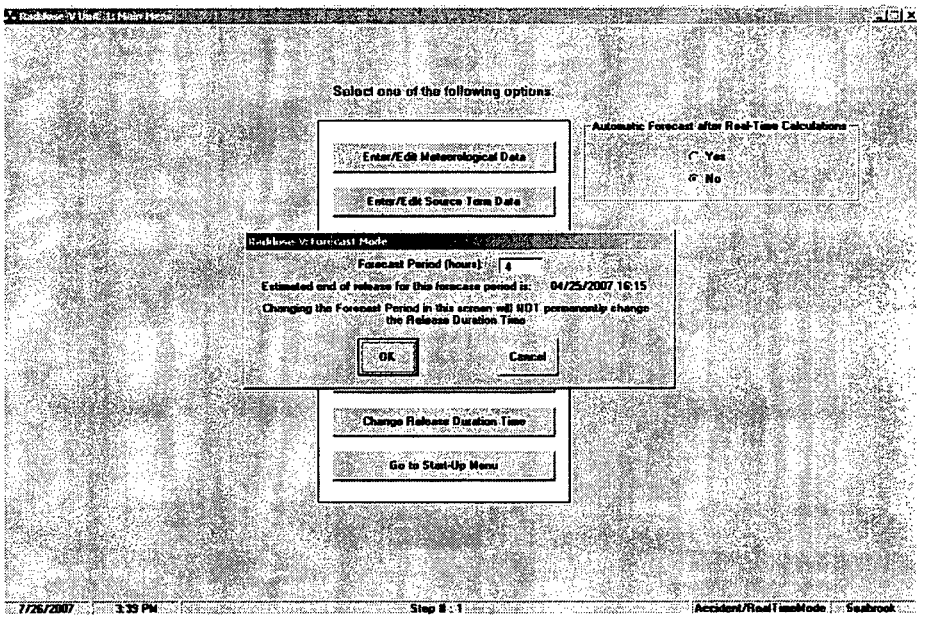


Figure 4
Raddose-V Forecast Period Entry Screen



- Return to the Main Menu screen, select **"Forecast to Estimated Release Termination"** to calculate the forecast doses, dose rates, and deposition data.

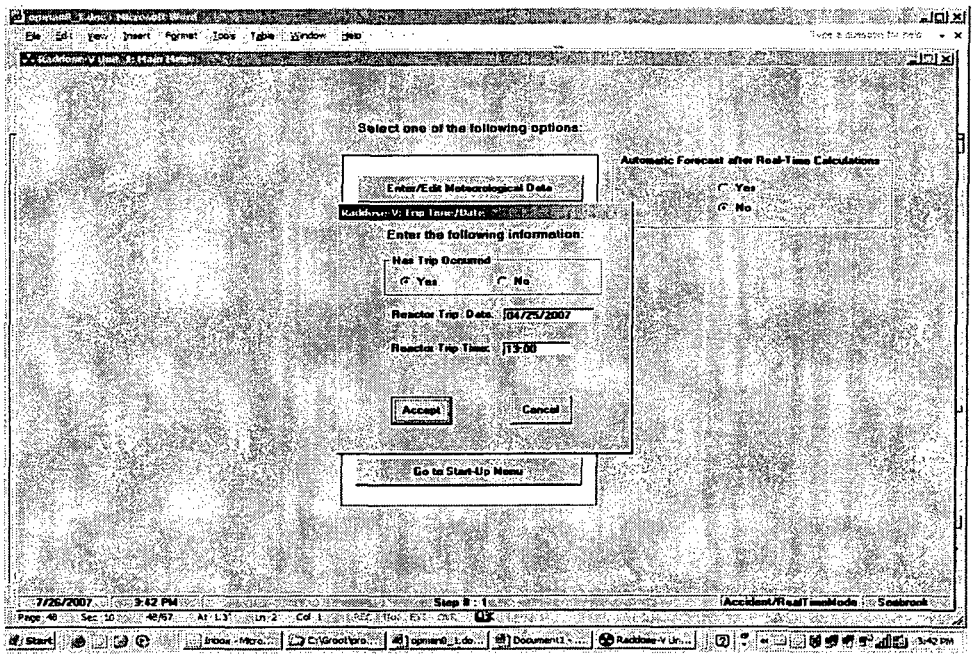
  1. The above pop-up box is displayed with the forecast period given as the period from the current time through the end of the release duration time. Accept this time period for the forecast or enter a new forecast period, in quarter hour increments, and click OK.

  2. A "pop-up" box displays which step's data are being processed in the forecast.

  3. Upon completion of the calculations, the 10-mile EPZ map for the forecast period is displayed. Dose related PARs and EALs are displayed in the forecast mode on the map screens.

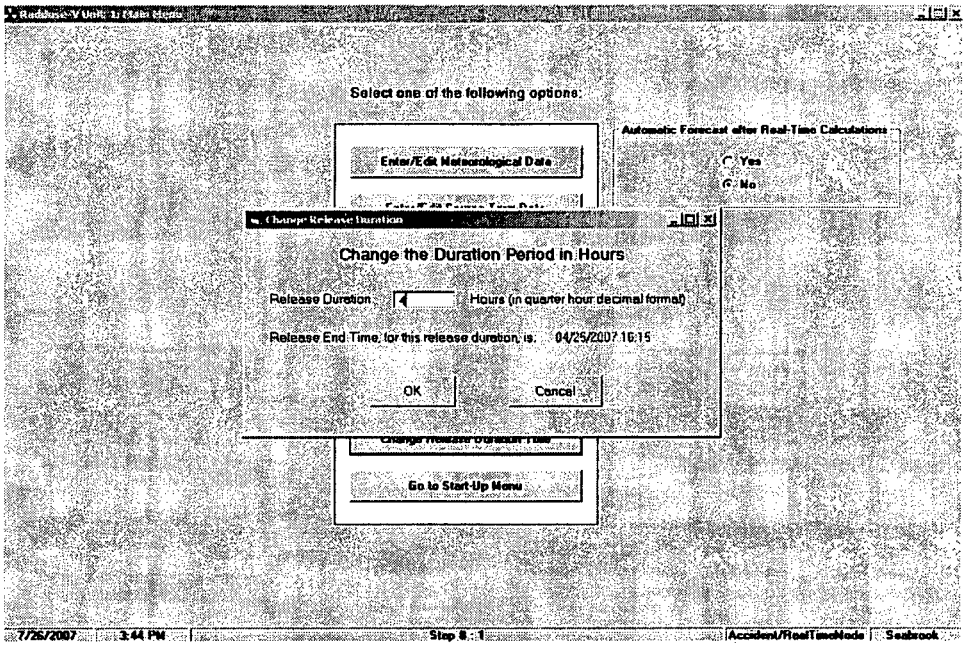
- Any source term and/or meteorological data that were modified for the forecast step will remain displayed the next time the meteorological and source term data input screens are invoked. When proceeding with real-time mode calculations after having performed a forecast, be certain the input data in the current 15-minute steps are corrected (edited) for the real-time calculation.

Figure 5
Raddose-V Change Trip Date/Time Pop-Up Screen



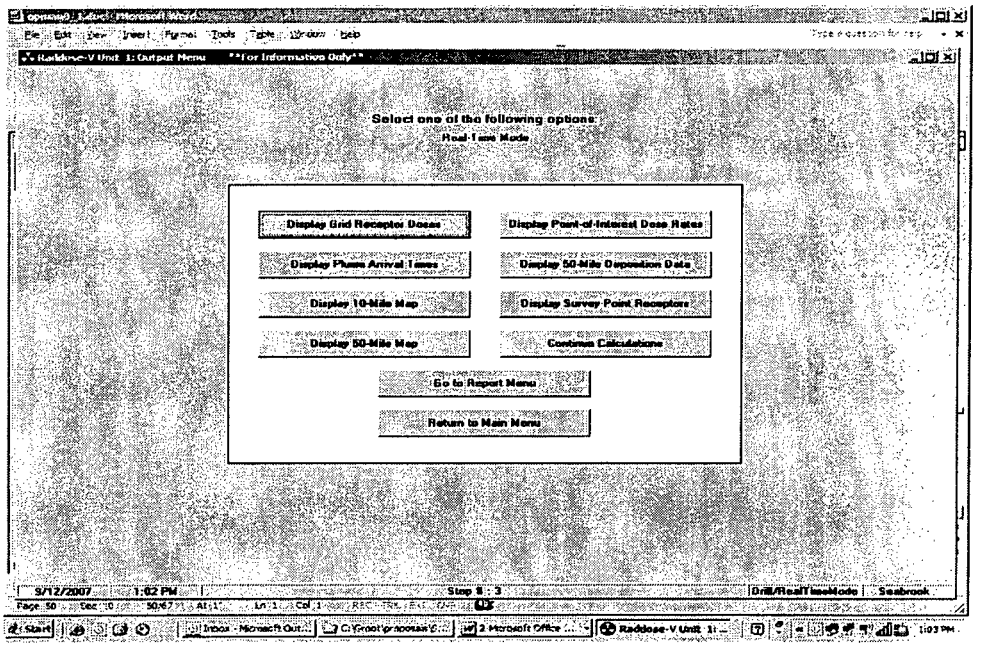
- A user may change the trip time and date from the Main Menu. The above dialog box is displayed containing the Reactor Trip Date and the Reactor Trip Time.
- If the Trip Date and Time were not defined previously, the Option buttons indicate this and the Trip Date and Time fields are disabled.
- Edit the information displayed and click Accept to continue, or Cancel to abort. If the trip date and time are modified, the program will automatically recalculate the source term data and return to begin calculations with the first source term and meteorological data entered.
- Select "Continue Calculations from the Output Menu" to "catch up" to the last source term and meteorological data entered.

Figure 6
Raddose-V Change Release Duration Time Screen



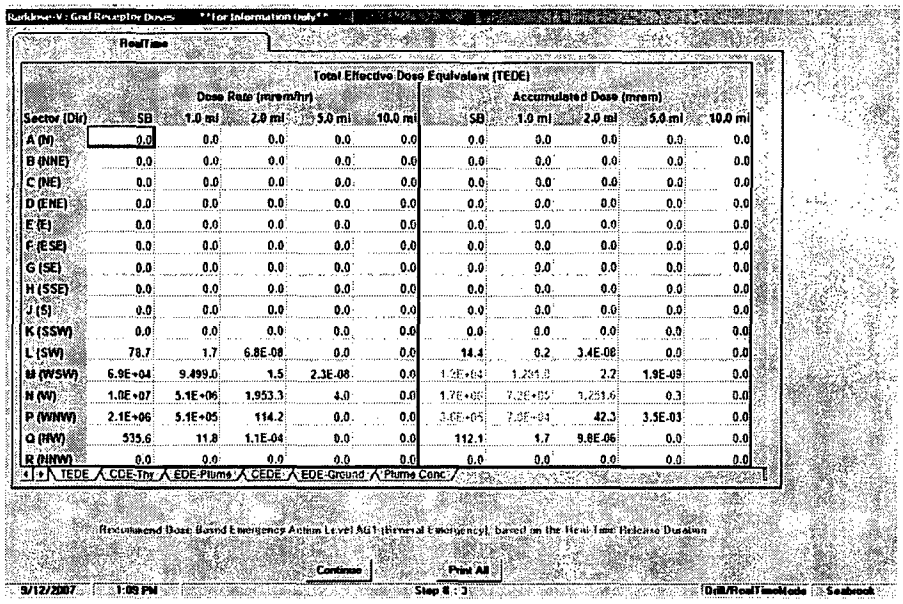
- A user may change the length of the release duration from the Main Menu. The above dialog box is displayed containing the current release duration time in hours (note that the text in red shows the clock time at which the release duration time ends).
- The user may change the release duration time, click Accept to continue, or Cancel to abort. If the release duration time is changed, the end time shown in red is adjusted accordingly.

Figure 7
Raddose-V Output Menu Screen
(Sheet 1 of 6)



- Raddose-V's Output Menu allows the operator to view and obtain hard copy output of the results of dose calculations.
- Options are available to view or print
  1. Grid receptor doses.
  2. Plume arrival times.
  3. 10 and 50-mile maps.
  4. Survey point doses, and point-of-interest dose rates
  5. 50-Mile Deposition Data, containing deposition reports.

Figure 7
Raddose-V Output Menu Screen
(Sheet 2 of 6)



Total Effective Dose Equivalent (TEDE)

Sector (Dir)	Dose Rate (mrem/hr) SB	1.0 mi	2.0 mi	5.0 mi	10.0 mi	Accumulated Dose (mrem) SB	1.0 mi	2.0 mi	5.0 mi	10.0 mi
A (N)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
B (NNE)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
C (NE)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
D (ENE)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
E (E)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
F (ESE)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
G (SE)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
H (SSE)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
J (S)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
K (SSW)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
L (SW)	78.7	1.7	6.8E-08	0.0	0.0	14.4	0.2	3.4E-08	0.0	0.0
M (WSW)	6.9E+04	9.499.0	1.5	2.3E-08	0.0	[illegible]	[illegible]	2.2	1.9E-08	0.0
N (W)	1.0E+07	5.1E+06	1.953.3	4.0	0.0	[illegible]	[illegible]	1,251.6	0.3	0.0
P (WNW)	2.1E+06	5.1E+05	114.2	0.0	0.0	[illegible]	[illegible]	42.3	3.5E-03	0.0
Q (NW)	535.6	11.8	1.1E-04	0.0	0.0	112.1	1.7	9.8E-06	0.0	0.0
R (NNW)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

- The Grid Receptor screen allows the user to view:

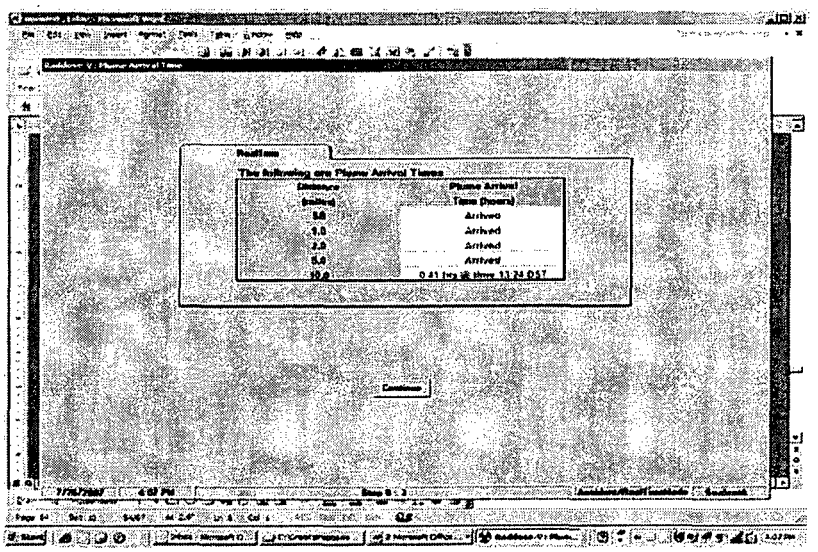
  1. TEDE exposure, CDE-Thyroid exposure, EDE-Plume and Ground exposure, CEDE-Inhalation exposure, and ground level plume concentrations at five downwind distances (Site Boundary, 1 mi, 2 mi, 5 mi and 10 mi) in the 10-mile EPZ for each of the 16 compass sectors.

  2. The dose results are color code based on EPA-400 Protective Action Guide levels. Values in red exceed EPA-400 PAGs.

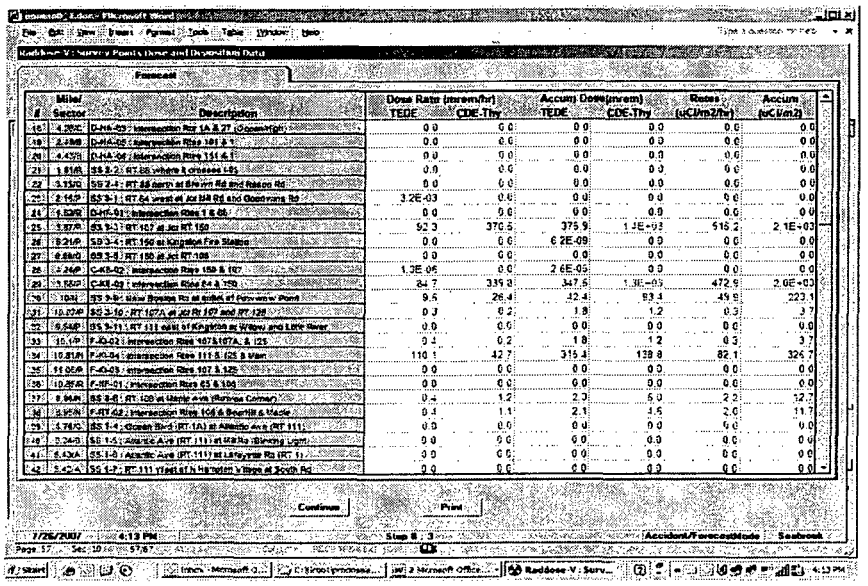
  3. Click on the tab at the bottom of the table for the desired report.

  4. All results are available for print from this screen.

Figure 7
Raddose-V Output Menu Screen
(Sheet 3 of 6)

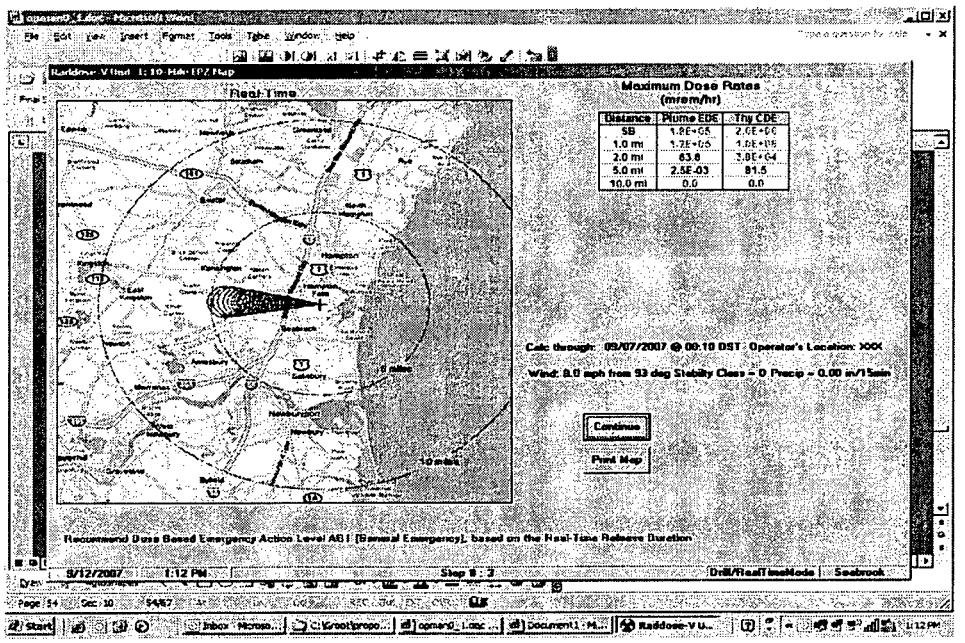


The plume arrival time report displays the arrival time (in hours) to each major ring distance in the 10-mile EPZ (Site Boundary, 1 mi, 2 mi, 5 mi and 10 mi). If the plume extends to or exceeds a ring distance at any point, the table indicates the plume has arrived.

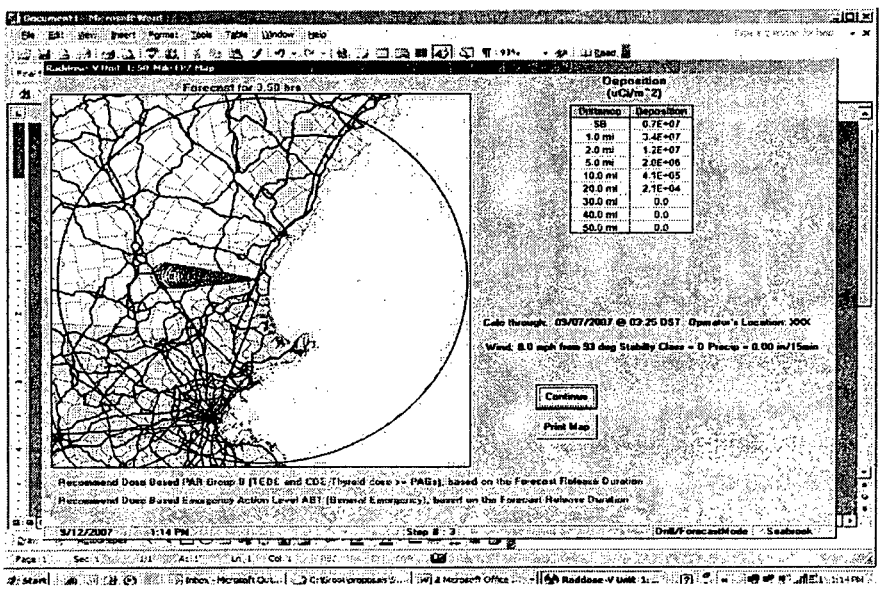


The survey point receptor report lists 77 specific survey points. Each point listed provide its distance and direction sector from the plant site, a description, the TEDE and CDE-Thyroid "dose rates," TEDE and CDE-Thyroid accumulated doses, deposition rates, and accumulated deposition at that receptor. Values in red exceed EPA-400 PAGs.

Figure 7
Raddose-V Output Menu Screen
(Sheet 4 of 6)

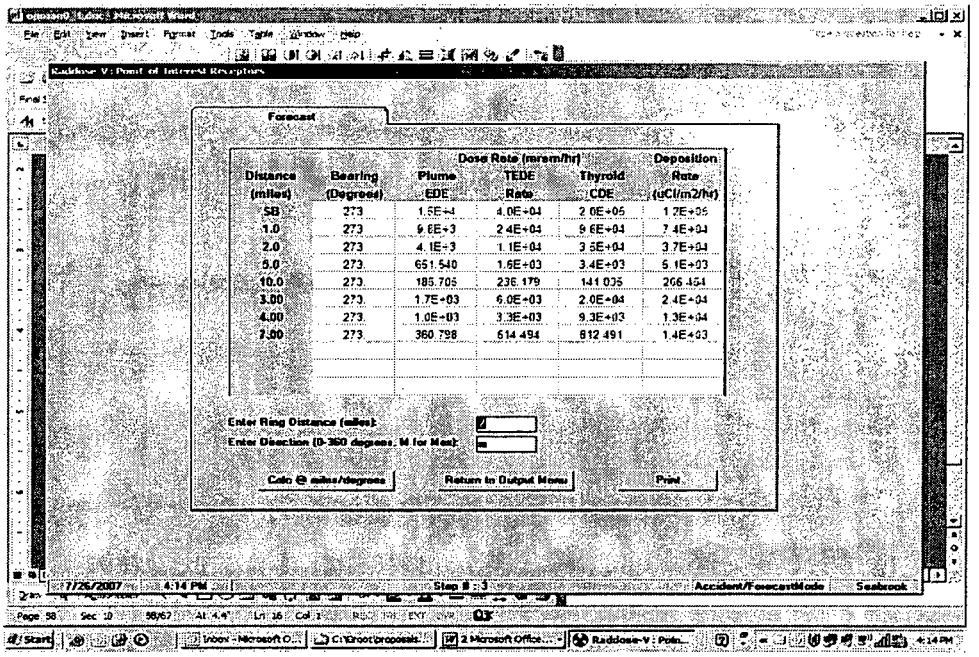


The 10-Mile Map displays circular puffs representing the position of the plume. The color of the plume depends on the maximum doses calculated. The corresponding plume centerline dose rates for plume EDE and Adult Thyroid are displayed in real-time mode, while the TEDE and CDE-Thyroid plume centerline doses are displayed in forecast mode. Dose based Protective Action Recommendation and Emergency Action Level related messages are also provided.



Selection of 50-Mile Map allows the user to view the 50-mile EPZ map and its corresponding plume centerline deposition data. On this map deposition rates are displayed in real-time mode, while accumulated deposition is provided in forecast mode.

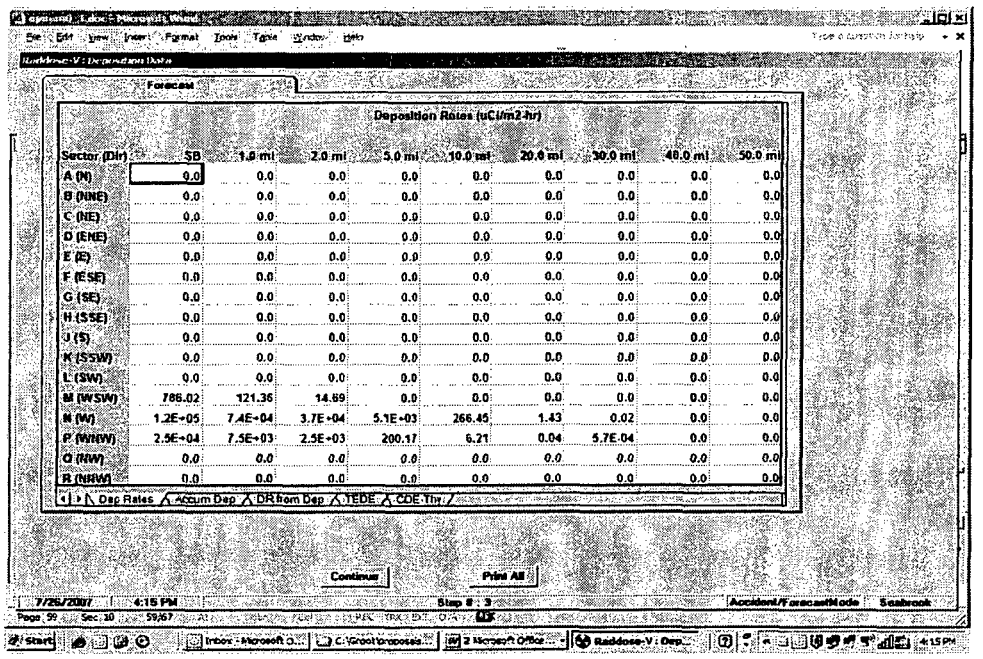
Figure 7
Raddose-V Output Menu Screen
(Sheet 5 of 6)



- The Point-of-Interest screen provides the ability to obtain current dose rates and deposition rates at any point within the 50-mile EPZ.
- When the screen is first entered, maximum dose rates and the deposition rate at each ring distance (Site Boundary, 1 mi, 2 mi, 5 mi and 10 mi) are displayed.

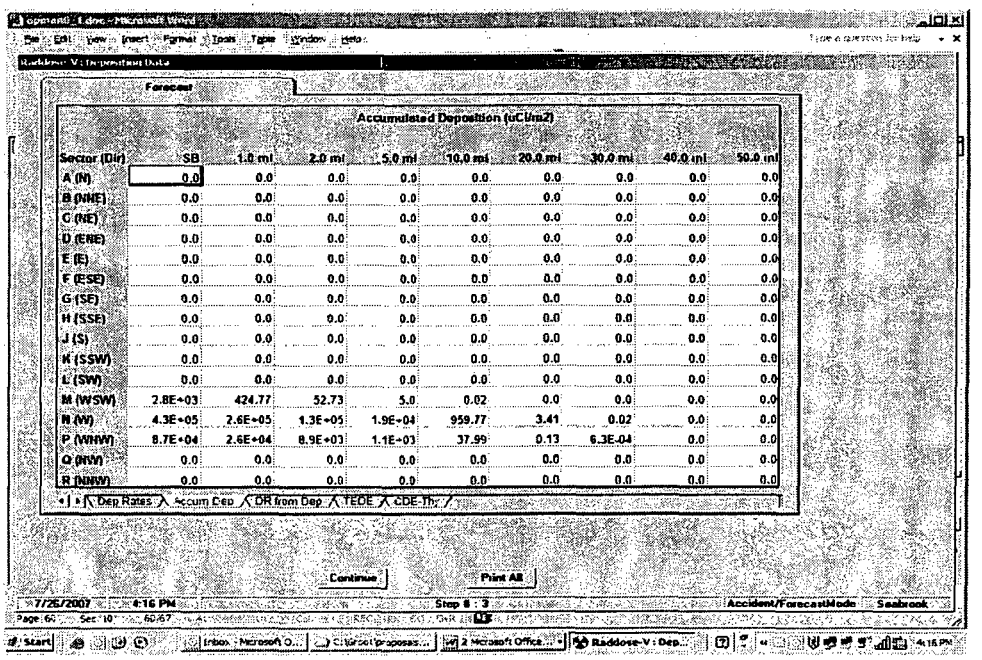
1. Enter the ring distance in miles of any point of interest.
2. Press <ENTER>.
3. Enter the bearing in degrees, and click the Calc @ miles/degrees button. The model displays a plume EDE dose rate, a TEDE "dose rate," and a CDE-Adult Thyroid dose rate, as well as a deposition rate at the defined point of interest.
4. Enter "M" in the direction field at the bottom of the screen, and the model will display the maximum dose rates and deposition rate at the corresponding distance entered.

Figure 7
Raddose-V Output Menu Screen
(Sheet 6 of 6)



Deposition Rates (uCi/m2-hr)

Sector (Dir)	SB	1.0 mi	2.0 mi	5.0 mi	10.0 mi	20.0 mi	30.0 mi	40.0 mi	50.0 mi
A (N)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
B (NNE)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
C (NE)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
D (ENE)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
E (E)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
F (ESE)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
G (SE)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
H (SSE)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
J (S)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
K (SSW)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
L (SW)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
M (WSW)	786.02	121.36	14.69	0.0	0.0	0.0	0.0	0.0	0.0
N (W)	1.2E+05	7.4E+04	3.7E+04	5.1E+03	266.45	1.43	0.02	0.0	0.0
P (WNW)	2.5E+04	7.5E+03	2.5E+03	200.17	6.21	0.04	5.7E-04	0.0	0.0
Q (NW)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
R (NNW)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



Accumulated Deposition (uCi/m2)

Sector (Dir)	SB	1.0 mi	2.0 mi	5.0 mi	10.0 mi	20.0 mi	30.0 mi	40.0 mi	50.0 mi
A (N)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
B (NNE)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
C (NE)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
D (ENE)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
E (E)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
F (ESE)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
G (SE)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
H (SSE)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
J (S)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
K (SSW)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
L (SW)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
M (WSW)	2.8E+03	424.77	52.73	5.0	0.02	0.0	0.0	0.0	0.0
N (W)	4.3E+05	2.6E+05	1.3E+05	1.9E+04	959.77	3.41	0.02	0.0	0.0
P (WNW)	8.7E+04	2.6E+04	8.9E+03	1.1E+03	37.99	0.13	6.3E-04	0.0	0.0
Q (NW)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
R (NNW)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Selection of 50-mile deposition data displays a tabbed spreadsheet from which deposition rates, accumulated deposition, and dose rates from the current accumulated isotopes may be viewed for the grid point receptors out to 50 miles. It also provides TEDE and CDE-Thyroid dose data at radial distances of 20, 30, 40, and 50 miles.

Figure 8
Stability Classification Table

	Pasquill Classes	Upper Delta-t	Lower Delta-t
Extremely Unstable	A=1	≤ -1.74	≤ -1.12
Moderately Unstable	B=2	≥ - 1.73 to ≤ - 1.55	≥ - 1.11 to ≤ - 1.0
Slightly Unstable	C=3	≥ - 1.54 to ≤ - 1.37	≥ - 0.99 to ≤ - 0.89
Neutral	D=4	≥ - 1.36 to ≤ - 0.46	≥ - 0.88 to ≤ - 0.30
Slightly Stable	E=5	≥ - 0.45 to ≤ + 1.36	≥ - 0.29 to ≤ + 0.88
Moderately Stable	F=6	≥ + 1.37 to ≤ + 3.64	≥ + 0.89 to ≤ + 2.34
Extremely Stable	G=7	≥ +3.65	≥ +2.34

Default Solar Radiation Values (Langley/Min)

Condition	Spring	Summer	Fall	Winter
Sunny	1.2	1.4	1.0	0.8
Overcast	0.1	0.2	0.2	0.1

Default 15 Minute Precipitation Rate Values

Condition	Sunny – No Rain	Light Rain	Moderate Rain	Deluge
Precipitation Rate Inches/15 Minutes	0.00	0.01	0.05	0.15

Figure 9
Plant Vent Stack Flow Summarization

The following list represents the operating fans and respective flow rates for the various modes of plant operation. All flows are in CFM.

If a fan is shut down, assume a total stack flow reduction of 50% of the shutdown fan flow value. For example, if WAH-FN-13A is shut down, normal conditions stack flow would be 276,160-(151,620/2)(.5)=238,255 CFM. Only the fans listed below should be considered when calculating flow reductions. Smaller support fans not listed below (e.g., WAH-FN-125) should not be considered in a flow reduction calculation.

NORMAL

CAP-FN-10	4,000
FAH-FN-124	34,000
PAH-FN-7A, B &/OR C	43,340
PAH-FN-8A OR B	43,200
WAH-FN-13A AND B	151,620
TOTAL CFM	276,160

"A" ISOLATION, EAH ON RECIRC

CAP-FN-10	4,000
FAH-FN-124	34,000
PAH-FN-7A, B &/OR C	43,340
PAH-FN-8A OR B	19,800
WAH-FN-13A AND B	151,620
EAH-FN-4A OR B	4,000
TOTAL CFM	256,760

PRE-ENTRY PURGE

CAP-FN-10	15,000
FAH-FN-124	34,000
PAH-FN-7A, B &/OR C	43,340
PAH-FN-8A OR B	43,200
WAH-FN-13A AND B	151,620
TOTAL CFM	287,160

REFUELING PURGE

CAP-FN-10	4,000
FAH-FN-124	34,000
PAH-FN-7A, B &/OR C	43,340
PAH-FN-8A OR B	3,200
WAH-FN-13A AND B	151,620
CAP-FN-35	40,000
TOTAL CFM	316,160

REFUELING

CAP-FN-10	4,000
FAH-FN-11A OR B	16,000
PAH-FN-7A, B &/OR C	43,340
PAH-FN-8A OR B	43,200
WAH-FN-13A AND B	151,620
TOTAL CFM	258,160

Assume a minimum default value (due to the stack chimney effect) of 57,568 CFM if

1) no fans are running, or
2) the total flowrate from a plant fan alignment is less than 57,568 CFM.

Figure 10
Summary of Changes
(Sheet 2 of 2)

Rev. 28:

Added a new precaution 3.20 that says that if a radiation monitor goes into alarm between the times the 15-minute average printouts are available, the user can enter manually the monitor data obtained from the MPCS. (AR#527003)In §4.0, identified the steam generator MSLs (A & B) that feed the turbine driven EFW pump. (AR#393055)

In §5.2, Network Data Entry, in the NOTE preceding step 7, added a statement that says the user should monitor MPCS release data and manually enter data that may differ from the Network entry to ensure the accurate PAR is obtained. (AR#393055)

On Figure 1, corrected reference to T drive to read P:/Saved Raddose Data. (AR#219941)

On Figure 2, added instructions for using the GRAB sample method, incorporated flow rate for waste gas system fan and referenced the instructions in appropriate steps of forms ER 5.3A, 5.3B, 5.3C, 5.3D, 5.3E, 5.3F and 5.3G. (AR#571247)

On forms ER 5.3A, 5.3C, 5.3D, 5.3E, and 5.3G, added to the NOTE preceding step 4, added direction for TSC users on how to obtain status of containment sprays and filters.(AR#393055)

On form ER 5.3D, Unmonitored Release Data Entry Actions, added a CAUTION statement that if the release is via the waste gas system to select YES for sprays running. (AR#393055)

Rev. 27:

In §5.2 and §5.2, in the appropriate steps of the procedure, referenced precaution 13 pertaining to the effects of a seabreeze condition, when it may occur, and the need to consider the effects of seabreeze in field monitoring team deployment strategy. (AR#200437)

In form ER 5.3D, Unmonitored Release Data Entry Actions, added a note prior to the step requesting a site boundary closed window reading that downwind surveys are to be taken at a distance of 0,6 mile or greater from the release point.(AR#200437)

In form ER 5.3E, Stack Release Manual Data Entry Actions, added a direction in step 5 to enter a reading in mr/hr if the backup WRGM monitor option was selected. Also added a CAUTION that says the backup WRGM monitor reads in R/hr and to convert the value to mr/hr before entering in Raddose. (AR#200437)

Throughout, removed unnecessary screen shots from the figures attached to the procedure and references to them and reformatted the procedure to improve usability. (AR#200437)

Figure 10
Summary of Changes
(Sheet 2 of 2)

Rev. 26:

In §5.1, Raddose-V Software Activation, added a statement in step 10.b that says that the edited release time must be ≥15 minutes prior to the program log-on time in order for the network to automatically populate the data.

In §5.2, Network Data Entry, added a CAUTION prior to step 2 that says that if I&C is performing meteorological tower calibration per IX0654.500, the data points are placed in TEST and are unreliable and alternate sources of meteorological data should be considered. (CR 08-13428)

In §§5.2.10, 5.2.11, 5.2.12, 5.3.18, 5.3.19 and 5.3.20, revised the NOTE that explains options available to differentiate between the applicable monitor options available for each release pathway and the two methods that can be used by the program. Referenced directions for using the appropriate method. (CR 08-16495)

In §§5.2.11 and 5.3.19, added an action to enter a design based EFW flow rate value for conditions involving an MSL high alarm with EFW running from the affected line.

In §§5.2.12 and 5.3.20, added instructions for implementing the hand held method if all monitor options are not available.

In §5.3, Manual Data Entry, step 7, referenced solar radiation default values, and step 8, referenced default precipitation rate values in Figure 23. (CR 08-14036)

In §§5.3.18 and 5.3.20, inserted a NOTE pertaining to required response to data inquiries concerning operational status of containment spray and availability of filtration. (CR 08-14036)

In §5.4, prior to step 5.4.7, inserted a NOTE that directs selection of the Follow-up Information Form option if TEDE and Adult CDE doses are required in mrem and selection of the Survey Points Report if offsite monitoring and sampling teams require survey point information.. (CR 08-14036)

In Figure 23, added default solar radiation values and precipitation rate values (CR 08-14036)

Rev. 25:

This procedure was completely rewritten to reflect replacement of the METPAC dose assessment model with Raddose–V.

Rev. 25 Chg. 01:

Throughout the procedure, corrected the sequence of procedure steps.

STACK RELEASE NETWORK DATA ENTRY ACTIONS

☐ 1. MOVE the cursor in the "**Accident Type Pop-Up Box**", SELECT the **Stack** option and PRESS <**Enter**> or double click. The **Stack** selection will display in the Accident Type column.

☐ 2. MOVE the cursor to the path 1/ Monitor/Method column and DOUBLE-CLICK on the field to display the available list of monitor and/or methods associated with a stack accident condition.

> **NOTE**
>
> Five monitor options are available - **C5200**-WRGM operational channel monitor, **ING223**-WRGM mid range channel monitor, **ING224**- WRGM hi range channel monitor, **ICC225**-WRGM effluent channel monitor, **RM6495**-WRGM back-up monitor. See Figure 2.
>
> Two methods are available - a GRAB-sample method or an unmonitored release method using field measurement data. If the unmonitored release method is required, actions are described in ER 5.3D. The GRAB sample method is described in Figure 2.

☐ 3. CHOOSE either monitor option **ICC225**, WRGM Effluent Channel, or **C5200**, WRGM operational channel as the **preferred** Monitor/Method for this release pathway and PRESS <**Enter**> or double click.

> **NOTE**
>
> A **Sprays and Filter Status** pop-up box will appear requiring response to data inquiries concerning the operational status of containment spray and the availability of filtration. Any stack release or release to the containment enclosure should be considered filtered initially. Obtain the status of the sprays and filters from the Training Center Staff or Technical Assistant in the EOF.

☐ 4. ANSWER the query, "**At least one train of containment spray is running?**"

- ACCEPT the Default of "**No**" or CHANGE to "**Yes**" if conditions dictate this response

☐ 5. ANSWER the query, **Release filtered**?

- CHANGE the Default of "**No**" to "**Yes**" unless conditions dictate a different response

☐ 6. CLICK Continue. The screen will automatically populate the monitor reading and flow rate columns based on your selection in step 3.

NOTE

If greater than 15 minutes has elapsed since the release commenced, a second time step can be entered. The program queries the user similarly to that done in steps 4 and 5. The second time step entry will display advancing the time of data entry by 15 minutes. MPCS data will populate the screen for only available times.

☐ 7. CLICK on the "**Add a new step**" button, if appropriate.

☐ 8. IF the release was terminated, GO to ER 5.3H and COMPLETE the actions for release termination then RETURN to step 9 of this checklist.

☐ 9. CLICK the "**Accept**" button when all automatic or manual source term data entries have been completed for all time steps entered. Acceptance returns the user to the Main Menu Screen.

NOTE

Selection of the **"Perform Calculations"** button commences program calculations for an automatic forecast using only time step 1 data. "Perform Calculations" steps must be repeated for each time step entry.

☐ 10. **IF multiple time step entries are made,** CHANGE the **"Automatic forecast after real time calculation"** default setting of **"Yes"** to **"No.** Otherwise, GO to step 11.

a. CLICK the **"Perform Calculations"** button from the Main Menu. A **Real Time** ten mile map with tabulated dose data information for a 15 minute projection using time entry 1 will be displayed upon completion.

b. DO NOT PRINT the map information.

c. CLICK Continue.

d. CLICK on the **Continue Calculations** button for each time step entry made. The software will produce a new **Real Time** ten mile map with tabulated dose data information for each time entry.

e. COMPLETE steps 10b and 10c after each time entry calculation.

f. CLICK the **Return to Main Menu** button after all time entries have been completed denoted by the **Continue Calculations** button bold highlight being turned off.

g. CHECK that the "**Automatic forecast after real time calculation**" setting is "**Yes**".

h. CLICK on the "**Enter/Edit Meteorological Data**" button and ANSWER "**No**" to the question "**Do you want to add a new time step?**"

i. CLICK the "**Accept**" Button.

j. CLICK on the "**Enter/Edit Source Term Data**" button and ANSWER "**No**" to the question "**Do you want to add a new time step?**"

k. CLICK the "**Accept**" Button and COMPLETE step 11.

☐ 11. CLICK the "**Perform Calculations**" button from the Main Menu. A **Forecast** ten mile map with tabulated dose data, EAL, and PAR information for the time entry will be displayed upon completion.

☐ 12. DO NOT PRINT the map information.

☐ 13. CLICK "**Continue**".

☐ 14. ANSWER "**No**" to the query "**Do you want to save Dose Based PAR recommendations identified in this forecast calculation?**"

☐ 15. SELECT one of the following options from the "**Output Menu**" screen:

a. CLICK on any of the available displays to view the results OR

b. CLICK on "**Go to Report Menu**" button.

☐ 16. CLICK on "**Print Reports and Maps**" button. The "**Raddose-V Report Selection Menu**" will be displayed.

STACK RELEASE NETWORK DATA ENTRY ACTIONS

NOTE

The **"Summary Form"** and the **"10 Mile Map"** options should be checked. The **"Follow-up Information Form"** option provides a copy of ER2.0C with the forecasted TEDE and Adult Thyroid CDE doses in mRem entered at various downwind distances.

☐ 17. SELECT any additional report options before proceeding (See Figure 7).

☐ 18. CLICK the **Print** button and COLLECT the output.

☐ 19. VERIFY data entry by reviewing page 1 of the Summary Form Report.

☐ 20. a. IF either the **AS1** (>100 mRem TEDE or 500 mRem CDE-Thyroid) OR **AG1** (>1000 mRem TEDE or 5000 mRem CDE-Thyroid) **EAL** has been reached, NOTIFY the EOF Coordinator and Response Manager.

b. IF a dose based PAR has been reached, NOTIFY the EOF Coordinator and Response Manager.

☐ 21. CLICK on the **"Return to Output Menu"** button.

☐ 22. CLICK on the **"Return to Main Menu"** button.

☐ 23. CLICK on **"Ok"** to the pop-up that says **"You just completed a forecast. Remember to check meteorological and source date for current info."**

☐ 24. CLICK on the **"Go to Start-up Menu"** button.

☐ 25. SELECT **"Save Data to Disk"** option from the Start-Up Menu.

☐ 26. SAVE the data to the P:\ SavedRaddoseData folder.

☐ 27. CLICK **"Ok"** on the pop-up that says **"Data is Saved"**.

☐ 28. SELECT **"Exit Raddose V"** option from the Start-Up Menu to terminate the software.

STEAMLINE RELEASE NETWORK DATA ENTRY ACTIONS

☐ 1. MOVE the cursor in the "**Accident Type Pop-Up Box**", SELECT the **Steam** option and PRESS <**Enter**> or double click. The **Steam** selection will display in the Accident Type column.

☐ 2. MOVE the cursor to the path 1/ Monitor/Method column and DOUBLE CLICK on the field to display the available list of monitor and/or methods associated with a steamline accident condition.

NOTE

Four monitor options are available - **IGM801** - MSL A steam line monitor, **IGM802 - MSL D** steam line monitor, **IGM803** - MSL B steam line monitor, **or IGM804**- MSL C steam line monitor. See Figure 2.

Two methods are available - a GRAB-sample method or an unmonitored release method using field measurement data. If the unmonitored release method is required, actions are described in ER 5.3D. The GRAB sample method is described in Figure 2.

☐ 3. CHOOSE the affected steam line monitor (e.g., **IGM801**-MSL A, **IGM802** – MSL D, **IGM803**- MSL B, or **IGM804**- MSL C) and PRESS <Enter> or double click.

NOTE

The **Steam Generator Data** pop-up box will appear requiring response to ruptured generator level, pressure, and closure status of ASDV or SRV an the affected line.

☐ 4. ENTER the appropriate Ruptured S/G Compensated WR Level (%), as needed.

NOTE

The following conditions will significantly elevate the estimated thyroid dose and can affect both PAR and classification.

- If conditions indicate that the ruptured S/G Compensated WR Level (%) exceeds 99%, two-phase flow conditions will exist.
- If conditions indicate that the ruptured S/G Compensated WR Level (%) drops below 65%, partitioning in the generator will be affected.

STEAMLINE RELEASE NETWORK DATA ENTRY ACTIONS

☐ 5. ENTER the affected Main Steam Line Pressure as needed.

☐ 6. If the pressure is below 1185 psig, CHOOSE from the following options:

a. INDICATE whether the ASDV is open

b. INDICATE whether a SRV is open

c. ENTER in the release pathway flow rate in lbm/hr. Refer to informational Note for estimated steam flow rates at pressures greater than 1185 psig.

NOTE

Relief Valve	MSL pressure (psia)	Steam Flow Rate (lbm/hr)
SRV 1	<1210	8.93E5
SRV 1+2	<1220	9.00E5
SRV 1+2+3	<1230	9.08E5
SRV 1+2+3+4	<1240	9.15E5
SRV 1+2+3+4+5	≥1240	9.22E5

NOTE

The magnitude and duration of a release resulting from conditions involving a MSL high alarm with EFW pump running from the affected line may not warrant dose evaluation.

d. ENTER the design based EFW flow rate value of 1.21E5 lbm/hr for conditions involving a MSL high alarm with EFW running from the affected line.

☐ 7. CLICK Continue. The screen will automatically populate the monitor reading and flow rate columns based on your selection in steps 4-6.

NOTE

If greater than 15 minutes has elapsed since the release commenced, a second time step can be entered. The program queries the user similarly to that done in steps 4 thru 6. The second time step entry will display advancing the time of data entry by 15 minutes. MPCS data will populate the screen for only available times.

STEAMLINE RELEASE NETWORK DATA ENTRY ACTIONS

☐ 8. CLICK on the "**Add a new step**" button, if appropriate.

☐ 9. IF the release was terminated, GO to ER 5.3H and COMPLETE the actions for release termination then RETURN to step 10 of this checklist.

☐ 10. CLICK the "**Accept**" button when all automatic or manual source term data entries have been completed for all time steps entered. Acceptance returns the user to the Main Menu Screen.

> **NOTE**
>
> Selection of the **"Perform Calculations"** button commences program calculations for an automatic forecast using only time step 1 data. "Perform Calculations" steps must be repeated for each time step entry.

☐ 11. **IF multiple time step entries are made,** CHANGE the "**Automatic forecast after real time calculation"** default setting of "**Yes"** to "**No.** Otherwise, GO to step 12.

a. CLICK the **"Perform Calculations"** button from the Main Menu. A **Real Time** ten mile map with tabulated dose data information for a 15 minute projection using time entry 1 will be displayed upon completion .

b. DO NOT PRINT the map information.

c. CLICK Continue.

d. CLICK on the **Continue Calculations** button for each time step entry made. The software will produce a new **Real Time** ten mile map with tabulated dose data information for each time entry.

e. COMPLETE steps 11b and 11c after each time entry calculation.

f. CLICK the **Return to Main Menu** button after all time entries have been completed denoted by the **Continue Calculations** button bold highlight being turned off.

g. CHECK that the "**Automatic forecast after real time calculation"** setting is "**Yes".**

h. CLICK on the **"Enter/Edit Meteorological Data"** button and ANSWER **"No"** to the question "**Do you want to add a new time step?"**

i. CLICK the **"Accept"** Button.

j. CLICK on the **"Enter/Edit Source Term Data"** button and ANSWER **"No"** to the question **"Do you want to add a new time step?"**

k. CLICK the **"Accept"** Button and COMPLETE step 12.

☐ 12. CLICK the **"Perform Calculations"** button from the Main Menu. A **Forecast** ten mile map with tabulated dose data, EAL, and PAR information for the time entry will be displayed upon completion.

☐ 13. DO NOT PRINT the map information.

☐ 14. CLICK **"Continue"**.

☐ 15. ANSWER **"No"** to the query **"Do you want to save Dose Based PAR recommendations identified in this forecast calculation?"**

☐ 16. SELECT one of the following options from the **"Output Menu"** screen

a. CLICK on any of the available displays to view the results OR

b. CLICK on **"Go to Report Menu"** button.

☐ 17. CLICK on **"Print Reports and Maps"** button. The **"Raddose-V Report Selection Menu"** will be displayed.

NOTE

The **"Summary Form"** and the **"10 Mile Map"** options should be checked. The **"Follow-up Information Form"** option provides a copy of ER2.0C with the forecasted TEDE and Adult Thyroid CDE doses in mRem entered at various downwind distances.

☐ 18. SELECT any additional report options before proceeding (See Figure 7).

☐ 19. CLICK the **Print** button and COLLECT the output.

☐ 20. VERIFY data entry by reviewing page 1 of the Summary Form Report.

STEAMLINE RELEASE NETWORK DATA ENTRY ACTIONS

☐ 21. a. IF either the **AS1** (>100 mRem TEDE or 500 mRem CDE-Thyroid) OR **AG1** (>1000 mRem TEDE or 5000 mRem CDE-Thyroid) **EAL** has been reached, NOTIFY the EOF Coordinator and Response Manager.

b. IF a dose based PAR has been reached, NOTIFY the EOF Coordinator and Response Manager.

☐ 22. CLICK on the **"Return to Output Menu"** button.

☐ 23. CLICK on the **"Return to Main Menu"** button.

☐ 24. CLICK on "**Ok**" to the pop-up that says **"You just completed a forecast. Remember to check meteorological and source date for current info."**

☐ 25. CLICK on the **"Go to Start-up Menu"** button.

☐ 26. SELECT "**Save Data to Disk**" option from the Start-Up Menu.

☐ 27. SAVE the data to the P:\ SavedRaddoseData folder.

☐ 28. CLICK "**Ok**" on the pop-up that says "**Data is Saved**".

☐ 29. SELECT **"Exit Raddose V"** option from the Start-Up Menu to terminate the software.

CONTAINMENT RELEASE NETWORK DATA ENTRY ACTIONS

☐ 1. MOVE the cursor in the "**Accident Type Pop-Up Box**", SELECT the **Cont** option and PRESS <**Enter**> or double click. The **CONT** selection will display in the Accident Type column.

☐ 2. MOVE the cursor to the path 1/ Monitor/Method column and DOUBLE CLICK on the field to display the available list of monitor and/or methods associated with a containment leakage accident condition.

> **NOTE**
>
> Four monitor options are available - **1AM106** – Train A Post LOCA monitor, **1AM107** – Train B Post LOCA monitor, **1AM104** – Low range Personnel Hatch monitor, **1AM105** – High range Personnel Hatch monitor. See Figure 2.
>
> Three other methods are available - a grab sample method, a handheld method or an unmonitored release method using field measurement data. If the grab or handheld method is used, continue with the steps below. If the unmonitored release method is required, actions are described in ER 5.7D. The GRAB sample method is described in Figure 2.

☐ 3. CHOOSE monitor option **1AM106** – Train A Post LOCA monitor **or 1AM107** – Train B Post LOCA monitor as the **preferred** Monitor/Method for this release pathway, or CHOOSE **1AM104** –Low Range Personnel Hatch monitor **or 1AM105** – High Range Personnel Hatch monitor as the backup monitor method, and PRESS <**Enter**> or double click.

- IF all monitor options are unavailable, DISPATCH a Radiation Protection Technician to the personnel hatch to obtain a dose rate, SELECT handheld and ENTER the dose rate.
- IF a grab sample was obtained, SELECT grab and ENTER the data.

> **NOTE**
>
> A **Sprays and Filter Status** pop-up box will appear requiring response to data inquiries concerning the operational status of containment spray and the availability of filtration. Any stack release or release to the containment enclosure should be considered filtered initially. Obtain the status of the sprays and filters from the Training Center Staff or Technical Assistant in the EOF.

☐ 4. ANSWER to the query, **At least one train of containment spray is running?**

- ACCEPT the Default of **No** or CHANGE to **Yes** if conditions dictate this response

☐ 5. ANSWER to the query, **Release filtered**?

- CHANGE the Default of **No** to **Yes** unless conditions dictate a different response

☐ 6. CLICK Continue. The screen will automatically populate the monitor reading and flow rate columns based on your selection in steps 3 thru 5.

NOTE

The **Containment Leak** pop-up box will appear requiring response to data inquiries concerning estimated leak rate, hole-diameter, and whether design basis leakage at the containment pressure should be considered. The program defaults to the **Scaled Design Basis leakage using containment pressure in (psig)** option. Automatic data entry is provided for the containment pressure entry if the network is available.

☐ 7. DO **NOT** INPUT an estimated atmospheric leak rate from containment.

☐ 8. DO **NOT** INPUT an estimated hole diameter or the containment pressure.

☐ 9. SELECT the **Scaled Design Basis Leakage Using Containment Pressure** in (psig) option.

NOTE

If greater than 15 minutes has elapsed since the release commenced, a second time step can be entered. The program queries the user as it did in steps 4 thru 5. The second time step entry will display advancing the time of data entry by 15 minutes. MPCS data will populate the screen for only available times.

☐ 10. CLICK on the "**Add a new step**" button, if appropriate.

☐ 11. IF the release was terminated, GO to ER 5.3H and COMPLETE the actions for release termination then RETURN to step 12 of this checklist.

☐ 12. CLICK the "**Accept**" button when all automatic or manual source term data entries have been completed for all time steps entered. Acceptance returns the user to the Main Menu Screen.

NOTE

Selection of the **"Perform Calculations"** button commences program calculations for an automatic forecast using only time step 1 data. "Perform Calculations" steps must be repeated for each time step entry.

☐ 13. **IF multiple time step entries are made,** CHANGE the "**Automatic forecast after real time calculation**" default setting of "**Yes**" to "**No.** Otherwise, GO to step 14.

a. CLICK the **"Perform Calculations"** button from the Main Menu. A **Real Time** ten mile map with tabulated dose data information for a 15 minute projection using time entry 1 will be displayed upon completion.

b. DO NOT PRINT the map information.

c. CLICK Continue.

d. CLICK on the **Continue Calculations** button for each time step entry made. The software will produce a new **Real Time** ten mile map with tabulated dose data information for each time entry.

e. COMPLETE steps 13b and 13c after each time entry calculation.

f. CLICK the **Return to Main Menu** button after all time entries have been completed denoted by the **Continue Calculations** button bold highlight being turned off.

g. CHECK that the "**Automatic forecast after real time calculation**" setting is **"Yes".**

h. CLICK on the **"Enter/Edit Meteorological Data"** button and ANSWER **"No"** to the question "**Do you want to add a new time step?"**

i. CLICK the **"Accept"** Button.

j. CLICK on the **"Enter/Edit Source Term Data"** button and ANSWER **"No"** to the question "**Do you want to add a new time step?"**

k. CLICK the **"Accept"** Button and COMPLETE step 14.

☐ 14. CLICK the **"Perform Calculations"** button from the Main Menu. A **Forecast** ten mile map with tabulated dose data, EAL, and PAR information for the time entry will be displayed upon completion.

☐ 15. DO NOT PRINT the map information.

☐ 16. CLICK "**Continue**".

☐ 17. ANSWER **"No"** to the query "**Do you want to save Dose Based PAR recommendations identified in this forecast calculation?**"

CONTAINMENT RELEASE NETWORK DATA ENTRY ACTIONS

☐ 18. SELECT one of the following options from the "**Output Menu**" screen

a. CLICK on any of the available displays to view the results OR

b. CLICK on **"Go to Report Menu"** button.

☐ 19. CLICK on **"Print Reports and Maps"** button. The "**Raddose-V Report Selection Menu**" will be displayed.

> **NOTE**
>
> The **"Summary Form"** and the "**10 Mile Map"** options should be checked. The "**Follow-up Information Form**" option provides a copy of ER2.0C with the forecasted TEDE and Adult Thyroid CDE doses in mRem entered at various downwind distances.

☐ 20. SELECT any additional report options before proceeding (See Figure 7).

☐ 21. CLICK the **Print** button and COLLECT the output.

☐ 22. VERIFY data entry by reviewing page 1 of the Summary Form Report.

☐ 23. a. IF either the **AS1** (>100 mRem TEDE or 500 mRem CDE-Thyroid) OR **AG1** (>1000 mRem TEDE or 5000 mRem CDE-Thyroid) **EAL** has been reached, NOTIFY the EOF Coordinator and Response Manager.

b. IF a dose based PAR has been reached, NOTIFY the EOF Coordinator and Response Manager.

☐ 24. CLICK on the **"Return to Output Menu"** button.

☐ 25. CLICK on the "**Return to Main Menu"** button.

☐ 26. CLICK on "**Ok**" to the pop-up that says "**You just completed a forecast. Remember to check meteorological and source date for current info.**"

☐ 27. CLICK on the "**Go to Start-up Menu"** button.

☐ 28. SELECT "**Save Data to Disk**" option from the Start-Up Menu.

☐ 29. SAVE the data to the P:\ SavedRaddoseData folder.

☐ 30. CLICK "**Ok**" on the pop-up that says "**Data is Saved**".

☐ 31. SELECT **"Exit Raddose V"** option from the Start-Up Menu to terminate the software.

UNMONITORED RELEASE DATA ENTRY ACTIONS

☐ 1. MOVE the cursor in the "**Accident Type Pop-Up Box**", SELECT the **Unmon** option and PRESS <**Enter**> or double click. The **UNMON** selection will display in the Accident Type column.

☐ 2. MOVE the cursor to the path 1/ Monitor/Method column and DOUBLE CLICK on the field to display the available list of monitor and/or methods associated with an unmonitored release accident condition.

☐ 3. CHOOSE the "**Back Calculate Method**" option and PRESS <Enter> or double click.

NOTE

A **Sprays and Filter Status** pop-up box will appear requiring response to data inquiries concerning the operational status of containment spray and the availability of filtration. Any stack release or release to the containment enclosure should be considered filtered initially. Obtain the status of the sprays and filters from the Training Center Staff or Technical Assistant in the EOF.

CAUTION

IF the release involves waste gas only, SELECT "**Yes**" for spray running.

☐ 4. ANSWER to the query, **At least one train of containment spray is running?**

- ACCEPT the Default of "**No**" or CHANGE to "**Yes**" if conditions dictate this response

☐ 5. ANSWER to the query, **Release filtered**?

- CHANGE the Default of "**No**" to "**Yes**" unless field survey results indicate the presence of particulate or iodine activity.

☐ 6. CLICK Continue.

NOTE

A second pop-up screen requires response to Back Calculate Method inquiries. To obtain this information, a Radiation Protection Technician will have to take a survey in the downwind direction at a distance $\geq$ 0.6 mile from the release point (i.e., site boundary).

☐ 7. CONTACT a Radiation Protection Technician, the Health Physics Coordinator or the Radiological Controls Coordinator for the following information:

a. A site boundary closed window radiation reading in mR/hr, and

b. Approximate distance and bearing of the measurement.

☐ 8. USE the "**Distance and Bearing Option**" in the "**Select Data Entry Method**" box to input the collected information.

☐ 9. SELECT "**Ok**" to proceed.

NOTE

If greater than 15 minutes has elapsed since the release commenced, a second time step can be entered. The program queries the user similarly to that done in steps 4 thru 5. The user can not enter a second field team measurement.

☐ 10. CLICK on the "**Add a new step**" button, if appropriate.

☐ 11. IF the release was terminated, GO to ER 5.3H and COMPLETE the actions for release termination then RETURN to step 12 of this checklist.

☐ 12. CLICK the "**Accept**" button when all automatic or manual source term data entries have been completed for all time steps entered. Acceptance returns the user to the Main Menu Screen.

NOTE

Selection of the **"Perform Calculations"** button commences program calculations for an automatic forecast using only time step 1 data. "Perform Calculations" steps must be repeated for each time step entry.

☐ 13. **IF multiple time step entries are made,** CHANGE the "**Automatic forecast after real time calculation**" default setting of "**Yes**" to "**No.** Otherwise, GO to step 14.

a. CLICK the **"Perform Calculations"** button from the Main Menu. A **Real Time** ten mile map with tabulated dose data information for a 15 minute projection using time entry 1 will be displayed upon completion.

b. DO NOT PRINT the map information.

c. CLICK Continue.

d. CLICK on the **Continue Calculations** button for each time step entry made. The software will produce a new **Real Time** ten mile map with tabulated dose data information for each time entry.

e. COMPLETE steps 13b and 13c after each time entry calculation.

f. CLICK the **Return to Main Menu** button after all time entries have been completed denoted by the **Continue Calculations** button bold highlight being turned off.

g. CHECK that the "**Automatic forecast after real time calculation**" setting is "**Yes**".

h. CLICK on the **"Enter/Edit Meteorological Data"** button and ANSWER **"No"** to the question "**Do you want to add a new time step?"**

i. CLICK the **"Accept"** Button.

j. CLICK on the **"Enter/Edit Source Term Data"** button and ANSWER **"No"** to the question "**Do you want to add a new time step?"**

k. CLICK the **"Accept"** Button and COMPLETE step 14.

☐ 14. CLICK the **"Perform Calculations"** button from the Main Menu. A **Forecast** ten mile map with tabulated dose data, EAL, and PAR information for the time entry will be displayed upon completion.

☐ 15. DO NOT PRINT the map information.

☐ 16. CLICK "**Continue**".

☐ 17. ANSWER **"No"** to the query "**Do you want to save Dose Based PAR recommendations identified in this forecast calculation?**"

☐ 18. SELECT one of the following options from the "**Output Menu**" screen

a. CLICK on any of the available displays to view the results OR

b. CLICK on **"Go to Report Menu"** button.

☐ 19. CLICK on **"Print Reports and Maps"** button. The "**Raddose-V Report Selection Menu**" will be displayed.

UNMONITORED RELEASE DATA ENTRY ACTIONS

NOTE

The **"Summary Form"** and the **"10 Mile Map"** options should be checked. The **"Follow-up Information Form"** option provides a copy of ER2.0C with the forecasted TEDE and Adult Thyroid CDE doses in mRem entered at various downwind distances.

☐ 20. SELECT any additional report options before proceeding (See Figure 7).

☐ 21. CLICK the **Print** button and COLLECT the output.

☐ 22. VERIFY data entry by reviewing page 1 of the Summary Form Report.

☐ 23. a. IF either the **AS1** (>100 mRem TEDE or 500 mRem CDE-Thyroid) OR **AG1** (>1000 mRem TEDE or 5000 mRem CDE-Thyroid) **EAL** has been reached, NOTIFY the EOF Coordinator and Response Manager.

b. IF a dose based PAR has been reached, NOTIFY the EOF Coordinator and Response Manager.

☐ 24. CLICK on the **"Return to Output Menu"** button.

☐ 25. CLICK on the **"Return to Main Menu"** button.

☐ 26. CLICK on **"Ok"** to the pop-up that says **"You just completed a forecast. Remember to check meteorological and source date for current info."**

☐ 27. CLICK on the **"Go to Start-up Menu"** button.

☐ 28. SELECT **"Save Data to Disk"** option from the Start-Up Menu.

☐ 29. SAVE the data to the P:\ SavedRaddoseData folder.

☐ 30. CLICK **"Ok"** on the pop-up that says **"Data is Saved"**.

☐ 31. SELECT **"Exit Raddose V"** option from the Start-Up Menu to terminate the software.

STACK RELEASE MANUAL DATA ENTRY ACTIONS

☐ 1. MOVE the cursor to the path 1/ Monitor/Method column and DOUBLE CLICK on the field to display the available list of monitor and/or methods associated with a stack accident condition.

☐ 2. REVIEW the SDS radiological data and determine which stack monitor is in alarm. The MPCS logger trend may be used for this purpose.

> **NOTE**
>
> Five monitor options are available - **C5200**-WRGM operational channel monitor, **ING223**-WRGM mid range channel monitor, **ING224**- WRGM hi range channel monitor, **ICC225**-WRGM effluent channel monitor, **RM6495**-WRGM back-up monitor. See Figure 2.
>
> Two methods are available - a GRAB-sample method or an unmonitored release method using field measurement data. If the unmonitored release method is required, actions are described in ER 5.3D. The GRAB sample method is described in Figure 2.

☐ 3. If available, CHOOSE **ICC225**, WRGM Effluent Channel monitor or **C5200**, WRGM operational channel monitor as the preferred Monitor/Method and PRESS <Enter> or double click.

> **NOTE**
>
> The **Sprays and Filter Status** pop-up box will appear requiring response to data inquiries concerning the operational status of containment spray and the availability of filtration. Any stack release or release to the containment enclosure should be considered filtered initially. Obtain the status of the sprays and filters from the Training Center Staff or Technical Assistant in the EOF.

☐ 4. ANSWER the **Sprays and Filter Status** pop-up box questions.

a. SELECT either the "Yes" or "No" option to the prompt, At **least one train of containment spray is running?**

b. SELECT either the "Yes" or "No" option to the prompt, **Release filtered**?

c. When finished answering the Spray and Filter Status pop-up box questions, CLICK Continue.

STACK RELEASE MANUAL DATA ENTRY ACTIONS

CAUTION

The backup WRGM monitor reads in R/hr. If using data from the backup WRGM monitor (RM6495), convert the value to mr/hr before entering in Raddose.

☐ 5. PLACE the cursor in the monitor reading field and, per the selection in step 2, ENTER a 15 minute average monitor reading of uCi/cc, uCi/sec or (if using the backup WRGM monitor) mr/hr and PRESS <enter>.

☐ 6. PLACE the cursor in the flow rate field and using Figure 9 enter in the appropriate flow rate for the accident condition and PRESS <enter>. Entry of this information will initiate calculation of associated NG Rel and Iodine Rel rates.

☐ 7. IF greater than 15 minutes has elapsed since the release commenced, a second time step may be entered by clicking on the "**Add a new step**" button.

☐ 8. REPEAT steps 3 thru 6 for each new time step added.

☐ 9. IF the release was terminated, GO to ER 5.3H and COMPLETE the actions for release termination then RETURN to step 10 of this checklist.

☐ 10. SELECT the "**Accept**" button when all manual source term data entries have been completed for all time steps entered.

NOTE

Selection of the **"Perform Calculations"** button commences program calculations for an automatic forecast using only time step 1 data. "Perform Calculations" steps must be repeated for each time step entry.

☐ 11. **IF multiple time step entries are made,** CHANGE the "**Automatic forecast after real time calculation**" default setting of "**Yes**" to "**No.** Otherwise, GO to step 12.

a. CLICK the **"Perform Calculations"** button from the Main Menu. A **Real Time** ten mile map with tabulated dose data information for a 15 minute projection using time entry 1 will be displayed upon completion.

b. DO NOT PRINT the map information.

c. CLICK Continue.

d. CLICK on the **Continue Calculations** button for each time step entry made. The software will produce a new **Real Time** ten mile map with tabulated dose data information for each time entry.

e. COMPLETE steps 11b and 11c after each time entry calculation.

f. CLICK the **Return to Main Menu** button after all time entries have been completed denoted by the **Continue Calculations** button bold highlight being turned off.

g. CHECK that the "**Automatic forecast after real time calculation**" setting is "**Yes**".

h. CLICK on the **"Enter/Edit Meteorological Data"** button and ANSWER **"No"** to the question "**Do you want to add a new time step?"**

i. CLICK the **"Accept"** Button.

j. CLICK on the **"Enter/Edit Source Term Data"** button and ANSWER **"No"** to the question "**Do you want to add a new time step?"**

k. CLICK the **"Accept"** Button and COMPLETE step 12.

☐ 12. CLICK the **"Perform Calculations"** button from the Main Menu. A **Forecast** ten mile map with tabulated dose data, EAL, and PAR information for the time entry will be displayed upon completion.

☐ 13. DO NOT PRINT the map information.

☐ 14. CLICK "**Continue**".

☐ 15. ANSWER **"No"** to the query "**Do you want to save Dose Based PAR recommendations identified in this forecast calculation?**"

☐ 16. SELECT one of the following options from the "**Output Menu**" screen

a. CLICK on any of the available displays to view the results OR

b. CLICK on **"Go to Report Menu"** button.

☐ 17. CLICK on **"Print Reports and Maps"** button. The "**Raddose-V Report Selection Menu**" will be displayed.

STACK RELEASE MANUAL DATA ENTRY ACTIONS

NOTE

The **"Summary Form"** and the "**10 Mile Map"** options should be checked. The "**Follow-up Information Form**" option provides a copy of ER2.0C with the forecasted TEDE and Adult Thyroid CDE doses in mRem entered at various downwind distances.

☐ 18. SELECT any additional report options before proceeding (See Figure 7).

☐ 19. CLICK the **Print** button and COLLECT the output.

☐ 20. VERIFY data entry by reviewing page 1 of the Summary Form Report.

☐ 21. a. IF either the **AS1** (>100 mRem TEDE or 500 mRem CDE-Thyroid) OR **AG1** (>1000 mRem TEDE or 5000 mRem CDE-Thyroid) **EAL** has been reached, NOTIFY the EOF Coordinator and Response Manager.

b. IF a dose based PAR has been reached, NOTIFY the EOF Coordinator and Response Manager.

☐ 22. CLICK on the **"Return to Output Menu"** button.

☐ 23. CLICK on the "**Return to Main Menu"** button.

☐ 24. CLICK on "**Ok**" to the pop-up that says "**You just completed a forecast. Remember to check meteorological and source date for current info**."

☐ 25. CLICK on the "**Go to Start-up Menu"** button.

☐ 26. SELECT "**Save Data to Disk**" option from the Start-Up Menu.

☐ 27. SAVE the data to the P:\ SavedRaddoseData folder.

☐ 28. CLICK "**Ok**" on the pop-up that says "**Data is Saved**".

☐ 29. SELECT **"Exit Raddose V"** option from the Start-Up Menu to terminate the software.

STEAMLINE RELEASE MANUAL DATA ENTRY ACTIONS

☐ 1. MOVE the cursor to the path 1/ Monitor/Method column and DOUBLE CLICK on the field to display the available list of monitor and/or methods associated with a steam line accident condition.

☐ 2. REVIEW SDS radiological data and determine which steamline monitor is in alarm. The MPCS logger trend may be used for this purpose.

> **NOTE**
>
> Four monitor options are available - **IGM801** - MSL A steam line monitor, **IGM802 - MSL D** steam line monitor, **IGM803** - MSL B steam line monitor, **or IGM804**- MSL C steam line monitor. See Figure 2.
>
> Two methods are available - a GRAB-sample method or an unmonitored release method using field measurement data. If the unmonitored release method is required, actions are described in ER 5.3D. The GRAB sample method is described in Figure 2.

☐ 3. CHOOSE the affected steam line monitor (e.g., **IGM801**-MSL A, **IGM802** – MSL D, **IGM803**- MSL B, or **IGM804**- MSL C) and PRESS <Enter> or double click.

☐ 4. The **Steam Generator Data** pop-up box will appear requiring manual entries to the following data inquiries:

a. SELECT one of the three choices for % Ruptured S/G Compensated WR Level--using >99%, >65% and ≤ 99%, or ≤ 65%?

b. TYPE in the affected Main Steam Line Pressure in psig and PRESS <enter>.

c. IF the pressure is below 1185 psig, INDICATE whether one ASDV or SRV is open or PROVIDE the flow rate in lbm/hr.

STEAMLINE RELEASE MANUAL DATA ENTRY ACTIONS

NOTE

Relief Valve	MSL pressure (psia)	Steam Flow Rate (lbm/hr)
SRV 1	1210	8.93E5
SRV 2	1220	9.00E5
SRV 3	1230	9.08E5
SRV 4	1240	9.15E5
SRV 5	1240	9.22E5

NOTE

The magnitude and duration of a release resulting from conditions involving a MSL high alarm with EFW pump running from the affected line may not warrant dose evaluation.

d. ENTER the design based EFW flow rate value of 1.21E5 lbm/hr for conditions involving a MSL high alarm with EFW running from the affected line.

e. When finished entering data in the "pop-up" box, CLICK Continue.

☐ 5. PLACE the cursor in the monitor reading field and ENTER a 15 minute average monitor reading of mR/hr based the step 3 selection and PRESS <enter>.

☐ 6. IF greater than 15 minutes has elapsed since the release commenced, a second time step may be entered by clicking on the "**Add a new step**" button.

☐ 7. REPEAT steps 3 thru 6 for each new time step added.

☐ 8. IF the release was terminated, GO to ER 5.3 H and COMPLETE the actions for release termination then RETURN to step 9 of this checklist.

☐ 9. SELECT the "**Accept**" button when all manual source term data entries have been completed for all time steps entered.

NOTE

Selection of the **"Perform Calculations"** button commences program calculations for an automatic forecast using only time step 1 data. "Perform Calculations" steps must be repeated for each time step entry.

☐ 10. **IF multiple time step entries are made,** CHANGE the "**Automatic forecast after real time calculation**" default setting of "**Yes**" to "**No.** Otherwise, GO to step 11.

a. CLICK the **"Perform Calculations"** button from the Main Menu. A **Real Time** ten mile map with tabulated dose data information for a 15 minute projection using time entry 1 will be displayed upon completion.

b. DO NOT PRINT the map information.

c. CLICK Continue.

d. CLICK on the **Continue Calculations** button for each time step entry made. The software will produce a new **Real Time** ten mile map with tabulated dose data information for each time entry.

e. COMPLETE steps 10b and 10c after each time entry calculation.

f. CLICK the **Return to Main Menu** button after all time entries have been completed denoted by the **Continue Calculations** button bold highlight being turned off.

g. CHECK that the "**Automatic forecast after real time calculation**" setting is "**Yes**".

h. CLICK on the **"Enter/Edit Meteorological Data"** button and ANSWER **"No"** to the question "**Do you want to add a new time step?**"

i. CLICK the **"Accept"** Button.

j. CLICK on the **"Enter/Edit Source Term Data"** button and ANSWER **"No"** to the question "**Do you want to add a new time step?**"

k. CLICK the **"Accept"** Button and COMPLETE step 11.

☐ 11. CLICK the **"Perform Calculations"** button from the Main Menu. A **Forecast** ten mile map with tabulated dose data, EAL, and PAR information for the time entry will be displayed upon completion.

☐ 12. DO NOT PRINT the map information.

☐ 13. CLICK "**Continue**".

☐ 14. ANSWER **"No"** to the query "**Do you want to save Dose Based PAR recommendations identified in this forecast calculation?**"

☐ 15. SELECT one of the following options from the "**Output Menu**" screen

a. CLICK on any of the available displays to view the results OR

b. CLICK on **"Go to Report Menu"** button.

☐ 16. CLICK on **"Print Reports and Maps"** button. The "**Raddose-V Report Selection Menu**" will be displayed.

> **NOTE**
>
> The **"Summary Form"** and the **"10 Mile Map"** options should be checked. The "**Follow-up Information Form**" option provides a copy of ER2.0C with the forecasted TEDE and Adult Thyroid CDE doses in mRem entered at various downwind distances.

☐ 17. SELECT any additional report options before proceeding (See Figure 7).

☐ 18. CLICK the **Print** button and COLLECT the output.

☐ 19. VERIFY data entry by reviewing page 1 of the Summary Form Report.

☐ 20. a. IF either the **AS1** (>100 mRem TEDE or 500 mRem CDE-Thyroid) OR **AG1** (>1000 mRem TEDE or 5000 mRem CDE-Thyroid) **EAL** has been reached, NOTIFY the EOF Coordinator and Response Manager.

b. IF a dose based PAR has been reached, NOTIFY the EOF Coordinator and Response Manager.

☐ 21. CLICK on the **"Return to Output Menu"** button.

☐ 22. CLICK on the "**Return to Main Menu**" button.

☐ 23. CLICK on "**Ok**" to the pop-up that says "**You just completed a forecast. Remember to check meteorological and source date for current info.**"

☐ 24. CLICK on the "**Go to Start-up Menu**" button.

☐ 25. SELECT "**Save Data to Disk**" option from the Start-Up Menu.

☐ 26. SAVE the data to the P:\ SavedRaddoseData folder.

☐ 27 CLICK "**Ok**" on the pop-up that says "**Data is Saved**".

☐ 28. SELECT **"Exit Raddose V"** option from the Start-Up Menu to terminate the software.

CONTAINMENT RELEASE MANUAL DATA ENTRY ACTIONS

☐ 1. MOVE the cursor to the path 1/ Monitor/Method column and DOUBLE CLICK on the field to display the available list of monitor and/or methods associated with containment leakage accident condition.

☐ 2. REVIEW SDS radiological data and determine which containment monitor is in alarm. The HPC in the TSC may use the MPCS logger trend (Figure 1) for this purpose.

> **NOTE**
>
> Four monitor options are available - **1AM106** – Train A Post LOCA monitor, **1AM107** – Train B Post LOCA monitor, **1AM104** – Low range Personnel Hatch monitor, **1AM105** – High range Personnel Hatch monitor. See Figure 2.
>
> Three other methods are available - a grab sample method, a handheld method or an unmonitored release method using field measurement data. If the grab or handheld method is used, continue with the steps below. If the unmonitored release method is required, actions are described in ER 5.7D. The GRAB sample method is described in Figure 2.

☐ 3. CHOOSE monitor option **1AM106** – Train A Post LOCA monitor **or 1AM107** – Train B Post LOCA monitor as the **preferred** Monitor/Method for this release pathway, or CHOOSE **1AM104** –Low Range Personnel Hatch monitor **or 1AM105** – High Range Personnel Hatch monitor as the backup monitor method, and PRESS <**Enter**> or double click.

- IF all monitor options are unavailable, DISPATCH a Radiation Protection Technician to the personnel hatch to obtain a dose rate, SELECT handheld and ENTER the dose rate.
- IF a grab sample was obtained, SELECT grab and ENTER the data.

> **NOTE**
>
> The **Sprays and Filter Status** pop-up box will appear requiring response to data inquiries concerning the operational status of containment spray and the availability of filtration. Any bottled up release to containment or release to the secondary enclosure should be considered filtered initially. Obtain the status of the sprays and filters from the Training Center Staff or Technical Assistant in the EOF.

☐ 4. Answer the **Sprays and Filter Status** pop-up box questions.

a. SELECT either the "Yes" or "No" option to the prompt, **At least one train of containment spray is running?**

b. SELECT either the "Y**es**" or "**No**" option to the prompt, **Release filtered**?

c. When finished answering the Spray and Filter Status pop-up box questions, CLICK Continue.

☐ 5. PLACE the cursor in the monitor reading field and ENTER a 15 minute average monitor reading of R/hr based the step 3 selection and PRESS <enter>.

☐ 6. ANSWER the **Containment Leak** pop-up box questions.

a. SELECT the **Scaled Design Basis leakage using containment pressure in (psig)** option.

b. TYPE in the containment pressure in psig and PRESS <enter>.

c. When finished answering the **Containment Leak** pop-up box questions, CLICK Continue.

☐ 7. IF greater than 15 minutes has elapsed since the release commenced, a second time step may be entered by clicking on the "**Add a new step**" button.

☐ 8. REPEAT steps 3 thru 6 for each new time step added.

☐ 9. IF the release was terminated, GO to ER 5.3H and COMPLETE the actions for release termination then RETURN to step 10 of this checklist.

☐ 10. SELECT the "**Accept**" button when all automatic or manual source term data entries have been completed for all time steps entered.

NOTE

Selection of the **"Perform Calculations"** button commences program calculations for an automatic forecast using only time step 1 data. "Perform Calculations" steps must be repeated for each time step entry.

☐ 11. **IF multiple time step entries are made,** CHANGE the "**Automatic forecast after real time calculation"** default setting of "**Yes"** to "**No.** Otherwise, GO to step 12.

a. CLICK the **"Perform Calculations"** button from the Main Menu. A **Real Time** ten mile map with tabulated dose data information for a 15 minute projection using time entry 1 will be displayed upon completion.

b. DO NOT PRINT the map information.

c. CLICK Continue.

d. CLICK on the **Continue Calculations** button for each time step entry made. The software will produce a new **Real Time** ten mile map with tabulated dose data information for each time entry.

e. COMPLETE steps 11b and 11c after each time entry calculation.

f. CLICK the **Return to Main Menu** button after all time entries have been completed denoted by the **Continue Calculations** button bold highlight being turned off.

g. CHECK that the "**Automatic forecast after real time calculation**" setting is "**Yes**".

h. CLICK on the **"Enter/Edit Meteorological Data"** button and ANSWER **"No"** to the question "**Do you want to add a new time step?**"

i. CLICK the **"Accept"** Button.

j. CLICK on the **"Enter/Edit Source Term Data"** button and ANSWER **"No"** to the question "**Do you want to add a new time step?**"

k. CLICK the **"Accept"** Button and COMPLETE step 12.

☐ 12. CLICK the **"Perform Calculations"** button from the Main Menu. A **Forecast** ten mile map with tabulated dose data, EAL, and PAR information for the time entry will be displayed upon completion.

☐ 13. DO NOT PRINT the map information.

☐ 14. CLICK "**Continue**".

☐ 15. ANSWER **"No"** to the query "**Do you want to save Dose Based PAR recommendations identified in this forecast calculation?**"

☐ 16. SELECT one of the following options from the "**Output Menu**" screen

a. CLICK on any of the available displays to view the results OR

b. CLICK on **"Go to Report Menu"** button.

☐ 17. CLICK on **"Print Reports and Maps"** button. The "**Raddose-V Report Selection Menu**" will be displayed.

CONTAINMENT RELEASE MANUAL DATA ENTRY ACTIONS

NOTE

The **"Summary Form"** and the "**10 Mile Map"** options should be checked. The "**Follow-up Information Form**" option provides a copy of ER2.0C with the forecasted TEDE and Adult Thyroid CDE doses in mRem entered at various downwind distances.

☐ 18. SELECT any additional report options before proceeding (See Figure 7).

☐ 19. CLICK the **Print** button and COLLECT the output.

☐ 20. VERIFY data entry by reviewing page 1 of the Summary Form Report.

☐ 21. a. IF either the **AS1** (>100 mRem TEDE or 500 mRem CDE-Thyroid) OR **AG1** (>1000 mRem TEDE or 5000 mRem CDE-Thyroid) **EAL** has been reached, NOTIFY the EOF Coordinator and Response Manager.

b. IF a dose based PAR has been reached, NOTIFY the EOF Coordinator and Response Manager.

☐ 22. CLICK on the **"Return to Output Menu"** button.

☐ 23. CLICK on the "**Return to Main Menu"** button.

☐ 24. CLICK on "**Ok**" to the pop-up that says "**You just completed a forecast. Remember to check meteorological and source date for current info**."

☐ 25. CLICK on the "**Go to Start-up Menu"** button.

☐ 26. SELECT "**Save Data to Disk**" option from the Start-Up Menu.

☐ 27. SAVE the data to the P:\ SavedRaddoseData folder.

☐ 28. CLICK "**Ok**" on the pop-up that says "**Data is Saved**".

☐ 29. SELECT **"Exit Raddose V"** option from the Start-Up Menu to terminate the software.

RADDOSE-V RELEASE TERMINATION ACTIONS

NOTE

Having tracked a release over a period of time greater than 15 minutes and release conditions have terminated, the user must update the meteorological data before the program allows the user to terminate the release.

☐ 1. ANSWER the prompt "**Do you want to add a new step**?"

- SELECT "**Yes**".

☐ 2. PLACE the cursor in the Monitor/Method field column and DOUBLE CLICK on the field to display the list of monitor/methods.

☐ 3. CHANGE the original monitor input by double clicking on "**Direct Entry**"

☐ 4. ANSWER "**Yes**" to the prompt "**Are you sure you want to change the monitor/method?**

☐ 5. SELECT an appropriate response for any pop-up box data entry request that appears.

☐ 6. ENTER "0" for the "**NG Rel Rate (µCi/s)**" for the last time step.

☐ 7. ENTER "0" for the "**Iodine Rel Rate (µCi/s)**" for the last time step.

☐ 8. RETURN to the release pathway checklist in progress and PERFORM calculation actions.

SEABROOK STATION

ADMINISTRATIVE PROCEDURE

Protective Action Recommendations

ER 5.4

Rev. 32

Procedure Owner:
D. Currier

Contents and Revision Status

1.0 OBJECTIVES

This procedure provides guidance for determining Protective Action Recommendations (PARs) to be made to offsite authorities for the plume exposure pathway.

2.0 RESPONSIBILITIES

2.1 Response Manager

Authorizes PARs from the Emergency Operations Facility (EOF).

2.2 Site Emergency Director

Authorizes PARs prior to activation of the Emergency Operations Facility (EOF).

2.3 EOF Coordinator

Implements this procedure for the evaluation of radiological and plant data, determines PARs and provides recommendations to the Response Manager at the EOF.

2.4 Health Physics Coordinator

Implements this procedure for the evaluation of radiological and plant data, determines PARs and provides recommendations to the Site Emergency Director prior to activation of the EOF.

3.0 PRECAUTIONS

1. Notification of Protective Action Recommendations to state authorities shall be initiated within 15 minutes of determination.

2. Protective Action Recommendations should be reviewed against protective actions actually implemented prior to re-issuing an updated recommendation.

3. The Site Emergency Director should transfer his responsibility under this procedure to the Response Manager as soon as the EOF activation is complete.

4. The Health Physics Coordinator should ensure that all actions taken in accordance with this procedure are reported to the EOF Coordinator upon EOF activation.

4.0 PREREQUISITES

1. A Site Area Emergency or General Emergency has been declared.

2. The Technical Support Center (TSC) is activated.

5.0 ACTIONS

Actions are specified in appropriate position checklists contained in Procedure ER 3.1, Technical Support Center Operations, and Procedure ER 3.3, Emergency Operations Facility Operations.

6.0 REFERENCES

1. NUREG/BR-0150, Response Technical Manual

2. EPA-400, Manual of Protective Action Guides and Protective Actions for Nuclear Incidents

3. ER 2.0, Emergency Notification Documentation Forms

4. ER 3.1, Technical Support Center Operations

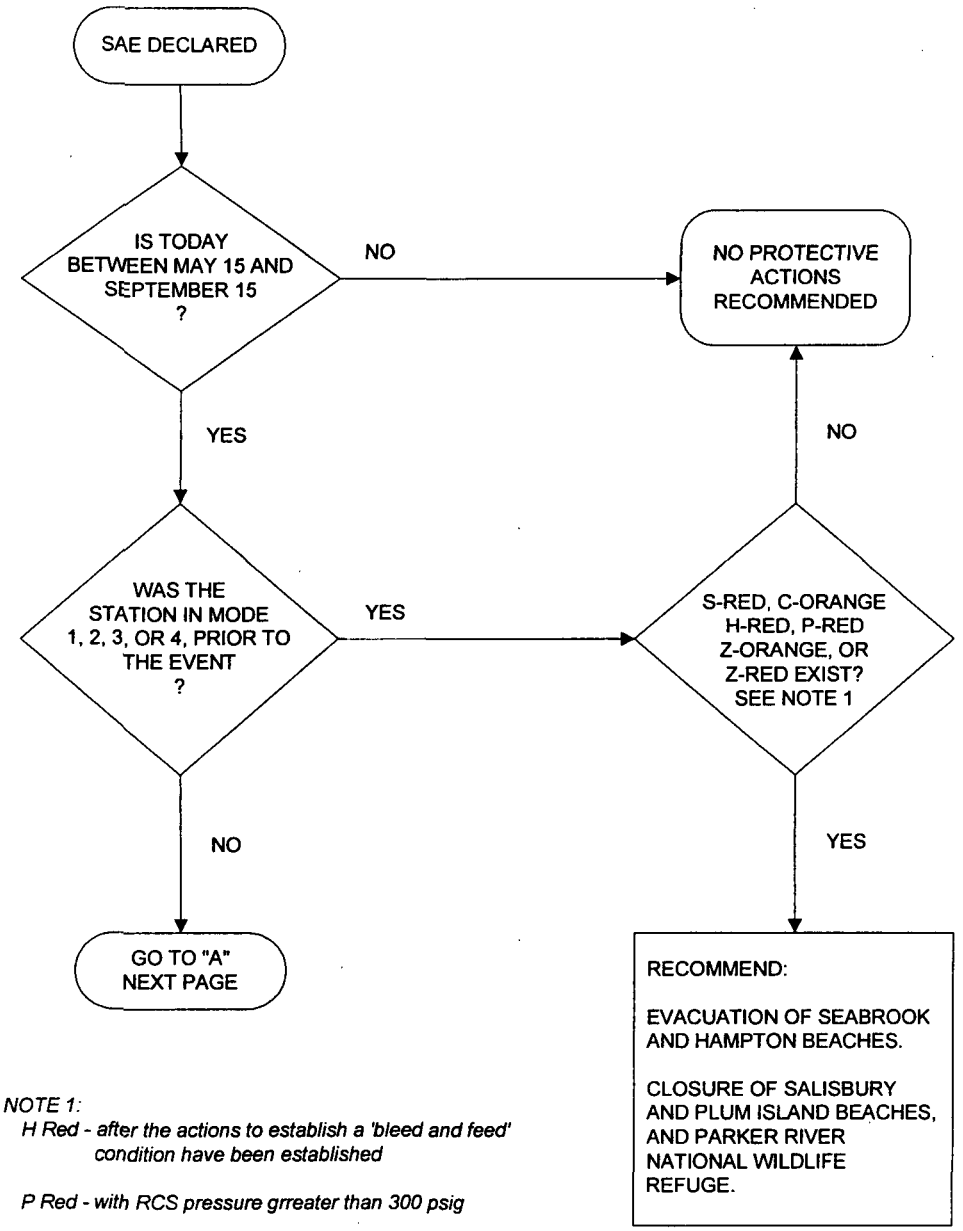
5. ER 3.3, Emergency Operations Facility Operations

6. ER 5.3, Operation of the Raddose-V

7. ER 5.7, Initial Offsite Dose Projection

8. Evacuation Time Estimate for the Seabrook Station Emergency Planning Zone

Figure 1
Site Area Emergency Protective Action Flowchart
(Sheet 1 of 2)



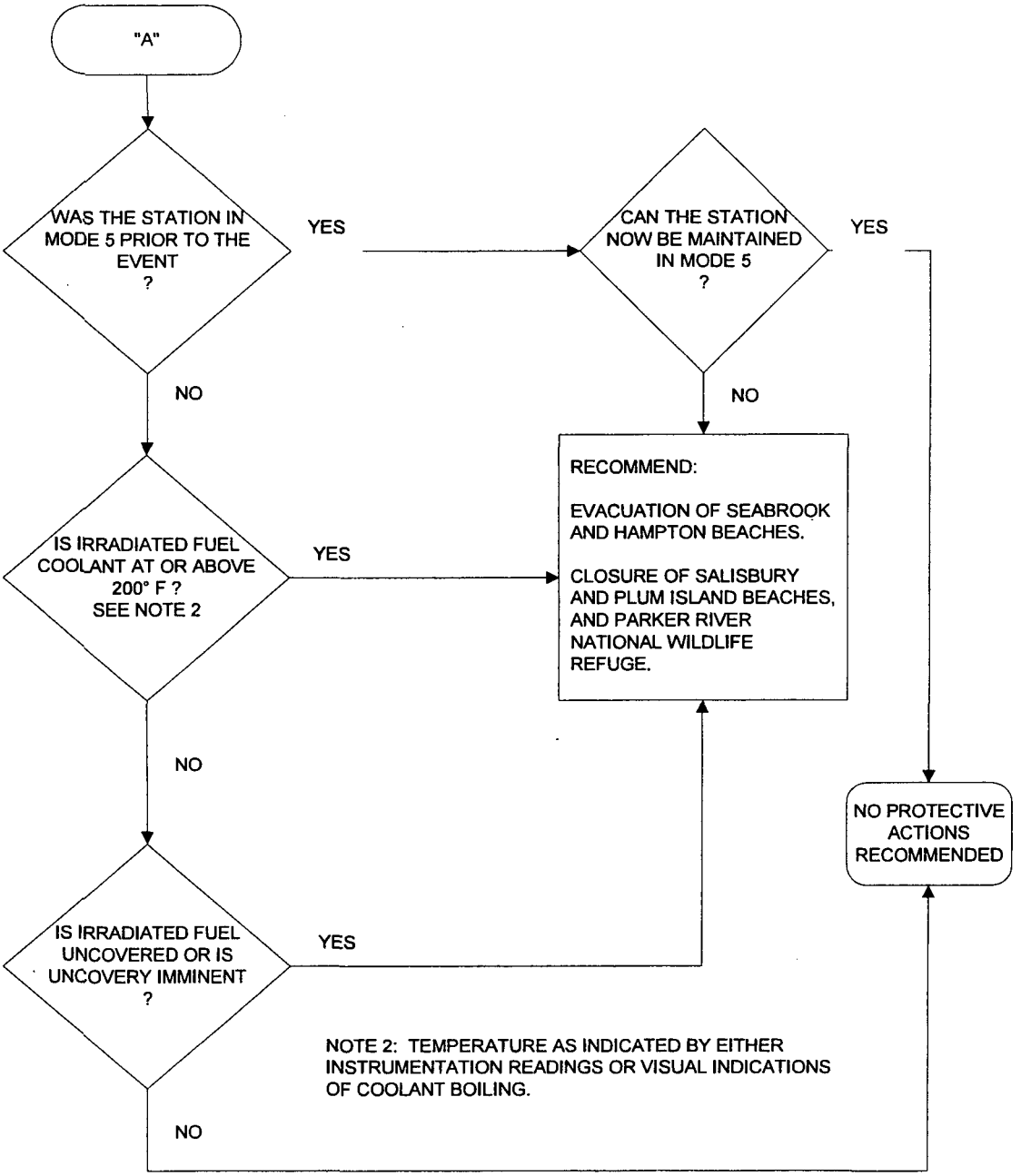
NOTE 1:
H Red - after the actions to establish a 'bleed and feed' condition have been established

P Red - with RCS pressure grreater than 300 psig

Z Orange - after transitioning out of Procedure FR-Z.1 with no CBS pump running

g:\ap_w\visio\sser\0504f1p1.vsd
(01/26/04)

Figure 1
Site Area Emergency Protective Action Flowchart
(Sheet 2 of 2))



g:\ap_w\visio\sser\0504f1p2.vsd
(01/26/04)

Figure 2
Summary of Changes

Rev. 32:

On form ER 5.4A, made listing of ERPAs and Beaches consistent with listing of ER 2.0B. (AR 222060)

Rev. 31:

Performed biennial review of the procedure.

Rev. 30:

In §6.0 changed titles of references to ER 5.3 and ER 5.7 to Operation of the Raddose-V and Initial Offsite Dose Projection, respectively.

On form ER 5.4A changed reference in Note to Raddose-V Summary Forecast report.

Rev. 29:

On form ER 5.4A, corrected references to entries on form ER 2.0B.

Rev. 28:

On Figure 1, Site Area Emergency Protective Action Recommendation (PAR) Flowchart, corrected RCS pressure setpoint for P-Red condition to read 300 psig. (CR 06-03025)

Rev. 27:

Performed a biennial review of the procedure. No changes were warranted.

Rev. 26:

In Figure 1, deleted term unmitigated from the critical safety function decision block for Site Area Emergency protective action recommendations and referenced a note that identifies expected conditions associated with H Red, P Red and Z Orange CSFs (CR 03-07740).

Rev. 25:

In form ER 5.4A, added instructions on the Plume Exposure Protective Action Recommendation (PAR) Worksheet for recommending implementation of KI plans for the general public per form ER 2.0B, Block 3.

Rev. 24:

Corrected typographical error on Figure 1.

Plume Exposure Protective Action Recommendation (PAR) Worksheet

PAR Assessment By: _____

Date: _____/_____/_____ Time: _____ am/pm

UNUSUAL EVENT

1. Recommend no protective actions.

2. Document the PAR on form ER 2.0B and return to your appropriate checklist in ER 3.1 or ER 3.3 for further actions.

ALERT

1. Recommend no protective actions.

2. Document the PAR on form ER 2.0B and return to your appropriate checklist in ER 3.1 or ER 3.3 for further actions.

SITE AREA EMERGENCY

1. Determine PARs based on Figure 1, Site Area Emergency Protective Action Flowchart.

2. Document the PAR on form ER 2.0B and return to your appropriate checklist in ER 3.1 or ER 3.3 for further actions.

GENERAL EMERGENCY

STARTS ON NEXT PAGE

Plume Exposure Protective Action Recommendation (PAR) Worksheet
(Continued)

GENERAL EMERGENCY

1. Does a verified **Core Cooling** Critical Safety Function Status Tree RED path exist?

_____ Yes - Go to Step 5 (Page 3 of 4 of this form)
_____ No - Go to Step 2
_____ Not Known - Go to Step 2

2. Does a verified **Containment** Critical Safety Function Status Tree RED path exist?

_____ Yes - Go to Step 5 (Page 3 of 4 of this form)
_____ No - Go to Step 3
_____ Not Known - Go to Step 3

3. Is the projected Total Effective Dose Equivalent (TEDE) at 5 miles downwind greater than or equal to 1,000 mrem (see Note below)?

_____ Yes - Go to Step 5 (Page 3 of 4 of this form)
_____ No - Go to Step 4
_____ Not Known - Go to Step 4

4. Is the projected Adult Thyroid Committed Dose Equivalent (CDE) at 5 miles downwind greater than or equal to 5,000 mrem (see Note below)?

_____ Yes - Go to Step 5 (Page 3 of 4 of this form)
_____ No - Go to Step 11 (Page 4 of 4 of this form)
_____ Not Known - Go to Step 11 (Page 4 of 4 of this form)

NOTE

If Raddose-V is being used for dose projections, this question should be answered by reviewing the Summary Forecast report.

Plume Exposure Protective Action Recommendation (PAR) Worksheet
(Continued)

5. If a release is in progress from the plant vent, enter the current upper wind direction. For other release pathways or non-release conditions, enter the current lower wind direction - FROM _____ degrees.

6. Identify the appropriate PAR GROUP B column based on the above wind direction to determine the towns to be evacuated and sheltered, and the beaches to be evacuated and closed.

		PAR GROUP B (Evacuate 5 Mile Radius and 10 Miles Downwind-Shelter All Others)					
		WIND DIRECTION FROM (Degrees)					
ERPA	TOWN	303-33.9	34-100.9	101-122.9	123-191.4	191.5-258.9	259-302.9
A	Seabrook	Evacuate	Evacuate	Evacuate	Evacuate	Evacuate	Evacuate
	Hampton Falls	Evacuate	Evacuate	Evacuate	Evacuate	Evacuate	Evacuate
C	Kensington	Evacuate	Evacuate	Evacuate	Evacuate	Evacuate	Evacuate
	South Hampton	Evacuate	Evacuate	Evacuate	Evacuate	Evacuate	Evacuate
D	Hampton	Evacuate	Evacuate	Evacuate	Evacuate	Evacuate	Evacuate
	North Hampton	Evacuate	Evacuate	Evacuate	Evacuate	Evacuate	Evacuate
F	Brentwood	Shelter	Evacuate	Evacuate	Evacuate	Shelter	Shelter
	East Kingston	Shelter	Evacuate	Evacuate	Evacuate	Shelter	Shelter
	Exeter	Shelter	Evacuate	Evacuate	Evacuate	Shelter	Shelter
	Newfields	Shelter	Evacuate	Evacuate	Evacuate	Shelter	Shelter
	Newton	Shelter	Evacuate	Evacuate	Evacuate	Shelter	Shelter
	Kingston	Shelter	Evacuate	Evacuate	Evacuate	Shelter	Shelter
G	Greenland	Shelter	Shelter	Shelter	Evacuate	Evacuate	Shelter
	Stratham	Shelter	Shelter	Shelter	Evacuate	Evacuate	Shelter
	Rye	Shelter	Shelter	Shelter	Evacuate	Evacuate	Shelter
	New Castle	Shelter	Shelter	Shelter	Evacuate	Evacuate	Shelter
	Portsmouth	Shelter	Shelter	Shelter	Evacuate	Evacuate	Shelter
B	Amesbury	Evacuate	Evacuate	Evacuate	Evacuate	Evacuate	Evacuate
	Salisbury	Evacuate	Evacuate	Evacuate	Evacuate	Evacuate	Evacuate
E	Merrimac	Evacuate	Evacuate	Shelter	Shelter	Shelter	Shelter
	Newburyport	Evacuate	Evacuate	Shelter	Shelter	Shelter	Shelter
	Newbury	Evacuate	Evacuate	Shelter	Shelter	Shelter	Shelter
	West Newbury	Evacuate	Evacuate	Shelter	Shelter	Shelter	Shelter
New Hampshire Beaches		Evacuate	Evacuate	Evacuate	Evacuate	Evacuate	Evacuate
Massachusetts Beaches		Close	Close	Close	Close	Close	Close

7. Check off the evacuated and sheltered towns on form ER 2.0B, Block 4.

8. Check off New Hampshire and Massachusetts beaches as evacuated and closed, respectively.

9. Check off "Implement KI plans for the general public" on form ER 2.0B, Block 4.

10. **STOP!** - Monitor and reevaluate PARs as conditions change. Return to your appropriate checklist in ER 3.1 or ER 3.3 for further actions.

Plume Exposure Protective Action Recommendation (PAR) Worksheet
(Continued)

11. If a release is in progress from the plant vent, enter the current upper wind direction. For other release pathways or non-release conditions, enter the current lower wind direction - FROM _____ degrees.

12. Identify the appropriate PAR GROUP A column based on the above wind direction to determine the towns to be evacuated and sheltered, and the beaches to be evacuated and closed.

		PAR GROUP A (Evacuate 2 Mile Radius and 5 Miles Downwind-Shelter All Others)					
		WIND DIRECTION FROM (Degrees)					
ERPA	TOWN	303-33.9	34-100.9	101-122.9	123-167.9	168-281.4	281.5-302.9
A	Seabrook	Evacuate	Evacuate	Evacuate	Evacuate	Evacuate	Evacuate
	Hampton Falls	Evacuate	Evacuate	Evacuate	Evacuate	Evacuate	Evacuate
C	Kensington	Shelter	Evacuate	Evacuate	Evacuate	Shelter	Shelter
	South Hampton	Shelter	Evacuate	Evacuate	Evacuate	Shelter	Shelter
D	Hampton	Shelter	Shelter	Shelter	Evacuate	Evacuate	Shelter
	North Hampton	Shelter	Shelter	Shelter	Evacuate	Evacuate	Shelter
F	Brentwood	Shelter	Shelter	Shelter	Shelter	Shelter	Shelter
	East Kingston	Shelter	Shelter	Shelter	Shelter	Shelter	Shelter
	Exeter	Shelter	Shelter	Shelter	Shelter	Shelter	Shelter
	Newfields	Shelter	Shelter	Shelter	Shelter	Shelter	Shelter
	Newton	Shelter	Shelter	Shelter	Shelter	Shelter	Shelter
	Kingston	Shelter	Shelter	Shelter	Shelter	Shelter	Shelter
G	Greenland	Shelter	Shelter	Shelter	Shelter	Shelter	Shelter
	Stratham	Shelter	Shelter	Shelter	Shelter	Shelter	Shelter
	Rye	Shelter	Shelter	Shelter	Shelter	Shelter	Shelter
	New Castle	Shelter	Shelter	Shelter	Shelter	Shelter	Shelter
	Portsmouth	Shelter	Shelter	Shelter	Shelter	Shelter	Shelter
B	Amesbury	Evacuate	Evacuate	Shelter	Shelter	Shelter	Shelter
	Salisbury	Evacuate	Evacuate	Shelter	Shelter	Shelter	Shelter
E	Merrimac	Shelter	Shelter	Shelter	Shelter	Shelter	Shelter
	Newburyport	Shelter	Shelter	Shelter	Shelter	Shelter	Shelter
	Newbury	Shelter	Shelter	Shelter	Shelter	Shelter	Shelter
	West Newbury	Shelter	Shelter	Shelter	Shelter	Shelter	Shelter
New Hampshire Beaches		Evacuate	Evacuate	Evacuate	Evacuate	Evacuate	Evacuate
Massachusetts Beaches		Close	Close	Close	Close	Close	Close

13. Check off the evacuated and sheltered towns on form ER 2.0B, Block 4.

14 Check off New Hampshire and Massachusetts beaches as evacuated and closed, respectively.

15 Check off "Implement KI plans for the general public" on form 2.0B, Block 4.

16. **STOP!** - Monitor and reevaluate PARs as conditions change. Return to your appropriate checklist in ER 3.1 or ER 3.3 for further actions.

SEABROOK STATION

ADMINISTRATIVE PROCEDURE

Initial Offsite Dose Projection

ER 5.7

Rev. 33

Procedure Owner:

D. Currier

Contents and Revision Status

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7.0 ATTACHMENTS

1.0 OBJECTIVES

This procedure provides instructions for the operation of Raddose-V, a software package developed to produce dispersion and offsite dose estimates during an accidental release of radioactive material. It also assists in the determination of the emergency classification level and protective action recommendations. This procedure addresses both drill and accident mode operations.

1.1 Discussion

1. Raddose-V may be run from the LAN terminals at the desks of the Shift Manager, Balance of Plant Operator, and Unit Supervisor in the Control Room and of the Work Control Supervisor in the OCC. Users in the Control Room will logon using individual IDs and passwords. Users must access the program via the Start /Programs menu.

2. Raddose-V may be run from any of the LAN terminals (i.e. Engineering Coordinator, Reactor Engineer, HP Coordinator, and Technical Services Coordinator PCs,) assigned to the TSC Operations Room. Users in the TSC will logon to the PC with the posted generic logon ID and password. Program access is available via a desktop Raddose–V icon.

3. In the event that the MPCS terminals or LAN PCs become inoperable, backup laptop computers with Raddose-V are maintained in the TSC to run the software in the manual mode. Two laptops are plugged into the LAN cabinet located in the TSC and powered from the wall cabinet adjacent to the LAN cabinet. Laptop accessories (i.e., wireless mouse, printer cables, etc) will be found in the laptop cases stored under the adjacent work station. Following loss of the LAN, a user must disconnect each laptop from both the LAN and local power connection prior to use. Users must logon with the generic logon ID and password posted on the laptop. A printer is stored in the TSC lockers, if necessary.

4. All times must be entered in 24-hour-clock notation.

5. Raddose-V automatically defaults to a release period of four hours from the initiating release condition. The TSC shall provide the technical basis for any reduced or increased release period. The final decision to change the default release period shall be authorized by the Response Manager before editing the program.

2.0 RESPONSIBILITIES

2.1 Shift Manager/Short Term Emergency Director

Performs or directs operation of the Raddose-V software in the Control Room.

2.2 Work Control Supervisor

Operates Raddose-V per direction of the Shift Manager or Short Term Emergency Director.

2.3 Health Physics Coordinator

Operates Raddose-V in the Technical Support Center (TSC).

3.0 PRECAUTIONS

1. Raddose-V is designed to automatically draw input from Network Data files (i.e., dose assessment data points identified in Figure 1). If accident conditions impact the availability of this data, Raddose-V operators will be prompted to manually enter data.

2. Manual entry of invalid data will immediately be noted by program error messages. Incorrect entries will be identified by red font. Data entry input prompts, which identify accident parameter limits, are generally provided at the bottom of each input screen.

3. Instructions are provided in Figure 2 for TSC users to access Network Data logger trend reports. These reports can assist a user in the verification of automatic MPCS data program input.

4. If using the Manual Data Entry mode and the MPCS and meteorological tower data are available, the preferred data for manual entry are the 15-minute averages. If RDMS data are used, 15-minute average data from RDMS are also preferred. IF a monitor goes into alarm between the times when 15-minute average data reports are available, the operator should enter the monitor value obtained from the MPCS or RDMS when the monitor goes into alarm.

5. Do not terminate the program in the middle of a run; this may crash the program. Return to the start-up program screen and select exit Raddose-V.

6. If multiple release points occur (i.e., both an elevated and ground release pathway in progress), the meteorological data will default to lower meteorological tower data as a conservative measure.

7. Verify that no full-scale tests of the MET tower data points have been conducted in the previous 24 hour period. I&C test results may affect data update of MPCS computer points which can impact the availability of logger trend data requiring manual input rather than network update. **(CR 07-11743)**.

8. The primary meteorological tower is supplied backup power from the station's Train A diesel generator. The backup tower is powered from sources that are different than the primary system. If facility power issues compromise either source of meteorological data, wind speed, wind direction, and stability classification still can be gathered for manual input through dispatch of I&C technician to the backup tower local recorder.

9. Carefully review Raddose forecast results to determine if either the AS1 (>100 mRem TEDE or 500 mRem CDE-Thyroid) or AG1 (>1000 mRem TEDE or 5000 mRem CDE-Thyroid) initiating condition EALs have been or are expected to be reached.

10. Seabreeze effects can occur on warm, sunny days between April and September during daylight hours. A shift of wind direction from offshore to onshore (22° clockwise to 173°) during this time period can indicate a seabreeze front passing the site. This would cause a plume to rise several hundred feet and be transported from the seabreeze front back to the shoreline. The result: little dose inland, low dose between the seabreeze front and the shoreline. Raddose-V models the plume in the inland flow and traps the plume under the Thermal Internal Boundary Layer (TIBL). Raddose-V does not model the upper level return flow. Field monitoring team deployment strategy should investigate the presence of TIBL.

4.0 PREREQUISITES

A release of radioactive material has occurred as indicated by one of the following:

1. Wide Range Gas Monitor (WRGM) high alarm (RM-6528-4),

2. Main Steam Line Monitor high alarm with an OPEN Atmospheric Steam Dump Valve (ASDV) or safety relief valve (SRV) on the affected line,

3. Main Steam Line Monitor high alarm with the steam driven EFW pump running and fed from the affected line (Steam Generators A and B),

4. The results of effluent analysis (i.e., an OCDM calculation) or site boundary monitoring indicate that a release is in progress.

5. STED/SED judgment that a radiological release has occurred and been terminated or is continuing.

5.0 ACTIONS

5.1 Network Data Entry

NOTE

Implement the following actions to activate the Raddose-V software in the Network Data Entry mode. If prompted to enter data manually, implement the actions in §5.2, Manual Data Entry.

☐ 1. ACCESS the Raddose-V software by clicking on the Raddose–V icon available on the computer desktop screen or access Raddose-V software via the Start/Programs menu. This action produces the Raddose–V Title Screen.

a. IF conducting a drill or exercise, SELECT the "**Drill Mode**" button.

b. IF responding to a declared emergency, SELECT the "**Accident Mode**".

NOTE

A pop-up box is displayed requiring user selection of either a "**Network Data Entry**" or "**Manual Data Entry**" operating mode. The default setting is "**Network Data Entry**".

☐ 2. IF station emergency conditions have not affected either LAN or Main Plant Computer System (MPCS) operability, ACCEPT the default option "**Network Data Entry**". IF not, proceed to §5.2.

☐ 3. CLICK on the "**Continue**" button producing the Start-Up Menu Screen.

☐ 4. SELECT the first menu option "**Begin New Accident**".

> **NOTE**
>
> Answering "**Yes**" to the prompt will erase all previous data.

☐ 5. CLICK "**Yes**" to continue or "**No**" to abort"

> **NOTE**
>
> Selection of the **"Begin New Accident"** option opens the "**Accident Scenario Definition Screen**". Date and time entries for both the reactor trip and release are entered automatically. These values represent the time and date that the user actually logged into the program and require manual editing.

☐ 6. ENTER the requested information in the "**Accident Scenario Definition Screen**".

☐ 7. IF a reactor trip has occurred, ACCEPT the default setting of "**Yes**".

☐ 8. IF a reactor trip has not occurred, CHANGE the setting to "**No**".

> **NOTE**
>
> The software automatically advances the time by 15 minutes based on the time entries made in the **Accident Scenario Definition Screen.** In the **Network Data Entry** option, the MPCS data may not have been compiled for release to the program, as the program log-on time is the limiting time value. To ensure that the program can automatically populate the meteorological and source term data, the user is directed to enter a release time at least 15 minutes prior to the time the release prerequisites were met. The user should monitor MPCS release data and manually enter release data that differs from the Network entry to ensure the accurate PAR is obtained.

☐ 9. EDIT the reactor trip time making sure the software format for data entry is followed.

☐ 10. ENTER a release time which is at least 15 minutes prior to the time the release prerequisites were met.

☐ 11. ENTER either CR or TSC followed by the user's initials (e.g., CRPDC or TSCPDC) to identify the user and location limiting the entry to six characters. This entry is not case sensitive.

☐ 12. DO **NOT** EDIT the default entry of **4 hours** shown for the Release Duration.

NOTE

Eastern Standard Time is in late fall, winter, and early spring months. Daylight Saving Time is during late spring, summer, and early fall months.

☐ 13. SELECT either **EST** (i.e., Eastern Standard Time) or **DST** (i.e., Daylight Saving Time) based on actual time of year.

☐ 14. SELECT "**Accept**" button to proceed to the "**Main Menu**" screen.

☐ 15. DO NOT EDIT the default setting of "**Yes**" for the **"Automatic Forecast after Real Time Calculations"** entry on the Main Menu Screen.

NOTE

The time step 1 entry displayed will always be 15 minutes post the Accident Time Definition screen release time entry.

☐ 16. CLICK on the **"Enter/Edit Meteorological Data"** option. The Meteorological Data Input Screen will be displayed.

NOTE

Answering the query yes, should automatically populate the time step 1 parameters with upper meteorological data displayed in black font. Answering the query no, should automatically populate the time step 1 parameters with lower meteorological data displayed in green font.

When I&C initiates a meteorological tower calibration per IX0654.500, the MPCS meteorological data points are unreliable causing red asterisks or question marks to be displayed.

If meteorological tower information is unavailable due to failed equipment, those points will be displayed as red asterisks or question marks.

Stability classification is calculated and entered based on the criteria defined in Figure 3.

When data has to be entered manually, it is displayed in maroon font.

If meteorological data indicate a wind shift from offshore to onshore (from 22° clockwise to 173°) on a warm sunny day, refer to Precaution 3.10.

☐ 17. ANSWER the program query.

a. SELECT "**Yes**" for Plant Vent releases.

b. SELECT "**No**" for all other release pathways.

c. PROCEED with step 19 if all parameters of the meteorological data columns are populated with data.

d. COMPLETE step 18 before proceeding if all or some parameters of meteorological data display red asterisks or question marks.

☐ 18. TERMINATE ongoing meteorological tower calibrations or RETRIEVE alternate sources of meteorological data for manual entry, if red asterisks or question marks are displayed in any of the columns.

a. RETRIEVE data from the backup meteorological tower chart recorder, or

b. CONTACT National Weather Service at (207) 688-3224 or WMUR Weather Department at (603) 641-9091, then

c. PLACE the cursor in any field filled with either red asterisks or question marks, and TYPE IN the collected meteorological information manually.

d. PRESS <ENTER> to save the entry before proceeding.

NOTE

Adding a new step will require the user to answer the same program queries required in step 17. The user must enter the same responses to the query as provided for time step 1. The second time step entry will display, advancing the time of data entry by 15 minutes.

☐ 19. If greater than 15 minutes has elapsed since the release commenced, CLICK on the "**Add a new step**" button.

☐ 20. SELECT the "**Accept**" button when all automatic or manual meteorological data entries have been completed for all time steps entered.

NOTE

Acceptance returns the user to the Main Menu Screen. Here, the user must define the event release pathway(s) via data entry to the Source Term Data Input Screen.

☐ 21. CLICK on the **"Enter/Edit Source Term Data"** option from the Main Menu Screen to open the Source Term Data Input Screen.

☐ 22. DOUBLE-CLICK in the path 1/accident type field column to display the Accident Type option box (i.e., **Stack, Steam, Cont, Unmon,** and **None**).

☐ 23. For the Accident Type to be selected, REFER to one of the following:

a. For Stack release option, ER 5.7A

b. For Steam release option, ER 5.7B

c. For Containment release option, ER 5.7C

d. For Unmonitored release option, ER 5.7D

5.2 Manual Data Entry

☐ 1. PRESS <CTRL><ALT><DELETE> to log on any of the designated Control Room LAN computers.

☐ 2. IF operating from the TSC or using dedicated laptops located in TSC, ENTER the generic SLID / password posted on the computer in lower case.

☐ 3. ACCESS the Raddose-V software by clicking on either the desktop Raddose–V icon or via the Start/Programs producing the Raddose–V Title Screen.

a. IF conducting a drill or evaluated exercise, SELECT the **"Drill Mode"**.

b. IF responding to a declared emergency, SELECT the **"Accident Mode"**.

☐ 4. SELECT the **"Manual Data Entry"** option (delete) with either loss of LAN or MPCS.

☐ 5. CLICK on the **"Continue"** button producing the Start-Up Menu Screen.

☐ 6. SELECT the first menu option **"Begin New Accident"**.

☐ 7. CLICK "**Yes**" to erase all previous data and continue or "**No**" to abort.

NOTE

Selection of the **"Begin New Accident"** option opens the "**Accident Scenario Definition Screen**". Date and time entries for both the reactor trip and release are entered automatically. These values represent the time and date that the user actually logged into the program and may require editing.

☐ 8. Respond to the prompts as follows:

☐ a. IF a reactor trip has occurred, ACCEPT the default setting of "**Yes**".

☐ b. IF a reactor trip has not occurred, CHANGE the setting to "**No**".

NOTE

The software automatically advances the time by 15 minutes based on the time entries made in the **Accident Scenario Definition Screen.**

☐ 9. EDIT the reactor trip time making sure the software format for data entry is followed.

☐ 10. ENTER a release time when release prerequisites were met making sure the software format for data entry is followed.

☐ 11. ENTER either CR or TSC followed by the user's initials (e.g., CRPDC or TSCPDC) to identify the user and location limiting the entry to six characters. This entry is not case sensitive.

☐ 12. DO **NOT** EDIT the default entry of **4 hours** shown for the Release Duration.

NOTE

Eastern Standard Time is in late fall, winter, and early spring months. Daylight Saving Time is during late spring, summer, and early fall months.

☐ 13. SELECT either **EST** (i.e., Eastern Standard Time) or **DST** (i.e., Daylight Saving Time) based on actual time of year.

☐ 14. SELECT "**Accept**" button to proceed to the "**Main Menu**" screen.

☐ 15. On the Main Menu Screen, DO NOT EDIT the default setting of "**Yes**" for the **"Automatic Forecast after Real Time Calculations"** entry.

NOTE

The time step 1 entry displayed will always be 15 minutes post the Accident Time Definition screen release time entry.

☐ 16. CLICK on the **"Enter/Edit Meteorological Data"** option. The Meteorological Data Input Screen will be displayed.

☐ 17. ANSWER the program query.

a. SELECT "**Yes**" for Plant Vent releases.

b. SELECT "**No**" for all other release pathways

NOTE

If **"Yes"** was selected for Plant Vent releases, use upper MET tower values. If **"NO"** was selected for all other release pathways, use lower MET tower values.

If using the Unmonitored Release Data Entry checklist, the user should complete steps 19 through 30 if automatic network data entry of meteorological data is not available.

If meteorological data indicate a wind shift from offshore to onshore (from 22° clockwise to 173°) on a warm sunny day, refer to Precaution 3.10.

☐ 18. PLACE the cursor in the time step 1 wind speed field.

☐ 19. ENTER the appropriate upper or lower tower value (mph) and PRESS <enter>. The cursor will move to the next field.

☐ 20. ENTER the appropriate upper or lower wind direction in degrees from which the wind is blowing and PRESS <enter>.

☐ 21. ENTER the appropriate upper or lower delta T value and PRESS <enter>.

☐ 22. REFER to Figure 3 and CONFIRM that the appropriate upper or lower delta temperature (T) value corresponds to the Pasquill Class letter. PRESS <enter>.

☐ 23. ENTER the solar radiation value (Langleys) or, if not available, REFER to Figure 3 and ENTER the appropriate default solar radiation value. PRESS <enter>.

☐ 24. ENTER the precipitation rate or, if not available, REFER to Figure 3 and ENTER the appropriate default precipitation rate value. PRESS <enter>.

☐ 25. IF greater than 15 minutes has elapsed since the release commenced, ENTER a second time step by clicking on the "**Add a new step**" button.

☐ 26. IF additional time steps are added, REPEAT steps 5.2.20 through 5.2.26 for each new time step added.

☐ 27. WHEN all manual meteorological data entries have been completed for each time step, SELECT the "**Accept**" button to return to the Main Menu screen.

☐ 28. CLICK on the **"Enter/Edit Source Term Data"** option from the Main Menu Screen and open the Source Term Data Input Screen.

NOTE

A prompt will state **"No automatic monitor data is available. Enter data manually."**

☐ 29. ANSWER the prompt by selecting "**ok**".

☐ 30. DOUBLE-CLICK in the Accident Type field for the appropriate step to display the Accident type options (i.e., **Stack, Steam, Cont, Unmon,** and **None**).

☐ 31. DOUBLE-CLICK on the appropriate Accident Type.

☐ 32. For the Accident Type selected, REFER to one of the following:

a. For Stack release manual data entry option, ER 5.7E

b. For Steam release manual data entry option, ER 5.7F

c. For Containment release manual data entry option, ER 5.7G

d. For Unmonitored release option, ER 5.7D

6.0 REFERENCES

1. ER 1.1, Classification of Emergencies

2. ER 2.0, Emergency Notification Documentation Forms Procedure

3. ER 5.4, Protective Action Recommendations

4. System Design Specification for Seabrook Station

   Raddose–V Revision 1c, January 2009.

5. Operator's Manual for Seabrook Station, Raddose– V Revision 1b, December 2008.

6. Detailed Design Manual for Seabrook Station

   Raddose–V Revision 1, November 2007.

Figure 1
Network Dose Assessment Data Points
(Sheet 1 of 2)

MPC POINTS/ RDMS CHANNEL #	DESCRIPTION	UNITS/MEASURE
C0784	Upper Wind Speed (15-Min Ave)	mph
C0783	Lower Wind Speed (15-Min Ave)	mph
C0786	Upper Wind Direction From (15-Min Ave)	deg
C0785	Lower Wind Direction From (15-Min Ave)	deg
C0788	Upper Delta Temp **El 209/43** (15-Min Ave)	F
C0787	Lower Delta Temp **El 150/43** (15-Min Ave)	F
C0790	Ambient Temp (15-Min Ave)	F
C0797	Precipitation (15-Min Total)	In
C0798	Solar Radiation (15-Min Ave)	Langley
A0215	BU Avg Wind Speed	mph
A0216	BU Avg Wind Direction From	deg
A0217	BU Wind Dir STD Deviation	deg
A0218	BU Stability Classification	
1AM106	CA Contm Post LOCA Trn A	R/hr
1AM107	CA Contm Post LOCA Trn B	R/hr
1AM104	CA Lo Range Personnel Hatch	mr/hr
1AM105	CA Hi Range Personnel Hatch	mr/hr
C5200	CA Plant Vent Operational Gas Channel	µCi/cc
1NG223	CA Plant Vent Mid Range Gas	µCi/cc
1NG224	CA Plant Vent Hi Range Gas	µCi/cc
1CC225	CA Plant Vent Disch Rate	µCi/sec
1GM801	CA Main Steam Line Loop 1	mr/hr
1GM803	CA Main Steam Line Loop 2	mr/hr
1GM804	CA Main Steam Line Loop 3	mr/hr
1GM802	CA Main Steam Line Loop 4	mr/hr
C0726	Contm Avg Press (Band)	psig
A3778	Contm Encl./Outside Atmos DP	(-) In. Wc.
D5214	ASDV A Not Full Closed	
D5215	ASDV B Not Full Closed	
D5216	ASDV C Not Full Closed	
D5217	ASDV D Not Full Closed	

Figure 1
Network Dose Assessment Data Points
(Sheet 2 of 2)

MPC POINTS/ RDMS CHANNEL #	DESCRIPTION	UNITS/MEASURE
C3145	SG A Avg Pressure Band	psig
C3146	SG B Avg Pressure Band	psig
C3147	SG C Avg Pressure Band	psig
C3148	SG D Avg Pressure Band	psig
C3145	SG A Compensated WR Level	%
C3146	SG B Compensated WR Level	%
C3147	SG C Compensated WR Level	%
C3148	SG D Compensated WR Level	%
C3000	Time after Shutdown	hr/min

Figure 2
TSC Network Logger Trend Instructions

The main plant computer logger trend is a printed report of selected plant parameters to support accident assessment, including offsite dose projections. Once enabled, the logger trend report will print out every quarter hour until the report is disabled. The logger trend may run in the background, that is, continue printing while using the main plant computer terminal to look at other parameters.

Using a main plant computer keyboard, initiate the logger trend as follows:

1. From the main menu screen, select "LOGS."
2. From the LOGS menu screen, select "FREE FORMAT."
3. Push F1 function key (ACTIVATE).
4. Enter the number "3" corresponding to TSC LOG .

Using a main plant computer keyboard, disable the logger trend as follows:

1. From the main menu screen, select "LOGS."
2. From the LOGS menu screen, select "FREE FORMAT."
3. Push F3 function key (DEACTIVATE).
4. Enter the number "3" corresponding to TSC LOG.

This log will print in the TSC RMD area.

Figure 3
Stability Classification Table

	Pasquill Classes	Upper Delta-t	Lower Delta-t
Extremely Unstable	A=1	≤ -1.74	≤ -1.12
Moderately Unstable	B=2	≥ - 1.73 to ≤ - 1.55	≥ - 1.11 to ≤ - 1.0
Slightly Unstable	C=3	≥ - 1.54 to ≤ - 1.37	≥ - 0.99 to ≤ - 0.89
Neutral	D=4	≥ - 1.36 to ≤ - 0.46	≥ - 0.88 to ≤ - 0.30
Slightly Stable	E=5	≥ - 0.45 to ≤ + 1.36	≥ - 0.29 to ≤ + 0.88
Moderately Stable	F=6	≥ + 1.37 to ≤ + 3.64	≥ + 0.89 to ≤ + 2.34
Extremely Stable	G=7	≥ +3.65	≥ +2.34

Default Solar Radiation Values (Langley/Min)

Condition	Spring	Summer	Fall	Winter
Sunny	1.2	1.4	1.0	0.8
Overcast	0.1	0.2	0.2	0.1

Default 15 Minute Precipitation Rate Values

Condition	Sunny – No Rain	Light Rain	Moderate Rain	Deluge
Precipitation Rate Inches/15 Minutes	0.00	0.01	0.05	0.15

Figure 4
Plant Vent Stack Flow Summarization

The following list represents the operating fans and respective flow rates for the various modes of plant operation. All flows are in CFM.

If a fan is shut down, assume a total stack flow reduction of 50% of the shutdown fan flow value. For example, if WAH-FN-13A is shut down, normal conditions stack flow would be 276,160- (151,620/2) (.5) =238,255 CFM. Only the fans listed below should be considered when calculating flow reductions. Smaller support fans not listed below (e.g., WAH-FN-125) should **not** be considered in a flow reduction calculation.

Normal	
CAP-FN-10	4,000
FAH-FN-124	34,000
PAH-FN-7A, B &/or C	43,340
PAH-FN-8A or B	43,200
WAH-FN-13A and B	151,620
TOTAL CFM	276,160

"A" Isolation, EAH on Recirc	
CAP-FN-10	4,000
FAH-FN-124	34,000
PAH-FN-7A, B &/or C	43,340
PAH-FN-8A or B	19,800
WAH-FN-13A and B	151,620
EAH-FN-4A or B	4,000
TOTAL CFM	256,760

Pre-Entry Purge	
CAP-FN-10	15,000
FAH-FN-124	34,000
PAH-FN-7A, B &/or C	43,340
PAH-FN-8A or B	43,200
WAH-FN-13A and B	151,620
TOTAL CFM	287,160

Refueling Purge	
CAP-FN-10	4,000
FAH-FN-124	34,000
PAH-FN-7A, B &/or C	43,340
PAH-FN-8A or B	43,200
WAH-FN-13A and B	151,620
CAP-FN-35	40,000
TOTAL CFM	316,160

Refueling	
CAP-FN-10	4,000
FAH-FN-11A or B	16,000
PAH-FN-7A, B &/or C	43,340
PAH-FN-8A or B	43,200
WAH-FN-13A and B	151,620
TOTAL CFM	258,160

Assume a minimum default value (due to the stack chimney effect) of 57,568 CFM if

1) No fans are running, or

2) The total flow rate from a plant fan alignment is less than 57,568 CFM.

NOTE

The above information was taken from the Primary Technical Data Book, located in the Control Room.

Figure 5
Summary of Changes
(Sheet 1 of 3)

Rev. 33:

In §3.0, Precautions, added a new precaution 3.4 that informs the user that the preferred MPCS and RDMS data are 15-minute averages and that if a monitor alarms between the times 15-minutes average data reports are available the user should manually enter the value from the monitor in alarm. (AR#527003)

In §4.0, identified the steam generator MSLs (A & B) that feed the turbine driven EFW pump. (AR#393055)

In §5.1, Network Data Entry, in the NOTE preceding step 9 that directs the user to enter a release time at least 15 minutes prior to the time release prerequisites are met, added a statement that says the user should monitor MPCS release data and manually enter data that may differ from the Network entry to ensure the accurate PAR is obtained. (AR#393055)

In §5.2, clarified action steps and corrected the directions and order of steps 23 through 25. (AR#527003).

On forms ER 5.7A, 5.7C, 5.7D, 5.7E, and 5.7G, added to the NOTE preceding step 4, added direction for TSC users to obtain status of containment sprays and filters from the Operations Technician.(AR#393055)

On form ER 5.7D, Unmonitored Release Data Entry Actions, added a CAUTION statement that if the release is via the waste gas system to select YES for sprays running. (AR#393055)

On form ER 5.7F, Steamline Release Manual Data Entry Actions, added to the NOTE preceding step 3 that references SDS data that RDMS data may also be used, but the nomenclature will be different. Also clarified several action steps on form ER 5.7F. (AR#527003)

Rev. 32:

In §3.0, added a new precaution 9 that explains the effects of a seabreeze condition, when it may occur and the need to consider the effects of seabreeze in field monitoring team deployment strategy. Referenced the precaution 9 in appropriate steps of the Network Date Entry and Manual Data Entry sections of the procedure. (AR#200437)

In §5.2, added to the NOTE following step 18 an explanation that upper MET tower values apply to plant vent releases and lower MET tower values apply to all other release pathways.

On forms ER 5.7C, Containment Leakage Release Network Data Entry Actions, and ER 5.7G, Containment Leakage Release Manual Data Entry Actions, revised the NOTE following step 2 and the ensuing steps to clarify actions grab sample or handheld methods are utilized.

On form ER 5.7D, Unmonitored Release Data Entry Actions, added to the NOTE following step 6 an explanation that downwind surveys are to be taken at a distance $\geq$0.6 mile from the release point (i.e., site boundary). (AR#200437)

Figure 5
Summary of Changes
(Sheet 2 of 3)

Rev. 32 (con't):

On form ER 5.7E, Stack Release Manual Data Entry Actions, added a direction in step 5 to enter a reading in mr/hr if the backup WRGM monitor option was selected. Also added a CAUTION that says the backup WRGM monitor reads in R/hr and to convert the value to mr/hr before entering in Raddose. (AR#200437)

Rev. 31:

Throughout, reformatted the procedure. The reformatted procedure delineates separate software activation actions for the network data entry mode and for the manual data entry mode. It also provides separate checklist instructions for each release pathway, for both the network data entry mode and the manual data entry mode.

In §5.1, Network Data Entry, added a CAUTION statement that says that if I&C is performing meteorological tower calibration per IX0654.500, the data points are placed in TEST and are unreliable and alternate sources of meteorological data should be considered. (CR 08-13428)

In each release pathway checklist, included a NOTE that explains options available to differentiate between the applicable monitor options available for each release pathway and the two methods that can be used by the program. Referenced directions for using the appropriate method. (CR 08-16495)

In §5.2, Manual Data Entry, referenced the solar radiation default values and precipitation rate default values in Figure 3. (CR 08-14036) Added precipitation rate default values to Figure 3.

In the steamline release pathway checklists, added an action to enter a design based EFW flow rate value for conditions involving an MSL high alarm with EFW running from the affected line.

In the containment leakage release checklists, added a instructions for implementing the hand held method if all monitor options are not available.

In the release pathway checklists for manual data entry, included instructions that allows the user to refer to SDS radiological data to determine status of monitors versus using the MPCS logger trend. (CR 08-14036).

In applicable release pathway checklists, included a NOTE pertaining to required response to data inquiries concerning operational status of containment spray and availability of filtration. (CR 08-14036)

In each release pathway checklist, inserted a NOTE statement that directs selection of the Follow-up Information Form option if TEDE and Adult CDE doses are required in mrem. (CR 08-14036)

Figure 5
Summary of Changes
(Sheet 3 of 3)

Rev. 31 (con't):

Revised form ER 5.7A, which had been canceled at Rev. 26, as Rev. 27 with a new title.

Revised form ER 5.7B, which had been canceled at Rev. 21, as Rev. 22 with a new title.

Added forms ER 5.7C through H as Rev. 00.

Rev. 30:

This procedure was completely rewritten to reflect replacement of ODPS dose assessment model with Raddose–V.

Rev. 30 Chg. 01:

Throughout the procedure, corrected the sequence of procedure steps.

Rev. 30 Chg 02:

In §5.2.10.h and §5.2.12.k corrected references to §5.4 to perform software calculations

STACK RELEASE NETWORK DATA ENTRY ACTIONS

☐ 1. MOVE the cursor in the "**Accident Type Pop-Up Box**", SELECT the **Stack** option and PRESS <**Enter**> or double click. The **Stack** selection will display in the Accident Type column.

☐ 2. MOVE the cursor to the path 1/ Monitor/Method column and DOUBLE-CLICK on the field to display the available list of monitor and/or methods associated with a stack accident condition.

> **NOTE**
>
> Five monitor options are available - **C5200**-WRGM operational channel monitor, **ING223**-WRGM mid range channel monitor, **ING224**- WRGM hi range channel monitor, **ICC225**-WRGM effluent channel monitor, **RM6495**-WRGM back-up monitor.
>
> Two methods are available - a GRAB-sample method or an unmonitored release method using field measurement data. In general, the Control Room/TSC will use the monitor options. If the unmonitored release method is required, actions are described in ER 5.7D.

☐ 3. CHOOSE either monitor option **ICC225**, WRGM Effluent Channel, or **C5200**, WRGM operational channel as the **preferred** Monitor/Method for this release pathway and PRESS <**Enter**> or double click.

> **NOTE**
>
> A **Sprays and Filter Status** pop-up box will appear requiring response to data inquiries concerning the operational status of containment spray and the availability of filtration. Any stack release or release to the containment enclosure should be considered filtered initially. In the TSC, obtain sprays and filter status from the Operations Technician.

☐ 4. ANSWER the query, "**At least one train of containment spray is running?**"

- ACCEPT the Default of "**No**" or CHANGE to "**Yes**" if conditions dictate this response

☐ 5. ANSWER the query, **Release filtered**?

- CHANGE the Default of "**No**" to "**Yes**" unless conditions dictate a different response

☐ 6. CLICK Continue. The screen will automatically populate the monitor reading and flow rate columns based on your selection in step 3.

NOTE

If greater than 15 minutes has elapsed since the release commenced, a second time step can be entered. The program queries the user similarly to that done in steps 4 and 5. The second time step entry will display advancing the time of data entry by 15 minutes. MPCS data will populate the screen for only available times.

☐ 7. CLICK on the "**Add a new step**" button, if appropriate.

☐ 8. IF the release was terminated, GO to ER 5.7H and COMPLETE the actions for release termination then RETURN to step 9 of this checklist.

☐ 9. CLICK the "**Accept**" button when all automatic or manual source term data entries have been completed for all time steps entered. Acceptance returns the user to the Main Menu Screen.

NOTE

Selection of the **"Perform Calculations"** button commences program calculations for an automatic forecast using only time step 1 data. "Perform Calculations" steps must be repeated for each time step entry.

☐ 10. **IF multiple time step entries are made,** CHANGE the "**Automatic forecast after real time calculation"** default setting of "**Yes"** to "**No.** Otherwise, GO to step 11.

a. CLICK the **"Perform Calculations"** button from the Main Menu. A **Real Time** ten mile map with tabulated dose data information for a 15-minute projection using time entry 1 will be displayed upon completion.

b. DO NOT PRINT the map information.

c. CLICK Continue.

d. CLICK on the **Continue Calculations** button for each time step entry made. The software will produce a new **Real Time** ten mile map with tabulated dose data information for each time entry.

e. COMPLETE steps 10b and 10c after each time entry calculation.

f. CLICK the **Return to Main Menu** button after all time entries have been completed denoted by the **Continue Calculations** button bold highlight being turned off.

g. CHECK that the "**Automatic forecast after real time calculation**" setting is "**Yes**".

h. CLICK on the "**Enter/Edit Meteorological Data**" button and ANSWER "**No**" to the question "**Do you want to add a new time step?**"

i. CLICK the "**Accept**" Button.

j. CLICK on the "**Enter/Edit Source Term Data**" button and ANSWER "**No**" to the question "**Do you want to add a new time step?**"

k. CLICK the "**Accept**" Button and COMPLETE step 11.

☐ 11. CLICK the "**Perform Calculations**" button from the Main Menu. A **Forecast** ten mile map with tabulated dose data, EAL, and PAR information for the time entry will be displayed upon completion.

☐ 12. DO NOT PRINT the map information.

☐ 13. CLICK "**Continue**".

☐ 14. ANSWER "**No**" to the query "**Do you want to save Dose Based PAR recommendations identified in this forecast calculation?**"

☐ 15. SELECT one of the following options from the "**Output Menu**" screen

a. CLICK on any of the available displays to view the results OR

b. CLICK on "**Go to Report Menu**" button.

☐ 16. CLICK on "**Print Reports and Maps**" button. The "**Raddose-V Report Selection Menu**" will be displayed.

NOTE

The "**Summary Form**" and the "**10 Mile Map**" options should be checked. The "**Follow-up Information Form**" option provides a copy of ER2.0C with the forecasted TEDE and Adult Thyroid CDE doses in mRem entered at various downwind distances.

☐ 17. SELECT any additional report options before proceeding.

STACK RELEASE NETWORK DATA ENTRY ACTIONS

☐ 18. CLICK the **Print** button and COLLECT the output.

☐ 19. VERIFY data entry by reviewing page 1 of the Summary Form Report.

☐ 20. a. IF either the **AS1** (>100 mRem TEDE or 500 mRem CDE-Thyroid) OR **AG1** (>1000 mRem TEDE or 5000 mRem CDE-Thyroid) **EAL** has been reached, NOTIFY the STED/Site Emergency Director.

b. IF a dose based PAR has been reached, NOTIFY the STED/Site Emergency Director.

☐ 21. CLICK on the **"Return to Output Menu"** button.

☐ 22. CLICK on the **"Return to Main Menu"** button.

☐ 23. CLICK on **"Ok"** to the pop-up that says **"You just completed a forecast. Remember to check meteorological and source date for current info."**

☐ 24. CLICK on the **"Go to Start-up Menu"** button.

☐ 25. SELECT **"Save Data to Disk"** option from the Start-Up Menu.

☐ 26. SAVE the data to the P:\ SavedRaddoseData folder.

☐ 27. CLICK **"Ok"** on the pop-up that says **"Data is Saved"**.

☐ 28. SELECT **"Exit Raddose V"** option from the Start-Up Menu to terminate the software.

STEAMLINE RELEASE NETWORK DATA ENTRY ACTIONS

☐ 1. MOVE the cursor in the "**Accident Type Pop-Up Box**", SELECT the **Steam** option and PRESS <**Enter**> or double click. The **Steam** selection will display in the Accident Type column.

☐ 2. MOVE the cursor to the path 1/ Monitor/Method column and DOUBLE CLICK on the field to display the available list of monitor and/or methods associated with a steamline accident condition.

> **NOTE**
>
> Four monitor options are available - **IGM801** - MSL A steam line monitor, **IGM802** - **MSL D** steam line monitor, **IGM803** - MSL B steam line monitor, **or IGM804**- MSL C steam line monitor.
>
> Two methods are available - a GRAB-sample method or an unmonitored release method using field measurement data. In general, the Control Room/TSC will use the monitor options. If the unmonitored release method is required, actions are described in ER 5.7D.

☐ 3. CHOOSE the affected steam line monitor (e.g., **IGM801**-MSL A, **IGM802** – MSL D, **IGM803**- MSL B, or **IGM804**- MSL C) and PRESS <Enter> or double click.

> **NOTE**
>
> The **Steam Generator Data** pop-up box will appear requiring response to ruptured generator level, pressure, and closure status of ASDV or SRV an the affected line.

☐ 4. ENTER the appropriate Ruptured S/G Compensated WR Level (%), as needed.

> **NOTE**
>
> The following conditions will significantly elevate the estimated thyroid dose and can affect both PAR and classification.
>
> - If conditions indicate that the ruptured S/G Compensated WR Level (%) exceeds 99%, two-phase flow conditions will exist.
> - If conditions indicate that the ruptured S/G Compensated WR Level (%) drops below 65%, partitioning in the generator will be affected.

☐ 5. ENTER the affected Main Steam Line Pressure as needed.

☐ 6. If the pressure is below 1185 psig, CHOOSE from the following options:

a. INDICATE whether the ASDV is open

b. INDICATE whether a SRV is open

c. ENTER in the release pathway flow rate in lbm/hr. Refer to informational Note for estimated steam flow rates at pressures greater than 1185 psig.

NOTE

Relief Valve	MSL pressure (psia)	Steam Flow Rate (lbm/hr)
SRV 1	<1210	8.93E5
SRV 1+2	<1220	9.00E5
SRV 1+2+3	<1230	9.08E5
SRV 1+2+3+4	<1240	9.15E5
SRV 1+2+3+4+5	≥1240	9.22E5

NOTE

The magnitude and duration of a release resulting from conditions involving a MSL high alarm with EFW pump running from the affected line may not warrant dose evaluation.

d. ENTER the design based EFW flow rate value of 1.21E5 lbm/hr for conditions involving a MSL high alarm with EFW running from the affected line.

☐ 7. CLICK Continue. The screen will automatically populate the monitor reading and flow rate columns based on your selection in steps 4-6.

NOTE

If greater than 15 minutes has elapsed since the release commenced, a second time step can be entered. The program queries the user similarly to that done in steps 4 thru 6. The second time step entry will display advancing the time of data entry by 15 minutes. MPCS data will populate the screen for only available times.

☐ 8. CLICK on the "**Add a new step**" button, if appropriate.

☐ 9. IF the release was terminated, GO to ER 5.7H and COMPLETE the actions for release termination then RETURN to step 10 of this checklist.

☐ 10. CLICK the "**Accept**" button when all automatic or manual source term data entries have been completed for all time steps entered. Acceptance returns the user to the Main Menu Screen.

NOTE

Selection of the **"Perform Calculations"** button commences program calculations for an automatic forecast using only time step 1 data. "Perform Calculations" steps must be repeated for each time step entry.

☐ 11. **IF multiple time step entries are made,** CHANGE the "**Automatic forecast after real time calculation"** default setting of "**Yes"** to "**No.** Otherwise, GO to step 12.

a. CLICK the **"Perform Calculations"** button from the Main Menu. A **Real Time** ten mile map with tabulated dose data information for a 15-minute projection using time entry 1 will be displayed upon completion.

b. DO NOT PRINT the map information.

c. CLICK Continue.

d. CLICK on the **Continue Calculations** button for each time step entry made. The software will produce a new **Real Time** ten mile map with tabulated dose data information for each time entry.

e. COMPLETE steps 11b and 11c after each time entry calculation.

f. CLICK the **Return to Main Menu** button after all time entries have been completed denoted by the **Continue Calculations** button bold highlight being turned off.

g. CHECK that the "**Automatic forecast after real time calculation"** setting is "**Yes".**

h. CLICK on the **"Enter/Edit Meteorological Data"** button and ANSWER **"No"** to the question "**Do you want to add a new time step?"**

i. CLICK the **"Accept"** Button.

j. CLICK on the **"Enter/Edit Source Term Data"** button and ANSWER **"No"** to the question **"Do you want to add a new time step?"**

k. CLICK the **"Accept"** Button and COMPLETE step 12.

☐ 12. CLICK the **"Perform Calculations"** button from the Main Menu. A **Forecast** ten mile map with tabulated dose data, EAL, and PAR information for the time entry will be displayed upon completion.

☐ 13. DO NOT PRINT the map information.

☐ 14. CLICK **"Continue"**.

☐ 15. ANSWER **"No"** to the query **"Do you want to save Dose Based PAR recommendations identified in this forecast calculation?"**

☐ 16. SELECT one of the following options from the **"Output Menu"** screen

a. CLICK on any of the available displays to view the results OR

b. CLICK on **"Go to Report Menu"** button.

☐ 17. CLICK on **"Print Reports and Maps"** button. The **"Raddose-V Report Selection Menu"** will be displayed.

NOTE

The **"Summary Form"** and the **"10 Mile Map"** options should be checked. The **"Follow-up Information Form"** option provides a copy of ER2.0C with the forecasted TEDE and Adult Thyroid CDE doses in mRem entered at various downwind distances.

☐ 18. SELECT any additional report options before proceeding.

☐ 19. CLICK the **Print** button and COLLECT the output.

☐ 20. VERIFY data entry by reviewing page 1 of the Summary Form Report.

STEAMLINE RELEASE NETWORK DATA ENTRY ACTIONS

☐ 21. a. IF either the **AS1** (>100 mRem TEDE or 500 mRem CDE-Thyroid) OR **AG1** (>1000 mRem TEDE or 5000 mRem CDE-Thyroid) **EAL** has been reached, NOTIFY the STED/Site Emergency Director.

b. IF a dose based PAR has been reached, NOTIFY the STED/Site Emergency Director.

☐ 22. CLICK on the **"Return to Output Menu"** button.

☐ 23. CLICK on the **"Return to Main Menu"** button.

☐ 24. CLICK on "**Ok**" to the pop-up that says "**You just completed a forecast. Remember to check meteorological and source date for current info.**"

☐ 25. CLICK on the **"Go to Start-up Menu"** button.

☐ 26. SELECT "**Save Data to Disk**" option from the Start-Up Menu.

☐ 27. SAVE the data to the P:\ SavedRaddoseData folder.

☐ 28. CLICK "**Ok**" on the pop-up that says "**Data is Saved**".

☐ 29. SELECT **"Exit Raddose V"** option from the Start-Up Menu to terminate the software.

CONTAINMENT LEAKAGE RELEASE NETWORK DATA ENTRY ACTIONS

☐ 1. MOVE the cursor in the "**Accident Type Pop-Up Box**", SELECT the **Cont** option and PRESS <**Enter**> or double click. The **CONT** selection will display in the Accident Type column.

☐ 2. MOVE the cursor to the path 1/ Monitor/Method column and DOUBLE CLICK on the field to display the available list of monitor and/or methods associated with a containment leakage accident condition.

> **NOTE**
>
> Four monitor options are available - **1AM106** – Train A Post LOCA monitor, **1AM107** – Train B Post LOCA monitor, **1AM104** – Low range Personnel Hatch monitor, **1AM105** – High range Personnel Hatch monitor.
>
> Three other methods are available - a grab sample method, a handheld method or an unmonitored release method using field measurement data. If the grab or handheld method is used, continue with the steps below. If the unmonitored release method is required, actions are described in ER 5.7D.

☐ 3. CHOOSE monitor option **1AM106** – Train A Post LOCA monitor **or 1AM107** – Train B Post LOCA monitor as the **preferred** Monitor/Method for this release pathway, or CHOOSE **1AM104** –Low Range Personnel Hatch monitor **or 1AM105** – High Range Personnel Hatch monitor as the backup monitor method, and PRESS <**Enter**> or double click.

- IF all monitor options are unavailable, DISPATCH a Radiation Protection Technician to the personnel hatch to obtain a dose rate, SELECT handheld and ENTER the dose rate.
- IF a grab sample was obtained, SELECT grab and ENTER the data.

> **NOTE**
>
> A **Sprays and Filter Status** pop-up box will appear requiring response to data inquiries concerning the operational status of containment spray and the availability of filtration. Any stack release or release to the containment enclosure should be considered filtered initially. In the TSC, obtain sprays and filter status from the Operations Technician.

☐ 4. ANSWER to the query, **At least one train of containment spray is running?**

- ACCEPT the Default of **No** or CHANGE to **Yes** if conditions dictate this response

☐ 5. ANSWER to the query, **Release filtered**?

- CHANGE the Default of **No** to **Yes** unless conditions dictate a different response

☐ 6. CLICK Continue. The screen will automatically populate the monitor reading and flow rate columns based on your selection in step 3 thru 5.

NOTE

The **Containment Leak** pop-up box will appear requiring response to data inquiries concerning estimated leak rate, hole-diameter, and whether design basis leakage at the containment pressure should be considered. The program defaults to the **Scaled Design Basis leakage using containment pressure in (psig)** option. Automatic data entry is provided for the containment pressure entry if the network is available.

☐ 7. DO **NOT** INPUT an estimated atmospheric leak rate from containment.

☐ 8. DO **NOT** INPUT an estimated hole diameter or the containment pressure.

☐ 9. SELECT the **Scaled Design Basis Leakage Using Containment Pressure** in (psig) option.

NOTE

If greater than 15 minutes has elapsed since the release commenced, a second time step can be entered. The program queries the user as it did in steps 4 thru 5. The second time step entry will display advancing the time of data entry by 15 minutes. MPCS data will populate the screen for only available times.

☐ 10. CLICK on the "**Add a new step**" button, if appropriate.

☐ 11. IF the release was terminated, GO to ER 5.7H and COMPLETE the actions for release termination then RETURN to step 12 of this checklist.

☐ 12. CLICK the "**Accept**" button when all automatic or manual source term data entries have been completed for all time steps entered. Acceptance returns the user to the Main Menu Screen.

NOTE

Selection of the **"Perform Calculations"** button commences program calculations for an automatic forecast using only time step 1 data. "Perform Calculations" steps must be repeated for each time step entry.

☐ 13. **IF multiple time step entries are made,** CHANGE the "**Automatic forecast after real time calculation**" default setting of "**Yes**" to "**No.** Otherwise, GO to step 14.

CONTAINMENT LEAKAGE RELEASE NETWORK DATA ENTRY ACTIONS

a. CLICK the **"Perform Calculations"** button from the Main Menu. A **Real Time** ten mile map with tabulated dose data information for a 15-minute projection using time entry 1 will be displayed upon completion.

b. DO NOT PRINT the map information.

c. CLICK Continue.

d. CLICK on the **Continue Calculations** button for each time step entry made. The software will produce a new **Real Time** ten mile map with tabulated dose data information for each time entry.

e. COMPLETE steps 13b and 13c after each time entry calculation.

f. CLICK the **Return to Main Menu** button after all time entries have been completed denoted by the **Continue Calculations** button bold highlight being turned off.

g. CHECK that the "**Automatic forecast after real time calculation"** setting is "**Yes".**

h. CLICK on the **"Enter/Edit Meteorological Data"** button and ANSWER **"No"** to the question "**Do you want to add a new time step?"**

i. CLICK the **"Accept"** Button.

j. CLICK on the **"Enter/Edit Source Term Data"** button and ANSWER **"No"** to the question "**Do you want to add a new time step?"**

k. CLICK the **"Accept"** Button and COMPLETE step 14.

☐ 14. CLICK the **"Perform Calculations"** button from the Main Menu. A **Forecast** ten mile map with tabulated dose data, EAL, and PAR information for the time entry will be displayed upon completion.

☐ 15. DO NOT PRINT the map information.

☐ 16. CLICK "**Continue**".

☐ 17. ANSWER **"No"** to the query "**Do you want to save Dose Based PAR recommendations identified in this forecast calculation?"**

CONTAINMENT LEAKAGE RELEASE NETWORK DATA ENTRY ACTIONS

☐ 18. SELECT one of the following options from the "**Output Menu**" screen

a. CLICK on any of the available displays to view the results OR

b. CLICK on **"Go to Report Menu"** button.

☐ 19. CLICK on **"Print Reports and Maps"** button. The "**Raddose-V Report Selection Menu**" will be displayed.

> **NOTE**
>
> The **"Summary Form"** and the "**10 Mile Map"** options should be checked. The "**Follow-up Information Form**" option provides a copy of ER2.0C with the forecasted TEDE and Adult Thyroid CDE doses in mRem entered at various downwind distances.

☐ 20. SELECT any additional report options before proceeding.

☐ 21. CLICK the **Print** button and COLLECT the output.

☐ 22. VERIFY data entry by reviewing page 1 of the Summary Form Report.

☐ 23. a. IF either the **AS1** (>100 mRem TEDE or 500 mRem CDE-Thyroid) OR **AG1** (>1000 mRem TEDE or 5000 mRem CDE-Thyroid) **EAL** has been reached, NOTIFY the STED/Site Emergency Director.

b. IF a dose based PAR has been reached, NOTIFY the STED/Site Emergency Director.

☐ 24. CLICK on the **"Return to Output Menu"** button.

☐ 25. CLICK on the "**Return to Main Menu"** button.

☐ 26. CLICK on "**Ok**" to the pop-up that says "**You just completed a forecast. Remember to check meteorological and source date for current info.**"

☐ 27. CLICK on the "**Go to Start-up Menu"** button.

☐ 28. SELECT "**Save Data to Disk**" option from the Start-Up Menu.

☐ 29. SAVE the data to the P:\ SavedRaddoseData folder.

☐ 30. CLICK "**Ok**" on the pop-up that says "**Data is Saved**".

☐ 31. SELECT **"Exit Raddose V"** option from the Start-Up Menu to terminate the software.

UNMONITORED RELEASE DATA ENTRY ACTIONS

☐ 1. MOVE the cursor in the "**Accident Type Pop-Up Box**", SELECT the **Unmon** option and PRESS <**Enter**> or double click. The **UNMON** selection will display in the Accident Type column.

☐ 2. MOVE the cursor to the path 1/ Monitor/Method column and DOUBLE CLICK on the field to display the available list of monitor and/or methods associated with an unmonitored release accident condition.

☐ 3. CHOOSE the "**Back Calculate Method**" option and PRESS <Enter> or double click.

☐

NOTE

A **Sprays and Filter Status** pop-up box will appear requiring response to data inquiries concerning the operational status of containment spray and the availability of filtration. Any stack release or release to the containment enclosure should be considered filtered initially. In the TSC, obtain sprays and filter status from the Operations Technician.

CAUTION

IF the release involves waste gas only, SELECT "**Yes**" for spray running.

4. ANSWER to the query, **At least one train of containment spray is running?**

   - ACCEPT the Default of "**No**" or CHANGE to "**Yes**" if conditions dictate this response

☐ 5. ANSWER to the query, **Release filtered**?

   - CHANGE the Default of "**No**" to "**Yes**" unless field survey results indicate the presence of particulate or iodine activity.

☐ 6. CLICK Continue.

NOTE

A second pop-up screen requires response to Back Calculate Method inquiries. To obtain this information, a Radiation Protection Technician will have to take a survey in the downwind direction at a distance $\geq$ 0.6 mile from the release point (i.e., site boundary).

UNMONITORED RELEASE DATA ENTRY ACTIONS

☐ 7. CONTACT a Radiation Protection Technician, the Health Physics Coordinator or the Radiological Controls Coordinator for the following information:

a. A site boundary closed window radiation reading in mR/hr, and

b. Approximate distance and bearing of the measurement.

☐ 8. USE the "**Distance and Bearing Option**" in the "**Select Data Entry Method**" box to input the collected information.

☐ 9. SELECT "**Ok**" to proceed.

> **NOTE**
>
> If greater than 15 minutes has elapsed since the release commenced, a second time step can be entered. The program queries the user similarly to that done in steps 4 thru 6. The user can not enter a second field team measurement.

☐ 10. CLICK on the "**Add a new step**" button, if appropriate.

☐ 11. IF the release was terminated, GO to ER 5.7H and COMPLETE the actions for release termination then RETURN to step 12 of this checklist.

☐ 12. CLICK the "**Accept**" button when all automatic or manual source term data entries have been completed for all time steps entered. Acceptance returns the user to the Main Menu Screen.

> **NOTE**
>
> Selection of the **"Perform Calculations"** button commences program calculations for an automatic forecast using only time step 1 data. "Perform Calculations" steps must be repeated for each time step entry.

☐ 13. **IF multiple time step entries are made,** CHANGE the "**Automatic forecast after real time calculation**" default setting of "**Yes**" to "**No.** Otherwise, GO to step 14.

a. CLICK the **"Perform Calculations"** button from the Main Menu. A **Real Time** ten mile map with tabulated dose data information for a 15-minute projection using time entry 1 will be displayed upon completion.

b. DO NOT PRINT the map information.

c. CLICK Continue.

d. CLICK on the **Continue Calculations** button for each time step entry made. The software will produce a new **Real Time** ten mile map with tabulated dose data information for each time entry.

e. COMPLETE steps 13b and 13c after each time entry calculation.

f. CLICK the **Return to Main Menu** button after all time entries have been completed denoted by the **Continue Calculations** button bold highlight being turned off.

g. CHECK that the "**Automatic forecast after real time calculation**" setting is "**Yes**".

h. CLICK on the **"Enter/Edit Meteorological Data"** button and ANSWER **"No"** to the question "**Do you want to add a new time step?**"

i. CLICK the **"Accept"** Button.

j. CLICK on the **"Enter/Edit Source Term Data"** button and ANSWER **"No"** to the question "**Do you want to add a new time step?**"

k. CLICK the **"Accept"** Button and COMPLETE step 14.

☐ 14. CLICK the **"Perform Calculations"** button from the Main Menu. A **Forecast** ten mile map with tabulated dose data, EAL, and PAR information for the time entry will be displayed upon completion.

☐ 15. DO NOT PRINT the map information.

☐ 16. CLICK "**Continue**".

☐ 17. ANSWER **"No"** to the query "**Do you want to save Dose Based PAR recommendations identified in this forecast calculation?**"

☐ 18. SELECT one of the following options from the "**Output Menu**" screen

a. CLICK on any of the available displays to view the results OR

b. CLICK on **"Go to Report Menu"** button.

☐ 19. CLICK on **"Print Reports and Maps"** button. The "**Raddose-V Report Selection Menu**" will be displayed.

UNMONITORED RELEASE DATA ENTRY ACTIONS

NOTE

The **"Summary Form"** and the **"10 Mile Map"** options should be checked. The **"Follow-up Information Form"** option provides a copy of ER2.0C with the forecasted TEDE and Adult Thyroid CDE doses in mRem entered at various downwind distances.

☐ 20. SELECT any additional report options before proceeding.

☐ 21. CLICK the **Print** button and COLLECT the output.

☐ 22. VERIFY data entry by reviewing page 1 of the Summary Form Report.

☐ 23. a. IF either the **AS1** (>100 mRem TEDE or 500 mRem CDE-Thyroid) OR **AG1** (>1000 mRem TEDE or 5000 mRem CDE-Thyroid) **EAL** has been reached, NOTIFY the STED/Site Emergency Director.

b. IF a dose based PAR has been reached, NOTIFY the STED/Site Emergency Director.

☐ 24. CLICK on the **"Return to Output Menu"** button.

☐ 25. CLICK on the **"Return to Main Menu"** button.

☐ 26. CLICK on **"Ok"** to the pop-up that says **"You just completed a forecast. Remember to check meteorological and source date for current info."**

☐ 27. CLICK on the **"Go to Start-up Menu"** button.

☐ 28. SELECT **"Save Data to Disk"** option from the Start-Up Menu.

☐ 29. SAVE the data to the P:\ SavedRaddoseData folder.

☐ 30. CLICK **"Ok"** on the pop-up that says **"Data is Saved"**.

☐ 31. SELECT **"Exit Raddose V"** option from the Start-Up Menu to terminate the software.

STACK RELEASE MANUAL DATA ENTRY ACTIONS

☐ 1. MOVE the cursor to the path 1/ Monitor/Method column and DOUBLE CLICK on the field to display the available list of monitor and/or methods associated with a stack accident condition.

☐ 2. REVIEW the SDS radiological data and determine which stack monitor is in alarm. The HPC in the TSC may use the MPCS logger trend (Figure 1) for this purpose.

> **NOTE**
>
> Five monitor options are available - **C5200**-WRGM operational channel monitor, **ING223**-WRGM mid range channel monitor, **ING224**- WRGM hi range channel monitor, **ICC225**-WRGM effluent channel monitor, **RM6495**-WRGM back-up monitor.
>
> Two methods are available - a GRAB-sample method or an unmonitored release method using field measurement data. In general, the Control Room/TSC will use the monitor options. If the unmonitored release method is required, actions are described in ER 5.7D.

☐ 3. If available, CHOOSE **ICC225**, WRGM Effluent Channel monitor or **C5200**, WRGM operational channel monitor as the preferred Monitor/Method and PRESS <Enter> or double click.

> **NOTE**
>
> The **Sprays and Filter Status** pop-up box will appear requiring response to data inquiries concerning the operational status of containment spray and the availability of filtration. Any stack release or release to the containment enclosure should be considered filtered initially. In the TSC, obtain sprays and filter status from the Operations Technician.

☐ 4. ANSWER the **Sprays and Filter Status** pop-up box questions.

a. SELECT either the "Yes" or "No" option to the prompt, At **least one train of containment spray is running?**

b. SELECT either the "Yes" or "No" option to the prompt, **Release filtered**?

c. When finished answering the Spray and Filter Status pop-up box questions, CLICK Continue.

CAUTION

The backup WRGM monitor reads in R/hr. If using data from the backup WRGM monitor (RM6495), convert the value to mr/hr before entering in Raddose.

☐ 5. PLACE the cursor in the monitor reading field and, per the selection in step 2, ENTER a 15-minute average monitor reading of uCi/cc, uCi/sec or (if using the backup WRGM monitor) mr/hr and PRESS <enter>.

☐ 6. PLACE the cursor in the flow rate field and using Figure 4 enter in the appropriate flow rate for the accident condition and PRESS <enter>. Entry of this information will initiate calculation of associated NG Rel and Iodine Rel rates.

☐ 7. IF greater than 15 minutes has elapsed since the release commenced, a second time step may be entered by clicking on the "**Add a new step**" button.

☐ 8. REPEAT steps 3 thru 6 for each new time step added.

☐ 9. IF the release was terminated, GO to ER 5.7H and COMPLETE the actions for release termination then RETURN to step 10 of this checklist.

☐ 10. SELECT the "**Accept**" button when all manual source term data entries have been completed for all time steps entered.

NOTE

Selection of the **"Perform Calculations"** button commences program calculations for an automatic forecast using only time step 1 data. "Perform Calculations" steps must be repeated for each time step entry.

☐ 11. **IF multiple time step entries are made,** CHANGE the "**Automatic forecast after real time calculation"** default setting of "**Yes"** to "**No.** Otherwise, GO to step 12.

a. CLICK the **"Perform Calculations"** button from the Main Menu. A **Real Time** ten mile map with tabulated dose data information for a 15-minute projection using time entry 1 will be displayed upon completion.

b. DO NOT PRINT the map information.

c. CLICK Continue.

d. CLICK on the Continue Calculations button for each time step entry made. The software will produce a new Real Time ten mile map with tabulated dose data information for each time entry.

e. COMPLETE steps 11b and 11c after each time entry calculation.

f. CLICK the **Return to Main Menu** button after all time entries have been completed denoted by the **Continue Calculations** button bold highlight being turned off.

g. CHECK that the "**Automatic forecast after real time calculation**" setting is "**Yes**".

h. CLICK on the **"Enter/Edit Meteorological Data"** button and ANSWER **"No"** to the question "**Do you want to add a new time step?**"

i. CLICK the "Accept" Button.

j. CLICK on the "Enter/Edit Source Term Data" button and ANSWER "No" to the question "Do you want to add a new time step?"

k. CLICK the "Accept" Button and COMPLETE step 12.

☐ 12. CLICK the **"Perform Calculations"** button from the Main Menu. A **Forecast** ten mile map with tabulated dose data, EAL, and PAR information for the time entry will be displayed upon completion.

☐ 13. DO NOT PRINT the map information.

☐ 14. CLICK **"Continue"**.

☐ 15. ANSWER **"No"** to the query "**Do you want to save Dose Based PAR recommendations identified in this forecast calculation?**"

☐ 16. SELECT one of the following options from the "**Output Menu**" screen

a. CLICK on any of the available displays to view the results OR

b. CLICK on **"Go to Report Menu"** button.

☐ 17. CLICK on **"Print Reports and Maps"** button. The **"Raddose-V Report Selection Menu"** will be displayed.

> **NOTE**
>
> The **"Summary Form"** and the **"10 Mile Map"** options should be checked. The **"Follow-up Information Form"** option provides a copy of ER2.0C with the forecasted TEDE and Adult Thyroid CDE doses in mRem entered at various downwind distances.

☐ 18. SELECT any additional report options before proceeding.

19. CLICK the **Print** button and COLLECT the output.

☐ 20. VERIFY data entry by reviewing page 1 of the Summary Form Report.

☐ 21. a. IF either the **AS1** (>100 mRem TEDE or 500 mRem CDE-Thyroid) OR **AG1** (>1000 mRem TEDE or 5000 mRem CDE-Thyroid) **EAL** has been reached, NOTIFY the STED/Site Emergency Director.

b. IF a dose based PAR has been reached, NOTIFY the STED/Site Emergency Director.

☐ 22. CLICK on the **"Return to Output Menu"** button.

☐ 23. CLICK on the **"Return to Main Menu"** button.

☐ 24. CLICK on **"Ok"** to the pop-up that says **"You just completed a forecast. Remember to check meteorological and source date for current info."**

☐ 25. CLICK on the **"Go to Start-up Menu"** button.

☐ 26. SELECT **"Save Data to Disk"** option from the Start-Up Menu.

☐ 27. SAVE the data to the P:\ SavedRaddoseData folder.

☐ 28. CLICK **"Ok"** on the pop-up that says **"Data is Saved"**.

☐ 29. SELECT **"Exit Raddose V"** option from the Start-Up Menu to terminate the software.

STEAMLINE RELEASE MANUAL DATA ENTRY ACTIONS

☐ 1. DOUBLE CLICK on the Monitor/Method column field to display the available list of monitor and/or methods associated with a steam line accident condition.

☐ 2. REVIEW SDS radiological data and determine which steamline monitor is in alarm. The PC in the TSC may use the MPCS logger trend (Figure 1) for this purpose.

> **NOTE**
>
> Four monitor options are available - **IGM801** - MSL A steam line monitor, **IGM802 - MSL D** steam line monitor, **IGM803** - MSL B steam line monitor, **or IGM804**- MSL C steam line monitor. RDMS data for a corresponding monitor may also be used, but the nomenclature will be different – rather than the MPCS data point RDMS identifies the affected radiation monitor.
>
> Two methods are available - a GRAB-sample method or an unmonitored release method using field measurement data. In general, the Control Room/TSC will use the monitor options.

☐ 3. CHOOSE the affected steam line monitor (e.g., **IGM801**-MSL A, **IGM802** – MSL D, **IGM803**- MSL B, or **IGM804**- MSL C) and PRESS <Enter> or double click.

☐ 4. The **Steam Generator Data** pop-up box will appear requiring manual entries to the following data inquiries:

☐ a. SELECT one of the three choices for % Ruptured S/G Compensated WR Level--using >99%, >65% and ≤99%, or ≤65%?

☐ b. TYPE in the affected Main Steam Line Pressure in psig and PRESS <enter>.

☐ c. <u>IF</u> the pressure is below 1185 psig, INDICATE whether one ASDV or SRV is open <u>or</u> PROVIDE the flow rate in lbm/hr from the table below:

NOTE

Relief Valve	MSL pressure (psia)	Steam Flow Rate (lbm/hr)
SRV 1	1210	8.93E5
SRV 2	1220	9.00E5
SRV 3	1230	9.08E5
SRV 4	1240	9.15E5
SRV 5	1240	9.22E5

NOTE

The magnitude and duration of a release resulting from conditions involving a MSL high alarm with EFW pump running from the affected line may not warrant dose evaluation.

☐ d. IF applicable, ENTER the design based EFW flow rate value of 1.21E5 lbm/hr for conditions involving a MSL high alarm with EFW running from the affected line.

☐ e. When finished entering data in the "pop-up" box, CLICK Continue.

☐ 5. PLACE the cursor in the monitor reading field and ENTER a 15-minute average monitor reading in mR/hr based the step 3 selection and PRESS <enter>.

☐ 6. IF greater than 15 minutes has elapsed since the release commenced, an additional time step may be entered as follows:

☐ a. CLICK on the "**Add a new step**" button.

☐ b. REPEAT steps 3 through 6 for each new time step.

☐ 7. IF the release was terminated, GO to ER 5.7H and COMPLETE the actions for release termination then RETURN to step 9 of this checklist.

☐ 8. SELECT the "**Accept**" button when all manual source term data entries have been completed for all time steps entered.

NOTE

Selection of the **"Perform Calculations"** button commences program calculations for an automatic forecast using only time step 1 data. "Perform Calculations" steps must be repeated for each time step entry.

☐ 9. **IF multiple time step entries are made,** CHANGE the "**Automatic forecast after real time calculation"** default setting of "**Yes"** to "**No.** Otherwise, GO to step 10.

a. CLICK the **"Perform Calculations"** button from the Main Menu. A **Real Time** ten mile map with tabulated dose data information for a 15-minute projection using time entry 1 will be displayed upon completion.

b. DO NOT PRINT the map information.

c. CLICK Continue.

d. CLICK on the **Continue Calculations** button for each time step entry made. The software will produce a new **Real Time** ten mile map with tabulated dose data information for each time entry.

e. COMPLETE steps 10b and 10c after each time entry calculation.

f. CLICK the **Return to Main Menu** button after all time entries have been completed denoted by the **Continue Calculations** button bold highlight being turned off.

g. CHECK that the "**Automatic forecast after real time calculation"** setting is "**Yes".**

h. CLICK on the **"Enter/Edit Meteorological Data"** button and ANSWER **"No"** to the question "**Do you want to add a new time step?"**

i. CLICK the **"Accept"** Button.

j. CLICK on the **"Enter/Edit Source Term Data"** button and ANSWER **"No"** to the question "**Do you want to add a new time step?"**

k. CLICK the **"Accept"** Button and COMPLETE step 11.

☐ 10. CLICK the **"Perform Calculations"** button from the Main Menu. A **Forecast** ten mile map with tabulated dose data, EAL, and PAR information for the time entry will be displayed upon completion.

☐ 11. CLICK "**Continue**". DO NOT PRINT the map information at this time.

☐ 12. ANSWER **"No"** to the query "**Do you want to save Dose Based PAR recommendations identified in this forecast calculation?**"

☐ 13. SELECT one of the following options from the "**Output Menu**" screen:

- CLICK on any of the available displays to view the results OR
- CLICK on **"Go to Report Menu"** button.

☐ 14. CLICK on **"Print Reports and Maps"** button. The "**Raddose-V Report Selection Menu**" will be displayed.

> **NOTE**
>
> The **"Summary Form"** and the "**10 Mile Map"** options should be checked. The "**Follow-up Information Form**" option provides a copy of ER2.0C with the forecasted TEDE and Adult Thyroid CDE doses in mRem entered at various downwind distances.

☐ 15. SELECT any additional report options before proceeding.

☐ 16. CLICK the **Print** button and COLLECT the output.

☐ 17. VERIFY data entry by reviewing page 1 of the Summary Form Report.

☐ 18. REVIEW the table at the end of the Summary Form Report for the following:

a. IF either the **AS1** (>100 mRem TEDE or 500 mRem CDE-Thyroid) OR **AG1** (>1000 mRem TEDE or 5000 mRem CDE-Thyroid) **EAL** value has been reached at or beyond the Site Boundary, NOTIFY the STED/Site Emergency Director.

b. IF a dose based PAR has been reached, NOTIFY the STED/Site Emergency Director.

☐ 19. CLICK on the **"Return to Output Menu"** button.

☐ 20. CLICK on the "**Return to Main Menu"** button.

STEAMLINE RELEASE MANUAL DATA ENTRY ACTIONS

☐ 21. CLICK on "**Ok**" to the pop-up that says "**You just completed a forecast. Remember to check meteorological and source date for current info**."

☐ 22. CLICK on the "**Go to Start-up Menu**" button.

☐ 23. SELECT "**Save Data to Disk**" option from the Start-Up Menu.

☐ 24. SAVE the data to the P:\ SavedRaddoseData folder.

☐ 25 CLICK "**Ok**" on the pop-up that says "**Data is Saved**".

☐ 26. SELECT **"Exit Raddose V"** option from the Start-Up Menu to terminate the software.

CONTAINMENT LEAKAGE RELEASE MANUAL DATA ENTRY ACTIONS

☐ 1. MOVE the cursor to the path 1/ Monitor/Method column and DOUBLE CLICK on the field to display the available list of monitor and/or methods associated with containment leakage accident condition.

☐ 2. REVIEW SDS radiological data and determine which containment monitor is in alarm. The HPC in the TSC may use the MPCS logger trend (Figure 1) for this purpose.

> **NOTE**
>
> Four monitor options are available - **1AM106** – Train A Post LOCA monitor, **1AM107** – Train B Post LOCA monitor, **1AM104** – Low range Personnel Hatch monitor, **1AM105** – High range Personnel Hatch monitor.
>
> Three other methods are available - a grab sample method, a handheld method or an unmonitored release method using field measurement data. If the grab sample method or the hand held method is used, continue with the steps below. If the unmonitored release method is required, actions are described in ER 5.7D.

☐ 3. CHOOSE monitor option **1AM106** – Train A Post LOCA monitor **or 1AM107** – Train B Post LOCA monitor as the **preferred** monitor method for this release pathway, or CHOOSE **1AM104** –Low Range Personnel Hatch monitor **or 1AM105** – High Range Personnel Hatch monitor as the backup monitor method, and PRESS <**Enter**> or double click.

- IF all monitor options are unavailable, DISPATCH a Radiation Protection Technician to the personnel hatch to obtain a dose rate, SELECT handheld and ENTER the dose rate.
- IF a grab sample was obtained, SELECT grab and ENTER the data.

> **NOTE**
>
> The **Sprays and Filter Status** pop-up box will appear requiring response to data inquiries concerning the operational status of containment spray and the availability of filtration. Any bottled up release to containment or release to the secondary enclosure should be considered filtered initially. In the TSC, obtain sprays and filter status from the Operations Technician.

☐ 4. ANSWER the **Sprays and Filter Status** pop-up box questions.

a. SELECT either the "Yes" or "No" option to the prompt, **At least one train of containment spray is running?**

b. SELECT either the "Yes" or "No" option to the prompt, **Release filtered**?

c. When finished answering the Spray and Filter Status pop-up box questions, CLICK Continue.

☐ 5. PLACE the cursor in the monitor reading field and ENTER a 15-minute average monitor reading of R/hr based the step 3 selection and PRESS <enter>.

☐ 6. ANSWER the **Containment Leak** pop-up box questions.

a. SELECT the **Scaled Design Basis leakage using containment pressure in (psig)** option.

b. TYPE in the containment pressure in psig and PRESS <enter>.

c. When finished answering the **Containment Leak** pop-up box questions, CLICK Continue.

☐ 7. IF greater than 15 minutes has elapsed since the release commenced, a second time step may be entered by clicking on the "**Add a new step**" button.

☐ 8. REPEAT steps 3 thru 6 for each new time step added.

☐ 9. IF the release was terminated, GO to ER 5.7H and COMPLETE the actions for release termination then RETURN to step 10 of this checklist.

☐ 10. SELECT the "**Accept**" button when all automatic or manual source term data entries have been completed for all time steps entered.

NOTE

Selection of the **"Perform Calculations"** button commences program calculations for an automatic forecast using only time step 1 data. "Perform Calculations" steps must be repeated for each time step entry.

☐ 11. **IF multiple time step entries are made,** CHANGE the "**Automatic forecast after real time calculation**" default setting of "**Yes**" to "**No.** Otherwise, GO to step 12.

a. CLICK the **"Perform Calculations"** button from the Main Menu. A **Real Time** ten mile map with tabulated dose data information for a 15-minute projection using time entry 1 will be displayed upon completion.

b. DO NOT PRINT the map information.

c. CLICK Continue.

d. CLICK on the **Continue Calculations** button for each time step entry made. The software will produce a new **Real Time** ten mile map with tabulated dose data information for each time entry.

e. COMPLETE steps 11b and 11c after each time entry calculation.

f. CLICK the **Return to Main Menu** button after all time entries have been completed denoted by the **Continue Calculations** button bold highlight being turned off.

g. CHECK that the "**Automatic forecast after real time calculation**" setting is "**Yes**".

h. CLICK on the **"Enter/Edit Meteorological Data"** button and ANSWER **"No"** to the question "**Do you want to add a new time step?**"

i. CLICK the **"Accept"** Button.

j. CLICK on the **"Enter/Edit Source Term Data"** button and ANSWER **"No"** to the question "**Do you want to add a new time step?**"

k. CLICK the **"Accept"** Button and COMPLETE step 12.

☐ 12. CLICK the **"Perform Calculations"** button from the Main Menu. A **Forecast** ten mile map with tabulated dose data, EAL, and PAR information for the time entry will be displayed upon completion.

☐ 13. DO NOT PRINT the map information.

☐ 14. CLICK "**Continue**".

☐ 15. ANSWER **"No"** to the query "**Do you want to save Dose Based PAR recommendations identified in this forecast calculation?**"

☐ 16. SELECT one of the following options from the "**Output Menu**" screen

a. CLICK on any of the available displays to view the results OR

b. CLICK on **"Go to Report Menu"** button.

☐ 17. CLICK on **"Print Reports and Maps"** button. The "**Raddose-V Report Selection Menu**" will be displayed.

NOTE

The **"Summary Form"** and the **"10 Mile Map"** options should be checked. The **"Follow-up Information Form"** option provides a copy of ER2.0C with the forecasted TEDE and Adult Thyroid CDE doses in mRem entered at various downwind distances.

☐ 18. SELECT any additional report options before proceeding.

☐ 19. CLICK the **Print** button and COLLECT the output.

☐ 20. VERIFY data entry by reviewing page 1 of the Summary Form Report.

☐ 21. a. IF either the **AS1** (>100 mRem TEDE or 500 mRem CDE-Thyroid) OR **AG1** (>1000 mRem TEDE or 5000 mRem CDE-Thyroid) **EAL** has been reached, NOTIFY the STED/Site Emergency Director.

b. IF a dose based PAR has been reached, NOTIFY the STED/Site Emergency Director.

☐ 22. CLICK on the **"Return to Output Menu"** button.

☐ 23. CLICK on the **"Return to Main Menu"** button.

☐ 24. CLICK on **"Ok"** to the pop-up that says **"You just completed a forecast. Remember to check meteorological and source date for current info."**

☐ 25. CLICK on the **"Go to Start-up Menu"** button.

☐ 26. SELECT **"Save Data to Disk"** option from the Start-Up Menu.

☐ 27. SAVE the data to the P:\ SavedRaddoseData folder.

☐ 28. CLICK **"Ok"** on the pop-up that says **"Data is Saved"**.

☐ 29. SELECT **"Exit Raddose V"** option from the Start-Up Menu to terminate the software.

RADDOSE-V RELEASE TERMINATION ACTIONS

NOTE

Having tracked a release over a period of time greater than 15 minutes and release conditions have terminated, the user must update the meteorological data before the program allows the user to terminate the release.

☐ 1. ANSWER the prompt "**Do you want to add a new step**?"

- SELECT "**Yes**".

☐ 2. PLACE the cursor in the Monitor/Method field column and DOUBLE CLICK on the field to display the list of monitor/methods.

☐ 3. CHANGE the original monitor input by double clicking on "**Direct Entry**"

☐ 4. ANSWER "**Yes**" to the prompt "**Are you sure you want to change the monitor/method?**

☐ 5. SELECT an appropriate response for any pop-up box data entry request that appears.

☐ 6. ENTER "0" for the "**NG Rel Rate (µCi/s)**" for the last time step.

☐ 7. ENTER "0" for the "**Iodine Rel Rate (µCi/s)**" for the last time step.

☐ 8. RETURN to the release pathway checklist in progress and PERFORM calculation actions.

SEABROOK STATION

ADMINISTRATIVE PROCEDURE

Recovery Planning

ER 6.0

Rev. 02

Procedure Owner:
D. Currier

Contents and Revision Status

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1.0 OBJECTIVES

This procedure provides guidance for recovery planning, for transitioning from an emergency response mode to a recovery mode and for declaring recovery in effect. The procedure identifies actions for station managers who will lead recovery planning. It provides a framework for developing recovery work plans for principal station functions having a role in recovery from a declared radiological emergency.

1.1 DISCUSSION

Implementation of recovery per this procedure is not required for every declared radiological emergency. It is required for conditions that require downgrading the emergency prior to termination as defined in the emergency response procedure checklists for the Response Manager (ER 3.3D) and the Site Emergency Director (ER 3.1B) (i.e., conditions that have resulted in significant plant damage or have had offsite radiological consequences).

Recovery planning begins when plant conditions are stable, control of the plant has been restored and the likelihood of further plant degradation or uncontrolled releases of radioactivity no longer exists. Recovery planning may commence while the emergency classification remains in effect. The Site Emergency Director is responsible for downgrading the emergency classification level and confirming that recovery prerequisites are met. The Response Manager is responsible for declaring recovery in effect per the prerequisites of this procedure following review of recovery prerequisites and corresponding conditions with offsite authorities.

The recovery work plans will rely to the extent possible on the normal station and company structure, operations and resources. Personnel who may fill positions under the recovery plan will be chosen based on their expertise and normal job functions. Personnel filling Emergency Response Organization positions may be assigned actions under the recovery plan. Their recovery responsibilities may continue when the emergency is terminated. This assignment of responsibilities provides an uninterrupted transition into the recovery phase. Vendors and experts from outside the company may also be utilized in recovery positions.

Normally, the recovery plan will be initiated when Seabrook Station emergency response facilities are staffed and operational. A part of the initial recovery organization will be located at the Emergency Operations Facility (EOF) under the direction of the Response Manager; a part will be located onsite in the Technical Support Center (TSC) under the direction of the Site Emergency Director. The Operational Support Center (OSC) may remain in operation to support recovery operations at the discretion of the Site Emergency Director.

As the emergency response facilities are deactivated and recovery operations take their place, the Response Manager position will transition to the EOF Recovery Coordinator position staffed by a Response Manager position holder designated by the Recovery Manager (Site Vice President). The Site Emergency Director position in the TSC will transition to the Onsite Recovery Coordinator position staffed by a senior plant management position holder designated by the Recovery Manager.

At a minimum, the EOF recovery organization will remain in effect until any offsite radiological contamination caused by the emergency conditions is cleaned up. The EOF organization may thereafter remain in place or be incorporated into the onsite organization to the extent it can best support onsite recovery operations at the discretion of the Recovery Manager.

In general the recovery plan does the following:

- Defines the organization, activities, resources and principal positions that will implement recovery operations to restore the plant, to the extent possible, to pre-emergency conditions.
- Identifies the potential for external assistance and their inclusion in the defined recovery organization
- Identifies the interfaces with NextEra Energy organizations, offsite emergency authorities, regulatory agencies and other appropriate organizations
- Identifies the means and methods for communicating recovery actions to company personnel and the news media.

2.0 RESPONSIBILITIES

2.1 Chief Nuclear Officer

Responsible for overall nuclear safety. Ensures availability of NextEra Energy Nuclear Division resources to support plant recovery. Ensures acceptable performance of the staff in operating, maintaining and providing technical support in the plant. Establishes any additional policies needed to deal with the event, including authorization for expenditure of funds to secure necessary recovery resources and services.

2.2 Site Vice President (Recovery Manager)

Approves recovery plans. Manages day-to-day recovery operations. Provides overall direction to the recovery organization, ensures availability of site personnel and material resources to support the recovery organization, and maintains communication with the Chief Nuclear Officer on the progress of recovery activities. Designates personnel to fill the EOF and Onsite Recovery Coordinator positions. Determines location from which long-term recovery will be directed (e.g., OCC).

2.3 Response Manager

Coordinates recovery planning with the Site Emergency Director, directs recovery planning in the Emergency Operations Facility (EOF), declares recovery in effect, and coordinates recovery planning and implementation with offsite authorities and external organizations. Upon entry into recovery, the Response Manager or a Response Manager position holder designated by the Recovery Manager becomes the EOF Recovery Coordinator reporting to the Recovery Manager.

2.4 Site Emergency Director

Determines when conditions are met to downgrade the emergency and enter recovery. Directs onsite recovery planning in the Technical Support Center and coordinates plant recovery support requirements with the Response Manager in the EOF. Determines the need to maintain the Operations Support Center in operation after ERO deactivation to support recovery activities. Upon entry into recovery, the Site Emergency Director or other senior plant management position holder designated by the Recovery Manager becomes the Onsite Recovery Coordinator reporting to the Recovery Manager.

3.0 PRECAUTIONS

None

4.0 PREREQUISITES

Prior to declaring Recovery, the following plant conditions exist:

a. Radiation levels of in-station areas are stable or are decreasing with time.

b. As appropriate to the emergency condition, the reactor and associated systems are in a safe and stable condition as indicated by the following:

   (1) The reactor is shut down and criticality controls are in effect (only if reactor shutdown was required by the emergency condition).

   (2) The core is being adequately cooled.

   (3) Control has been established over containment pressure and temperature.

   (4) An adequate heat transfer path to an ultimate heat sink has been established.

   (5) Primary system pressure is under control.

c. Any fire, flooding, earthquake or similar initiating events are either under control or have ceased.

d. Releases of radioactive material to the environment are either under control or have ceased.

e. Specified corrective emergency actions have been completed and the Station is in the appropriate operating mode, and notifications are complete.

5.0 ACTIONS

5.1 Response Manager

a. Confer with the Site Emergency Director, Technical Assistant and EOF Coordinator to determine whether actual/potential conditions warrant downgrading the emergency classification and entry into recovery.

b. If recovery is appropriate, direct the Site Emergency Director, Technical Assistant and EOF Coordinator to confer with their respective staffs and determine whether any radiological and/or operational conditions exist which would preclude entry into a recovery.

NOTE

Conditions required for declaring recovery are listed in §4.0, Prerequisites.

c. Prior to declaring recovery, initiate recovery planning in accordance with this procedure.

d. Work with EOF staff to develop an EOF recovery organization and work plan that focuses on support for the onsite recovery work plan, offsite recovery requirements (e.g., cleanup of offsite contamination) and interaction with external organizations (e.g., state and local authorities, federal authorities, industry organizations, contractors, and media).

e. Refer to Figure 1, Recovery Organization, as a guide to assigning appropriate staff to EOF recovery functions. The recovery functions illustrated on Figure 1 are examples and may be changed based on specific emergency conditions.

f. Refer EOF assigned staff to form ER 6.0A, EOF Recovery Organization Work Plan Template, for guidance for defining an EOF recovery work plan for each functional area and for assigning resources to implement the work plan. Each work plan template contains example work plan elements. Condition-specific work plan activities should be added to the template by assigned lead personnel.

(1) The recovery organization should, to the degree practical, draw upon the functional departments and capabilities of the normal NextEra Energy Nuclear Division organization to implement the work plans.

(2) As needed, new recovery organization positions may be created.

(3) ERO positions may be carried over into the recovery organization as appropriate.

(4) Consider structuring the recovery organization such that offsite impacts on station recovery activities are minimized (i.e., keeping long-term governmental, regulatory, media, public and financial interface points at the EOF).

g. The organizational structure should take into account incident specifics and consider outside support organizations such as:

(1) NextEra Energy

(2) Westinghouse

(4) Other contracted services and vendors

(5) Industry resources coordinated through INPO

h. EOF recovery organization and onsite recovery organization work plans should consider the following:

(1) maintain long-term Station stability

(2) confirm the status of systems and equipment

(3) confirm radiation and contamination conditions

(4) repair damaged systems and equipment

(5) remove contamination

(6) maintain doses to recovery personnel ALARA

(7) minimize industrial hazards to recovery personnel

(8) facilitate reentry into all Station areas

(9) provide support for plant recovery operations

(10) maintain communications with the media and the public

(11) maintain communications with State authorities

(12) maintain communications with regulatory agencies

i. Consider need for special re-entry and recovery procedures, including the following:

(1) Exposure guidelines/ALARA

(2) Work Control requirements

(3) In-plant safety practices

(4) Equipment maintenance, repair or replacement

(5) Component design changes/modifications

j. As needed, direct development, review and approval of new or revised procedures.

k. Review procedure NM 11800, Hazardous Condition Response Plan, to identify additional recovery considerations.

l. Review the proposed recovery organization, action plans, and the date and time for entry into the recovery mode with the following:

(1) NRC personnel

(2) Other federal representatives (e.g., DHS, DOE, EPA)

(3) State emergency response officials

m. Brief key ERO managers on the recovery organization, action plans, and date and time for entry into recovery.

n. Submit recovery plans to the Recovery Manager for approval.

o. When recovery is declared, announce it via ERO communications channels and direct the Emergency News Manager to communicate entry into recovery to station and company personnel.

p. Provide recovery assistance to State authorities, as requested.

q. Direct the administrative, financial and legal support necessary for the recovery organization.

5.2 Site Emergency Director

a. Review with the Response Manager conditions that will allow downgrading from the current emergency classification level and entry into recovery.

b. Confirm with TSC staff that recovery prerequisites are met:

- ✓ In-plant radiation levels are stable or decreasing
- ✓ The reactor is shut down and criticality controls are in effect (only if reactor shutdown was required by the emergency)
- ✓ The core is adequately covered and cooled
- ✓ Containment pressure and temperature are under control
- ✓ Adequate heat transfer path to an ultimate heat sink has been established
- ✓ Primary system pressure is under control
- ✓ Natural or man-made hazard initiating conditions (e.g., fire, flooding, seismic event, toxic or flammable gaseous release, security event) are under control or have ceased
- ✓ Radiation releases are under control or have ceased

- ✓ Emergency corrective actions have been completed
- ✓ Station is in appropriate operating mode
- ✓ Notifications have been completed

c. When recovery prerequisites are confirmed, notify the Response Manager and establish a date and time for downgrading the emergency and declaring entry into recovery.

NOTE

The decision whether and when to downgrade the emergency and enter recovery must be reviewed by the Response Manager with offsite authorities prior to downgrade and entry into recovery. The Response Manager will inform the Site Emergency Director when the review of recovery prerequisites and conditions for recovery with offsite authorities has been completed.

d. Prior to entering recovery, initiate onsite recovery planning per this procedure.

e. Work with the TSC staff to develop an onsite recovery organization and work plan that focuses on repairing damaged plant equipment, cleaning up emergency related contamination within the owner controlled area, and restoring the plant and the site as much as possible to pre-emergency conditions.

f. Refer to Figure 1, Recovery Organization, as a guide to assigning appropriate staff to onsite recovery functions. The recovery functions illustrated on Figure 1 are examples and may be changed based on specific emergency conditions.

g. Refer assigned staff to form ER 6.0B, Onsite Recovery Organization Work Plan Template, for guidance for defining onsite recovery work plans for each functional area and for assigning resources to implement the work plan. Each work plan template contains example work plan elements. Condition-specific work plan activities should be added to the template by assigned lead personnel.

(1) The recovery organization should, to the degree practical, draw upon the functional departments and capabilities of the normal NextEra Energy Nuclear Division organization to implement the work plans.

(2) As needed, new recovery organization positions may be created.

(3) ERO positions may be carried over into the recovery organization as appropriate.

(4) Consider structuring the recovery organization such that offsite impacts on station recovery activities are minimized (i.e., keeping long-term governmental, regulatory, media, public and financial interface points at the EOF).

h. Assign recovery personnel to identify support needs from external organizations, vendors and contractors and establish a line of communication with the EOF recovery organization to request acquisition of support resources.

i. EOF recovery organization and onsite recovery organization work plans should consider the following:

(1) maintain long-term Station stability

(2) confirm the status of systems and equipment

(3) confirm radiation and contamination conditions

(4) repair damaged systems and equipment

(5) remove contamination

(6) maintain doses to recovery personnel ALARA

(7) minimize industrial hazards to recovery personnel

(8) facilitate reentry into all Station areas

(9) provide support for plant recovery operations

(10) maintain communications with the media and the public

(11) maintain communications with State authorities

(12) maintain communications with regulatory agencies

j. Maintain personnel in the OSC until personnel requirements for implementation of recovery plans are determined.

k. Consider the need for special re-entry and recovery procedures, including the following:

(1) Exposure guidelines/ALARA

(2) Work Control requirements

(3) In-plant safety practices

(4) Equipment maintenance, repair or replacement

(5) Component design changes/modifications

l. As needed, direct development, review and approval of new or revised procedures.

m. Review procedure NM 11800, Hazardous Condition Response Plan, to identify additional recovery considerations.

n. Submit the onsite recovery plan to the Recovery Manager for approval.

o. When the decision is made to downgrade the emergency and enter recovery, make the announcement in the TSC and via announcement over the plant paging system.

6.0 REFERENCES

1. Seabrook Station Radiological Emergency Plan

2. Emergency Response Manual, ER 1.1, Classification of Emergencies

3. Emergency Response Manual, ER 3.1, Technical Support Center Operations

4. Emergency Response Manual, ER 3.2, Operational Support Center Operations

5. Emergency Response Manual, ER 3.3, Emergency Operations Facility Operations

6. Emergency Response Manual, ER 5.2, Offsite Monitoring and Environmental Sampling

7. NM 11800, Hazardous Condition Response Plan

8. 10 CFR 50.72, Immediate Notification Requirements for Operating Nuclear Power Reactors

FIGURE 1
Recovery Organization

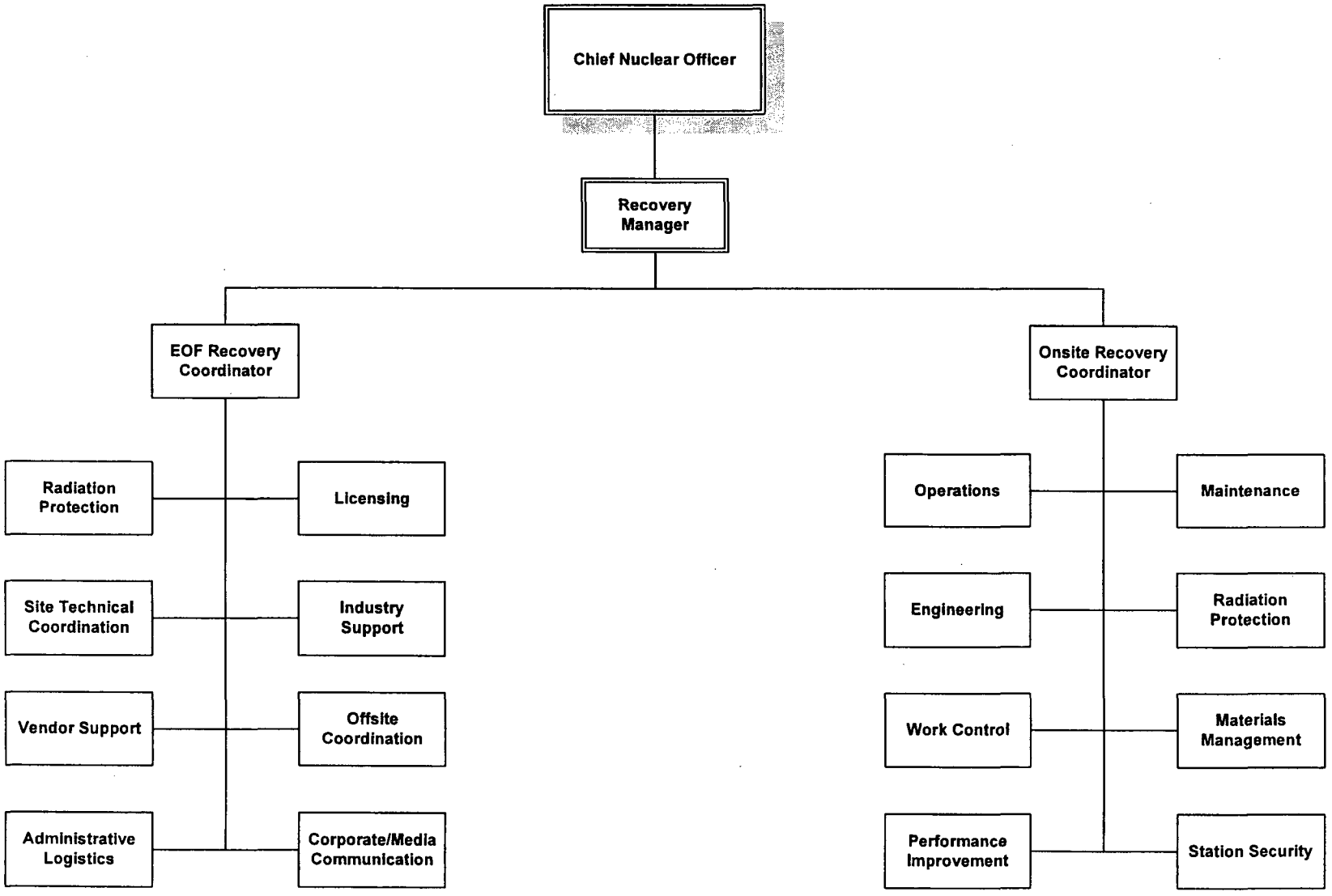

Figure 2
Summary of Changes

Rev. 02:

Revised procedure to reference NextEra Energy resources in lieu of FPL resources.

Rev. 01:

Administrative modification to document biennial review. Updated "Regulatory Programs" to "Licensing" to reflect current department name.

EOF Recovery Work Plan Template

Recovery Function	Example Recovery Function Work Plan	Assigned Resources
Radiation Protection	1. Environmental sampling 2. Offsite dose assessment 3. Coordinate with the states' environmental sampling and dose assessment 4. Support offsite decontamination and cleanup 5. Coordinate radiological waste disposal between the states and the site RP program 6. Coordinate environmental sample analysis with the states 7. Coordinate with FRMAC 8. Coordinate acquisition of industry radiation protection support resources 9. With onsite RP staff, assess radiation measuring, respiratory protection and monitoring equipment capabilities and requirements; coordinate acquisition of additional equipment and supplies with vendor support staff in the EOF 10. Establish dosimetry and whole body counting stations at a remote location.	**ERO Resources:** EOF Coordinators Dose Assessment Specialists Raddose Operators Monitoring Team Coordinators Monitoring Team Personnel **NextEra Energy Resources:** Radiation Protection supervisors and technicians **Industry Resources:** Radiation Protection technicians Contract radio-analysis services
Licensing	1. Licensee event reports 2. Ongoing coordination with NRC Site Team 3. Oversee resolution with NRC of any 50.54(x) declarations and NOED requests 4. Identify and support implementing 50.54(x) and NOED requirements for recovery 5. Document and track USFAR and technical specification commitment changes 6. Coordinate NRC entrance and exit requirements	**ERO Resources:** Licensing Coordinators **NextEra Energy Resources:** Licensing staff
Site Technical Coordination	1. Monitor and track plant operating and recovery status 2. Prepare plant status reports for offsite stakeholders 3. Liaison with onsite recovery organization to identify support requirements 4. Coordinate site support acquisition with industry and vendor support functions 5. Support briefing offsite stakeholders on plant and recovery status	**ERO Resources:** Technical Assistants Training Center Staff **NextEra Energy Resources:** Operations Training staff
Industry Support	1. Maintain communication with INPO on plant and recovery status 2. Identify industry support available via INPO 3. Identify available NextEra Energy support resources 4. Coordinate ongoing support required from AREVA, Westinghouse, other vendors 5. Coordinate acquisition of industry support with site technical coordination staff 6. Maintain communication with Joint Owners on plant and recovery status 7. Point of contact with ANI/NEIL	**ERO Resources:** Industry Liaisons **NextEra Energy Resources:** Business Systems staff Licensing staff

EOF Recovery Work Plan Template

Recovery Function	Example Recovery Function Work Plan	Assigned Resources
Vendor Support	1. Determine vendor support requirements of the onsite recovery organization from the Site Technical Coordination staff and onsite Materials Management staff 2. Coordinate acquisitions with Materials Management staff at other NextEra Energy sites 3. Maintain an open supply chain of materials to the site 4. Identify offsite warehouse and staging sites for materials needed for recovery 5. Open blanket purchase orders	**ERO Resources:** Materials and Logistics Coordinators **NextEra Energy Resources:** Materials Management staff
Offsite Coordination	1. Represent the station recovery organization in the State EOCs 2. Maintain communication of plant and recovery operations status with the states 3. Communicate states' recovery status to the EOF Recovery Organization 4. Coordinate states' recovery support needs with the EOF Recovery Organization 5. Coordinate station staff access to the plant with offsite law enforcement	**ERO Resources:** ERO Technical Liaisons State Technical Representatives **NextEra Energy Resources:** Emergency Preparedness staff
Administrative Logistics	1. Identify personnel qualified to fill recovery organization positions 2. Assign staff to recovery organization positions 3. Establish recovery organization shift schedules 4. Identify special reporting requirements of recovery personnel and communicate to the organization via Corporate Communications staff 5. Coordinate acquisition of meals, lodging, transportation and other logistical needs of the recovery organization and support resources 6. Coordinate budgeting and cost control measures for recovery operations	**ERO Resources:** Administrative Services Coordinators **NextEra Energy Resources:** Business Systems staff Human Resources staff
Corporate/Media Communications	1. Communicate ongoing recovery status and operations to station employees 2. Develop strategy for media briefings on recovery status and operations 3. Coordinate media briefings and news statements with state and federal agency public information personnel 4. Conduct media briefings and issue prepared statements as appropriate 5. Manage continued operation of the joint Media Center 6. Coordinate with FPL corporate communications and media relations staff	**ERO Resources:** Emergency News Managers Technical Advisors **NextEra Energy Resources:** FPL Communications and Media Relations staff

Onsite Recovery Work Plan Template

Recovery Function	Example Recovery Function Work Plan	Assigned Resources
Operations	1. Determine status of Operations personnel to support recovery 2. Evaluate recovery actions for impact on plant systems and equipment and maintenance of the plant in a safe configuration 3. Provide recommendations to the Onsite Recovery Coordinator on systems and equipment restoration strategies and priorities 4. Review and critique Control Room restoration and recovery actions 5. If core damage occurred, evaluate and provide recommendations concerning continued requirements for post accident sampling 6. Identify operations procedure revision requirements and oversee the procedure revision process 7. Support NRC reporting requirements carried out by EOF Licensing staff 8. Support event team root cause analysis activities	**ERO Resources:** Emergency Operations Managers Operations Technicians **NextEra Energy Resources:** Operations Training staff
Maintenance	1. Determine status of and assemble adequate Maintenance Technician personnel to perform restoration and recovery of plant systems and equipment 2. Direct plant walk-downs and inspections of structures, systems and equipment to determine extent of damage and out-of-service equipment 3. Provide the Onsite Recovery Coordinator with a status of plant equipment 4. Provide recommendations to the Onsite Recovery Coordinator on priorities for restoration and recovery of damaged and out-of-service equipment 5. Schedule supervisory personnel for 24 hour coverage to oversee repairs and corrective actions required for restoration and recovery of damaged and out-of-service equipment 6. Develop safety briefs for personnel assigned restoration and recovery actions	**ERO Resources:** Maintenance Coordinators **NextEra Energy Resources:** Maintenance Group Managers and Supervisors Industry Resources: Mechanical, Electrical and I&C Technicians
Work Control	1. Evaluate adequacy of OSC personnel to support recovery activities and need to maintain the OSC in operation 2. Track the task and location of each team deployed from the OSC 3. Plan and schedule recovery repair and restoration activities 4. Develop and monitor overall schedule of recovery projects and activities 5. Oversee preparation and completion of work orders, including a review of work orders twice in a 24 hour period to ensure emerging activities are captured 6. Work with projects staff to establish overall recovery project schedule and controls.	**ERO Resources:** TSC Work Control Supervisor **NextEra Energy Resources:** Work Week Managers Work Control staff Nuclear Projects staff

Onsite Recovery Work Plan Template

Recovery Function	Example Recovery Function Work Plan	Resources
Performance Improvement	1. Establish continuous coverage of the Corrective Action process to expedite timely disposition of corrective actions 2. Coordinate event team staffing and event team evaluation activities	**ERO Resources:** Technical Services Coordinator **NextEra Energy Resources:** Performance Improvement staff
Engineering	1. Determine status of engineering staff to support recovery operations 2. Evaluate damage to plant systems and equipment 3. Coordinate damage assessment activities with recovery Maintenance staff 4. Analyze plant system problems; determine resolution alternatives; design and coordinate modifications 5. Review existing temporary mods and re-assess them for changed plant conditions. 6. Design and coordinate installation of short-term instrument and control modifications 7. Ensure appropriate Nuclear Oversight reviews are performed on equipment modifications prior to returning systems to service 8. Analyze core conditions and develop guidance for plant technical staff on protection of the core 9. Identify vendor, contractor, and industry support requirements 10. Coordinate obtaining external engineering support with EOF Recovery staff 11. Assist Work Control with preparation of overall schedule for restoration of plant systems to operable status	**ERO Resources:** Engineering Coordinator Reactor Engineer Nuclear Safety Advisor Engineering Support staff **NextEra Energy Resources:** Nuclear Division Engineering staff
Materials Management	1. Document vendor supply requirements of the Onsite Recovery Organization 2. Evaluate need for additional heavy equipment, emergency lighting, portable generators, water, diesel fuel, etc. 3. Coordinate opening blanket purchase orders with the EOF Vendor Support staff 4. Coordinate with EOF Vendor Support staff to obtain materials support from other NextEra Energy nuclear plant sites 5. Ensure an ongoing supply chain is maintained onsite to locations where needed 6. Coordinate shipments to the site with the Security Shift Supervisor to minimize delays	**NextEra Energy resources:** Materials Management organization

Onsite Recovery Work Plan Template

Recovery Function	Example Recovery Work Plan	Resources
Station Security	1. Coordinate re-entry of personnel and equipment to the site with LLEA to ensure expedited access through offsite access control points 2. Verify that LLEA will recognize and accept Seabrook Station identification badges 3. Verify that site access routes are open, controlled, and unaffected by radiological or other hazardous conditions 4. Coordinate site access of personnel with recovery assignments with the EOF Recovery staff 5. Identify need for additional in-processing and FFD capabilities either at the EOF or on-site to facilitate access of personnel with recovery assignments	**NextEra Energy Resources**: Security Shift Supervisors Security Manager and supervisors
Radiation Protection	1. Assess onsite radiation conditions 2. Evaluate actions necessary to control and remove site contamination 3. Perform site radiological surveys 4. Assess damage to radiological effluent monitoring system equipment 5. Inventory and account for all site radiation sources 6. Inventory and account for radiological waste onsite 7. Coordinate with Radiation Protection staff in the EOF Recovery Organization for receipt and disposition of any offsite radiological waste products 8. Implement radiation exposure controls and expanded ALARA capabilities in support of recovery actions 9. Develop water processing contingencies and assess potential for expanded capabilities 10. Assess hazardous materials waste product controls and capabilities 11. Coordinate restoration of SCBA supplies and other personnel radiation protection equipment with the EOF Radiation Protection staff 12. Coordinate with EOF Radiation Protection staff and Materials Management staff to obtain additional personnel and equipment resources from NextEra Energy and industry support resources	**ERO Resources:** HP Coordinators/Radiological Controls Coordinators RP Technicians **NextEra Energy Resources;** Radiation Protection personnel