R.M. Krich
Senior Vice President, Regulatory Affairs

111 Market Place
Suite 200
Baltimore, Maryland 21202

10 CFR 50.4

UniStar NUCLEAR

December 1, 2006

ATTN: Document Control Desk
U.S. Nuclear Regulatory Commission
Washington, DC 20555-0001

UN#06-011

Subject: UniStar Nuclear, NRC Project No. 746
Submittal of the Emergency Plan Topical Report

References:

1) Letter from Joe C. Turnage (Constellation Energy) to David B. Matthews (NRC), "Notification of Intent to Submit a Combined Construction and Operating License Application: Follow-up to November 2, 2005 Meeting," dated November 4, 2005

2) Letter from George Vanderheyden (UniStar Nuclear) to David B. Matthews (NRC), "Request for Additional Combined Construction and Operating License Pre-application Interactions: Follow-up to January 25, 2006 Meeting," dated February 10, 2006

3) Letter from R. M. Krich (UniStar Nuclear) to Director, Office of Nuclear Reactor Regulation (NRC), "NRC Project No. 746, Early Submittal of Sections of the Combined License Application," dated May 18, 2006

4) Letter from R. M. Krich (UniStar Nuclear) to U.S. Nuclear Regulatory Commission, "UniStar Nuclear, NRC Project No. 746, Response to Regulatory Issue Summary 2006-006, New Reactor Standardization Needed to Support the Design-Centered Licensing Review Approach," dated July 13, 2006

UniStar Nuclear formally notified the NRC in its letter of November 4, 2005 (Reference 1) of its intention to submit a Combined License (i.e., COL) application under 10 CFR 52, "Early Site Permits; Standard Design Certifications; and Combined Licenses for Nuclear Power Plants," for a new nuclear construction project within the upcoming years. In a subsequent letter (Reference 2), UniStar Nuclear documented its plans, as agreed with the NRC during a meeting on January 25, 2006, to submit pre-application materials for review by the NRC. In fact, our

D079

February 10, 2006 letter identified the Emergency Plan as a long-review item and one of a number of topical areas to be the focus for a pre-application submittal. On May 2, 2006, UniStar Nuclear met with the NRC to present its plans for pre-application submittals, including the UniStar Nuclear Emergency Plan. The NRC documented its summary of this meeting in, "Summary of the May 2, 2006, Category 1 Meeting with UniStar Nuclear to Discuss Plans for a Constellation Combined License Application," dated May 25, 2006. By letter dated May 18, 2006 (Reference 3), UniStar Nuclear reiterated its schedule for submittal of pre-application material, specifying the fourth quarter, 2006, as the time frame for submittal of the Emergency Plan. Finally, as stated in our response to Regulatory Issue Summary (RIS) 2006-06 (Reference 4), UniStar Nuclear represents the Design-Centered Working Group (DCWG) for the U.S. Evolutionary Power Reactor (EPR) and as such intended to submit COL related pre-application submittals that were identified during meetings between UniStar Nuclear and NRC on January 10, 2006 and May 2, 2006, as well as the May 18, 2006 letter from UniStar Nuclear to the NRC. Therefore, as committed, UniStar Nuclear in its role as representing the U.S. EPR DCWG is submitting the Emergency Plan Topical Report under the NRC licensing topical report program for NRC review and acceptance for referencing in U.S. EPR COL application licensing actions. Accordingly, proposed revision 0 of UN-TR-06-003 (NP), "UniStar Nuclear Emergency Plan Topical Report," dated December 2006, a non-proprietary report, is enclosed. An approval date based on expected need will be addressed later. The topical report abstract is provided by the section entitled "Purpose."

The Emergency Plan Topical Report meets the four criteria in the NRC's NRR Office Instruction, "Processing Requests for Reviews of Topical Reports," LIC-500, Revision 3, for the NRC to accept it for review. Specifically, the four criteria are met as described below. 1) The Emergency Plan Topical Report deals with the specific safety-related subject of the emergency preparedness program for all U.S. EPRs for which a COL application will be submitted to the NRC. It is an established fact that the Emergency Plan requires a safety assessment by the NRC staff, and as noted above, the Emergency Plan Topical Report submitted by this letter can be evaluated by the NRC independently of a specific U.S. EPR COL application. 2) The Emergency Plan Topical Report will be referenced or included in all U.S. EPR COL applications. As is done for other topical reports, the specific COL application will either reference the Emergency Plan Topical Report and provide the needed site-specific information, or include the Emergency Plan Topical Report as part of the submitted COL application with the site-specific information filled in. 3) The Emergency Plan Topical Report is a complete and detailed emergency plan for a U.S. EPR with the only exception being the site-specific information that would be submitted with a specific COL application. 4) Since all U.S. EPRs will either reference or include the Emergency Plan Topical Report in the reference COL application (R-COLA) and subsequent COL applications (S-COLAs) as described above, the NRC would need only confirm that the site-specific information does not invalidate or otherwise change the commitments in the Topical Report. Such a confirmation would involve significantly less resources than if the NRC had to perform a complete review of each Emergency Plan submitted as part of the R-COLA or the S-COLAs. A listing of emergency plan site-specific requirements which would be provided as part of an R-COLA or S-COLA submittal is provided in Enclosure 2.

The general organization and content of the enclosed Emergency Plan Topical Report was discussed with NRC representatives during a teleconference conducted on November 27, 2006.

If you have any questions or need additional information, please contact me at (410) 230-4892.

Respectfully,

R. M. Krich

Enclosures:

1. Proposed Revision 0 of the UniStar Nuclear Emergency Plan Topical Report, UN-TR-06-003 (NP)

2. U.S. EPR Emergency Plan Site Specific Information Requirements

cc: NRC Project Manager, U.S. EPR COL Application (w/3 copies of enclosures)
NRC Project Manager, U.S. EPR Design Certification Application (w/o enclosures)

ENCLOSURE 1

Proposed Revision 0 of the UniStar Nuclear Emergency Plan Topical Report, UN-TR-06-003 (NP)

Topical Report No. UN-TR-06-003 (NP)

EMERGENCY PLAN TOPICAL REPORT

UniStar Nuclear

Revision 0

Approved by _____ Date _____

R. M. Krich
Senior Vice President, Regulatory Affairs

December 2006

Table of Contents

Section **Page**

Part I: INTRODUCTION

A: Purpose ..... Part 1, 1
B: Background ..... Part 1, 2
C: Scope ..... Part 1, 3
D: Planning Basis ..... Part 1, 3
E: Contiguous - Jurisdiction Governmental Emergency Planning ..... Part 1, 4
F: Integrated Guidance and Criteria ..... Part 1, 4
G: Funding and Technical Assistance ..... Part 1, 4
H: Emergency Response Organization ..... Part 1, 4
I: Federal Response ..... Part 1, 5
J: Form and Content of Plan ..... Part 1, 5

Part II: PLANNING STANDARDS AND CRITERIA

Section A: Assignment of Responsibility 1

1. Concept of Operations 1
2. State and County Functions and Responsibilities 8
3. Agreements in Planning Effort 8
4. Continuous Coverage 8

Section B: Emergency Response Organization 1

1. On-Shift Emergency Response Organization Assignments 1
2. Authority Over the Emergency Response Organization 2
3. Criteria for Assuming Command and Control (Succession) 3
4. Non-Delegable Responsibilities 4
5. Emergency Response Organization Positional Responsibilities 5
6. Emergency Response Organization Block Diagram 33
7. Offsite Emergency Response Organization 33
8. Industry/Private Support Organizations 34
9. Supplemental Emergency Assistance to the ERO 36

Section C: Emergency Response Support and Resources 1

1. Federal Response Support and Resources 1
2. Liaisons 1
3. Radiological Laboratories 2
4. Other Assistance 2

Section D: Emergency Classification System 1

1. Emergency Classification System 1
2. Emergency Action Levels 5
3. Offsite Classification Systems 6
4. Offsite Emergency Procedures 6

Table of Contents

Section **Page**

Section E: Notification Methods and Procedures 1

1. Bases for Emergency Response Organization Notification 1
2. Notification and Mobilization of Emergency Response Personnel 1
3. Initial Notification Messages 3
4. Follow-up Messages 4
5. State and County Information Dissemination 5
6. Notification of the Public 5
7. Messages to the Public 6

Section F: Emergency Communications 1

1. Communications/Notifications 1
2. Medical Communications 4
3. Communications Testing 4

Section G: Public Education and Information 1

1. Public Information Publication 1
2. Public Education Materials 1
3. Media Accommodations 2
4. Coordination of Public Information 3
5. Media Orientation 3

Section H: Emergency Facilities and Equipment 1

1. Control Room, Technical Support Center, and Operations Support Center 1
2. Emergency Operations Facility (EOF) 4
3. Emergency Operations Centers 5
4. Activation 5
5. Monitoring Equipment Onsite 6
6. Monitoring Equipment Offsite 9
7. Offsite Monitoring Equipment Storage 10
8. Meteorological Monitoring 10
9. OSC Capabilities 10
10. Facility and Equipment Readiness 11
11. General Use Emergency Equipment 11
12. Collection Point for Field Samples 11

Table of Contents

Section **Page**

Section I: Accident Assessment 1

1. Plant Parameters and Corresponding Emergency Classification 1
2. Onsite Accident Assessment Capabilities 1
3. Source Term Determination 2
4. Effluent Monitor Data and Dose Projection 3
5. Meteorological Information 4
6. Unmonitored Release 4
7. Onsite and Offsite Monitoring 4
8. Monitoring Teams 5
9. Iodine Monitoring 5
10. Dose Estimates 6
11. State Monitoring Capabilities 6

Section J: Protective Response 1

1. Notification of Onsite Personnel 1
2. Evacuation Locations 1
3. Radiological Monitoring of Evacuees 1
4. Evacuation 2
5. Accountability 2
6. Provisions for Onsite Personnel 3
7. Mechanism for Implementing Protective Action Recommendations 3
8. Evacuation Time Estimates (ETEs) 4
9. Capability of Implementing Protective Action Recommendations 4
10. Implementation of Protective Action Recommendations 4
11. Ingestion Pathway Protective Measures 6
12. Monitoring of Evacuees 6

Section K: Radiological Exposure Control 1

1. Emergency Exposure Guidelines 1
2. Emergency Radiation Protection Program 2
3. Personnel Monitoring 2
4. Non-*[Name of Operating Company]* Personnel Exposure Authorization 3
5. Contamination and Decontamination 3
6. Contamination Control Measures 3
7. Decontamination of Relocated Personnel 4

Section L: Medical and Public Health Support 1

1. Offsite Hospital and Medical Services 1
2. Onsite First Aid Capability 1
3. Medical Service Facilities 2
4. Medical Transportation 2

Table of Contents

Section **Page**

Section M: Reentry and Recovery Planning 1

1. Reentry and Recovery 1
2. Recovery Organization 4
3. Recovery Phase Notifications 7
4. Total Population Exposure 7

Section N: Drill and Exercise Program 1

1. Exercises 1
2. Drills 2
3. Conduct of Drills and Exercises 4
4. Critique and Evaluation 5
5. Resolution of Drill and Exercise Findings 5

Section O: Emergency Response Training 1

1. Assurance of Training 1
2. Functional Training of the ERO 1
3. First Aid Response 2
4. Emergency Response Organization Training Program 2
5. General, Initial, and Annual Training Program Maintenance 6

Section P: Responsibility for the Maintenance of the Planning Effort 1

1. Emergency Preparedness Staff Training 1
2. Authority for the Emergency Preparedness Effort 1
3. Responsibility for Development and Maintenance of the Plan 1
4. Emergency Plan and Agreement Revisions 4
5. Emergency Plan Distribution 5
6. Supporting Emergency Response Plans 6
7. Implementing and Supporting Procedures 6
8. Cross Reference to Planning Criteria 6
9. Audit/Assessment of the Emergency Preparedness Program 6
10. Maintenance of Emergency Telephone Directory 7

Table of Contents

Section **Page**

Part III: APPENDIXES

Appendix 1: References 1-1

Appendix 2: Procedure Cross-Reference to NUREG-0654 2-1

Appendix 3: List of Letters of Agreement 3-1

Appendix 4: Glossary of Terms and Acronyms 4-1

Appendix 5: Summary of Evacuation Time Estimates 5-1

Appendix 6: Supplemental Emergency Assistance 6-1

LIST OF ANNEXES

[Unit Annexes are only required if units of different designs are co-located at a single site.]

The Unit Annexes subject to the requirements of this plan are as follows:

Existing Unit(s) Annex

U.S. EPR Annex

A: Purpose

[This Emergency Plan has been prepared as a generic document which meets all applicable regulatory requirements. As such, information required from site/plant-specific details has been noted in brackets. The applicants shall insert this information in the site-specific Emergency Plans. The site-specific Emergency Plans shall be provided in the COLA submittals.]

As required in the conditions set forth by the Nuclear Regulatory Commission (NRC) for the operating licenses for the [*Station Title*], the management of [*Name of Operating Company*] recognizes its responsibility and authority to operate and maintain the nuclear power station(s) in such a manner as to provide for the safety of the general public. This document describes the [*Name of Operating Company*] Nuclear Plant Emergency Preparedness Program. The philosophy that guides the development and maintenance of this program is the protection of the health and safety of the general public in the communities around the nuclear power station(s) and the personnel who work at the plant.

The Emergency Plan establishes the concepts, evaluation and assessment criteria, and protective actions that are necessary in order to limit and mitigate the consequences of potential or actual radiological emergencies. It has been prepared to establish the procedures and practices for management control over unplanned or emergency events that may occur at an [*Name of Operating Company*] Nuclear Station. It also provides the necessary pre-arrangements, directions and organization so that all nuclear emergencies can be effectively and efficiently resolved.

The [*Name of Operating Company*] Emergency Preparedness Program consists of the Emergency Plan, Unit Annexes[1], Emergency Plan Implementing Procedures (EPIPs), and associated program administrative documents. The [*Name of Operating Company*] Emergency Plan outlines the basis for response actions that would be implemented in an emergency. This document is not intended to be used as a procedure.

The Unit Annexes contain information and guidance that is unique to each unit. The annexes address site-specific criteria, including:

- Emergency Action Levels (EALs),
- Deviations from the Generic Emergency Plan (such as station specific on-shift staffing, unique aspects of ERO augmentation, and so forth).
- Unit specific emergency response capabilities, such as specific equipment or facilities available for use by the Emergency Response Organization.

The Unit Annex[1] becomes a part of the plan and is subject to the same review and audit requirements as the plan. In the areas where a Unit Annex[1] deviates from the general requirements of the Generic Emergency Plan, the Unit Annex[1] shall serve as the controlling document.

Detailed emergency plan implementing procedures are maintained separately and are used to guide those responsible for implementing emergency actions.

[Note 1: Unit Annexes are only required if units of different designs are co-located at a single site.]

B: Background

Facility Description

[The following is Station-specific information. Generic wording is provided]

The *[Station Title]* - Units *[xxx]* is located in *[State Name]*, approximately *[xxx]* miles (*[xxx]* kilometers) *[list direction (i.e. NNW)]* of *[list major city]* and *[xxx]* miles (*[xxx]* kilometers) *[list direction (i.e. NNW)]* of the *[list closest community]*, in *[County Name]*. *[Provide brief description of terrain around the site.]*

The station site is *[roughly rectangular]* in shape, with the plant structures occupying the *[list direction i.e. northwest]* portion of the site.

[Station Title] occupies approximately *[xxx]* acres (*[xxx]* hectares) of land. This area includes *[site-specific information].*

Figure 1-1 shows the general location of *[Station Title]*. More specific information on station siting may be found in the *[Updated]* Final Safety Analysis Report (*[U]*FSAR).

The plant consists of *[Number of units] [xxx MWe]* pressurized water reactors (PWR) nuclear steam supply systems (NSSS) and *[Number of units][Number of MWe] MWe U.S. EPR.* Cooling for the plant is provided by a *[bay].* ***[Unit specific details to be placed in annexes]***

Emergency Planning Zone

The plume exposure Emergency Planning Zone (EPZ) for *[Station Title]* shall be an area surrounding the Station with a radius of about ten miles (16 kilometers). (Exact boundaries are determined in concurrence with state and local authorities). Refer to Figure 1-2.

The ingestion pathway EPZ for *[Station Title]* shall be an area surrounding the Station with a radius of about 50 miles (80 kilometers). Refer to Figure 1-3.

In the context of this Emergency Plan, the Unit Annexes[1], and implementing procedures, [*Name of Operating Company*] manages the operations of the NRC licensed facilities designated as [*Station Title*].

The primary hazard consideration at the nuclear power stations is the potential unplanned release of radioactive material resulting from an accident. The probability of such a release is considered very low due to plant design and strict operational guidelines enforced by the NRC. Not withstanding, federal regulations require that a sound emergency preparedness program exist for each commercial nuclear power station. A detailed description of the station is given in the *[Updated]* Final Safety Analysis Reports (*[U]*FSAR).

In order to minimize the number of ad-hoc decisions made during an emergency and to ensure that necessary equipment, supplies, and essential services are available to meet the needs of an emergency, [*Name of Operating Company*] has developed this Emergency Plan. This Emergency Plan is applicable to [*Station Title*] operated by [*Name of Operating Company]* and considers the consequences of radiological emergencies, as required by 10 CFR 50, Paragraph 50.47 and Appendix E.

In addition, this plan addresses guidance and adheres to the intent of the criteria established and provided within NUREG-0654 which is a joint NRC and Department of Homeland Security (FEMA) document. Regulatory Guide 1.101, "Emergency Planning and Preparedness for Nuclear Power Reactors," endorses the criteria and recommendations in NUREG-0654/FEMA-REP-1, Rev. 1, as methods acceptable to the NRC staff for complying with the standards in 10 CFR 50.47.

This plan also addresses the requirements of the Commission Orders of February 25, 2002, relating to security events.

The Emergency Plan also considers the consequences of non-radiological emergencies.

[Note 1: Unit Annexes are only required if units of different designs are co-located at a single site.]

C: Scope

This document describes actions to be taken in the event of a radiological accident at the [*Station Title*] that may impact the health and safety of the general public or station employees. It also serves to limit the damage to facilities and property, and provide for the restoration of such facilities in the event of an emergency. If such an accident were to occur, the Emergency Response Organization (ERO) would be put in place and maintained until such time where the plant is returned to a stable condition and the threat to the general public or station personnel no longer exists. This plan describes the functions and operation of the ERO, including assignments of authority and responsibility. It does not, nor is it intended to, provide guidance for actual plant equipment manipulations. These instructions are contained in site-specific normal and emergency operating procedures as required by Technical Specifications and other regulatory guidance. The Emergency Plan provides for: identification and evaluation of emergency situations, protective measures, communications, coordination and notification of governmental authorities, document review and control, emergency preparedness assessment, and training of all emergency personnel. An emergency recovery phase is also described in this plan.

D: Planning Basis

The Emergency Plan, in conjunction with the Unit Annexes *[if applicable]* and implementing and administrative procedures, documents the methods by which the *[Station Title]* Emergency Preparedness Program meets the planning standards set forth in 10 CFR 50.47(b) and the requirements of 10 CFR 50 Appendix E. Development of the Emergency Plan was based on NUREG-0654/FEMA-REP-1, Revision 1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants."

Acceptable alternate methods, which deviate from NUREG-0654, are allowed under Regulatory Guide 1.101, "Emergency Planning and Preparedness for Nuclear Power Reactors." However, deviations will be documented in the respective Unit Annexes and evaluated as continuing to meet the Planning Standards of 10 CFR 50.47(b) and Appendix E to 10 CFR 50 under the 10 CFR 50.54(q) process to ensure the continued effectiveness of the *[Station Title]* E mergency Plan and respective Unit Annexes *[if applicable].*

Other applicable regulations, publications, and guidance were used (see Appendix 1, "References") along with site-specific documents to ensure consistency in the planning effort.

E: Contiguous-Jurisdiction Emergency Planning

The Emergency Plan recognizes the state, in cooperation with the local EPZ communities, as the overall authority responsible for protective action directives in order to protect the health and safety of the general public.

F: Integrated Guidance and Criteria

Federal, State and local (county, city and/or town level) emergency response plans are developed in conjunction with this plan to ensure a consistent and integrated response to a classified event.

G: Funding and Technical Assistance

[*Name of Operating Company*] is dedicated to providing the level of support necessary, as dictated by federal regulation, to ensure appropriate integration of the state, county, and utility radiological emergency preparedness programs.

H: Emergency Response Organization

[Name of Operating Company] acknowledges its primary responsibility for planning and implementing emergency measures within the site boundary and for overall plant accident assessment. These emergency measures include corrective actions, protective measures, and aid for personnel onsite. To accomplish these responsibilities, *[Name of Operating Company]* has established an Emergency Response Organization (ERO) which will be mobilized to provide the initial response to an event. In addition advance arrangements have been made with offsite organizations for special emergency assistance such as ambulance, medical, hospital, fire, and police services.

In the longer time frame, a framework for a Recovery Organization is set forth in this plan. It is recognized that the normal station organization will be utilized for much of the recovery effort, with additional resources identified at the time of the event.

I: Federal Response

Provisions are made within the Emergency Plan for the integration of appropriate elements of the federal assistance activities. Arrangements have been made to accommodate a federal response organization presence in the *[Name of Operating Company]* emergency response facilities as well as support communications between utility and federal emergency facilities. NRC response as described in NUREG-1471, "Concept of Operations: NRC Incident Response," was used in the development of the Emergency Plan as guidance to ensure coordination between *[Name of Operating Company]* and NRC EROs.

J: Form and Content of Plan

As required by federal regulations, the Emergency Plan is governed by and contained (or referenced) in the Station *[U]*FSAR. The Emergency Plan is administratively maintained as a separate document. The Emergency Plan has been formatted similar to NUREG-0654/FEMA-REP-1, Revision 1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants." The use of this format lends itself to uncomplicated comparison with the criteria set forth in NUREG-0654/FEMA-REP-1.

Appendix 2, "Procedure Cross-Reference to NUREG-0654," provides a cross-reference between the NUREG-0654 evaluation criteria and the emergency plan implementing procedures and applicable administrative documents. Appendix 2 also references other regulatory guidance used in development of this plan.

Required Content of the Unit Annexes

[Unit Annexes are only required if units of different designs are co-located at a single site.]

Information that is in the plan need not be restated in the Annex. The Annex shall address any differences between co-located units operated by *[Name of Operating Company].*

Annex Format and Specific Content: As a minimum, Unit Annexes shall address the areas described as follows:

1. Section 1: Introduction

   The unit description and any surrounding area differences are described by the inclusion of maps, drawings and/or diagrams. A summary statement describes the Annex's interface with the Emergency Plan.

2. Section 2: Organizational Control of Emergencies

   Unit specific differences from the Generic Emergency Plan, such as on-shift staffing or ERO augmentation, shall be outlined. The justification for differences shall be provided. *[Unit-specific position titles, corresponding to the generic position titles used in this Generic Emergency Plan shall also be provided, if not standard across the site].*

3. Section 3: Classification of Emergencies

   Unit specific EALs are included for all emergency classes for the purpose of event classification.

4. Section 4: Emergency Response Facilities and Equipment

   Unit specific emergency response facilities and equipment and instrumentation for emergency assessment are provided if not shared by all units at the site.

5. Section 5: Emergency Measures

   Unit specific assembly areas and egress routes are provided if not shared by all units at the site.

Additional section(s) may be added if additional areas are unit specific.

Figure 1-1, Map of Site and Surrounding Area

[Site Specific]

Figure 1-2, 10-Mile (16 Kilometer) Emergency Planning Zone

[Site Specific]

Figure 1-3, 50-Mile (80 Kilometer) Emergency Planning Zone

[Site Specific]

Section A: Assignment of Responsibility

This section describes the primary responsibilities and organizational control of *[Name of Operating Company]*, federal, state, county, and other emergency response organizations within the Plume Exposure Pathway and the Ingestion Pathway Emergency Planning Zones (EPZs). Various supporting organizations are also described as well as staffing for initial and continuous response.

1. Concept of Operations

The relationships and the concept of operations for the organizations and agencies that are a part of the overall ERO are as follows:

a. Identified below are federal, state, and county organizations (and other local governmental agencies) that are involved in a response to an emergency at *[Station Title]* power station.

1) Federal Agencies: The Federal Radiological Emergency Response Plan (FRERP) outlines the statutory and regulatory responsibilities. The primary federal response for supporting an emergency at *[Station Title]* include:

a) Nuclear Regulatory Commission (NRC): The NRC is responsible for licensing and regulating nuclear facilities and materials and for conducting research in support of the licensing and regulatory process. These responsibilities include protecting the public health and safety, protecting the environment, protecting and safeguarding materials and plants in the interest of national security and assuring conformity with antitrust laws.

The NRC Regional Office has the responsibility for auditing of nuclear power stations. It is responsible for ensuring that such activities are conducted in accordance with the terms and conditions of such NRC licenses and that as a result of such operations, there is no undue risk to the health and safety of the public.

The NRC Office of Nuclear Reactor Regulation, established by the Energy Reorganization Act of 1974, as amended, performs licensing functions associated with the construction and operation of nuclear reactors and with the receipt, possession, ownership, and use of special nuclear and byproduct materials used at reactor facilities.

With regard to emergency preparedness, the NRC shall:

- Assess licensee emergency plans for adequacy;
- Review the Department of Homeland Security findings and determinations on the adequacy and capability of implementation of State and local plans; and
- Make decisions with regard to the overall state of emergency preparedness and issuance of operating licenses.

The NRC shall respond to incidents at licensed facilities or vehicular accidents involving licensed materials, including radionuclides, in transit. The NRC shall act as the lead Federal agency with regard to technical matters during a nuclear incident including radiological assistance. The NRC shall be prepared to recommend appropriate protective actions for the public and technical actions to the licensee. DHS shall act as the lead Federal agency for offsite, non-technical concerns.

During an incident, the Chairman of the Commission is the senior NRC authority for all aspects of a response. The Chairman shall transfer control of emergency response activities to the Director of Site Operations when deemed appropriate by the Chairman.

All NRC Regions as well as Headquarters are prepared to respond to potential emergencies. All Regions and Headquarters have developed plans and procedures for responding to radiological incidents involving NRC licensees. Headquarters has developed the NRC Incident Response Plans and Implementing Procedures. Each NRC Region has developed Regional Supplements that detail how the Region will fulfill all of the responsibilities assigned in the NRC Incident Response Plan. All NRC organizations are responsible for maintaining an effective state of preparedness through periodic training, drills and exercises.

Each Region and Headquarters has established and maintains an Incident Response Center designed to centralize and coordinate the emergency response function. Adequate communications are established to link the licensee, Headquarters and the Region. The NRC has established lines of communications with local government, State government, other Federal agencies, Congress and the White House. Public information will be disseminated in a timely manner and periodically.

Each Region is prepared to send a team of qualified specialists to the scene expediently. All of the necessary supplies and equipment needed for emergency response will be provided and maintained by the NRC.

The NRC Incident Response Plan objectives are to provide for protection of the public health and safety, property, and the environment, from the effects of radiological incidents that may occur at licensed facilities or which involve licensed materials, including radio-nuclides in transit.

The objectives of the agency plan set forth the organizational and management concepts and responsibilities needed to assure that NRC has an effective emergency response program.

The plan is intended to ensure NRC preparedness:

- To receive and evaluate notification information of incidents, accidents and unusual events and determine the extent of NRC response necessary to meet NRC responsibilities for mitigating the consequences of these events;
- To determine the cause of incidents, accidents, and unusual events in order to ensure that appropriate corrective actions are taken by the licensee to minimize the consequences of these events;
- To provide onsite expertise in a timely manner, to evaluate the nature and extent of the incident, ascertain plant status (for reactors and fuel facilities), monitor licensee activities, determine compliance, make recommendations, and, if necessary, issue orders relative to the event;
- To inform the public and others of plant status and technical details concerning the incident;
- To recommend adequate protective actions to the responsible local and/or State agencies;
- To provide technical assistance;
- To ensure the plant is returned to a safe condition; and
- To return the NRC Headquarters and Regional office to normal operations.

b) Department of Homeland Security (DHS): Per the Federal Response Plan (FRP), DHS is responsible for the overall coordination of a multi-agency Federal response to a significant radiological incident. The primary role of DHS is to support the State by coordinating the delivery of Federal non-technical assistance. DHS coordinates State requests for Federal assistance, identifying which Federal agency can best address specific needs. If deemed necessary by DHS, it will establish a Federal Response Center from which it will manage its assistance activities.

c) Federal Radiological Preparedness Coordinating Committee (FRPCC): The FRPCC consists of the Department of Homeland Security, which chairs the Committee, the Nuclear Regulatory Commission, the Environmental Protection Agency, the Department of Health and Human Services, the Department of Energy, the Department of Transportation, the Department of Defense, the Department of Agriculture, the Department of Commerce, and where appropriate and on an ad hoc basis, other Federal departments and agencies. The FRPCC shall assist DHS in providing policy direction for the program of Federal assistance to State and local governments in their radiological emergency planning and preparedness activities.

d) U.S. Department of Energy (DOE): The Department of Energy (DOE) has extensive radiological monitoring equipment and personnel resources that it can assemble and dispatch to the scene of a radiological incident. The Department of Energy (DOE) local operations office can assist *[Name of Operating Company]* following a radiological incident as outlined in the Federal Radiological Monitoring and Assessment Plan (FRMAP). If *[Name of Operating Company]*, the NRC or the affected states deem that assistance from DOE is necessary or desirable, the affected state(s) would notify the appropriate DOE operations office.

e) Environmental Protection Agency (EPA): Assists with field radiological monitoring/sampling and non-plant related recovery and reentry guidance.

f) The U.S. Coast Guard (USCG): The USCG patrols and ensures the safety of navigable waterways in the United States. The USCG is promptly notified of any oil or hazardous substance discharges into rivers or lakes or radioactive contamination of rivers or lakes under its jurisdiction at levels requiring assistance to effect protective actions. The USCG is contacted by the appropriate state agencies in the event of an incident at an applicable nuclear power plant. The USCG is responsible for officially closing the waterways to all commercial traffic. Refer to the *[State Name]* Plan.

g) U.S. Army Corps of Engineers: The U.S. Army Corps of Engineers control barge and boat traffic at locks and dams on navigable waterways in the United States. The Corps of Engineers will be contacted by the appropriate state agencies in the event of an incident at an applicable nuclear power plant. The Corps will be responsible for closing their locks and dams to all waterway traffic leading to the affected area, allowing only traffic leaving the area. Refer to the appropriate *[State Name]* Plan.

h) Federal Bureau of Investigation (FBI): Support from the FBI is available through its statutory responsibility based in Public Law and the US code, and through a memorandum of understanding for cooperation with the NRC. Notification to the FBI of emergencies in which they would have an interest will be through provisions of the Nuclear Station's Security Plan, or by the NRC.

i) National Weather Service (NWS): Provides meteorological information during emergency situations, if required. Data available will include existing and forecasted wind directions, wind speed, and ambient air temperature.

2) State Agencies

[State agencies are site-specific]

a) The State of *[State Name]*: The State of *[State Name]* has the statutory responsibility and authority for protecting the health and safety of the public in *[State Name]*. The State has developed an *[State Name]* Plan for Radiological Accidents. This plan was developed in accordance with the guidance suggested by NUREG 0396 and NUREG 0654/FEMA-REP-1, Rev. 1. The *[State Name]* Plan has received 44 CFR 350 unconditional approvals from DHS for all nuclear generating station(s) within the state boundaries. Basic descriptions for the *[State Name]* State agencies responsible for actions in the event of a nuclear power station are as follows:

- Governor of *[State Name]*: The Governor of the State has overall command authority for both the radiological and non-radiological aspects of a nuclear incident. The Governor shall make the final recommendation for protective actions and shall serve as the State's primary spokesperson.

- *[State Name]* Emergency Management Agency (EMA): Coordinates the operational response and recovery functions of all State agencies. The EMA proposes Protective Action Recommendations (PARs) to the Governor. It also coordinates the implementation of the Governor's PARs.

  The EMA response action to a nuclear incident will fall into one of the following functional areas:

  - Command for all (State related) radiological aspects of a nuclear incident.

  - Field radiological functions (State related) of confirmatory accident assessments during a nuclear emergency. This may include a Mobile Command Center, a Mobile Nuclear Laboratory, and monitoring and sampling teams.

  The State EMA has the responsibility to inform the adjoining states Emergency Management Agencies with respect to an emergency that impacts the 50-mile (80-kilometer) Ingestion Pathway Zone.

  The EMA has both the command authority for radiological aspects of a nuclear incident and the responsibility for performing various radiological functions. These functions include milk, water and food control, radiation exposure control for state emergency workers, and confirmatory accident assessment. During an emergency situation, the EMA shall make protective action recommendations to the Governor.

For events that impact the 50-mile (80-kilometer) ingestion pathway for *[Station Title]*, the EMA will coordinate technical information with the other states which may be impacted.

c) The State of *[State Name]*: A portion of the 50-mile (80-kilometer) Ingestion Pathway Emergency Planning Zone for *[Station Title]* lies within the State of *[State Name]*. The State of *[State Name]* has developed a Radiological Emergency Response Plan. This section provides a summary of the essential elements of the *[State Name]* emergency plan.

Initially, responsibility for responding to a radiological emergency, including evacuation, rests with local governments and their emergency services. Notification, by either local authorities or legal possessors of uncontrolled materials, to the state EMA that a radiological emergency exists will bring in the resources of other state agencies to assess and evaluate the situation and determine protective actions. State agency notification for assistance and coordination of response operations of the state agencies in support of local government will be performed by the EMA as determined by the Governor.

3) County Government Agencies

[Station's Name] and the surrounding communities that comprise the Plume Exposure Pathway EPZs have developed integrated emergency response programs that call upon the resources of their community. The community organizations are responsible for implementing and coordinating the community response to an emergency.

The County Emergency Operations Centers (EOCs) serve as the primary coordinating center for local government response within the county's jurisdiction and for coordination between counties.

b. During an emergency condition classified as an Alert, Site Area Emergency, or General Emergency, the Station's ERO replaces the normal plant organization. The ERO consists of three major response sub-organizations:

[Position titles are Site-specific]

1) The Plant Organization, directed by the *[Emergency Plant Manager]*, provides for:

- Control and operation of the plant.
- Mitigation of the emergency condition.
- Protection of station personnel.
- Emergency event classification.

- Notification of the appropriate individuals and agencies prior to EOF taking Command and Control.

- Emergency support for operations, engineering, maintenance, fire fighting, material acquisition, security, and first aid.

The Plant Organization is made up primarily of personnel from the stations day to day management team, Department Heads, Operations, Health Physics, Chemistry, Engineering, Maintenance, Security and other site support personnel.

2) The Offsite Organization, directed by the *[Emergency Director]* provides for:

- Emergency notifications to Federal, State and local agencies.

- Offsite radiological accident assessment and Protective Action Recommendations to offsite authorities.

- It serves as the primary interface between *[Name of Operating Company]* and outside organizations responsible for the protection of the public.

- Obtaining offsite support for the plant organization needed to mitigate effects of event.

The Offsite Organization is made up primarily of personnel from the Station and Corporate Management.

3) The Public Information Organization, directed by the *[Company Spokesperson],* coordinates with public information officers from other organizations to provide information to the public through the news media.

c. Interrelationships between major *[Name of Operating Company]* organizations and sub-organizations in the total response effort are illustrated in a block diagram in Figures A-1 and A-2. For a more detailed diagram of the ERO, see Figures B-1a to B-1d.

d. The *[Emergency Director]* is a senior *[Name of Operating Company]* employee with overall responsibility for coordinating emergency response actions in support of the Station, the Emergency Public Information Organization, and affected State(s) and local agencies. The senior operations person on shift serves as the *[Interim Emergency Director]* until relieved by the *[Emergency Plant Manager]* or the on call *[Emergency Director].*

e. Procedures for training and maintenance of the emergency organization are in place to ensure 24-hour per day staffing for emergency response, including established communication links.

2. State and County Functions and Responsibilities

The state and counties have emergency response plans that specify the responsibilities and functions for the major agencies, departments, and key individuals of their emergency response organizations. This information is located in their respective plans.

3. Agreements in Planning Effort

Written agreements establishing the concept of operations developed between *[Name of Operating Company]* and other support organizations having an emergency response role within the EPZs have been developed. These agreements identify the emergency measures to be provided, the mutually accepted criteria for implementation, and the arrangements for exchange of information. Agreement letters are not necessary with Federal Agencies who are legally required to respond based on Federal law; however, agreements are necessary if the agency was expected to provide assistance not required by law. Letters of Agreement with private contractors and others who provide services in support the station shall be obtained. A list of Letters of Agreement is provided in Appendix 3 of this plan, the actual letters are maintained on file at the station. Letters of Agreement, as a minimum, state that the cooperating organization will provide their normal services in support of an emergency at the affected station. A contract/purchase order with a private contractor is considered acceptable in lieu of a Letter of Agreement for the specified duration of the contract.

4. Continuous Coverage

[Station Title] maintains 24-hour emergency response capability. The normal on-shift complement provides the initial response to an emergency. This group is trained to handle emergency situations (e.g. initiate implementation of the Emergency Plan, make initial accident assessment, emergency classification, notifications, communications, and protective action recommendations) until the augmented ERO arrives. The ERO is composed of a broad spectrum of personnel with specialties in operations, maintenance, engineering, radiochemistry, health physics, material control, fire protection, security, and emergency planning and are available and trained to augment on-shift personnel in an emergency. Procedures for training and maintenance of the emergency organization are in place to provide the capability of continuous (24-hour) operations.

The *[Emergency Director]*, located in the EOF, has the authority and responsibility for assuring continuity of resources (technical, administrative, and material) in the event of the activation of the ERO.

Figure A-1: Utility Emergency Response Organization Interrelationships

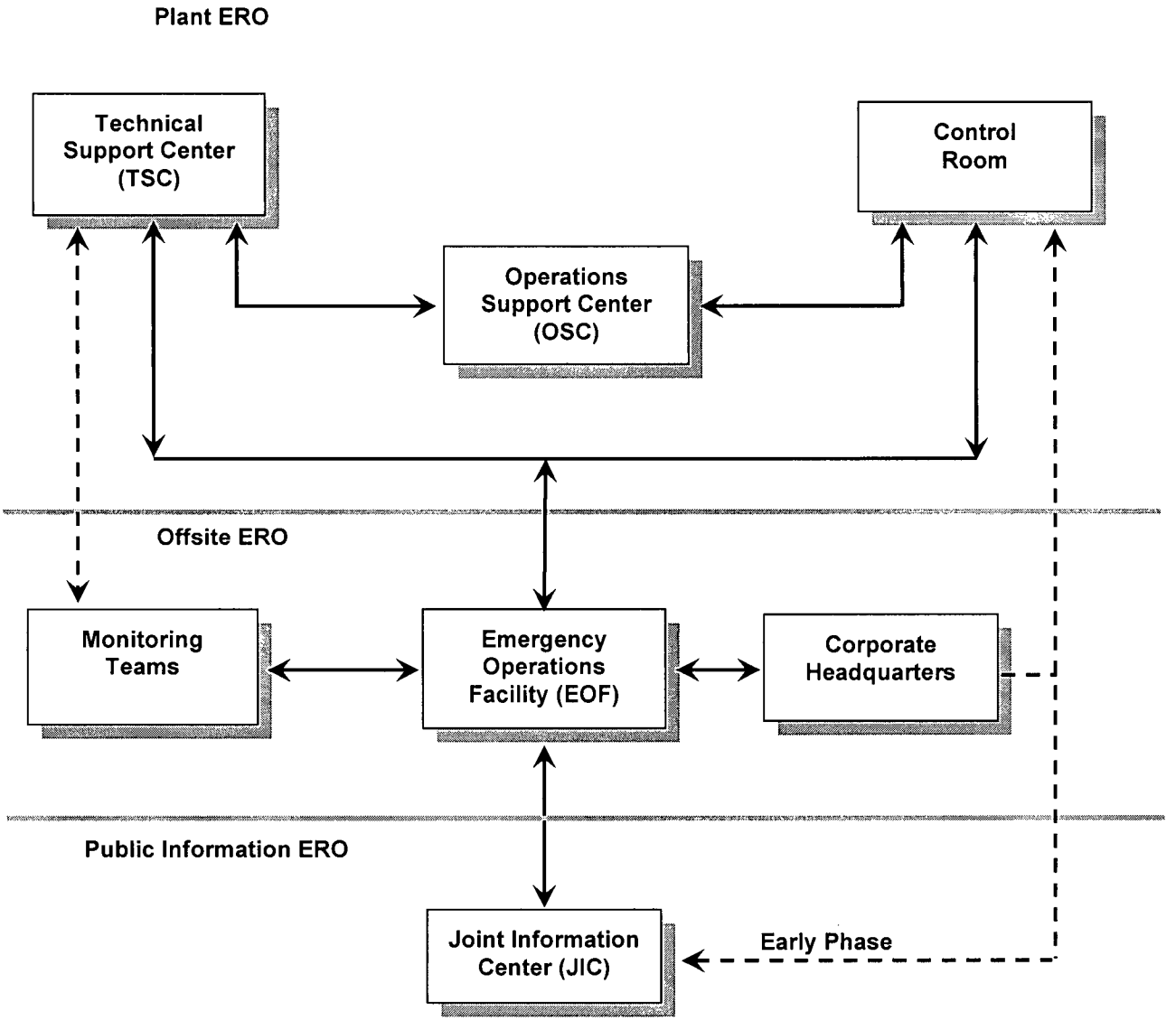
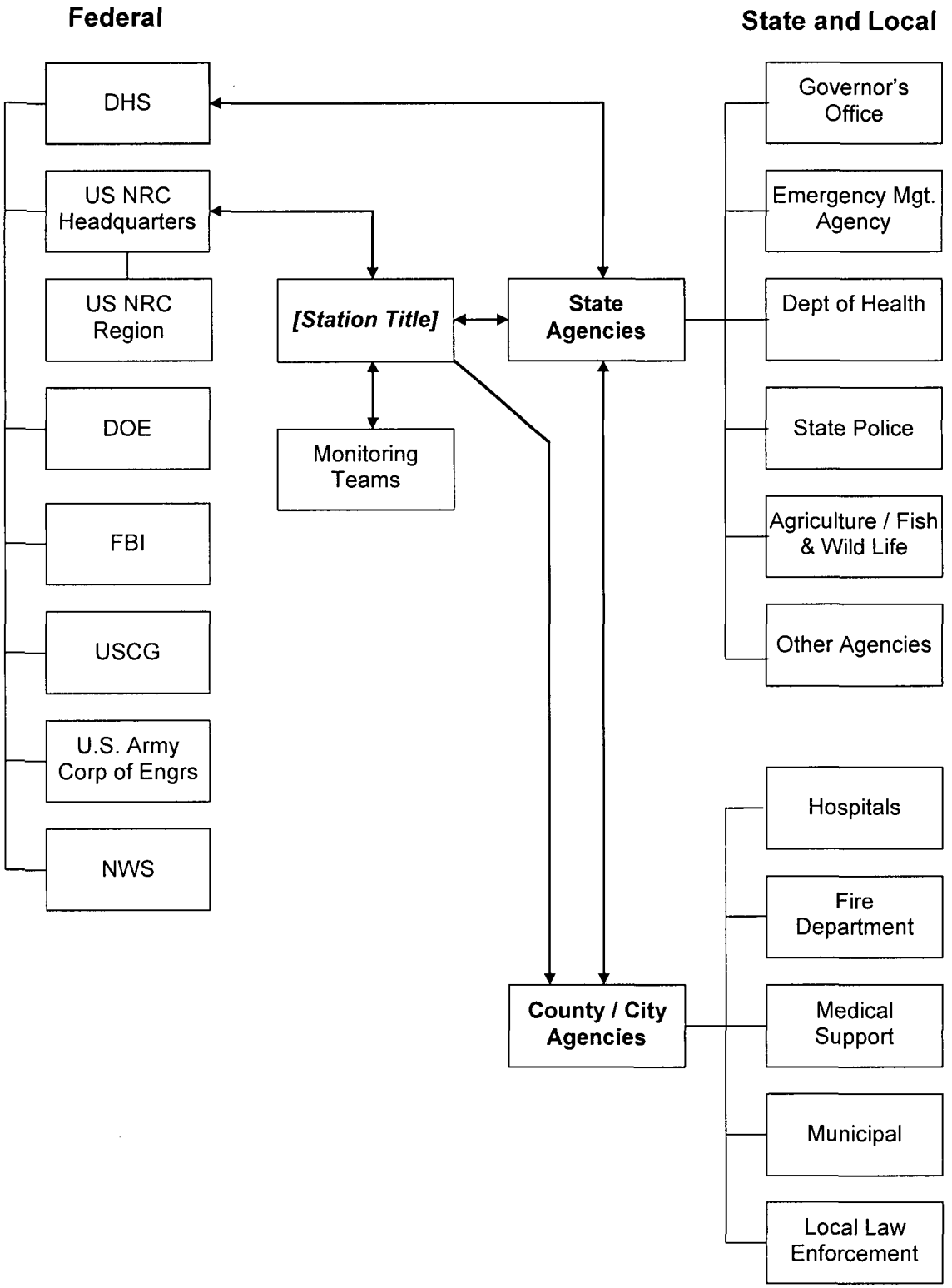


Figure A-2: Agency Response Organization Interrelationships



[State and Local Agencies are site specific].

Section B: Emergency Response Organization

[ERO Titles are site-specific. For positions that may be provided by personnel assigned other functions (as noted in Table B-1), functions may also be shifted between positions]

This section describes the *[Station Title]* Emergency Response Organization (ERO), its key positions and associated responsibilities. It outlines the staffing requirements which provide initial emergency response actions and provisions for timely augmentation of on-shift personnel when required. It also describes interfaces among *[Name of Operating Company]* emergency response personnel and specifies the offsite support available to respond to the nuclear generating stations.

1. On-Shift Emergency Response Organization Assignments

The normal plant personnel complement is established with the *[Site Vice President]* having overall authority for station operations. The *[Site Vice President]* directs the site organization in the management of the various departments while the Shift Manager retains the responsibility for actual operation of plant systems. Emergency Preparedness must consider the capabilities of the normal plant organization, the Station and Offsite Emergency Response Organizations of *[Name of Operating Company]*, and the non-*[Name of Operating Company]* Emergency Response agencies. The initial phases of an emergency situation at a nuclear station will most likely involve a relatively small number of individuals. These individuals must be capable of (1) determining that an emergency exists; (2) providing initial classification and assessment; and (3) promptly notifying other groups and individuals in the emergency organization. The subsequent phases of the emergency situation may require an increasing augmentation of the emergency organization.

The Station has personnel on shift at all times that can provide an initial response to an Emergency Event. Table B-1a *[may be contained in Unit Annex]* outlines the plant on-shift emergency organization and its relation to the normal staff complement. Members of the on-shift organization are trained on their responsibilities and duties in the event of an emergency and are capable of performing all response actions in an Unusual Event or the initial actions of higher classifications.

<u>On Shift Personnel</u>

Shift Personnel have the capability at all times to perform detection, mitigation, classification, and notification functions required in the early phases of an emergency. (Refer to Section A.1.b.1.) Shift augmentation and further ERO involvement will be determined by the extent and magnitude of the event. When a transition to Severe Accident Management Guidelines (SAMG) is initiated, the shift crew assumes the duties and responsibilities of the *[SAMG Implementers]*.

Shift Manager: While acting as *[Interim Emergency Director]*, will take immediate action during an emergency and will activate the Station ERO, as appropriate. In the Shift Manager's absence or incapacitation, the line of succession is defined by Unit's Operations and Emergency Plan implementing procedures.

Shift Technical Advisor (STA): A qualified individual assumes an overview role as the STA with the specific responsibility of monitoring the maintenance of core cooling and containment integrity. An individual assigned the duty as the STA shall be available to the Control Room at all times.

Control Room Operators: At least two qualified Reactor Operators are assigned to each shift. They are responsible for operating plant equipment from the Control Room.

Auxiliary Operators: At least two non-licensed operators are assigned to each shift. They are responsible for operating plant equipment throughout the plant.

Radiation Protection: The Station Radiation Protection personnel are responsible for the handling and monitoring of radioactive materials. Included in this organization are Health Physicists, Radiation Protection Supervisors and Technicians.

Chemistry: The Station Chemistry personnel are responsible for sampling of system effluents, and the chemical and radio-analytical analysis of those samples. Included in this organization are Chemists, Chemistry Supervisors and Technicians.

Security: The Station Security personnel are responsible for the physical security of the site. Included in this organization are Security Supervisors and Security Guards.

A Unit Fire Brigade is established by designating trained individuals from the above listed groups as brigade members.

An individual (or group of individuals) on each shift is trained and made available to act as the *[Emergency Communicator]*. This individual can notify station personnel, State and Local agencies and the NRC. The *[Emergency Communicator]* will maintain communications as necessary until relieved by members of the on-call Emergency Response Organization (ERO).

2. Authority over the Emergency Response Organization

The *[Interim Emergency Director, Emergency Plant Manager or Emergency Director]* in Command and Control, is the designated *[Name of Operating Company]* individual who has overall authority and responsibility, management ability, and technical knowledge for coordinating all emergency response activities at the nuclear power station.

Control Room: *[Interim Emergency Director]* (Shift Manager), initially in command until relieved by on-call ERO members.

TSC: *[Emergency Plant Manager]* may relieve the *[Interim Emergency Director]* of all Command and Control Responsibilities until the *[Emergency Director]* is ready to assume these duties. Maintains some unit specific command and control responsibilities even after being relieved by the *[Emergency Director]*.

EOF: *[Emergency Director]*, assumes overall command and control of *[Name of Operating Company]* emergency response.

3. Criteria for Assuming Command and Control (Succession)

[Succession process is site specific.]

Emergency personnel assume responsibility for their positions upon receiving notification to activate. The responsibility for initial assessment of and response to an emergency rests with the Shift Manager. The Shift Manager is the *[Interim Emergency Director]* and has the *[Emergency Director's]* responsibilities and authority until relieved by a qualified *[Emergency Plant Manager or the Emergency Director]*. The *[Emergency Plant Manager]*, once having relieved the Shift Manager of the *[Emergency Director]* responsibilities, is responsible for continued assessment of the severity of the emergency and for the functions as part of the Plant ERO as appropriate in accordance with the guidance provided in the Emergency Plan, the Unit Annex *[if applicable]*, and the emergency implementing procedures. Final succession is achieved when the *[Emergency Director]* assumes overall Command and Control, and directs *[Name of Operating Company's]* Emergency Response activities.

The Control Room is relieved of Command and Control as soon as possible after the declaration of an Alert (or higher classification if Alert not declared). Command and Control may be transferred directly to the *[Emergency Director]*, or transferred to the *[Emergency Plant Manager]* on an interim basis. Command and Control does not transfer until the following criteria have been met:

- Adequate staff levels are present in support of the non-delegable responsibilities.
- The staff has been fully briefed as to the status of the event and the currently proposed plan of action.
- A turnover between the *[Emergency Director]* relinquishing Command and Control and the *[Emergency Director]* assuming Command and Control has been made.

Although *[Station Title]* ERO fulfills all regulatory requirements for emergency response, it may be altered by the *[Emergency Director]*. This type of alteration will be based upon identified needs within the ERO, event dependent criteria, and identified needs of the company as a whole.

4. Non-Delegable Responsibilities

Non-delegable responsibilities include the following functions:

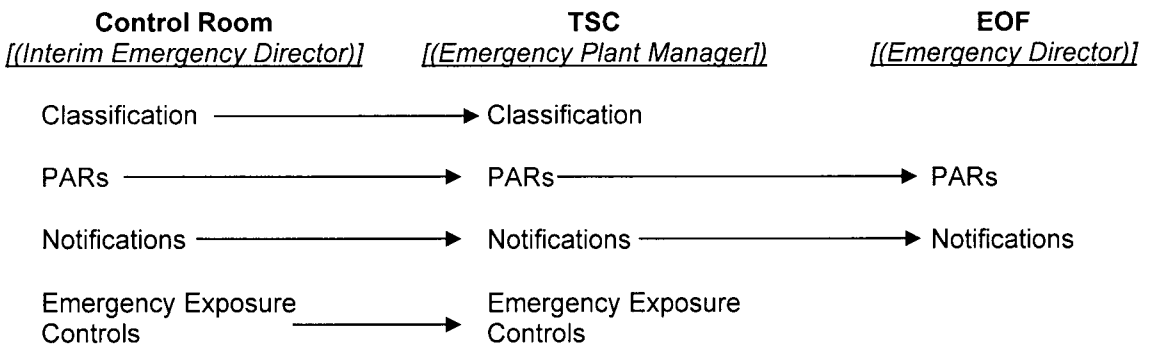
- Event classification.
- Protective Action Recommendations (PARs) for the general public.
- Notification of offsite authorities (approval of State/local and NRC notifications).
- Authorization of emergency exposure controls in excess of 5 Rem (0.05 Sv) TEDE and the issuance of potassium iodide (KI), for *[Station Title]* emergency workers.

The Shift Manager is responsible for the initial classification of an event and assumes the position as *[Interim Emergency Director]*. In this capacity, the Shift Manager has responsibility for performing the non-delegable responsibilities until relieved.

[Succession of non-delegable responsibilities is site specific]

The *[Emergency Plant Manager]* will assume overall authority and responsibility for performing all of the non-delegable duties from the Shift Manager. The *[Emergency Director]* (EOF) will subsequently relieve the *[Emergency Plant Manager]* (TSC) of overall Command and Control and assume the non-delegable responsibilities for PAR determination and notifications to offsite authorities.

Transition of "Non-Delegable" Responsibilities



5. Emergency Response Organization Positional Responsibilities

Table B-1b *[in the Unit Annexes]* outlines ERO positions required to meet minimum staffing and full augmentation of the on-shift complement at an Alert or higher classification, and the major tasks assigned to each position. The full augmentation staffing levels are used as a planning basis to cover a wide range of possible events. For extended events (one which lasts for more than 24 hours), actual staffing will be established by the *[Emergency Director]* based on the event and personnel availability. However, additional staffing or reduced staffing will only occur after discussion concerning the impact on plant operations and emergency response.

The overall *[Station Title]* ERO is made up of three sub organizations:

- The first is called the Plant Emergency Response Organization. It is responsible for onsite emergency response activities. These activities include protecting plant personnel, mitigating the results of the event and keeping the offsite organization informed of onsite events and actions being taken.

- The second is called the Offsite Emergency Response Organization is responsible for *[Name of Operating Company's]* offsite emergency response activities. These activities include providing information to offsite authorities, monitoring offsite results of the event, supporting the onsite organization and obtaining outside resources to support emergency response efforts.

- The third is called the Public Information Emergency Response Organization is responsible coordinating with other Emergency Response Organizations (Federal, State and Local) for providing accurate information to the public about the event through the news media.

Specific responsibilities for each sub-organization and related positions are as follows:

a. Plant Emergency Response Organization: The Plant ERO is the onsite group that is activated during an emergency. It functions under the *[Emergency Plant Manager]*, who is responsible for organizing and coordinating the emergency efforts at and within the immediate vicinity of the station (including carrying out all onsite emergency efforts and the initial offsite environs monitoring efforts necessary to assess plant releases).

   The Plant ERO consists of station personnel who are involved with emergency response efforts necessary to control the plant during an incident. This organization operates out of the Control Room, the Technical Support Center (TSC) and the Operations Support Center (OSC). Collectively, members of the Plant ERO provide for the following activities during an emergency:

   - Plant systems operations
   - Radiological survey and monitoring (including Environs Monitoring)
   - Firefighting

- Rescue operations and First Aid
- Decontamination
- Security of plant and access control
- Repair and damage control
- Personnel protection including Assembly, Accountability and Evacuation
- Communications
- Initial Liaison responsibilities with Federal, State and local authorities

When plant conditions warrant entry into the Severe Accident Management Guidelines (SAMGs), the *[Emergency Plant Manager]* or other qualified individual assumes the role of *[SAMG Decision-Maker].* The *[Engineering Director]* and/or another qualified individual(s) assumes the role of *[SAMG Evaluator]* (at least 2 are required), and the Control Room staff assumes the role of *[SAMG Implementers].* Control Room personnel will perform mitigating actions for severe accidents per EOPs prior to TSC activation.

[The following are recommended generic ERO position titles. If standard across the site, insert station-specific titles in this section. If unit-specific, place an ERO Comparison Table in Section 2 of each unit annex.]

All Plant ERO personnel shall have the authority to perform assigned duties in a manner consistent with the objectives of this plan. In addition to maintaining adequate documentation of the event, position responsibilities include:

1) Shift Manager *[(Interim Emergency Director)]* Control Room

A Shift Manager is on duty 24 hours a day and is the *[Interim Emergency Director]* in a declared emergency until relieved of this function. While serving in this capacity the Shift Manager is responsible for:

- Activating the ERO (as deemed appropriate or as procedurally required).
- Initiating the NRC Emergency Response Data System (ERDS).
- Performing those duties outlined in Section B.5.a.2 for the *[Emergency Plant Manager].* The responsibilities described for the *[Emergency Plant Manager]* apply to either the *[Interim Emergency Director]* or the *[Emergency Plant Manager]* depending on which individual is in Command and Control.

The on-duty Shift Manager directs the activities of the operating crew and is responsible for the safe operation of the plant in compliance with the station NRC operating license and the station operating procedures. The Shift Manager, after relinquishing Command and Control, functionally reports to the *[Operations Manager]* in the TSC.

The Shift Manager's responsibilities, when not in Command and Control, are described below:

- The authority and responsibility to shutdown the reactor when determined that the safety of the reactor is in jeopardy or when operating parameters exceed any of the reactor protection system set-points and automatic shutdown does not occur;

- To ensure a review has been completed to determine the circumstance, cause, and limits under which operations can safely proceed before the reactor is returned to power following a trip or an unscheduled or unexplained power reduction;

- The responsibility to be present at the plant and to provide direction for returning the reactor to power following a trip or an unscheduled or unexplained power reduction;

- The responsibility to adhere to the station Technical Specifications and to review routine operating data to assure safe operation;

- The responsibility to identify applicable EALs and emergency classifications; and

- The responsibility to adhere to plant operating procedures and the requirements for their use. During an emergency, operations personnel may depart from approved procedures where necessary to prevent injury to personnel, including the public, or damage to the facility consistent with the requirements of 10 CFR 50.54(x) and (y).

- Supervise the activities of the Control Room Crew and *[Emergency Communicator(s)]* in the Control Room.

2) *[Emergency Plant Manager]* TSC

The *[Emergency Plant Manager]* reports to the *[Emergency Director]* and supervises and directs the Plant ERO. The *[Emergency Plant Manager's]* responsibilities include organizing and coordinating the onsite emergency efforts. Additionally, the *[Emergency Plant Manager]* has the requisite authority, plant operating experience and qualifications to implement in-plant recovery operations.

a) *[Emergency Plant Manager]* Responsibilities while in Command and Control:

- Perform all non-delegable responsibilities as the *[Emergency Director]* in Command and Control until relieved by the EOF.

- Conduct personnel assembly/accountability and evacuation of non-essential personnel at Site Area Emergency, General Emergency or as conditions warrant.

- If the emergency involves a hazardous substance and/or oil discharges, ensure that appropriate notifications and responses have been made.

- Determine if the OSC is to remain activated at the Alert Classification.

b) *[Emergency Plant Manager]* Responsibilities while not in Command and Control:

- Event Classification.

- Emergency exposure controls.

- Protective actions for all onsite personnel.

- Supervision of the Plant ERO.

- Inform the *[Emergency Director]* and onsite NRC as to the status of the plant.

- Assist the *[Emergency Director]* in the acquisition of information for the State/Local notifications, NRC Event Notification Worksheet and offsite agency updates.

- Provide information and recommendations to the *[Emergency Director]*.

- Implement plans, procedures and schedules to meet emergency response objectives as directed by the *[Emergency Director]*.

- Request from the Offsite ERO any additional material, personnel resources or equipment needed to implement response plans and operations.

- Assume the duties and responsibilities of *[SAMG Decision-Maker]* when a transition to Severe Accident Management Guidelines (SAMGs) is initiated. This responsibility can be delegated to the *[Operations Manager]* if qualified.

3) *[TSC Director]* TSC

The *[TSC Director]* reports to the *[Emergency Plant Manager]* and is responsible for the content of information transmitted from the TSC to other agencies (or facilities) and for documenting information received at the TSC in coordination with the *[Emergency Plant Manager]*. Responsibilities include:

- Verify that qualified individuals are filling *[Emergency Communicator]* positions in the Control Room, TSC and OSC.
- Activate, or verify activation of the Emergency Response Data System (ERDS).
- Supervise the activities of the *[Administrative Support Manager]* and Communicator positions.
- Ensure that communications are established with appropriate parties as directed by the *[Emergency Plant Manager]*.
- Ensure that all required notifications to offsite governmental agencies (State/Local and NRC) are timely and accurate.
- Act as the *[Name of Operating Company]* Liaison to any NRC Site Team Representatives.
- Ensure that the NRC Site Team Representatives are directed to their appropriate counterparts.
- Assist the *[Emergency Director]* in the acquisition of information for off-site agency updates.
- Record and relay inquiries to the *[Emergency Plant Manager]*. In addition, record responses to such inquiries prior to transmission.
- Assist the *[Emergency Plant Manager]* in maintaining proper records.

4) *[Emergency Communicators]* CR/TSC/OSC/EOF

The communicators are responsible for transmitting/receiving information to and from the TSC, OSC, EOF and Control Room. General responsibilities assigned to all Communicators include:

- Establish communications with appropriate parties as directed.
- Transmit information that has been reviewed and/or approved by the responsible Manager or Coordinator.
- Document time, date and information being transmitted or received on appropriate forms.
- Record and relay inquiries and the responses to those inquiries.
- Assist appropriate Managers and Coordinators in maintaining proper records and logs of emergency related activities.
- Gather, record and post appropriate information.

a) Specific responsibilities assigned to the *[TSC Communicator]* include:

- Communicate and receive information via dedicated communications circuit or commercial telephone line with appropriate agencies prior to the EOF accepting Command and Control.
- Monitor offsite communications until released by the *[TSC Director]*.

b) Specific responsibilities assigned to the *[Operations Communicators]* (TSC and Control Room) include:

- Relay requests from the Control Room and TSC for the dispatching of OSC Teams.
- Inform the Control Room, TSC, and EOF of significant changes in event status (e.g. changes in classification, command and control, initiation of station assembly, accountability, evacuation, etc.).
- Appraise the TSC and EOF staff of the overall plant condition and significant changes to system and equipment status.
- Appraise the Control Room of the status of OSC Team activities.

d) Specific responsibilities assigned to the *[ENS Communicator]* include:

- Notify the NRC of changes in event classification
- Completing the NRC Event Notification Worksheet and transmitting data to the NRC
- Responding to NRC inquiries.
- Provide real time updates of significant changes to plant and system status and responses to NRC inquiries.
- Maintain continuous communications with the NRC, if requested, via the NRC ENS phone or commercial telephone line.

e) Specific responsibilities assigned to the *[HPN Communicator]* include:

- Maintain continuous communications with the NRC, if requested, via the NRC Health Physics Network (HPN) phone or commercial telephone line.
- Communicate current Health Physics information to NRC representatives, as requested.
- Coordinate the communications of radiological information to the NRC with the EOF *[HPN Communicator]* (onsite vs. environmental data).

5) *[Operations Manager]* TSC

The *[Operations Manager]* reports to the *[Emergency Plant Manager]*. Major functions include determining the extent of station emergencies, initiating corrective actions, and implementing protective actions for onsite personnel. In the event that the *[Emergency Plant Manager]* becomes incapacitated and can no longer fulfill the designated responsibilities, the *[Operations Manager]* will normally assume the responsibilities until relieved by another qualified *[Emergency Plant Manager]*. Responsibilities include:

- Coordinate TSC efforts in determining the nature and extent of emergencies pertaining to equipment and plant facilities in support of Control Room actions.
- Initiate immediate corrective actions to limit or contain the emergency invoking the provisions of 10 CFR 50.54(x) if appropriate, and specifically when addressing Severe Accident Management Guidelines (SAMG).
- Recommend equipment operations checks and miscellaneous actions to the Control Room in support of restoration and accident mitigation.
- Approve emergency special procedures, and implement as required under the provisions of 10 CFR 50.54(x).
- Assist the *[Maintenance Manager]* in determining the priority assigned to OSC activities.
- Organize and direct medical response efforts for injured personnel.
- Ensure adequate staffing of the Control Room and TSC subordinates.
- Ensure the Shift Manager is informed of OSC staffing utilization and activities.
- Identify steps or procedures that the Operations staff should be utilizing to properly respond to the emergency condition.
- Assist the *[Emergency Plant Manager]* in evaluating changes in event classification.
- Supervise the activities of the *[Operations Communicator]* and the *[ENS Communicator]* in the TSC.
- Act as the TSC liaison with the appropriate NRC Site Team Representative.
- At the direction of the *[Emergency Plant Manager]*, assume the duties and responsibilities of the Evaluator, or Decision-Maker if qualified, when transition to Severe Accident Management Guidelines (SAMG) is initiated.

6) *[Engineering Director]* TSC

The *[Engineering Director]* reports to the *[Emergency Plant Manager]* and directs a staff in performing technical assessments of station emergencies and assists in recovery planning. Responsibilities include:

- Accumulate, tabulate and evaluate data on plant conditions.
- Evaluate plant parameters during an emergency to determine the overall plant condition.
- Coordinate core damage assessment activities.
- Identify data points and control parameters that the Operations staff should monitor.
- Ensure that current and adequate technical information is depicted on status boards.
- Identify and direct staff in the development of special procedures needed to effect long-term safe shutdown or to mitigate a release.
- Supervise the total onsite technical staff effort.
- Act as the TSC liaison with state and appropriate NRC Site Team representatives.
- Assist the *[Radiation Protection Manager]* for onsite radiological/technical matters.
- Assist the *[Emergency Plant Manager]* in evaluating plant based PARs (prior to EOF accepting command and control) and changes in event classification.
- Supervise the activities of the *[TSC Communicator].*
- Assume the duties and responsibilities of an Evaluator when transition to Severe Accident Management Guidelines (SAMG) is initiated and supervise the activities of the SAMG Evaluator Team.

7) *[Technical Support Staff* *TSC*

The TSC Technical Support Staff consists of the following minimum staff engineering positions:

- *Electrical Engineer*
- *Mechanical Engineer*
- *Reactor Engineer*

In addition, station engineering support will be augmented on an as needed basis to support accident assessment and mitigation activities.]

8) *[Administrative Support Manager]* TSC

The *[Administrative Support Manager]* reports to the *[TSC Director]* and provides administrative services in support of emergency/recovery operations. Responsibilities include:

- Coordinate shift relief and continual staffing of the station.
- Arrange for clerical staff at the TSC, OSC and Control Room.
- Assist the *[Security Coordinator]* in coordinating ERO and station activities in support of on-going security contingency, accountability or site/area evacuation efforts.
- Support the processing of special procedures and interim reports during an emergency.
- Ensure that event status and priority logs are being maintained in the TSC.
- Coordinate record-keeping efforts at the station.
- Arrange for food, sleeping facilities and other necessary accommodations for onsite emergency workers.
- Arrange for specialized training of Emergency Response personnel as needed.

9) *[Radiation Protection Manager (RPM)]* TSC

The *[Radiation Protection Manager]* reports to the *[Emergency Plant Manager]* and supervises the activities of the *[Radiation Controls Coordinator]* and *[Radiation Controls Engineer]*. The TSC *[RPM]* directs a staff in determining the extent and nature of radiological or hazardous material problems onsite. Responsibilities include:

- Accumulate, tabulate and evaluate data on plant conditions such as meteorological and radiological monitoring readings, and other pertinent data.
- Act as the TSC liaison with the appropriate NRC Site Team representative.
- Ensure use of protective clothing, respiratory protection, and access control within the plant as deemed appropriate to control personnel exposures.

- Ensure that appropriate bioassay procedures have been implemented for onsite personnel when a radioactivity incident has occurred.
- Ensure that personnel are decontaminated, if necessary.
- Authorize personnel exposures below 5 Rem (0.05 Sv) TEDE (EPA-400 lower limit).
- Assist the *[Emergency Plant Manager]* in determining if exposures in excess of the 5 Rem (0.05 Sv) TEDE (EPA-400 lower limit) are necessary.
- Advise the *[Emergency Plant Manager]* of situations when the use of KI should be considered.
- Assist the *[Emergency Plant Manager]* in evaluating dose-based PARs (prior to EOF accepting command and control) and changes in radiological event classification.
- Advise the *[Emergency Plant Manager]* and *[Radiological Assessment Director]* of changes in radiological release status.
- Assist the *[Operations Manager]* in planning rescue operations and provide monitoring services as required, including the transfer of injured and/or contaminated personnel.
- Coordinate with the *[Security Coordinator]* to determine the routes to be used for evacuation of non-essential personnel.
- Assure additional radiation protection personnel and/or equipment is arranged for, as necessary.

10) *[Radiation Controls Engineer (RCE)]* TSC

The *[Radiation Controls Engineer]* reports to the *[Radiation Protection Manager]* and coordinates the radiological and chemistry interface between the technical support engineering efforts. Responsibilities include:

- Monitor area and process radiation monitors to identify trends and potential hazards within the station.
- Evaluate plant environmental factors regarding radiological and other hazardous material conditions.
- Evaluate radiological and hazardous material surveys and chemistry sample results as appropriate.
- Direct the performance of sampling activities through coordination with the OSC *[Chemistry Manager]* in support of operations and core damage estimates as necessary.

- Coordinate radiological and chemistry information with the *[Reactor Engineer]* in support of core damage assessment.

11) *[Radiation Controls Coordinator (RCC)]* TSC/OSC

The *[Radiation Controls Coordinator]* reports to the *[Radiation Protection Manager]*. The *[RCC]* coordinates site and in-plant Radiation Protection response activities through the *[OSC Leads]*. Responsibilities include:

- Support the *[OSC Leads]* in the dispatching of OSC Teams.
- Assist the *[Operations Manager]* in planning radiological controls for personnel dispatched from the Control Room.
- Ensure the proper use of protective clothing, respiratory protection, and access controls in the plant as appropriate to control personnel exposure.
- Monitor habitability concerns impacting access to plant and site areas.
- In coordination with the *[OSC Leads]*, assemble and dispatch the Monitoring Teams as required.
- Supervise the activities of the *[HPN Communicator]* in the TSC.
- Request additional Radiation Protection personnel and/or equipment, as necessary in support of station activities and staff relief.
- Prior to EOF *[Radiological Assessment Group]* staffing:
  - Perform dose assessments and provide appropriate dose-based PARs.
  - Coordinate Monitoring Team activities.
  - Monitor meteorological conditions and remain cognizant of forecast data.
- Following EOF *[Radiological Assessment Group]* staffing:
  - Transfer control of the Monitoring Teams to the EOF *[Environmental Assessment Director]* when appropriate.
  - Transfer responsibility of dose assessment activities to the EOF *[Radiological Assessment Director]*.
  - Assist the EOF *[Environmental Assessment Director]* in the acquisition of information for the off-site agency updates.

12) *[Maintenance Manager]* TSC

The *[Maintenance Manager]* reports to the *[Emergency Plant Manager]* and directs a staff in providing labor, tools, protective equipment and parts needed for emergency repair, damage control and recovery efforts to place the plant in a safe condition or return the plant to its pre-accident status. Responsibilities include:

- Direct the total onsite maintenance and equipment restoration effort.
- Request additional equipment in order to expedite recovery and restoration.
- Supervise the activities of the *[OSC Director]*.
- Ensure the *[Operations Manager]* is informed of OSC staffing utilization and activities.
- In coordination with the *[Operations Manager]*, determine the priority assigned to OSC activities.
- Ensure adequate staffing of the OSC.
- Assist in rescue operations.
- Identify required procedures that need to be written or implemented in support of the response efforts.

13) *[Security Coordinator]* TSC

The *[Security Coordinator]* reports to the *[Emergency Plant Manager]* and maintains plant security and personnel accountability at the nuclear station. Responsibilities include:

- Maintain plant security and account for all personnel within the protected area.
- Assist the *[Emergency Plant Manager]* in evaluating changes in security related threats and event classifications.
- Identify any non-routine security procedures and/or contingencies that are in effect or that require a response.
- Expedite ingress and egress of emergency response personnel.
- Coordinate with the *[Radiation Protection Manager]* in controlling ingress and egress to and from the Protected Area if radiological concerns are present.

- Provide for access control to the Control Room, TSC and OSC, as appropriate.
- Expedite entry into the Protected Area, as necessary, for the NRC Site Team.
- Act as the TSC liaison with the appropriate NRC Site Team representative.
- Assist the *[Radiation Protection Manager]* in determining personnel evacuation routes as necessary.
- Coordinate the evacuation of station non-essential personnel with the appropriate Local Law Enforcement Agencies (LLEAs).

14) *[Operations Support Center Director]* OSC

The *[OSC Director]* reports to the *[Maintenance Manager]* and supervises the activities of OSC personnel. Responsibilities include:

- Assign tasks to designated *[Leads]* as available:
  - Operations
  - Mechanical Maintenance
  - Electrical/I&C Maintenance
  - Radiation Protection
  - Chemistry
- Coordinate with the OSC *[Operations Lead]* in the dispatch of Operations personnel to support Control Room and OSC Team activities.
- Notify the Control Room and TSC prior to dispatch of any OSC teams into the plant.
- Maintain OSC resources including personnel, material, and equipment.
- Maintain accountability for all individuals dispatched from the OSC.
- Conduct periodic briefings on the overall plant status, emergency response activities, and station priorities.

15) *[OSC Leads]* OSC

[OSC Leads] report to the *[OSC Director]* and are assigned from the following station departments:

- Mechanical Maintenance
- Electrical / Instrument and Control

- Radiation Protection
- Chemistry
- Operations (designated Operations representative)

The *[OSC Lead]* assigned to an OSC team is responsible at all times for the safety of team personnel and to keep the *[OSC Director]* apprised of team status. Specifically, the *[OSC Leads]* are responsible for the managing and supervising OSC team personnel, including:

- Conduct of adequate pre-dispatch briefings.
- Ensuring adequate protective equipment and measures have been identified.
- Tracking of OSC team activities while dispatched.
- Debriefing of team personnel upon return to the OSC.

16) *[OSC Team Members]* OSC

Technicians and operations personnel form an OSC pool. OSC Pool personnel form the teams that perform emergency mitigation tasks through out the station. Individuals from operations, maintenance, chemistry and operations are always available as part of the OSC Pool. Individuals from other plant organizations may also be called to assist in emergency mitigation efforts.

b. Offsite Emergency Response Organization: The Offsite ERO part of the overall Plant ERO group that is activated during an emergency. It functions under the *[Emergency Director]*, who is responsible for organizing and coordinating the overall emergency efforts, focusing on the offsite interfaces and support of the Plant ERO efforts.

The Offsite ERO is activated at an Alert. The EOF Organization is responsible for evaluating, coordinating and directing the overall company activities involved in the emergency response. Within the EOF, the *[Emergency Director]* shall assume Command and Control from the *[Emergency Plant Manager]* when the classification escalates to an Alert or higher, unless the EOF capabilities are limited such that the overall control and responsibility for PARs and offsite notifications cannot be assumed. The EOF may also function in a supporting role to the station when the *[Emergency Plant Manager]* maintains Command and Control.

The Offsite ERO consists of station personnel (with some corporate support) who are involved with emergency response efforts necessary to coordinate *[Station Title]* emergency response with offsite agencies response efforts. This organization operates out of the Emergency Operations Facility (EOF). Collectively, members of the Offsite ERO provide for the following activities during an emergency:

- Notifications and Communications with offsite authorities
- Coordinating Emergency Response activities with offsite Emergency Responders.
- Protective Action Recommendations
- Offsite Radiological survey and monitoring
- Support of the Public Information Organization, including approval of new releases.
- Obtaining offsite support for onsite mitgative actions

All Offsite ERO personnel shall have the authority to perform assigned duties in a manner consistent with the objectives of this plan. In addition to maintaining adequate documentation of the event, position responsibilities include:

1) *[Emergency Director]* EOF

Although the *[Emergency Director]* has overall authority for all aspects of [Name of Operating Company's] emergency response efforts, most of his/her efforts are focused on the interface between the company's ERO and offsite authorities and ensuring the Plant ERO receives the support necessary to mitigate results of the event.

a) When the *[Emergency Director]* has Command and Control, the ongoing responsibilities include:

- Assumes overall Command and Control of emergency response activities and the non-delegable responsibilities for PAR determination and the notification of offsite authorities.
- Ensure that Federal, State and local authorities and industry support agencies remain cognizant of the status of the emergency situation. If requested, dispatch informed individuals to offsite governmental Emergency Operation Centers (EOCs).
- Approve the technical content of *[Name of Operating Company]* press releases prior to their being released to the media.
- Coordinate all *[Name of Operating Company]* activities involved with the emergency response.
- Ensure off-site agency updates are periodically communicated as required/requested.

- Request assistance from non-*[Name of Operating Company]* emergency response organizations, as necessary.

2) *[Emergency Offsite Facility Director]* EOF

The *[EOF Director]* reports to the *[Emergency Director]* and has the authority, management ability and technical knowledge to assist the Emergency Director in the management of *[Name of Operating Company]*'s offsite ERO.

[EOF Director] Responsibilities include:

- Direct and coordinate the activation and response efforts of the EOF staff in support of the *[Emergency Director].*
- Evaluate the need to augment the EOF staff based on events in progress.
- Monitor information flow within the EOF to ensure that facility activities remain coordinated.
- Prepare State/Local notification forms with the assistance of the *[Radiological Assessment Director]* and the *[Technical Support Manager].*
- Coordinate services as necessary to support EOF operations.
- Coordinate with the *[Administrative Support Manager]* for continual shift staffing requirements.
- Assist in the conduct of *[Emergency Director]* duties.
- Act as the designated alternate for approval of the technical content of *[Name of Operating Company]* Press Releases and information released to the News Media.
- Act as purchasing agent in support of the TSC for contract negotiation / administration.

3) *[Technical Support Manager]* EOF

The *[Technical Support Manager]* reports to the *[EOF Director]* and directs the activities of the *[Technical Support Group].* Responsibilities include:

- Assist the *[Emergency Director]* in monitoring changes in event classification.
- Assist the *[Emergency Director]* in determining plant-based PARs when necessary.
- Provide information to the *[EOF Director]* for completing the State/Local notification form.

- Provide the *[Emergency Director]* information concerning the status of plant operations, and recommendations for mitigating the consequences of the accident.
- Coordinate the overall *[Name of Operating Company]* engineering support from corporate staff and other outside sources.
- Interface with Industry and contractor engineering support organizations.
- Ensure that the *[Radiological Assessment Director]* is informed of changes in plant status that impacts or potentially impacts the offsite environment or PARs.
- Provide technical information on facility and system design.
- Assist in the development of post-accident recovery measures.

4) *[Operations Advisor]* EOF

The *[Operations Advisor]* reports to the *[Technical Support Manager]*, directs the *[ENS Communicator]*, and is responsible for obtaining and analyzing plant status information and ensuring that it is disseminated. Specific responsibilities include:

- Monitor the *[Plant Parameter Communication Line]* to keep appraised of:
  - Control Room activities including progress on Emergency Operating Procedures.
  - Significant changes in plant system/equipment status and critical parameters.
  - Possible changes in event classification.
- Identify and track critical parameters for the identification and trending of current plant status information.
- Assist the station in identifying Operations resources from corporate staff or unaffected stations for direct support of plant shift operations personnel.
- Assist the *[ENS Communicator]* in the completion of the NRC Event Notification Worksheet and in responding to NRC inquiries.
- Ensure that the *[Radiological Assessment Director]* is informed of changes in plant status that impact or potentially impact the offsite environment or PARs.
- Monitor the *[EOF Communicator]* to remain aware of TSC technical support activities, strategies and priorities.
- Assist the *[Radiological Assessment Director]* in acquiring technical information pertaining to release pathway and core damage assessment.

5) *[Radiological Assessment Director]* EOF

The *[Radiological Assessment Director]* reports to the *[EOF Director]* and directs the activities of the EOF *[Radiation Assessment]* staff. Specific responsibilities include:

- Recommend changes in event classification and PARs based upon effluent releases or dose projections.
- Assist the *[EOF Director]* in the evaluation of the significance of an emergency with respect to the public.
- Notify the *[EOF Director]* of meteorological changes that may impact identification of downwind areas.
- Advise the *[Emergency Director]* of protective actions taken by the station for plant personnel.
- Assist the TSC in the planning and coordination of activities associated with the evacuation of non-essential personnel.
- Advise the *[Emergency Director]* on the need for emergency exposures or for issuance of KI to the Monitoring Teams or *[Name of Operating Company]* personnel required to enter the plume.
- Determine the need for and contact Occupational Health/Industrial Safety Services personnel for assistance.
- Monitor plant radiological conditions and advise the TSC *[Radiation Protection Manager]* of any adverse trends or potential release pathways that may impact existing event classification.
- Assist in the completion and review of the State/Local notification form.
- Maintain cognizance of environmental sampling activities.
- Ensure State authorities are provided information pertaining to *[Name of Operating Company]* Monitoring Team activities and sample results.
- Assist the affected station in the following areas:
  - Planning and coordination of activities associated with the evacuation of non-essential personnel.
  - Acquisition of additional instrumentation, dosimetry, protective equipment and radiological support personnel.

- Assist and interface with the EOF Support personnel and the station in the development of plans for plant surveys, sampling, shielding, and special tools in support of waste systems processing and design modification activities.

- Upon request, provide in-plant health physics data to Emergency Public Information personnel and the *[HPN Communicator].*

- Upon request, provide environmental data to Emergency Public Information personnel.

6) *[Environmental Assessment Director]* EOF

The *[Environmental Assessment Director]* reports to the *[Radiological Assessment Director]* and directs the Monitoring Teams. Responsibilities include:

- Coordinate the transfer of control of the Monitoring Teams if initially under the direction of the TSC *[Radiological Controls Coordinator].*

- Ensure communications are established with the TSC to obtain information on the accident conditions, meteorological conditions and estimates of radioactive material releases.

- Maintain cognizance of Monitoring Team exposure. When warranted, ask the *[Radiological Assessment Director]* to initiate an evaluation of the need for administering KI to *[Name of Operating Company]* workers.

- Determine needs of the *[Radiological Assessment Director, the Radiological Assessment Specialist, and the HPN Communicator(s)]* for updates on Monitoring Team data and ensure distribution of new data to them in accordance with those needs.

- Evaluate and coordinate additional equipment and personnel as necessary from unaffected stations to augment and/or relieve station Monitoring Teams.

- Establish and maintain contact with the dispatched Monitoring Teams.

- Document the *[Environmental Assessment Director's]* instructions and then relay this information to the Monitoring Teams.

- Document environmental data reported by the Monitoring Teams.

- Periodically obtain and document information on Monitoring Team radiological exposure.

- Promptly report new environmental or Monitoring Team exposure data to the *[Environmental Assessment Director].*

- Document questions and answers directed to and received from the Monitoring Teams. Ensure the *[Environmental Assessment Director]* is cognizant of these information requests and relay replies to these requests.

7) *[Radiological Assessment Coordinator]* EOF

The *[Radiological Assessment Coordinator]* reports to the *[Radiological Assessment Director]* and directs the activities of the *[Radiological Assessment Specialist]* and the *[HPN Communicator]*. Responsibilities include:

- Interpret radiological data and provide PARs based upon dose projections to the EOF *[Radiological Assessment Director]*.
- Advise the *[Radiological Assessment Director]* of changes in event classification based on effluent releases or dose projections.
- Initiate evaluation of the need for administering KI to *[Name of Operating Company]* workers when requested by the *[Environmental Assessment Director]*.
- Remain cognizant of forecast and meteorological data and ensure the status is updated periodically.
- Notify the *[Radiological Assessment Director]* of meteorological changes that may impact identification of downwind areas.
- Upon request, provide release and dose assessment data to Emergency Public Information personnel and the *[HPN Communicator]*.

8) *[Radiological Assessment Specialist]* EOF

The *[Radiological Assessment Specialist]* reports to the *[Radiological Assessment Director]*. Responsibilities include:

- Perform dose projections using the Dose Assessment computer models as directed by the *[Radiological Assessment Director]*.
- Monitor meteorological and plant effluent conditions.
- Notify the *[Radiological Assessment Director]* of meteorological changes that may impact identification of downwind areas.
- Evaluate the need for administering KI to *[Name of Operating Company]* workers when requested by the *[Radiological Assessment Director]*.

9) *[HPN Communicator]* EOF

The *[HPN Communicator]* reports to the *[Environmental Assessment Director]*. Responsibilities include:

- Provide updates and respond to inquiries from the NRC on offsite environmental data, release status, dose projections and changes to PARs for the general public.
- Obtain release and dose assessment data from the *[Radiological Assessment Director]* and Monitoring Team data from the *[Environmental Assessment Director]*.
- Maintain continuous communications with the NRC, if requested, via the NRC HPN phone or commercial telephone line.
- Communicate current Health Physics information to NRC representatives, as requested.

10) *[Administrative Support Manager]* EOF

The *[Administrative Support Manager]* reports to the *[EOF Director]* and directs the activities of the administrative, security, and liaison personnel. Responsibilities include:

- Ensure contact is made and communications are maintained with appropriate non-*[Name of Operating Company]* personnel whose assistance may be required to terminate the emergency conditions and to expedite the recovery.
- Advise the *[EOF Director]* concerning the status of activities relating to governmental interfaces.
- Obtain support from Human Resources, the Comptroller's Office, the Legal Department, Accounting Department and others as required.
- Ensure that access to the EOF is limited to Emergency Responders and authorize admittance to non-*[Name of Operating Company]* personnel.
- Implement the *[Name of Operating Company]* Fitness for Duty Program.
- Ensure that NRC Site Team Representatives are directed to the *[Regulatory Liaison]* upon arrival at the EOF.
- Ensure that updates and information are provided to the *[EOC Liaisons]* and to offsite officials present in the EOF.
- Assist in obtaining and coordinating additional technical expertise to support station requests, including *[Name of Operating Company]* Corporate staff, unaffected stations and vendor/contractors.
- Coordinate maintenance of EOF equipment as necessary.

- Ensure shift relief and continual staffing for the EOF.
- Direct the activities of the *[Computer Maintenance Staff].*
- Direct the clerical staff and ensure the clerical requirements for the other EOF staff are met.
- Obtain clerical support for the EOF and JIC.
- Coordinate shift relief and continual staffing for the EOF.
- Obtain services as appropriate to support operation of the EOF.
- Obtain additional resources to support access control measures needed at the EOF and JIC.

11) *[Computer Maintenance Staff]* EOF

The *[Computer Maintenance Staff]* reports to the *[Administrative Support Manager (EOF)].* Responsibilities include:

- Assist any personnel in logging in, initializing or using a desired computer program.
- Investigate and repair problems encountered with communications equipment and computer equipment/applications.

The staff assigned to computer support duties may be dispatched to assist other emergency facilities personnel as needed.

12) *[State/Local Communicator]* EOF

The *[State/Local Communicator]* reports to the *[Administrative Support Manager].* Responsibilities include:

- Communicate and receive information via the State / County notification system or commercial telephone line with appropriate State and County agencies.
- Ensure that the *[Administrative Support Manager]* is made aware of issues and questions raised by offsite agencies and then relay the replies to these requests.

13) *[EOC Communicator]* EOF

The *[EOC Communicator]* reports to the *[Administrative Support Manager].* Responsibilities include:

- Coordinate and dispatch *[EOC Liaisons]* as needed or requested.

- Establish and maintain periodic contact with each location where *[Name of Operating Company] [EOC Liaisons]* have been dispatched.
- Ensure *[EOC Liaisons]* are provided event information and notifications.
- Ensure that the *[Administrative Support Manager]* is made aware of issues and questions raised by offsite agencies and then relay the replies to these requests.

14) *[County EOC Liaison(s)]* County EOCs

The *[County EOC Liaison(s)]* will be dispatched to County Emergency Operations Centers (EOCs) based on established agreements with the counties. The County EOC Liaisons use the *[EOC Communicator]* as their contact at the EOF. Responsibilities include:

- Monitor and report County EOC activities to the EOF.
- Conduct briefings and answer questions.
- Provide simplified explanations to EOC personnel of technical details distributed through approved channels.
- Assist with confirmation/verification of information distributed through approved channels.
- Provide media at the EOC with approved *[Name of Operating Company]* press releases.
- Assist Emergency Public Information personnel in rumor control and media monitoring.

15) *[State EOC Liaison(s)]* State EOCs

At the request of State officials and/or at the discretion of the Emergency Director, *[Name of Operating Company]* will provide Liaison personnel to State Emergency Operation Centers (EOCs). The *[State EOC Liaisons]* use the *[EOC Communicator]* as their contact at the EOF. Responsibilities include:

- Monitor and report State EOC activities to the EOF.
- Conduct briefings and answer questions as requested.
- Assist Emergency Public Information personnel in rumor control and media monitoring.

16) *[Regulatory Liaison]* EOF

The *[Regulatory Liaison]* reports to the *[Administrative Support Manager]*. Responsibilities include:

- Coordinate interfaces between *[Name of Operating Company]* personnel and governmental agencies within the EOF.
- Obtain necessary equipment and supplies to support activities of governmental agencies located in the EOF.

c. Public Information Emergency Response Organization: The Public Information ERO is part of the overall Plant ERO group that is activated during an emergency. It functions under the *[Company Spokesperson]* and reports to the *[Emergency Director]*.

[Site specific location(s)]

The Public Information ERO consists of corporate and station personnel who are involved with emergency response efforts necessary to provide accurate information regarding the *[Station Title]* emergency response efforts. This organization operates out of the Joint Information Center (JIC) *[and/or Emergency Operations Facility (EOF)]*. Collectively, members of the Public Information ERO provide for the following activities during an emergency:

- Development and issuance of New Releases.
- Coordination and conduct of Media Briefings
- Rumor Control
- Media Monitoring and correction of mis-information

All Public Information ERO personnel shall have the authority to perform assigned duties in a manner consistent with the objectives of this plan. In addition to maintaining adequate documentation of the event, position responsibilities include:

1) *[Company Spokesperson]* JIC

The *[Company Spokesperson]* reports to the *[Emergency Director]* and is responsible for directing the *[Name of Operating Company]* Emergency Public Information Organization and providing news information to the media. Responsibilities include:

- Maintain command and control of the Joint Information Center.
- Coordinate with Federal, State and Local agencies, as well as with other organizations involved in the emergency response, to maintain factual consistency of information to be conveyed to the news media/public.
- Conduct periodic briefings with the news media.

- Interface with the *[Public Information Director]*.
- Coordinate and direct responses to media inquiries.
- Ensure that the composition and timeliness of *[Name of Operating Company]* News Releases are adequate.
- Provide for timely exchange of information between other spokespersons.

2) *[Technical Spokesperson]* JIC

The *[Technical Spokesperson]* reports to the *[Company Spokesperson]*. Responsibilities include:

- In coordination with the *[Technical Advisor]*, prepare briefing papers which contain additional detail and background not found in the news releases.
- Provide answers as soon as possible to media questions.
- Provide a follow-up explanation that corrects misinformation as soon as practicable.

3) *[Radiation Protection Spokesperson]* JIC

The *[Radiation Protection Spokesperson]* reports to the *[Company Spokesperson]*. Responsibilities include.

- In coordination with the *[Radiological Advisor]*, prepare briefing papers which contain additional detail and background not found in the news releases.
- Provide answers as soon as possible to media questions.
- Provide a follow-up explanation that corrects misinformation as soon as practicable.

4) *[JIC Director]* JIC

The *[JIC Director]* reports the *[Company Spokesperson]* to ensure the operability of and to supervise the activities in the JIC. Responsibilities include:

- Maintain cognizance of conditions of the plant and environment, and the actions of *[Name of Operating Company]* and governmental support personnel.
- Coordinate with Federal, State and Local agencies, as well as with other organizations involved in the emergency response, to maintain factual consistency of information to be conveyed to the news media/public.
- Participate, as needed, in rumor control activities.

- Ensure that adequate information flow between the EOF and the JIC is coordinated through the *[Public Information Director].*

- Authorize admittance of non-*[Name of Operating Company]* officials to the JIC.

5) *[JIC Coordinator]* JIC

The *[JIC Coordinator]* reports to the *[JIC Director]* and supervises the facilities support staff. Responsibilities include:

- Ensure the JIC is activated and operational. This includes the availability of communications and visual aids.

- Ensure that access to the JIC areas occupied by *[Name of Operating Company]* personnel is controlled.

- Establish a minimum frequency for addressing news media/public representatives and ensure that some form of communication occurs within that time frame (i.e., an update at least hourly.)

- Document unanswered questions and serious public misinformation issues. Follow-up on these questions and issues to ensure that they are being adequately addressed.

- Coordinate the interface between *[Name of Operating Company]* and the news media/public, including, as necessary, briefings, news conferences, interviews and responses to information requests.

6) *[Public Information Liaison]* JIC

The *[Public Information Liaison]* reports to the *[JIC Director].* Responsibilities include:

- Coordinate information flow between the EOF and JIC.

- Ensure that approved News Releases are made available in the JIC.

7) *[Administrative Support Manager]* JIC

The *[Administrative Support Manager]* reports to the *[JIC Director].* Responsibilities include:

- Direct the clerical staff and ensure the clerical requirements for the other JIC staff are met.

- Coordinate shift relief and continual staffing for the JIC.

- Obtain additional radio and telephone equipment as necessary to meet the needs of the emergency.

- Obtain services as appropriate to support operation of the JIC.

8) *[Security]* JIC

[Security] reports to the *[JIC Director]* and is responsible for controlling facility access and obtaining authorization prior to admitting non-*[Name of Operating Company]* officials into the JIC.

9) *[Public Information Director]* JIC or EOF

When the Emergency Public Information Organization is activated, the *[Public Information Director]* reports to the *[Company Spokesperson]* and is responsible for all emergency event related information intended to be conveyed from *[Name of Operating Company]* to the news media/public. The *[Public Information Director]* supervises the activities of the advisory staff, *[News Writer]* and media monitoring and rumor control personnel. Responsibilities include:

- Provide the *[Emergency Director]* with an overview of the public and media impacts resulting from the *[Name of Operating Company]* and governmental activities.
- Coordinate with the *[Emergency Director]* regarding information to be released to the public.
- Authorize the issuance of news releases.
- Interface with the *[Company Spokesperson]* at the JIC.
- Act as a liaison between the ERO and *[Name of Operating Company]*'s corporate executives.
- Maintain cognizance of conditions of the plant and environment, and the actions of *[Name of Operating Company]* and governmental support personnel.
- Interface with the *[Public Information Liaison]* located at the JIC and coordinate information flow between the EOF and the JIC.
- Coordinate with the *[Media Monitoring Staff]* to review and access media coverage of the emergency event.

10) *[Technical Advisor]* JIC or EOF

The *[Technical Advisor]* reports to the *[Public Information Director]*. Responsibilities include:

- Assist in obtaining technical and plant status information for use in news releases and media briefings.
- Assist the *[News Writer]* in the preparation of news releases.
- Assist the *[News Writer]* in the preparation of a chronological event description log.

11) *[Radiological Advisor]* JIC or EOF

The *[Radiological Advisor]* reports to the *[Public Information Director]*. Responsibilities include:

- Assist in obtaining environmental and health physics information for use in news releases and media briefings.
- Assist the *[News Writer]* in the preparation of news releases.
- Assist the *[News Writer]* in the preparation of a chronological event description log.

12) *[News Writer]* JIC or EOF

The *[News Writer]* reports to the *[Public Information Director]*. Responsibilities include:

- Obtain the assistance of the *[Technical and Radiological Advisors]*, as needed, to develop news releases.
- Compose draft news releases.
- Provide the drafted news releases to the *[Emergency Director]* for technical review prior to *[Public Information Director]* approval.
- Develop a chronological event description log.
- Obtain the assistance of the *[Technical and Radiological Advisors]*, as needed, to develop the event log.

13) *[Media Monitoring Staff]* JIC or EOF

The *[Media Monitor Staff]* reports to the *[Public Information Director]*. Responsibilities include:

- Ensure that the media is being monitored and that *[Name of Operating Company]* personnel review the information detailed or contained in media releases.
- Inform the *[Public Information Director]* of all media reports and of actions taken to correct any misinformation or rumors.
- Direct the activities of the *[Rumor Control Staff]* with respect to the function of monitoring rumors from sources other than the media.

14) *[Rumor Control Staff]* JIC or EOF

The *[Rumor Control Staff]* reports to the *[Public Information Director]* and acts in support of the *[Media Monitoring Staff]*. Responsibilities include:

- Ensure that rumors are reviewed, documented and responded to by *[Name of Operating Company]* personnel as deemed appropriate.
- Until the JIC is fully activated, document and respond to rumors as quickly as possible, through *[Communications and Public Affairs]*.
- Inform the *[Media Monitoring Staff]* when rumors representing serious misinformation are encountered.

The above listed ERO positions form the base of *[Name of Operating Company]* emergency response, all company personnel and resources can and will be utilized to ensure the safety of offsite populations, station personnel and protection of station equipment needed to maintain nuclear safety.

6. Emergency Response Organization Block Diagram

Table B-1a and B-1b *[located in Unit Annexes]* lists the key positions of the ERO and the supporting positions assigned to interface with federal, state, and county authorities. Figures B-1a through B-1d illustrates the overall emergency response organization. Section B.5 discusses specific responsibilities and the interrelationships for key positions.

7. Corporate Emergency Response Organization

Corporate management personnel are part of the Offsite ERO and the Emergency Public Information Organization. Personnel staffing these organizations are covered in detail in Section B.5 of this plan.

In addition to corporate management personnel acting as part of the ERO, *[Name of Operating Company]* will provide necessary company resources to aid the station with the following items:

a. Logistics support for emergency personnel, including procurement of transportation, communications, lodging, meals and any other special needs to ensure ongoing staffing of emergency facilities.

b. Arrangements for technical support and necessary resources for reentry/recovery operations.

c. Interface with high level government authorities, not normally part of emergency response activities.

d. Assistance in release of information to the news media.

8. Industry/Private Support Organizations

[Name of Operating Company] retains contractors to provide supporting services to nuclear generating stations. A contract/purchase order with a private contractor is acceptable in lieu of an agreement letter for the specified duration of the contract. Among services currently provided are the following:

a. Institute of Nuclear Power Operations (INPO): Experience has shown that a utility may need resources beyond in-house capabilities for the recovery from a nuclear plant emergency. One of the roles of the Institute of Nuclear Power Operations (INPO) is to assist affected utilities by quickly applying the resources of the nuclear industry to meet the needs of an emergency. INPO has an emergency response plan that enables it to provide the following emergency support functions:

- Assistance to the affected utility in locating sources of emergency personnel, equipment and operational analysis.
- INPO, Electric Power Research Institute (EPRI) and Nuclear Energy Institute (NEI) maintain a coordination agreement on emergency information with their member utilities.
- INPO provides the "Nuclear Network", or its replacement, electronic communications system to its members, participants, NEI, and EPRI to coordinate the flow of media and technical information about the emergency.
- *[Name of Operating Company]* may obtain utility industry information and assistance from any party to this agreement through the coordination of INPO.

To support these functions, INPO maintains the following emergency support capabilities:

- A dedicated emergency call number.
- Designated INPO representative(s) who can be quickly dispatched to the utility emergency response organization to coordinate INPO support activities and information flow.
- The 24-hour per day operation of an Emergency Response Center at INPO headquarters.

[Name of Operating Company] will notify INPO (via the designated emergency call number) for all situations involving an Alert, Site Area Emergency, or General Emergency declaration per the *[Name of Operating Company Reportability Manual]*.

INPO has coordinated the preparation of a Voluntary Assistance Agreement for Transportation Accidents. *[Name of Operating Company]* has signed this agreement which establishes the rights and responsibilities of electric utilities in requesting or providing assistance for response to a nuclear materials Transportation Accident.

b. American Nuclear Insurers (ANI): In early 1982, ANI issued Bulletin #5B (1981) "Accident Notification Procedures for Liability Insurers" which provides revised criteria for the notification of the Pools in the event of a nuclear emergency at one of the liability insured nuclear power reactor sites. This revision brings the ANI/MAELU (Mutual Atomic Energy Liability Underwriters) notification criteria into alignment with the standard emergency classification system adopted by the nuclear industry. This document also identifies a suitable channel for follow-up communication by ANI after initial notification.

- ANI/MAELU Emergency Assistance: In the event of an extraordinary nuclear occurrence (as defined in the Price-Anderson Law) ANI and MAELU (the insurance pools) have plans prepared to provide prompt emergency funding to affected members of the public.

- ANI/MAELU Emergency Assistance (Claims Handling Procedures): The pools' emergency assistance arrangements contemplate the mobilization and dispatch of emergency claims teams to directly dispense emergency assistance funds to affected members of the public.

  The pools should be notified in the event of a nuclear emergency requiring notification of State or Federal governmental agencies, or if the insured believes that offsite persons may be affected and financial assistance of a nature discussed may be required. In these instances, ANI expects notification as soon as possible after the initiation of the emergency. Notification to the pools in the event of an Alert, Site Area Emergency, or General Emergency will be in accordance with the Station's notification procedures.

  Even if it appears to be remote that offsite persons will be affected, the pools should be notified in order that response plans can be initiated to the point of alerting teams of adjusters to stand by. Response activity can be discontinued if it proves less severe and does not require pool response.

  All nuclear occurrences of an emergency or non-emergency nature that fall under the nuclear liability policy should be reported formally in writing to ANI by the *[Name of Operating Company] [Insurance Administrator].*

- Emergency Notification and Follow-up Procedures: Pre-established lines of communication exist between each utility and ANI in order to exchange all required information during a developing emergency situation.

  ANI maintains 24-hour coverage of an emergency notification number. During normal office hours (8:00 am - 4:00 pm) their number will be answered by the receptionist who will transfer an incoming emergency call to an appropriate individual in the office. Outside of normal office hours, this telephone line is covered by an answering service. The answering service will intercept the call and obtain the name, affiliation and telephone number of the caller. They will then notify a designated ANI staff member who will in turn call back the utility to obtain appropriate information regarding the nuclear accident.

In order that follow-up information is available to the Insurance Pool *[Name of Operating Company]* has established the *[Emergency Director]* or their designee as a Point of Contact that ANI personnel may use to update themselves regarding the status of the emergency.

c. Environmental Monitoring Services:

- *[Name of Lab]*: A n environmental lab provides radiological environmental monitoring services in support of station and emergency Radiological Environmental Monitoring Programs (REMPs). In an emergency situation, *[Name of Lab]* field personnel, at a minimum, would continue to maintain *[Name of Operating Company]* air samplers and exchange TLDs under the supervision of the *[Environmental Assessment Director]*. The *[Name of Lab]* would analyze the environmental samples for their radioactivity content and report results to *[Name of Operating Company]*.

d. Department Of Energy (DOE) Radiation Emergency Assistance Center/Training Site (REAC/TS): DOE REAC/TS provides services of medical and health physics support. REAC/TS advise on the health physics aspects of situations requiring medical assistance.

e. Manufacturer Design and Engineering Support: Under established contracts, *[the unit(s) design engineering company]* provides design engineering expertise, specialized equipment and other services identified as needed and deemed appropriate to assist in an emergency situation.

9. Supplemental Emergency Assistance to the ERO

Agreements are maintained with outside support agencies who do not take part in the organizational control of the emergency that provide assistance when called on during an emergency or during the recovery phase. These agreements identify the emergency measures to be provided, the mutually accepted criteria for implementation, and the arrangements for exchange of information. These support agencies (named in Appendix 6) provide services of:

a. Law enforcement;

b. Fire protection;

c. Ambulance services;

d. Medical and hospital support

Support groups providing transportation and treatment of injured station personnel are described in Section L of this plan.

Table B-1b: Minimum Staffing Requirements for the *[Station's Name]* ERO

[This Table contains the recommended generic ERO position titles. If standard across the site, insert station-specific titles in this Table. If unit-specific, move this Table into Section 2 of each unit annex. Functions may also be shifted between positions and facilities]

Functional Area	Major Tasks	Emergency Positions	Minimum Staffing [*60 Minute Augmentation]	Other On-Call	Full Augmentation
1. Plant Operations and Assessment of Operational Aspects	Control Room Staff	See Table B-1a *[located in Unit Specific Annexes]* for Shift Staffing. [(e)]			
2. Emergency Direction and Control	Command and Control	*[Interim Emergency Director [(e)]]* *(CR)*			
		[Emergency Plant Manager] *(TSC)*	1		
		[Emergency Director] *(EOF)*	1		
3. Notification & Communication	Emergency Communications	*[Plant Shift Personnel [(e)]]*			
		[TSC Director] *(TSC)*	1		
		[EOF Director] *(EOF)*	1		
		[TSC/EOF Communicators]	1 (EOF)		1 (TSC)
		[ENS Communicator]	1 (TSC)		1 (EOF)
		[HPN Communicator] *(EOF)*			
		[State/Local Communicator] *(EOF)*			
	Plant Status	*[OPs Communicator]* *(CR/TSC)*			2
		[Operations Advisor] *(EOF)*			1
	In-Plant Team Control	*[Communicator]* *(CR/TSC/OSC)*			3
	Technical Activities	*[Operations Advisor]* *(EOF)*			1
	Governmental	*[EOC Communicator]* *(EOF)*			(b)
		[State EOC Liaison] *(State EOC)*			1
		[County EOC Liaison] *(County EOC)*			(b)
		[Regulatory Liaison] *(EOF)*			1
4. Radiological Assessment	Offsite Dose Assessment	*[Plant Shift Personnel [(e)]]*			
		[Rad Assessment Coordinator] *(EOF)*	1		
		[Rad Assessment Specialist] *(EOF)*			1
		[Rad Controls Coordinator] *(TSC/OSC)*			1
	Offsite Surveys	*[Environmental Assessment Dir]* *(EOF)*	1		
		[Offsite Monitoring Team Personnel]	4		1(b)
	Onsite Surveys	*[Onsite Monitoring Team Personnel]*	2		(b)

Functional Area	Major Tasks	Emergency Positions	Minimum Staffing [*60 Minute Augmentation]	Minimum Staffing Other On-Call	Full Augmentation
	In-plant Surveys	RP Personnel [e]	2		(b)
	Chemistry	Chemistry Personnel [e]	1		(b)
	RP Supervisory	*[Radiation Protection Manager]* (TSC)	1		
		[Radiological Assessment Director] (EOF)	1		
5. Plant System Engineering, Repair, and Corrective Actions	Technical Support / Accident Analysis	Shift Technical Advisor [e] (CR)			
		[Engineering Director] (TSC)	1		
		[Reactor Engineer] (TSC)	1		
		[Mechanical Engineer] (TSC)	1		
		[Electrical Engineer] (TSC)	1		
		[SAMG Decision-Maker] (TSC)	1[a]		
		[SAMG Evaluator] (TSC)	2[a]		
		[Operations Manager] (TSC)	1		
		[Radiation Controls Engineer] (TSC)			1
		[Technical Support Manager] (EOF)			1
	Repair and Corrective Actions	Mechanical Maintenance (OSC)	2		(b)
		Electrical/I&C Maintenance (OSC)	3		(b)
		[Maintenance Manager] (TSC)	1		
		[OSC Director] (OSC)	1		
		[OSC Lead & Team Members] (OSC)			(b)
6. In-Plant Protective Actions	Radiation Protection	RP Personnel [e]	4		(b)
7. Fire Fighting	--	Fire Brigade			(c)
8. 1st Aid and Rescue Operations	--	Plant Personnel			(b)
9. Site Access Control and Personnel Accountability	Security & Accountability	Security Team Personnel	(d)		
		[Security Coordinator] (TSC)			1
10. Resource Allocation and Administration	Logistics	*[Administrative Support Manager]* (EOF)	1		
		[Administrative Support Manager] (TSC)			1
	Administration	*[Clerical Staff]* (TSC/EOF)			1(b)
	Facility Support	*[Computer Maintenance Staff]*[f] (EOF)			1

Functional Area	Major Tasks	Emergency Positions	Minimum Staffing *[*60 Minute Augmentation]*	Other On-Call	Full Augmentation
11. Public Information	Media Interface	*[Company Spokesperson]* (JIC)		1	
		[Rad Protection Spokesperson] (JIC)			1
		[Technical Spokesperson] (JIC)			1
	Information Development	*[Public Information Director]* (JIC or EOF)		1	
		[Radiological Advisor] (JIC or EOF)			1
		[Technical Advisor] (JIC or EOF)			1
		[News Writer] (JIC or EOF)			1
		[Public Information Liaison] (JIC)			1
	Media Monitoring and Rumor Control	*[Media Monitoring Staff]* (JIC or EOF)			(b)
		[Rumor Control Staff] (JIC or EOF)			(b)
	Facility Operation and Control	*[JIC Director]* (JIC)		1	
		[JIC Coordinator] (JIC)			1
		[Administrative Support Manager] (JIC)			1
		[Security] (JIC)			1
		[Facility Support Staff] (JIC)			(b)
		[Clerical Staff] (JIC)			(b)
		TOTAL:	**36**	**3**	**29**[(b)]

* Response time is based on optimum travel conditions.

(a) May be provided by personnel assigned other functions.

(b) Personnel numbers depend on the type and extent of the emergency.

(c) Fire Brigade per *[U]*FSAR/Technical Specifications, as applicable.

(d) Per Security Plan.

(e) All Shift ERO positions are listed in Table B-1a, *[contained in unit specific annexes]*.

(f) The staff assigned to Computer Support may be dispatched to any facility to assist with computer/communications equipment issues.

Note: OSC Team Leads can be used to fill technical/craft positions in Maintenance, RP and Chemistry.

Figure B-1a: Overall ERO Command Structure

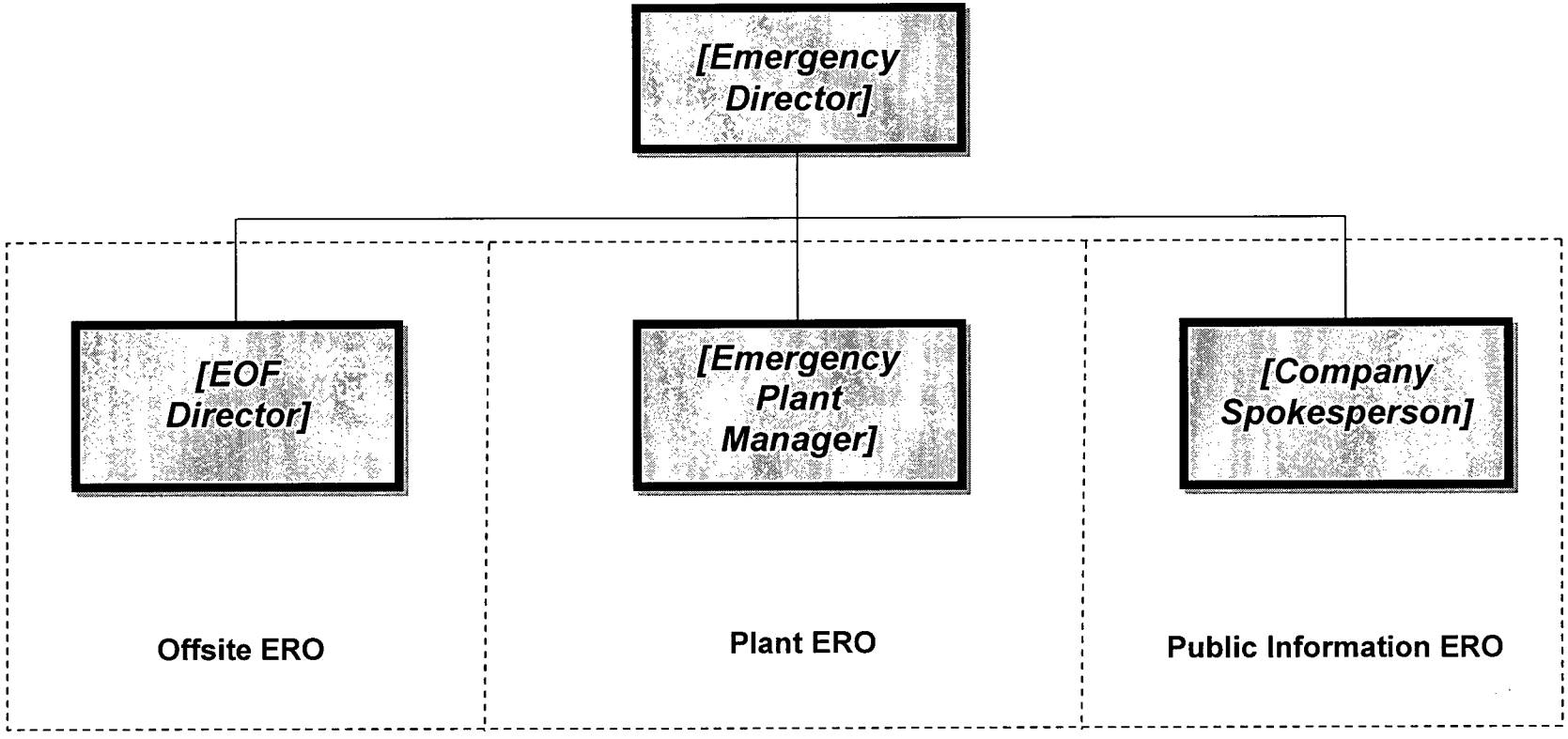


Figure B-1b: Emergency Onsite Organization

[Operating Company -specific]

Figure B-1c: Emergency Offsite Organization

[Operating Company-specific]

Figure B-1d: Emergency Public Information Organization

.

[Operating Company-specific]

Section C: Emergency Response Support and Resources

This section describes the provisions for requesting and effectively utilizing support resources and for accommodating offsite officials at the *[Name of Operating Company]* emergency response facilities.

1. Federal Response Support and Resources

Assistance is available from federal agencies through the Federal Radiological Emergency Response Plan (FRERP). The lead federal agency who provides direct assistance to *[Name of Operating Company]* during an emergency is the Nuclear Regulatory Commission (NRC). Other federal agencies, such as the Department of Homeland Security (DHS) and the Department of Energy (DOE), provide assistance to the state through implementation of the FRERP.

a. Sections A and B of this plan identify the specific individuals by title who are authorized to request federal assistance.

b. Federal agencies that may provide assistance in direct support of *[Name of Operating Company]* in the event of an accident are identified in Section A of this plan. If needed, federal resources are made available to *[Name of Operating Company]* in an expeditious and timely manner.

c. Each emergency response facility has the equipment and communications capability necessary for a continuous high level of response, interaction, and communication among key personnel during emergency conditions. The emergency facilities are able to accommodate federal representatives with working areas provided for their use. Accommodations for the expected site response teams assume the following approximate numbers for each facility:

Facility	Accommodations
EOF	16
TSC	5
CR	1
JIC	10

2. Liaisons

a. The NRC, DHS, and the state(s) may dispatch representatives to the EOF where accommodations have been provided.

b. At the Alert level and above, *[Name of Operating Company]* personnel may be assigned as liaisons to the requesting state and/or county/city/town Emergency Operations Center (EOC). These representatives act as technical liaisons to interpret emergency action levels and protective action recommendations made by the Plant's ERO.

3. Radiological Laboratories

Support of the radiation monitoring and analysis effort is provided by an onsite laboratory. The onsite laboratory is the central point for receipt and analysis of all onsite samples and includes equipment for chemical analyses and for the analysis of radioactivity.

Additional facilities for counting and analyzing samples can be provided by contracted laboratory services or arrangements with other nuclear facilities. These laboratories can act as backup facilities in the event that the plant's counting room and laboratory become unusable or the offsite radiological monitoring and environmental sampling operation exceeds the capacity of the station capabilities during an emergency. Additional outside analytical assistance may be requested from state and federal agencies.

The laboratories have the capability of analyzing terrestrial, marine, and air samples. Their common instrumentation includes a multi-channel analyzer used to determine the isotopic content in a sample, a liquid scintillation counter for tritium analyses, and gas proportional counter for gross alpha, and gross beta activity.

4. Other Assistance

Through INPO other companies operating nuclear facilities are available to provide certain types of assistance and support, including technicians, engineering, design, consultation, whole body counting, and dosimetry evaluation and equipment. Additional facilities, organizations, and individuals, as listed in the Emergency Telephone Directory, are available and may be used in support of emergency response. In addition, American Nuclear Insurers (ANI) provides insurance to cover *[Name of Operating Company]* legal liability up to the limits imposed by the Price-Anderson Act, for bodily injury and/or property damage caused by the nuclear energy hazard resulting from an incident at the plant. Written agreements which describe the level of assistance and resources provided to *[Name of Operating Company]* by external sources are included in Appendix 3 as applicable.

Section D: Emergency Classification System

This section describes the classification and emergency action level scheme used to determine the minimum response to an abnormal event at the stations. This scheme is based on plant systems, effluent parameters, and operating procedures. The initial response of federal, state, and county agencies is dependent upon information provided by the ERO. The Station's Emergency Preparedness Staff works closely with the State and County agencies to ensure consistency in classification schemes and procedural interfaces.

1. Emergency Classification System

The Emergency Plan provides for classification of emergencies into four (4) categories or conditions, covering the postulated spectrum of emergency situations. They are: Notification of Unusual Event (referred to as Unusual Event), Alert, Site Area Emergency, and General Emergency. Each classification is characterized by Emergency Action Levels (EALs) or event initiating conditions and address emergencies of increasing severity.

a. Unusual Event - Event(s) are in progress or have occurred which indicate a potential degradation of the level of safety of the plant. No release of radioactive material requiring offsite response or monitoring are expected unless further degradation of safety systems occurs.

This is the least severe of the four (4) levels. The purpose of this classification is to bring response personnel and offsite agencies to a state of readiness in the event the situation degrades and to provide systematic handling of information and decision making. The Shift Manager, as *[Interim Emergency Director]* will classify an Unusual Event.

Required actions at this classification include:

- Notifications to station management.
- Notification, within 15 minutes, of the state and local communities.
- At the discretion of the *[Emergency Director]* or station management, full or selective staffing of the TSC, OSC and EOF may be initiated.
- Notification of the Nuclear Regulatory Commission (NRC) as soon as possible but within 60 minutes of classification.
- Assessment of the situation and response as necessary, which may include escalating to a higher classification if conditions warrant.
- When the event is terminated, close-out is performed over communication links to offsite authorities participating in the response (i.e., NRC, state, county), followed by formal transmission of a State/Local notification form within 24 hours.

b. Alert - Event(s) are in progress or have occurred which indicate an actual or potential substantial degradation of the level of safety of the plant. Any releases are expected to be limited to small fractions of EPA Protective Action Guideline exposure levels.

The purpose of this classification is to ensure that emergency response personnel are readily available and to provide offsite authorities with current status information. An Alert will be classified as the initiating event or as escalation from an Unusual Event. In either case, the classification will most likely made by the Shift Manager (*[Interim Emergency Director]*) prior to the transfer of Command and Control.

Required actions at this classification include:

- Notifications to station management.
- Notification, within 15 minutes, of the state and local communities. The EOF will assume state update responsibilities.
- Activation of the TSC, OSC and the EOF. The JIC organization may be activated at the Alert level.
- Transfer of Command and Control.
- Notification of the NRC as soon as possible but within 60 minutes of classification.
- Notification of INPO and ANI.
- Assessment of the situation and response as necessary, which may include escalating to a higher classification if conditions warrant.
- On-site and off-site Monitoring Teams are sent to staging areas or dispatched to monitor for releases of radiation to the environment.
- Keeping offsite authorities informed of plant status by providing periodic updates to include meteorological and radiological data.
- When the event is terminated, notification is performed over communication links followed by an Initial Incident Report to offsite authorities participating in the response (i.e., NRC, state, county) within 8 hours.

c. Site Area Emergency - Event(s) are in progress which involves actual or likely major failures of plant functions needed for protection of the public. Any releases are not expected to exceed EPA Protective Action Guideline (PAG) exposure levels except near the site boundary.

The purpose of this classification, in addition to those of the Alert level, is to ensure that all emergency response centers are manned and provisions are made for information updates to the public through offsite authorities and the news media. The classification will most likely be made by the *[Emergency Plant Manager]* following activation of the TSC.

Required actions at this classification, in addition to those listed under the Alert level, include:

- Activation of the JIC.
- If not previously performed, Assembly/Accountability shall be performed and Site Evacuation of non-essential personnel shall be initiated.
- Keeping offsite authorities informed of plant status by providing periodic updates to include meteorological data and projected or actual doses for any releases that have occurred.

d. General Emergency - Event(s) are in progress or have occurred which involve actual or imminent substantial core degradation or melting with potential for loss of containment integrity. Releases can be reasonably expected to exceed EPA PAG exposure levels offsite for more than the immediate site area.

The purpose of this classification, in addition to those of the Site Area Emergency level, is to initiate predetermined protective actions for the public and provide continuous assessment of information from monitoring groups. The classification will most likely be made by the *[Emergency Plant Manager]* following activation of the TSC.

Required actions at this classification, in addition to those listed under the Alert and Site Area Emergency, include:

- A Protective Action Recommendation will be determined.
- Assessment of the situation and response as necessary.

[Site specific standard]

e. *[Classification Downgrading: [Name of Operating Company] policy is that emergency classifications shall not be downgraded to a lower classification. Once declared, the event shall remain in effect until no Classification is warranted, a higher classification is required or until such time as conditions warrant entry into the Recovery Phase.]*

f. Guidance for Termination of an Emergency: The purpose of terminating an emergency is to provide an orderly turnover of plant control from the Emergency Response Organizations to the normal *[Name of Operating Company]* plant organization. Termination of the emergency is authorized by the *[Emergency Director]* in Command and Control. The considerations discussed in Section M.1.b must be performed prior to exiting the emergency event. Consultation with governmental agencies and other parties should be conducted prior to termination of an event classified as Site Area or General Emergency. Notifications shall be transmitted to appropriate agencies to terminate an event. When a classified event is terminated a Recovery Phase will be entered.

Recovery Phase: That period when the emergency phase is over and activities are being taken to return the situation to a normal state (acceptable condition). The plant is under control and no potential for further degradation to the plant or the environment is believed to exist.

Entry into the Recovery Phase will be authorized by the *[Emergency Director]* after consultation with the *[Emergency Plant Manager]* and offsite authorities.

Required actions at this classification include:

- The affected State(s) and the NRC should be consulted prior to entry into Recovery.
- Notifications will be made to station management, State(s) and NRC.
- A Recovery organization will be established to manage repairs to return the Unit to an acceptable condition, and support environmental monitoring activities as requested in coordination with Federal and State efforts.
- INPO and ANI are notified of Recovery phase.

g. Station Nuclear Security Plan: *[Station Title]* has a Security Plan that complies with the requirements of 10 CFR 73. The interface between the Radiological Emergency Plan and the Security Plan is one of parallel operation. The plans are compatible. The Radiological Emergency Plan response measures, once initiated, are executed in parallel with measures taken in accordance with the Security Plan. During a classified event the individual in overall command and control has responsibility for both operations.

Threats made to *[Name of Operating Company]* facilities are evaluated in accordance with established threat assessment procedures and the respective Security Plans. The Security Plan, Appendix C, *[[Site Name] Safeguards Contingency Plan]*, identifies situations that could be initiating conditions for EAL classifications. Contingency events include bomb threats, attack threats, civil disturbances, protected area intrusions, loss of guard/post contact, vital area intrusions, bomb devices discovered, loss of guard force, hostages, extortion, fire/explosions, internal disturbances, security communications failure, and obvious attempts of tampering. The Security Plan provides guidance for decisions and actions to be taken for each security contingency event. As guidance, the Security Plan allows for differing responses depending upon the assessment of the actual situation within each contingency event classification.

The assessment of any security contingency event and the decision to initiate, or not to implement the Radiological Emergency Plan, will be the responsibility of the Shift or *[Emergency Plant Manager]*. All identified security contingency events have the potential of being assessed as initiating conditions for a radiological emergency declaration.

Determination of a credible security threat may require the staffing of emergency response facilities based on the classification of an Unusual Event per the Emergency Action Levels (EALs).

2. Emergency Action Levels

Unit Annexes *[if applicable]* include Unit Specific Emergency Action Levels (EALs) consistent with the general class descriptions and provided in NEI guidance documentation in accordance with Regulatory Guide 1.101, "Emergency Planning and Preparedness for Nuclear Power Reactors." Where possible, these EALs will be related to plant instrumentation readings.

Emergency classifications are characterized by Emergency Action Levels (EALs). The Threshold Values are referenced whenever an Initiating Condition is reached. An Initiating Condition is one of a predetermined subset of unit conditions where either the potential exists for a radiological emergency, or such an emergency has occurred. Defined in this manner, an Initiating Condition is an emergency condition, which sets it apart from the broad class of conditions that may or may not have the potential to escalate into a radiological emergency. Initiating Conditions are arranged in one of the Recognition Categories.

EALs are for unplanned events. A planned evolution involves preplanning to address the limitations imposed by the condition, the performance of required surveillance testing, and the implementation of specific controls prior to knowingly entering the condition. Planned evolutions to test, manipulate, repair, perform maintenance or modifications to systems and equipment that result in an EAL Threshold Value being met or exceeded are not subject to classification and activation requirements as long as the evolution proceeds as planned. However, these conditions may be subject to the reporting requirements of 10 CFR 50.72 and/or 10 CFR 50.73.

An emergency is classified after assessing abnormal plant conditions and comparing them to EAL Threshold Values for the appropriate Initiating Conditions. Classifications are based on the evaluation of each unit for multi-reactor sites. Matrix tables organized by recognition categories are used to facilitate the comparison. The matrix tables are used when the unit is in the Technical Specification defined modes of Power Operations (for classifications purposes, startup evolutions are included in the Power Operations mode), Hot Standby, Hot Shutdown and Cold Shutdown or Refueling (for classification purposes a defueled plant will be considered in the Refueling mode).

All recognition categories should be reviewed for applicability prior to classification. The initiating conditions are coded with a letter and/or number designator. All initiating conditions, which describe the severity of a common condition (series), have the same initial designator.

3. Offsite Classification Systems

[Site specific standard]

[Name of Operating Company] works with the state to ensure consistency between classification schemes. The initial EALs will be discussed with and agreed upon by the state and county authorities and approved by the NRC. Thereafter, the content of the EALs shall be reviewed with the state and county authorities on an *[annual basis]* and significant changes approved by the NRC. Concurrence is obtained from state and county authorities for EAL changes that significantly impact the Initiating Conditions or technical bases.

4. Offsite Emergency Procedures

[Name of Operating Company] works with the state and county authorities to ensure that procedures are in place that provide for emergency actions to be taken which are consistent with the protective actions recommended by the station, accounting for local offsite conditions that exist at the time of the emergency.

Section E: Notification Methods and Procedures

This section describes the notification of state and county response organizations and *[Station's Name]* emergency response personnel. It outlines the content of initial and follow-up messages to response organizations within the Plume Exposure Pathway Emergency Planning Zone (EPZ).

1. Bases for Emergency Response Organization Notification

[Name of Operating Company], in cooperation with state and county authorities, has established mutually agreeable methods and procedures for notification of offsite response organizations consistent with the emergency classification and action level scheme. Notifications to offsite agencies include a means of verification or authentication such as the use of dedicated communications networks, verification code words, or providing call back verification phone numbers.

[Site specific, if applicable]

[Notification/Classification for Multi-Unit Emergencies: when the classification involves multi-units of a multi-unit facility (i.e., tornado or earthquake), the classification shall be reported as affecting all units.

In situations when multiple units of a multi-unit facility are affected by emergency events, but the events are not related or the classification for each unit is different, notification will be made for the highest classification. Clarification of the relationship between the classification levels determined for the units should be provided in the periodic state updates and the NRC Event Notification Worksheet.

In situations when one unit is affected by unrelated events, notification will be made for the highest classification via the State/Local notification and the second event information provided in the periodic state updates.]

Notification for Transportation Accidents: A Transportation Accident is defined in 49 CFR 171.15 and 49 CFR 171.16. If a Transportation Accident involving material in the custody of an *[Station's Name]* facility occurs, *[Name of Operating Company]* will notify the appropriate internal and offsite agencies in accordance with *[Name of Operating Company]* procedures.

2. Notification and Mobilization of Emergency Response Personnel

Emergency implementing procedures are established for notification and mobilization of emergency response personnel as follows:

a. Onsite: When an emergency is declared, reclassified, or terminated an announcement is made (over the plant public address system or by other means) that includes the emergency classification declared and response actions to be taken by site personnel.

At the Unusual Event classification, select ERO augmentation personnel are notified and requested to remain available to respond. At an Alert classification or higher ERO augmentation personnel are notified for activation of the TSC, OSC, EOF, and, if determined appropriate, the JIC using the [*ERO Notification System*] or, a system of pagers and/or call trees via commercial telephone as back-up. The JIC is activated at the Site Area Emergency.

b. Offsite: Notifications are promptly made to offsite emergency response organizations as follows:

1) State/Local Agencies: A notification shall be made within fifteen (15) minutes of:

- The initial emergency classification.
- Classification escalation.
- The issuance of or change to a Protective Action Recommendation (PAR) for the general public.
- Changes in radiological release status, occurring outside of an event classification or PAR notification, based on an agreement with the State(s).

The State / Local emergency warning points are notified using a dedicated notification system, or a commercial telephone line as backup.

A notification will also be initiated to cognizant State/Local government agencies as soon as possible but within one hour of the termination of an event classification, or entry into Recovery Phase.

2) Nuclear Regulatory Commission (NRC): An event will be reported to the NRC Operations Center immediately after notification of the appropriate State or local agencies but not later than one (1) hour after the time of initial classification, escalation, termination or entry into the Recovery Phase. The NRC is notified by a dedicated telephone system called the Emergency Notification System (ENS). If the ENS is inoperative, the required notifications are made via commercial telephone service, other dedicated telephone service, or any other method that shall ensure that a report is made as soon as practical. An NRC Event Notification Worksheet should be utilized to transmit initial information to the NRC. If a continuous communication is requested and established, a log is used in lieu of the ENS Worksheet.

Specific requirements for the notifications to the NRC for classified emergency events are detailed in 10 CFR 50.72 with guidance provided in the station's notification procedures.

The computerized data link to the NRC, referred to as the Emergency Response Data System (ERDS), will be initiated within one hour of the declaration of an Alert classification or higher.

Mobilization of federal, state, and county response organizations is performed in accordance with their applicable emergency plan and procedures. At a minimum, mobilization of federal response organizations and activation of state and county EOCs is expected to occur at the declaration of a Site Area Emergency.

The state and county authorities are responsible for the process of notification of the general public.

c. Support Organizations: When an emergency is initially classified, escalated or terminated, notifications are promptly made to the following support organizations:

- Medical, rescue, and fire fighting support services are notified for assistance as the situation dictates.
- The Institute of Nuclear Power Operations (INPO) is notified at an Alert or higher classification with requests for assistance as necessary.
- The American Nuclear Insurers (ANI) are notified at an Alert or higher classification with requests for assistance as necessary.
- Vendor and contractor support services are notified for assistance as the situation dictates.

3. Initial Notification Messages

[Name of Operating Company], in conjunction with state and county authorities, has established the contents of the initial notification message form transmitted during a classified emergency. The contents of the form include, as a minimum:

- Designation ("This is a Drill" or "Actual Event").
- Identity of site.
- Event classification.
- EAL number (as agreed upon with State authorities).
- Non-technical event description (as agreed upon with State authorities).

[Site specific standard]

- Date and time of declaration (*[or entry into Recovery Phase or Termination]*).
- Whether a release is taking place (Note: "Release" means a radiological release attributable to the emergency event.)

- Wind direction and speed.
- Whether offsite protective measures may be necessary.

[Site specific nomenclature]

- Potentially affected *[Subareas]* (or Sectors as applicable) when a General Emergency is declared.

Notification approval, transmittal date and time, and offsite agencies contacted are recorded either on the notification form or in an event logbook.

4. Follow-up Messages

For all emergency classifications, update messages to state authorities will be provided at the time of the notification on a prearranged frequency. The facility in Command and Control is responsible for ensuring that the updates are completed. State updates contain the prearranged information plus any additional information requested at the time of the notification.

Follow-up notifications are provided to the NRC Operations Center as soon as possible, but not later than one (1) hour after significant new information is available involving:

a. location of incident and name and telephone number (or communications channel identification) of caller;

b. date/time of incident;

c. class of emergency;

d. type of actual or projected release (airborne, waterborne, surface spill), and estimated duration/impact times;

e. estimate of quantity of radioactive material released or being released and the points and height of releases;

f. chemical and physical form of released material, including estimates of the relative quantities and concentration of noble gases, iodines and particulates;

g. meteorological conditions at appropriate levels (wind speed, direction (to and from), indicator of stability, precipitation, if any);

h. actual or projected dose rates at site boundary; projected integrated dose at site boundary;

i. projected dose rates and integrated dose at the projected peak and at 2, 5 and 10 miles (3.2, 8, and 16 kilometers), including sector(s) affected;

j. estimate of any surface radioactive contamination in plant, onsite or offsite;

k. licensee emergency response actions underway;

l. recommended emergency actions, including protective measures;

m. request for any needed onsite support by offsite organizations; and

n. prognosis for worsening or termination of event based on plant information.

If requested by the NRC, an open, continuous communications channel will be maintained with the NRC Operations Center over the Emergency Notification System (ENS) and/or Health Physics Network (HPN) Circuits.

5. State and County Information Dissemination

The state and county emergency response plans describe procedures for state and county officials to make a public notification decision promptly (within about 15 minutes) on being informed by the plant of an emergency. The system for disseminating information to the public includes notification by pre-scripted messages through appropriate broadcast media such as the Emergency Alert System (EAS).

6. Notification of the Public

The capability exists for the prompt notification of the general public within the Plume Exposure Pathway Emergency Planning Zones (EPZs) for *[Name of Operating Company]* stations covered under this plan.

This notification capability consists of two principal elements: (1) the Alert and Notification Systems (ANS) and (2) the Emergency Alerting System (EAS) radio stations.

[Site specific standard]

- The Alert and Notification System (ANS) consists of fixed sirens *[and vehicles with public address (PA) systems].* Activation of the ANS sirens by the civil authorities will alert the public to turn on their radios to a local EAS radio station for detailed information on the emergency situation.

- The Emergency Alerting System (EAS) is a network of local radio stations prepared to transmit or relay emergency information and instructions from the civil authorities to the general public

[Site specific standard]

The ANS is operated by local governmental agencies and maintained by *[Name of Operating Company]*. To assure the ANS is maintained in an operational readiness posture, the local agencies have agreed to test the system (by sounding the sirens) on a periodic basis that meets or exceeds DHS guidance and to report inoperable equipment to *[EP-designated maintenance personnel]*. The goal of the testing and maintenance program is to identify inoperable equipment in a timely manner and to restore equipment to a functional status commensurate with DHS operability requirements as referenced in FEMA-REP-10, "Guide for the Evaluation of Alert and Notification Systems for Nuclear Power Plants" Section E.6.2.1. In addition to this routine test and repair program, preventive maintenance of the ANS will be performed on an *[annual basis]*.

The activation of the ANS sirens, *[deployment of emergency service vehicles]* and operation of the Emergency Alerting System is discussed in detail in the state specific response plans.

7. Messages to the Public

The respective State(s) have developed EAS messages for the public consistent with the classification scheme. These draft messages are included as part of the States' Emergency Plan and contain instructions with regard to specific protective actions to be taken by occupants and visitors of affected areas. Messages may include instructions such as: take shelter and go indoors, close windows and doors, turn off ventilation systems; directions given for evacuation; directions to stay tuned to specific stations for further information, ad-hoc respiratory protection, (e.g., handkerchief over mouth, etc.). *[Name of Operating Company]* will provide support for the content of these messages when requested.

Section F: Emergency Communications

This section describes the provisions utilized for prompt communications among principal emergency response organizations, communications with the ERO and communications with the general public.

1. Communications/Notifications

[Name of Operating Company] has extensive and reliable communication systems installed at *[Station Title]*. Examples of the communications network include systems such as normal and dedicated telephone lines on landlines, microwave and fiber-optic voice channels, cell phones, satellite phones, mobile radio units, handi-talkies and computer peripherals. This network provides:

- Voice communication through normal telephone, dedicated line and automatic ring-down between selected facilities, conference call capability, speaker phones, and operator assistance where required.

- Communications between emergency vehicles and appropriate fixed locations, as well as with state mobile units and fixed locations.

- Facsimile, computer network, and modem transmission.

Figure F-1 depicts the initial notification paths and the organizational titles from the *[Name of Operating Company]* Emergency Response Facilities (ERFs) to federal, state and local emergency response organizations, and industry support agencies. The primary and alternate methods of communication, and the NRC communications network, are illustrated on Figures F-2 and F-3.

a. *[Name of Operating Company]* maintains the capability to make initial notifications to the designated offsite agencies on a 24-hour per day basis. The offsite notification system provides communications to state and county warning points and Emergency Operations Centers from the CR, TSC, and EOF. Backup methods include facsimile and commercial telephone lines. State and county warning points are continuously staffed.

b-d. *[Name of Operating Company]* has established several communication systems that ensure reliable and timely exchange of information necessary to provide effective Command and Control over any emergency response; (1) between the station and state and local agencies within the EPZs, (2) with federal emergency response organizations, (3) between the plant, the EOF, and the state and county EOCs, and (4) between Emergency Response Facilities and Monitoring Teams. A general description of the systems is as follows:

1) *[Name of Notification System (Acronym if used)]:* The *[Name of Notification System]* is a dedicated communications system that has been installed for the purpose of notifying State and local authorities of declared nuclear emergencies. This system links together the station Control Room(s), the EOF, TSC(s) and State and local authorities as appropriate.

[Site specific telephone links]

2) Dedicated Phone Lines: A dedicated phone link is established by limiting a phone line to one purpose, blocking its use for all other purposes. Several dedicated telephone links have been established for use by the ERO to perform the following key communications tasks. Some of these tasks are listed below:

   - *[Communications between the Control Room, the TSC and the OSC to coordinate the dispatching of emergency damage control teams from the OSC (see Figure F-2).]*
   - *[Communications between the Control Room, the TSC and the EOF to monitor the activities of the Control Room staff and provide technical data to facilities outside the Control Room (see Figure F-2).]*
   - *[Conferencing between the TSC and the EOF to communicate mitigating activities and priorities for the station to the EOF (see Figure F-2).]*
   - *[Communications between Emergency Director, the Control Room, TSC, and the EOF (see Figure F-2).]*

[Site specific PBX dialing]

6) Private Branch Exchange (PBX) Telephone System: The PBX telephone system provides communication capability between telephones located within the plant by dialing a *[four-digit station code]*. The PBX is used to connect the CR, TSC, EOF, and OSC. The PBX telephone system also provides for outside communications through interconnections with the corporate telephone communications system and commercial telephone lines.

7) Local Commercial Telephone System: This system provides standard commercial telephone service through the public infrastructure, consisting of central offices and the wire line and microwave carrier. The commercial telephone system includes connections to PBX, emergency telephone system, dedicated lines to emergency facilities, and lines to the JICs. The commercial vendor provides primary and secondary power for their lines at their central office.

8) Emergency Response Data System (ERDS): The ERDS will supply the NRC with selected plant data points on a near real time basis. ERDS is activated by the ERO as soon as possible but not later than one hour after declaration of an Alert, Site Area Emergency or General Emergency. The selected data points are transmitted via modem to the NRC at approximately 1-minute intervals.

[Site specific communication links]

9) Monitoring Team Communications: A separate communications system has been installed to allow coordinated environmental monitoring and assessment during an emergency. This system consists of the necessary hardware to allow communication between the *[Control Room, TSC, EOF, and mobile units]* in *[Name of Operating Company]* vehicles. Commercial cell phones or other means are available as back up to the primary monitoring team communications system.

In addition, station communication links exist to ensure appropriate information transfer capabilities during an emergency. The station may also utilize its Public Address System, Video Conferencing Systems, station radios and pagers to augment its emergency communications.

e. ERO Notification System: *[Name of Operating Company]* utilizes an automated ERO notification system to rapidly notify members of the ERO. The system consists of a computer with modem equipment capable of initiating and receiving telephone calls. When contact is made, the system automatically requests security identification and then responds. One of the calls made by the system is to the paging system vendor. The pager vendor's system accepts group and individual numbers from the ERO notification system, activating several radio transmitters which, in turn, activate personal pagers belonging to members of the ERO. The system is designed with redundant power, phone and computer components with geographic separation. Implementing procedures specify the course of action to be taken if the ERO notification system fails. In this situation, these procedures require station personnel to manually activate the ERO group page feature and/or directly call-out key emergency response personnel.

f. NRC Communications (ENS and HPN)

Communications with the NRC Operations Center will be performed via the NRC ENS and HPN circuits or commercial telephone line. Information is normally communicated from an approved NRC Event Notification Worksheet prior to establishing an open ENS and/or HPN line.

Installation and use of these NRC telephones is under the direction of the NRC (see Figure F-3).

Emergency Notification System (ENS): Dedicated telephone equipment is in place between the station's Control Room and the NRC, with an extension of that line in the TSC. A separate line is available in the EOF with the capability of being patched with the station through the NRC. This line is used for NRC event notifications and status updates.

Health Physics Network (HPN): There also exists a separate dedicated telephone between the NRC, the TSC, and EOF for conveying health physics information to the NRC as requested or as an open line.

2. Medical Communications

Communications are established with the primary and backup medical hospitals and transportation services via commercial telephone that is accessed by station personnel.

3. Communications Testing

Communications equipment is checked in accordance with Section H.10. Communications drills between *[Name of Operating Company]* and state and county government facilities are conducted in accordance with Section N.2.a. In addition, minimum siren testing is performed as follows:

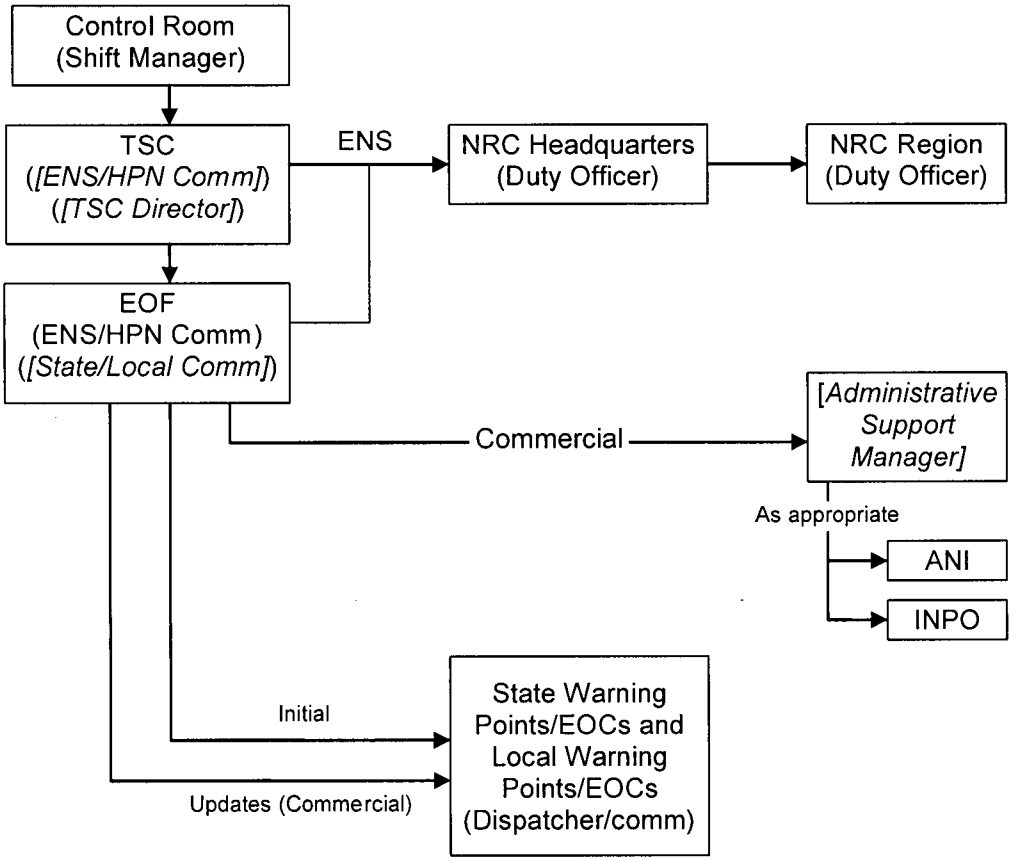
[Site specific standards]

[Silent Test ..... At least weekly]

[Growl (or Equipment) Test ..... Quarterly and during preventive maintenance]

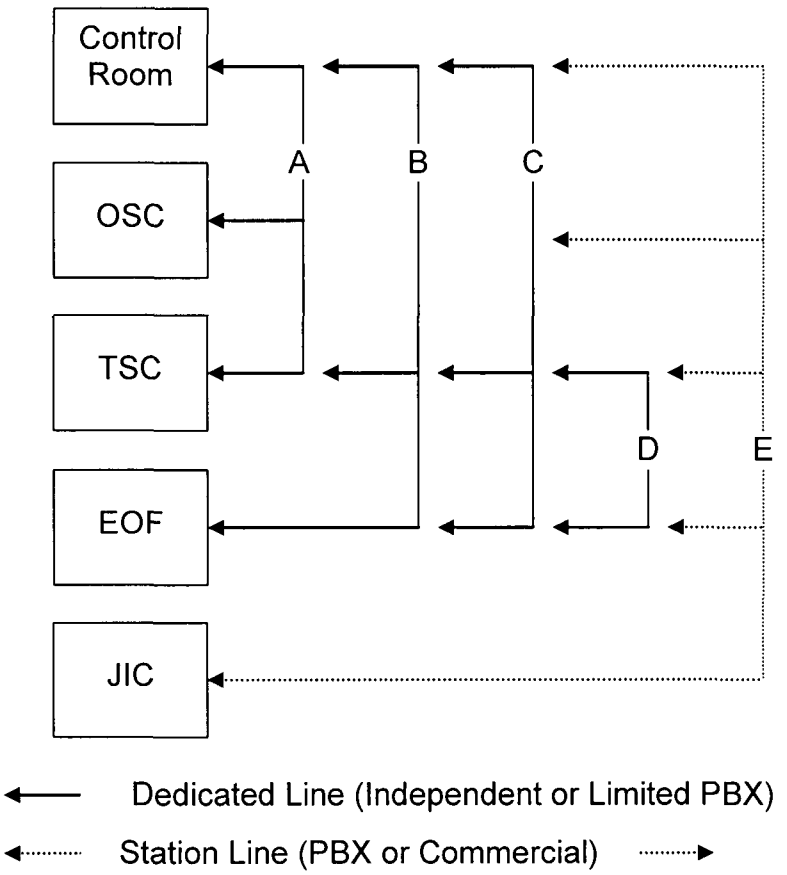
[Full Volume Test ..... Annually]

Figure F-1: Notification Scheme (For Full Augmentation)



[Site specific Notification Scheme]

Figure F-2: ERF Communications Matrix



A = *[Dedicated Phone Link for dispatch of OSC Teams between the OSC, TSC, and Control Room].*

B = *[Dedicated Phone Link for use by the Emergency Director, Emergency Plant Manager and Control Room between the Control Room, TSC and EOF].*

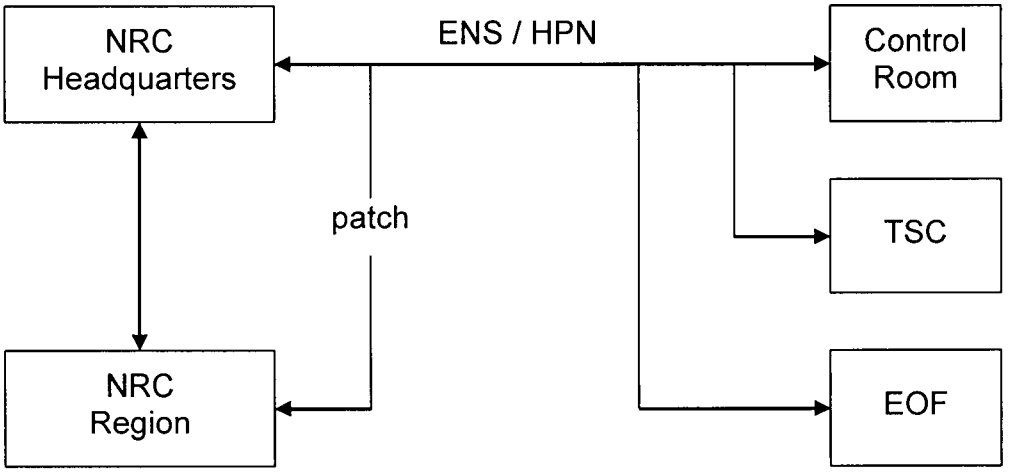
C = *[Dedicated Phone Link for transmission of technical data between the TSC, Control Room and EOF].*

D = *[Dedicated Phone Link to discuss mitigating activities and priorities between the TSC and EOF].*

E = *[Station telephone line.]*

[Site specific Communication links]

Figure F-3: NRC Communications for Nuclear Response



NOTE: ENS and HPN circuits may use the Federally maintained system, company tie lines or PBX as dedicated primary communications systems and have commercial backups.

Section G: Public Education and Information

This section describes the *[Name of Operating Company]* public education and information program. It outlines the methods for distributing public information materials on an annual basis and describes how the public is informed in the event of an emergency.

1. Public Information Publication

The state has overall responsibility for maintaining a continuing disaster preparedness public education program. The emergency public information publication for the *[Name of Operating Company]* generating stations is updated annually, in coordination with state and county agencies, to address how the general public is notified and what their actions should be in an emergency. *[Name of Operating Company]* distributes the publication on an annual basis by mail to all residents within the ten-mile (16-kilometer) plume exposure EPZs and to appropriate locations where a transient population may obtain a copy. Signs or other measures shall be used for transient population which would refer the transient to the telephone directory or other source of local emergency information. The public information publication includes the following information:

a. Educational information on radiation.

b. A description of the times that require public notification (what to do if a take-shelter or evacuate recommendation is given).

c. A map of major evacuation routes.

d. A list of communities likely to serve as host shelter areas and instructions on how to obtain additional information, especially for the disabled or their caretakers and those without transportation.

e. Appropriate radio and television frequencies which would provide information on the event.

2. Public Education Materials

Public information publications instruct the public to go indoors and turn on their radios when they hear the ANS sirens operating. These publications also identify the local radio stations to which the public should tune in for information related to the emergency.

3. Media Accommodations

a. The *[Communications and Public Affairs Department]* is notified when an Unusual Event or higher Emergency condition exists. They will handle public and media inquires in the early stages of the event (until the JIC is activated) by distributing background information, news releases, and providing information to corporate management.

1) The Emergency Public Information Organization: It may be activated at any time at the discretion of station management. However, normally when there is a procedural requirement to activate the EOF, the Emergency Public Information Organization *[should]* also be activated. It is required to be activated at a Site Area or General Emergency.

The primary purpose of the Emergency Public Information Organization is to disseminate information from *[Name of Operating Company]*'s ERO about the emergency events to the public, via the news media. However, the authority for issuance of news releases for the classification of an Unusual Event or prior to ERO activation will always reside with the *[Communications and Public Affairs Department].* Upon activation, the Emergency Public Information Organization has the responsibility and authority for issuance of news releases to the public.

The Emergency Public Information Organization is comprised of senior managers from *[Name of Operating Company]* who will function as spokespersons, and other *[Name of Operating Company]* individuals. *[Name of Operating Company]*'s spokespersons disseminate information to the news media/public concerning the emergency events out of a Joint Information Center (JIC).

2) The Joint Information Center (JIC): The JIC is the facility in which media personnel gather to receive information related to the emergency event. The JIC is the location where approved news releases will be provided to the media for dissemination to the public. News releases are coordinated between the EOF and JIC personnel and State and/or Federal representatives in the JIC. Public information personnel operate from the EOF and the JIC, which is under the direction of the *[Company Spokesperson]* and functions as the single point contact to interface with Federal, State, and local authorities who are responsible for disseminating information to the public.

The station has a designated JIC. The JIC is equipped with appropriate seating, lighting and visual aids to allow for public announcements and briefings to be given to the news media. Additionally, JICs are equipped with commercial telephone lines for making outgoing calls. The Emergency Public Information Organization functions from the *[JIC and EOF]* in preparing and releasing utility information about the emergency event. Although it may be activated sooner, the JIC is required to be activated at the declaration of a Site Area Emergency or higher classification.

Functions of the JIC include:

- Serving as the primary location for accumulating accurate and current information regarding the emergency conditions and writing news releases.
- Providing work space and phones for public information personnel from the state, counties, NRC, DHS, and industry-related organizations.
- Providing telephones for use by the news media personnel.
- Providing responses to media inquiries through personnel monitoring telephones that the media can call for information about an emergency.

b. The news media is not normally permitted into the EOF during an emergency; however, the EOF can accommodate State and local media staff, if deemed necessary.

4. Coordination of Public Information

a. The JIC is staffed by *[Name of Operating Company].*and government public information representatives who will be the source of public information during an emergency at the station. The *[Company Spokesperson]* is the primary spokesperson for *[Name of Operating Company].* The *[Company Spokesperson]* has direct access to all necessary information (see Section B.5).

b. The JIC is staffed by federal, state, county, and utility personnel to assure timely, periodic exchange and coordination of information. Representatives coordinate information prior to conducting news briefings.

c. Rumors or misinformation are identified during an emergency by the media/rumor control monitors. They respond to public and news media calls and monitor media reports.

5. Media Orientation

[Site specific standard]

Emergency Preparedness, in conjunction with *[Communications and Public Affairs Department],* offers programs (*[at least annually]*) to acquaint news media with the Emergency Plan, information concerning radiation, and points of contact for release of public information in an emergency.

Section H: Emergency Facilities and Equipment

Onsite and offsite facilities are available for emergency assessment, communications, first aid and medical care, and damage control. Of particular importance are the Emergency Response Facilities (ERFs); the Control Room (CR), the Technical Support Center (TSC), the Operations Support Center (OSC), the Emergency Operations Facility (EOF), and the Joint Information Center (JIC).

This section describes the emergency facilities and equipment used by the Emergency Response Organization and outlines the requirements which aid in timely and accurate response actions. It also describes the surveillance programs used to monitor and ensure that these facilities and equipment are maintained in a high degree of constant readiness.

1. Control Room, Technical Support Center, and Operations Support Center

[Name of Operating Company] has established TSC(s) and OSC(s), which are activated upon declaration of an Alert or higher classification. Until they become operational, required functions of these facilities are performed by Shift Personnel and directed from the Control Room.

a. Control Room: The Control Room(s) are the centralized onsite location from which the Nuclear Station's reactor(s) and major plant systems are operated. The Control Room(s) are equipped with instrumentation to supply detailed information on the reactors and major plant systems. The Control Room(s) are continuously staffed with qualified licensed operators. The Control Room is the first onsite facility to become involved with the response to emergency events. Control Room personnel must evaluate and effect control over the emergency and initiate activities necessary for coping with the emergency until such time that support centers can be activated. These activities shall include:

- Reactor and plant control.
- Initial direction of all plant related operations.
- Accident recognition, classification, mitigation and initial corrective actions.
- Alerting of onsite personnel.
- Activation of emergency response facilities and ERO notification.
- Notification of offsite agencies.
- Notification of appropriate individuals and activation of ERDS.
- Continuous evaluation of the magnitude and potential consequences of an incident.
- Initial dose projections.
- Recommendations for immediate protective actions for the public.

As other ERFs become activated, they will supply support to the Control Room(s). Overall Command and Control of the emergency will transfer to the TSC(s) or the EOF when they are properly staffed and ready to take over these responsibilities. Throughout all emergencies, the Control Room(s) maintain emergency activation status until normal operational status may be resumed.

[For Multi-Unit sites a single TSC may be utilized or unit specific TSCs may be established.]

b. Technical Support Center (TSC): *[Station Title]* has established a TSC *[or Unit specific TSCs]* for use during emergency situations by station management, technical, and engineering support personnel. The TSC is activated for all emergencies classified as Alert or higher. Activation for other events is optional. When activated the TSC functions include:

- Support for the Control Room's emergency response efforts.
- Performance of the non-delegable functions when in Command & Control.
- Continued evaluation of event classification.
- Assessment of the plant status and potential offsite impact.
- Coordination of emergency response actions.
- Notification of appropriate corporate and station management.
- Notification and update of the NRC via Emergency Notification System (ENS) including activation of Emergency Response Data System (ERDS).

The TSC is the onsite location utilized to support the Control Room for assessment of plant status and potential offsite impact, and for implementation of emergency actions. TSC provides technical data and information to the EOF.

Figure B-1b illustrates the staffing and organization of the TSC.

The TSC provides reliable voice communications to the Control Room, the OSC, the EOF, the NRC, and state and local Emergency Operations Centers. In addition, they provide facsimile transmissions capability (see Section F.1).

The TSC is sized to accommodate a *[minimum of 25 spaces]* and supporting equipment. This includes provisions for five NRC representatives.

Personnel in the TSC shall be protected from radiological hazards, including direct radiation and airborne contaminants under accident conditions with similar radiological habitability as Control Room personnel. To ensure adequate radiological protection, permanent radiation monitoring systems have been installed in the TSC and/or periodic radiation surveys are conducted. These systems indicate radiation dose rates and airborne radioactivity inside the TSC while in use. In addition, protective breathing apparatus (full-face air purifying respirators) and KI are available for use as required.

The TSC has access to a complete set of as-built drawings and other records, including general arrangement diagrams, P&IDs, and the electrical schematics. The TSC has the capability to record and display vital plant data, in real time, to be used by knowledgeable individuals responsible for engineering and management support of reactor operations, and for implementation of emergency procedures.

c. Operations Support Center (OSC): Each station unit *[for Multi-unit sites]* has established an OSC. The OSC is the onsite location to where station support personnel report during an emergency and from which they will be dispatched for assignments or duties in support of emergency operations. The OSC shall be activated whenever the TSC is activated, but need not remain activated at the Alert level if its use is judged unnecessary by the *[Emergency Plant Manager]*. At the Site Area and General Emergency levels, the OSC or an alternate OSC shall be activated at all times. Activation for other events is optional. Station disciplines reporting to the OSC include, but are not limited to:

   - Operating personnel not assigned to the Control Room,
   - Radiation Protection Personnel,
   - Chemistry Personnel,
   - Maintenance Personnel (mechanical, electrical and I&C).

   Figure B-1b illustrates the staffing and organization for the OSC.

   Each OSC is equipped with communication links to the Control Room and the TSC (see Section F). A limited inventory of supplies will be kept for the OSC. This inventory will include respirators, protective clothing, flashlights and portable survey instruments.

d. Alternate Mustering Facility

   An alternate near site location has been identified and equipped for security and other events which may prevent response of the ERO to the primary Emergency Response Facilities.

2. Emergency Operations Facility (EOF)

[For Multi-unit sites, a single EOF may be used]

The EOF is the location where the *[Emergency Director]* will direct a station ERO in evaluating and coordinating the overall company activities involved with an emergency. Activation of the EOF is mandatory upon declaration of an Alert or higher classification. The EOF provides for:

- Management of overall emergency response.
- Coordination of radiological and environmental assessments.
- Determination of recommended public protective actions.
- Management of recovery operations.
- Coordination of emergency response activities with Federal, State, and local agencies.

The EOF was designed with the following considerations:

- The location provides optimum functional and availability characteristics for carrying out overall strategic direction of *[Name of Operating Company]* onsite and support operations, determination of public protective actions to be recommended to offsite officials, and coordination with Federal, State and local organizations.
- It is of sufficient size to accommodate about 50 people.
- It is equipped with reliable voice communications capabilities to the TSC, the Control Room, NRC, and State and local emergency operations centers. In addition, the EOF has facsimile and computer transmission capabilities.
- Equipment is provided to gather, store, and display data needed in the EOF to analyze and exchange information on plant conditions with the Station. The EOF technical data system receives, stores, processes, and displays information sufficient to perform assessments of the actual and potential onsite and offsite environmental consequences of an emergency condition.
- The EOF has ready access (either through hard copies or electronic media) to plant records, procedures, and emergency plans needed for effective overall management of *[Name of Operating Company]* emergency response resources.

3. Emergency Operations Centers

EOCs operated by the state and local communities have been established to perform direction and control of emergency response functions.

The respective state EOCs are capable of continuous (24-hour) operations for a protracted period. These centers contain sufficient communications (radio, telephone and teletype) equipment, maps, emergency plans, and status boards to provide the necessary interfaces with other federal, state, county, and station emergency facilities.

The county EOCs serve as Command and Control headquarters for local emergency response activities as well as a center for the coordination of communications to field units and to the state EOCs. These EOCs have the equipment necessary, (such as facsimile machines, telecommunications equipment, radio gear, photocopiers, wall maps, etc.) to carry out their emergency responsibilities.

4. Activation

NOTE: NUREG-0654 Criterion II.B.5 states that the "licensee must be able to augment on-shift capabilities within a short period after declaration of an emergency". It further defines that short period as 30 and 60 minutes. The time frames for rapid augmentation of a nuclear power plant staff in the event of an emergency are not rigid inviolate requirements but rather goals. It is *[Name of Operating Company]*'s intent to expend its best efforts to meet the augmentation criteria goals regarding staffing Emergency Response Facilities with sufficiently skilled individuals capable of handling an emergency. Both the NRC and *[Name of Operating Company]* realize that due to diversity of normal residential patterns for the stations' staff, possible adverse weather conditions and road congestion, these time frames might be exceeded.

[Name of Operating Company] has put into place plans and procedures to ensure timely activation of its emergency response facilities. The Shift Manager (as *[Interim Emergency Director]*) will initiate a call-out in accordance with the implementing procedures. The ERO augmentation process identifies individuals who are capable of fulfilling the specific response functions that are listed in Table B-1a and B-1b *[located in Unit Annexes]*. This table was developed based on the functions listed in NUREG-0654, Table B-1.

[Site specific standard]

Although the response time will vary due to factors such as weather and traffic conditions, *[a goal of 60 minutes for minimum staffing]*, following the declaration of an Alert or higher emergency classification, has been established for the ERO personnel responding to the station emergency facilities and the EOF. Additionally, plans have been developed to ensure timely functional activation and staffing of the JIC when the classification of Site Area Emergency is declared or at the direction of the *[Emergency Director]*.

[The Director in charge may elect to activate their facility without meeting minimum staffing; if it has been determined that sufficient personnel are available to fully respond to the specific event (this would not constitute a successful minimum staff response)].

5. Monitoring Equipment Onsite

The station is equipped with instrumentation for seismic monitoring, radiation monitoring, fire protection and meteorological monitoring. Instrumentation for the detection or analysis of emergency conditions is maintained in accordance with station Technical Specifications, if applicable, or commitments made to the NRC. The actual instrumentation varies somewhat from unit to unit and thus will not be described in detail this plan. Additional details of the equipment will appear in each Unit's Annex *[if applicable]*. This equipment includes but is not limited to the following:

a. Geophysical Monitors

1) Meteorological Instrumentation: A permanent meteorological monitoring station is located near the station for display and recording of wind speed, wind direction, and ambient and differential temperature for use in making offsite dose projections. Meteorological information is presented in the CR, TSC, and EOF by means of the plant computer system. This information is remotely interrogated using a computer or other data access terminal.

With regard to *[Name of Operating Company]*'s meteorological monitoring program, there has been a quality assurance program adopted from 10 CFR 50, Appendix B. However, since the meteorological facilities are not composed of structures, systems, and components that prevent or mitigate the consequences of postulated accidents and are not "safety related," not all aspects of 10 CFR 50, Appendix B, apply. Those aspects of quality assurance germane to supplying good meteorological information for a nuclear power station were adopted into the meteorological quality assurance program.

The National Weather Service (NWS), or regional weather forecast providers, may be contacted during severe weather periods. These providers analyze national and local weather in order to provide localized weather forecasts for the system or for the station area as appropriate.

2) Seismic Monitoring: The seismic monitoring system measures and records the acceleration (earthquake ground motion) of the structure. Earthquakes produce low frequency accelerations which, when detected by the remote sensing devices, are permanently recorded as information which defines the response spectrum. The system remains in a standby condition until an earthquake causes the remote unit(s) to activate the recording circuits and *[signals the Main Control Room that a seismic event is being recorded]*. It also provides signals for immediate remote indication that specific preset response accelerations have been exceeded.

3) Hydrological Monitors: The design basis flood, probable maximum precipitation, and other improbable, conceivable extremes in hydrologic natural phenomena are below any design limits for the station(s) as detailed in the *[U]*FSAR.

b. Radiological Monitors and Sampling

1) The Radiation Monitoring system: In-plant radiological measurements provide information that may help determine the nature, extent and source of emergency conditions. The radiological monitoring system is available to give early warning of a possible emergency and provides for a continuing evaluation of the situation in the Control Room. Radiation monitoring instruments are located at selected areas within the facility to detect, measure, and record radiation levels. In the event the radiation level should increase above a preset level, an alarm is initiated in the Control Room. Certain radiation monitoring instruments also alarm locally in selected areas of the facility. The radiation monitoring system is divided into 3 subsystems:

a) Area Radiation Monitors (ARMs) are used for the direct measurement of in-plant exposure rates. The ARM readings allow in-plant exposure rate determinations to be made remotely without requiring local hand-held meter surveys. This information may be used, initially, to aid in the determination of plant area accessibility. In addition to permanent monitors, portable Continuous Air Monitors (CAMs) measure airborne particulate and airborne iodine activities at various locations within the operating areas.

b) Process Radiation Monitors (PRMs) are used for the measurement of radioactive noble gas, iodine, and particulate concentrations in plant effluent and other gaseous and fluid streams.

c) The accident, or high range, radiation monitoring system monitors radiation levels at various locations within the operating area. These are high range instruments used to track radiation levels under accident or post accident conditions. These instruments include the containment high range radiation monitors.

The radiological monitoring system provides the necessary activity or radiation levels required for determining source terms in dose projection procedures. Key radiological monitoring system data is linked to the plant computer, which allows information to be passed to the TSC and EOF. The isotopic mix, including isotopes such as those in Table 3 of NUREG-0654, is based upon a default accident mix. Refer to the station *[U]*FSAR for further detail on the radiological monitoring system capabilities and design.

2) Liquid and Gaseous Sampling Systems: The process sampling system consists of the normal sampling system and additional sampling panels located throughout the plant. Sampling systems are installed or can be modified to permit reactor coolant and containment atmosphere sampling even under severe accident conditions.

   The sampling systems use a number of manual sampling techniques to enable reactor coolant and containment sampling operations over a wide range of plant conditions. It is capable of providing information relative to post-accident plant conditions to allow operator actions to be taken to mitigate and control the course of an accident. Refer to the *[U]*FSAR for further detail on sampling capabilities.

3) Portable Radiation Monitoring Equipment: Portable radiation survey instruments are available for a wide variety uses such as area, sample, and personnel surveys and continued accident assessment. Instruments are stored throughout the plant and in the emergency facilities.

c. Process Monitors: The Control Room and applicable redundant backup locations are equipped with extensive plant process monitors for use in both normal and emergency conditions. These indications include but are not limited to reactor coolant system pressure and temperature, containment pressure and temperature, liquid levels, flow rates, status or lineup of equipment components. This instrumentation provides the basis for initiation of corrective actions.

   1) Plant Monitoring/Information System: A plant monitoring/information system provides the data acquisition and database capability for performing plant monitoring and functions. The system is designed to scan, convert to engineering units, make reasonability and alarm limit checks, apply required transformations, store for recall and analysis, and display the reading of transformed data from plant instrumentation. The system scans flows, pressures, temperatures, fluid levels, radiation levels, equipment, and valve status at required frequencies. Scanned variables are quality tagged. The system provides for short and mid term storage of data for on-line retrieval and fast recall, and long term storage to appropriate media.

   2) Safety Parameter Display System (SPDS): SPDS provides a display of plant parameters from which the safety status of operation may be assessed in the Control Room, TSC and EOF for the station. The primary function of the SPDS is to help operating personnel in the Control Room make quick assessments of plant safety status. SPDS and/or other display systems in the TSC and EOF promote the exchange of information between these facilities and the Control Room and assists the emergency organization in the decision making process.

d. Fire Detection System: The Fire Detection System is designed to quickly detect visible or invisible smoke (or other products of combustion) and/or heat in designated areas of the plant. The fire alarm communication systems and subsystems are located at strategic points throughout the plant to warn personnel of a nuclear incident or other emergency conditions. Existing plant alarm systems are sufficiently audible to alert personnel in the event of a fire or need for assembly. These alarm communication systems consist of warning sirens and lights (in high noise areas) and the PA system. Refer to the respective station *[U]*FSAR for further description of the station's fire protection system.

6. Monitoring Equipment Offsite

[Name of Operating Company] has made provisions to acquire data from and have access to the following offsite sources of monitoring and analysis equipment:

a. Geophysical Monitors: In the event that the onsite meteorological tower or monitoring instrumentation becomes inoperative and the contracted weather provider cannot be contacted, meteorological data may be obtained directly from the National Weather Service or the internet.

A considerable array of seismometers are located in the region. A central point of contact to obtain information about a seismic event is the National Earthquake Information Service in Golden, Colorado.

b. Radiological Environmental Monitors and Sampling: *[Name of Operating Company]* has an extensive offsite environmental monitoring program to provide data on measurable levels of radiation and radioactive materials in the environs. The program (described fully in the Offsite Dose Calculation Manual), includes:

- Fixed continuous air samplers.
- Routine sampling, as applicable, of ground and surface water; milk and fish.
- A fixed TLD monitoring network.

[Site specific program]

The TLD program consists of the following elements:

- *[A near-site ring of dosimeters covering the 16 meteorological sectors.]*
- *[A 16-sector ring of dosimeters placed in a zone within about 5 miles (8 Kilometers) from the plant.]*
- *[TLDs placed at each of the normal fixed air sampler locations (typically about 8-15 air samplers).]*

c. Laboratory Facilities: External facilities for counting and analyzing samples can be provided by the other *[Name of Operating Company]* stations or contracted laboratories. These laboratories can act as backup facilities in the event that the affected station's counting room and laboratory become unusable or the offsite radiological monitoring and environmental sampling operation exceeds the capacity of the station capabilities during an emergency. It is estimated that these laboratories will be able to respond within several hours from initial notification.

Outside analytical assistance may be requested from state and federal agencies, or through contracted vendors. The state maintains a mobile radiological laboratory that provides independent analysis. The NRC mobile laboratory may be made available for Site Area and General Emergencies. The DOE, through the Interagency Radiological Assistance Program (IRAP) has access to any national laboratory (i.e., Brookhaven, Oak Ridge, Lawrence Livermore, etc.).

A general description of the laboratory capabilities is provided in Section C.3.

7. Offsite Monitoring Equipment Storage

[Station Title] maintains a sufficient supply of emergency equipment (such as portable survey, counting, and air sampling instrumentation and other radiological monitoring equipment and supplies) that may be used for environmental monitoring. These supplies meet the initial requirements of *[two]* Environmental Monitoring Teams. During subsequent phases of an emergency, additional equipment is available from other *[Name of Operating Company]* generating stations, vendors and offsite response organizations.

8. Meteorological Monitoring

The station has installed and maintains a meteorological tower equipped with instrumentation for continuous reading of the wind speed, wind direction, air temperature and delta air temperature. Additional capabilities are available to obtain representative current meteorological information from other sources, such as the National Weather Service. A full description of the onsite meteorological capabilities is given in Section H.5.a of this Plan *[and/or unit specific annexes]*.

9. OSC Capabilities

The OSC provides area for coordinating and planning of OSC activities and the staging of personnel. Further space is available in adjacent offices and locker rooms to accommodate additional personnel as may be required. Alternate locations are available. The onsite storeroom maintains a supply of parts and equipment for normal plant maintenance. These parts, supplies and equipment are available for damage control use as necessary.

Sufficient radiation protection equipment (i.e., protective clothing, respiratory protection gear, KI, and other health physics equipment and supplies) is stored and maintained near the OSC (as well as the other emergency response facilities). Repair team equipment is available near the OSC as well as in the maintenance shops. This equipment includes items such as a camera, portable lighting, and additional portable communications equipment. The OSC is stocked with an assortment of first aid and medical treatment equipment and supplies. The OSC maintains reliable voice communications with the CR, TSC, and EOF. For a complete description of communications equipment, refer to Section F. ***[For Multi-unit sites:*** *When an emergency condition exists at one unit, additional supplies can be obtained from other unaffected units and any corporate resources upon request.]*

10. Facility and Equipment Readiness

[Site specific standards]

Emergency facilities and equipment are inspected and inventoried in accordance with emergency preparedness procedures. These procedures provide information on location and availability of emergency equipment and supplies. An inventory of all emergency equipment and supplies is performed on a *[quarterly]* basis and after each use in an emergency or drill. During this inventory, radiation monitoring equipment is checked to verify that required calibration period and location are in accordance with the inventory lists. Calibration of equipment shall be, at a minimum, at intervals recommended by the supplier of the equipment. Inspections include an operational check of instruments and equipment. Equipment, supplies, and parts which have a shelf-life are identified, checked, and replaced as necessary. Sufficient reserves of instruments and equipment are maintained to replace whose which are removed from emergency kits or lockers for calibration or repair. The stations are responsible for maintaining a supply of KI at their respective site.

11. General Use Emergency Equipment

Inventory procedures identify the equipment that make up kits used in an emergency situation available within each emergency facility. Table H-1, Typical Emergency Equipment, lists typical portable emergency equipment available to the Emergency Response Organization. In addition, all normal resources available onsite will be used as necessary to support emergency response.

12. Collection Point for Field Samples

The onsite chemistry lab, has been designated as the central point for the receipt and analysis of radiological field monitoring samples. Sampling and analysis equipment is available for activity determination of these samples. Sufficient field monitoring equipment is maintained at the stations for initial sampling. Instrumentation and equipment utilized for sample activity determination are routinely calibrated to ensure timely availability.

Table H-1
Typical Emergency Equipment

MS-2 / SPA-3 / Pig / Holder / Source[(1)]	Low Range (mrem/mSv) Dosimeters
RO-2 Survey Meters [(1)]	High Range (Rem/Sv) Dosimeters
RM-14 / HP210 Frisker [(1)]	Electronic Dosimeters
RM-14 / HP210 / SH4 Counter [(1)]	Dosimeter Chargers
Teletectors	3-Pocket Radiation Area Signs w/ Inserts
Instrument Check Sources	Box of Pens and Box of Grease Pencils
Air Sampler w/Sample Holder	Planchets
Extra Air Sampler Heads	Radioactive Material Tags
Charcoal Filters	Step off Pads – Check Shoes
Silver Zeolite Iodine Cartridges	Step off Pads – White
Particulate Filters	Dirty Shoe Cover Bags
Planchets	Gauze Wipes
Smear Paper	Smears
Package of 14 KI Tablets	Rad Rope
Extension Cords (25')	Extension Cords
Log Books	KI Tablets
Scientific Calculator	Magnetic Door Signs – No Entry
Gauze Wipes	Magnetic Door Signs – TSC/OSC Entrance
Anti "C" Clothing Kits	Cloth Coveralls
Writing and other Office Supplies	Paper Coveralls
Full Face Respirators w/Iodine Cartridge	Low Shoe Covers
Self Breathing Air Apparatus	High Shoe Covers
Portable Communication Equipment (Radios/Cell Phones)	Hoods
	Cotton Liners
	Rubber Gloves

Note 1: or equivalent instruments.

Section I: Accident Assessment

To effectively coordinate and direct all facets of the response to an emergency situation, diligent accident assessment efforts are required throughout the emergency. All four emergency classifications have similar assessment methods, however, each classification requires a greater magnitude of assessment effort dependent upon the plant symptoms and/or initiating event(s).

1. Plant Parameters and Corresponding Emergency Classification

Plant system and effluent parameter values are utilized in the determination of accident severity and subsequent emergency classification. Environmental and meteorological events are also determining factors in emergency classification. An emergency condition can be the result of just one parameter or condition change, or the combination of several. The specific symptoms, parameter values or events for each level of emergency classification are detailed in the emergency implementing procedures. Specific plant system and effluent parameters that characterize a classifiable event (EALs) are presented in each Unit Annex *[if applicable]*.

In order to adequately assess the emergency condition, each emergency facility has the necessary equipment and instrumentation installed to make available essential plant information on a continuous basis. Evaluation of plant conditions is accomplished through the monitoring of plant parameters both from indication in the Control Room and within the plant. Some of the more important plant parameters to be monitored in the Control Room are assembled into a single display location, which is entitled the "Safety Parameter Display System" (SPDS). The SPDS monitors such parameters as: reactor coolant system pressure, reactor or pressurizer water level, containment pressure and temperature, reactor power, safety system status, containment radiation level and effluent monitor readings. ***[For Multi-unit sites with BWRs:*** *suppression pool water level and temperature]*. The instrumentation and equipment capabilities available for each emergency facility are described in Section H.

2. Onsite Accident Assessment Capabilities

The resources available to provide initial and continuing information for accident assessment throughout the course of an event include plant parameter display systems, liquid and gaseous sampling system, Area and Process Radiation Monitoring Systems, and Accident Radiation Monitoring Systems (which includes the high range containment radiation monitors). Descriptions of these systems are given in Section H.5.b.

3. Source Term Determination

Source term (or core damage) estimations serve several roles within the *[Station's Name]* Emergency Preparedness Program. For planning purposes, core damage considerations are used as the bases for several of the Emergency Action Level (EAL) Initiating Conditions and as the threshold for the declaration of a General Emergency (the definition of a General Emergency specifies conditions which involve 'substantial' core degradation or melting as one of the bases for classification).

From an implementation perspective, core damage estimations provide a means of realistically differentiating between the four core states (no damage, clad failure, and fuel melt, and vessel melt-through) to:

- Evaluate the status of the fuel barriers and how their status relates to the risks and possible consequences of the accident.
- Provide input on core configuration (coolable or uncoolable) for prioritization of mitigating activities.
- Determine the potential quality (type) and/or quantity (%) of source term available for release in support of projected offsite doses and protective action recommendations.
- Provide information that quantifies the severity of an accident in terms that can be readily understood and visualized.
- Support the determination of radiological protective actions that should be considered for long term recovery activities.

[Site Specific Core Damage Model]

The assessment methodologies utilized by *[Station's Name Core Damage Model]* are intended to provide a rapid best estimate of core damage which, when evaluated together, help to develop an overall picture of the extent of core damage. The methods used to estimate the amount or type of core damage occurring under accident conditions include the following:

- Containment Radiation Monitors: An indirect method used to determine the amount of core damage. Applicable to Loss of Coolant Accident (LOCA) scenarios. Based upon an end-of-life source term and static nuclide ratio assumptions yielding a limited accuracy. Valid any time following an accident.
- Core Temperatures: Methods such as Core Exit Thermocouple (CET), Peak Core Temperatures and Hot Leg Temperatures provide indirect methods used to indicate the type and/or amount of core damage. Applicable for all types of accidents. Valid any time following an accident.
- Core Uncovery: Methods such as Core Uncovery Time, Reactor Vessel Level Indication System Level and Source Range Monitor count rate provide indirect methods used to indicate the type of core damage (clad failure or fuel melt). Applicable for all types of accidents. Provides a relatively accurate estimate of the state of the core early in the event. Valid any time following an accident.

- Containment Hydrogen Concentration: An indirect method used to establish the type of core damage. Applicable to LOCA type accidents where all the hydrogen generated by the metal-water reaction is released into containment. Valid any time following an accident.
- Sample Analysis - Isotopic Ratio Comparison: A direct method used to establish the type of core damage. Compares expected isotopic ratios with a sample to determine a general core state. Applicable under all types of accidents. Valid any time following an accident.
- Sample Analysis - Presence of Abnormal Isotopes: A direct method used to provide a go/no go indication of fuel melt by the presence of unusually high concentrations of the less volatile fission products. Applicable under all types of accidents. Valid any time following an accident.
- Sample Analysis - Concentration Evaluation: A direct method that yields the most accurate numerical estimations of the amount of core damage. Applicable for all types of accidents. Requires the sampled system(s) be in a steady state that usually prevents its use until the plant is in a stable condition.

4. Effluent Monitor Data and Dose Projection

Dose assessment or projection represents the calculation of an accumulated dose at some time in the future if current or projected conditions continue. During an accident, the Station Parameter Display System and personal computers will provide the ERO with the timely information required to make decisions. Radiological and meteorological instrumentation readings are used to project dose rates at predetermined distances from the station, and to determine the integrated dose received. Dose assessment methods used by the ERO to project offsite doses include:

A. Monitored Release Points - This method utilizes the plant's effluent radiation monitors and system flow rates. Effluent release points are used to directly calculate a release rate. The point of the release determines the way the source term is affected and is adjusted by the dose assessment process.

B. Containment Leakage/Failure - This method uses a variety of containment failures or leak rates in conjunction with available source term estimations to develop a release rate to the environment. A direct vent of containment can be modeled as a failure to isolate.

C. Release Point Samples - This method uses a sample at the release point and an estimated flow rate to develop a release rate at the point of release.

D. Monitoring Team Data - This method uses a field survey or sample and the atmospheric model to back calculate a release rate and ratio concentrations of radioactive material at various points up and downwind of plume centerline.

The computer applications used to provide dose calculations are evaluated against the EPA-400 plume exposure Protective Action Guides (PAGs) applicable for the early phase of an accident. These evaluations place an emphasis on determining the necessity for offsite protective action recommendations. Dose assessment actions will be performed in the following sequence:

First: Onset of a release to 1 hour post-accident: Shift personnel will rely on a simplified computerized dose model to assist them in developing offsite dose projections using real time data from effluent monitors and site meteorology.

Second: 1 hour post-accident to event termination: Estimates of off-site doses based on more sophisticated techniques are provided. Dedicated ERO personnel will analyze the offsite consequences of a release using more complex computerized dose modeling. These additional methods are able to analyze more offsite conditions than the simplified quick method, as well account for more specific source term considerations.

5. Meteorological Information

Local meteorological data is available from an onsite meteorological tower. The data available includes wind speed, wind direction, temperature, and delta temperature. These data are used by the utility and are provided to the state, and NRC to enable near real-time predictions of the atmospheric effluent transport and diffusion. Meteorological data from the tower is available in the CR, TSC, and EOF. A full description of the onsite meteorological capabilities is given in Section H.5.a *[and/or unit specific annexes].*

6. Unmonitored Release

Dose projections can be made during a release through use of actual sample data in situations where effluent monitors are either off-scale or inoperative or the release occurs by an unmonitored flow path. In the absence of effluent sample data, a dose projection can be performed simply by specifying the accident category as a default. The selection of a default accident category defines the mix, the total curies, and the release pathway(s). The total number of curies from a default mix for each isotope is used to provide an upper bound for release concentration, and hence, an upper bound for the dose rate and dose to the public.

7. Onsite and Offsite Monitoring

In addition to the capabilities and resources described in Section H.6.b and H.7, *[Name of Operating Company]* maintains the ability to take offsite air samples and to directly measure gamma dose rates the event of an airborne or liquid release. The capability to take offsite soil, water, and vegetation samples is also provided by either the Monitoring Teams or a contracted vendor.

The environmental monitoring equipment, as described in Section H, contain portable survey, counting, and air sampling instrumentation and other radiological monitoring equipment and supplies to be used by the Monitoring Teams. Samples are taken at predetermined locations as well as those specified both during and after a release. Environmental measurements are used as an aid in the determination and assessment of protective and recovery actions for the general public.

8. Monitoring Teams

Monitoring Teams are dispatched by *[Name of Operating Company]* to perform a variety of functions during conditions that may involve significant releases of radioactive materials from the plant. Radiological survey and sample data is used to define affected area boundaries, verify or modify dose projections and protective action recommendations, and assess the actual magnitude, extent, and significance of a liquid or gaseous release.

In addition to contamination and dose rate measurements, the change out of TLDs and air sampler cartridges can be performed. Other actions may include soil, water and vegetation sampling.

The initial environmental surveys involve simple-to-perform measurements to quickly confirm or modify the dose projections based on plant parameters. Subsequent environmental monitoring efforts will be aimed at further defining the offsite consequences including instituting an expanded program to enable prompt assessments of any subsequent releases from the plant.

The expertise necessary to conduct limited offsite environmental survey and sampling exists onsite 24 hours a day. A minimum of two offsite Monitoring Teams are notified and activated at an Alert or higher classification. Teams composed of two individuals are assembled to test and inventory dedicated survey and sampling equipment. Teams are then dispatched in company or personal vehicles into the surrounding area when a release is or is expected to occur. *[This capability exists upon EOF activation.]* Radiological survey and sample data is transmitted to the emergency facilities. Vendor/contractor support can be used to perform collection, shipment and analysis of environmental sample media as described in Section B.8.c.

9. Iodine Monitoring

Monitoring equipment has the capability to detect and measure airborne radioiodine concentrations as low as 1×10^{-7} $\mu Ci/cm^3$ in the field. Interference from the presence of noble gas and background radiation will be minimized by ensuring that monitoring teams move to areas of low background prior to analyzing the sample cartridge. The collected air sample is measured by hand held survey meter as an initial check of the projection derived from plant data to determine if significant quantities of elemental iodine have actually been released (the chemical form that would pose a health hazard).

10. Dose Estimates

Specific procedures exist for the correlation of air activity levels to dose rate for key isotopes. Provisions have been established for estimating integrated dose from the projected and actual dose rates and for the comparison of these estimates with the protective action guides.

11. State Monitoring Capabilities

The states have the ability to dispatch their own field monitoring teams to track the airborne radioactive plume. The states also have the ability and resources to coordinate with federal and utility monitoring teams to compare sample results.

Section J: Protective Response

Protective response consists of emergency actions, taken during or after an emergency situation, which are intended to minimize or eliminate hazards to the health and safety of the public and/or station personnel. A range of protective actions has been developed for emergency workers and the general public in the Plume Exposure Pathway EPZ. Additionally, guidelines have been established to aid in choosing protective actions during an emergency that are consistent with federal guidance. *[Name of Operating Company]* is responsible for onsite actions, while the responsibility for offsite actions rests with the state, county, and other offsite response agencies.

1. Notification of Onsite Personnel

For all emergency classifications, all personnel within the Protected Area are notified within 15 minutes of the initial classification or escalation of an emergency by recognizable alarms, and/or verbal announcements over the plant Public Address (PA) System. Announcements include the emergency classification and response actions to be taken by personnel onsite (such as ERO, non-ERO, contractor personnel, and visitors). Provisions are made to alert personnel in high noise areas and outbuildings within the Protected Area as applicable.

The plant has identified locations where people might be expected to be present outside the Protected Area but within the Owner Controlled Area. Accountability of persons within the Owner Controlled Area but outside the Protected Area is not required. However, provisions are established for notification of personnel within the Owner Controlled Area any time a Site Evacuation has been initiated, or as otherwise deemed appropriate.

2. Evacuation Locations

[Site specific]

If a Site Evacuation is required, non-essential personnel are directed to either assemble within designated Assembly Areas or to immediately evacuate the site. Personnel will be directed to either proceed to their homes or to reassemble at designated offsite locations. Visitors to the station will assemble with and follow the instructions of their escorts. Non-essential personnel within the Protected Area will normally exit through the *[security building]*. Personal transportation (if available) will normally be used and established evacuation routes will be followed. Personnel without transportation will be identified and provided transportation as necessary.

3. Radiological Monitoring of Evacuees

Personnel evacuating the site will be monitored for contamination by the portal monitors as they exit the Protected Area, with portable friskers in Assembly Areas, or sent to offsite monitoring locations on an as needed basis. If there is no release of radioactive materials within the Unit, limited monitoring (less than 100% of evacuees) may be utilized to speed the evacuation process.

4. Evacuation

[Site specific locations]

Evacuation is the primary protective action anticipated for onsite personnel not having immediate emergency response assignments. The station has identified locations that serve as Assembly Areas and offsite locations for non-essential personnel when they are not instructed to proceed home. The specific locations of these areas are *[provide locations or located in the Unit annexes].* Implementing procedures describe equipment, supplies and general operation of these facilities. The *[Emergency Plant Manager]* will designate personnel within the Site Boundary as essential or nonessential. Evacuation of non-essential personnel is usually conducted immediately after accountability if a Site Area Emergency or General Emergency has been declared and conditions permit. Evacuation shall commence in accordance with station procedures as directed by the *[Emergency Plant Manager]* or his/her designee, unless one of the following conditions exist:

a. Severe weather conditions threaten safe transport.

b. A significant radiological hazard would be encountered.

c. There is a security threat occurring, which would have an adverse impact on the personnel while leaving the site.

d. A condition similar to the above in magnitude, which in the opinion of the *[Emergency Plant Manager]* would adversely affect the site personnel.

Security forces will be dispatched, when available, to access road(s) to control entry to site facilities. Unauthorized and non-ERO personnel will be denied entry.

The initiation of a site evacuation will be reported to the appropriate State/Local agency.

5. Accountability

[Site specific standard]

The purpose of Accountability is to determine the locations of all personnel inside the Protected Area and to muster emergency personnel at prearranged locations. When Accountability of onsite personnel is determined to be necessary by the [*Shift Manager or the Emergency Plant Manager*], all personnel within the protected area shall be accounted for and the names of missing individuals (if any) are determined within thirty (30) minutes of the *[declaration of the emergency].* Should missing personnel be identified, search and rescue operations are initiated.

Accountability is usually performed in conjunction with Assembly, and is required to be initiated whenever a Site Area Emergency or higher classification is declared. The movement of personnel for the purposes of Accountability may be delayed if their health and safety could be in jeopardy, such as severe weather or for security concerns.

If it is determined that the prearranged Assembly Area is unfit for personnel, the Shift Manager or the *[Emergency Plant Manager]* may designate an alternative Assembly Area and direct personnel using appropriate communication systems that are available.

Once established, Accountability within the Protected Area is maintained throughout the course of the event, unless specifically terminated by the *[Emergency Plant Manager].*

6. Provisions for Onsite Personnel

[Name of Operating Company] maintains an inventory of respiratory protection equipment, anti-contamination clothing, and KI that is made available to emergency workers remaining onsite should conditions warrant. During the course of an emergency, protective actions are considered to minimize radiological exposures or contamination problems associated with all onsite personnel. For those who must work within the restricted area of the affected site, measures that are considered are:

a. Use of Respirators: On-shift and emergency response personnel use respiratory protection in any environment involving exposure to high level gaseous activity or oxygen deficient atmosphere, or where air quality is in doubt. In the presence of airborne particulates, emergency response personnel may be directed by health physics personnel to use full-face filter type respirators. The criteria for issuance of respiratory protection are described in Radiation Protection procedures.

b. Use of Protective Clothing: Anti-contamination clothing, located in the TSC, OSC and station dress out areas is available for use by onsite personnel. The criteria for issuance of protective clothing are described in Radiation Protection procedures.

c. Use of Potassium Iodide (KI): The use of KI may be recommended when a projected dose of 50 Rem (0.5 Sv) Committed Dose Equivalent (CDE) is exceeded for an emergency worker's thyroid. This is the value specified in EPA 400-R-92-001, "Manual of Protective Action Guides and Protective Actions for Nuclear Incidents". The station(s) are responsible for maintaining a supply of KI at their respective site. The *[Emergency Plant Manager]* has the responsibility for approval of issuing KI to *[Name of Operating Company]* emergency workers.

7. Mechanism for Implementing Protective Action Recommendations

Plant conditions, projected dose and dose rates, and/or field monitoring data are evaluated to develop PARs for the purpose of preventing or minimizing exposure to the general public. PARs are provided to the offsite agencies responsible for implementing protective actions for the general public within the 10-mile (16-kilometer) EPZ. PARs are approved by the individual in Command and Control (Shift Manager, *[Emergency Plant Manager or Emergency Director]).*

In an emergency that requires immediate protective actions be taken prior to activation of the offsite emergency facilities, PARs are provided directly to the state and county 24 hour warning points by the *[Interim Emergency Director].*

8. Evacuation Time Estimates (ETEs)

An independent ETE report has been performed to provide estimates of the time required to evacuate resident and transient populations surrounding the station for various times of the year under favorable and adverse conditions. ETEs for evacuation of the plume exposure EPZ are summarized in Appendix 5 and detailed in the referenced ETE report.

9. Capability of Implementing Protective Action Recommendations

The responsibility for implementing protective measures based on protective action guides for the offsite population at risk is the responsibility of the state and local governments. Detailed procedures for public protective actions are contained in the state and other local radiological emergency response plans as appropriate.

The state agencies are responsible for evaluation of *[Name of Operating Company]* recommended protective actions and preparing a recommendation to the Governor, or his/her appointed agent. Only when the state acts under the Governor's order does a recommended protective action become a directed protective action.

If the plant conditions are stable and offsite radiological conditions are such that the public health and safety are not endangered, then return to evacuated areas may be discussed with the affected state(s). State authorities are responsible for actually recommending return and transmitting this recommendation.

10. Implementation of Protective Action Recommendations

The utility, state, and county emergency plans used to implement the protective measures for the plume exposure pathway take numerous factors into consideration. Among these considerations are:

a. Most of the public evacuees are expected to travel in their own vehicles, leaving the EPZ via designated evacuation routes. The state and county plans contain official maps and information on the locations of off-site centers.

b. The population distribution around the station. Population distribution for the plume exposure EPZ is illustrated in Figure J-1.

c. As indicated in Section E, offsite agencies are notified in the event the Emergency Plan is activated. State and county agencies have the capability to notify all members of the transient and resident population within the Plume Exposure Pathway EPZ.

d-l. Items addressed separately in state and county emergency plans.

m. At a General Emergency classification, *[Name of Operating Company]* will provide the state with recommendations for protective actions for the public. For incidents involving actual, potential, or imminent releases of radioactive material to the atmosphere, EPA 400-R-92-001, the NRC Response Technical Manual (RTM-96) and NUREG-0654, Supp. 3 are used as the basis for the general public PARs.

1) Plant Based PARs

[Site specific PARs]

Figure J-2 has been developed to aid *[Name of Operating Company]* personnel providing PARs based on the above. Possible plant based PARs issued at a General Emergency include:

- *[Shelter of the general public within a two mile (3.2 kilometer) radius and five miles (eight kilometers) downwind (puff release above PAGs)]*
- *[Evacuation of the general public within a two mile (3.2 kilometer) radius and five miles (eight kilometers) downwind.]*
- *[Evacuation of the general public within a five mile (eight kilometers) radius and ten miles (16 kilometers) downwind.]*

In addition to the above actions to minimize or prevent potential exposure to radiation, a recommendation of heightened awareness will be issued for the remainder of the EPZ consistent with the specific terminology in use by the applicable offsite organizations. For example, some entities use the term shelter to achieve heightened awareness, while others reserve shelter exclusively for dose reduction measures.

2) Dose Based PARs

[Site specific PARs]

[Evacuation is recommended if projected doses reach the minimum EPA PAGs (1 Rem (0.01 Sv) EPA TEDE[1] or 5 Rem (0.05 Sv) CDE Thyroid).]

[Shelter is recommended if projected doses reach the minimum EPA PAGs (1 Rem (0.01 Sv) EPA TEDE or 5 Rem (0.05 Sv) CDE Thyroid) ***AND*** *a puff release is in progress.]*

[1] EPA TEDE is defined as the sum of the doses from external exposure and inhalation from the plume,and from 4 days of external exposure to deposited materials.

Many assumptions exist in dose assessment calculations, involving both source term and meteorological factors, which make computer predictions over long distances highly questionable. However, in the event dose assessment results indicate the need to recommend actions beyond the outer EPZ boundaries, that is past 10 miles *(16 kilometers)*, Monitoring Teams are dispatched to downwind areas to verify the calculated exposure rates prior to issuing PARs outside the EPZ.

Station personnel normally do not have the necessary information to determine whether off site conditions would require sheltering instead of evacuation. An effort to base PARs on external factors (such as road conditions, traffic/traffic control, weather, or offsite emergency response capabilities) is usually performed by the State.

11. Ingestion Pathway Protective Measures

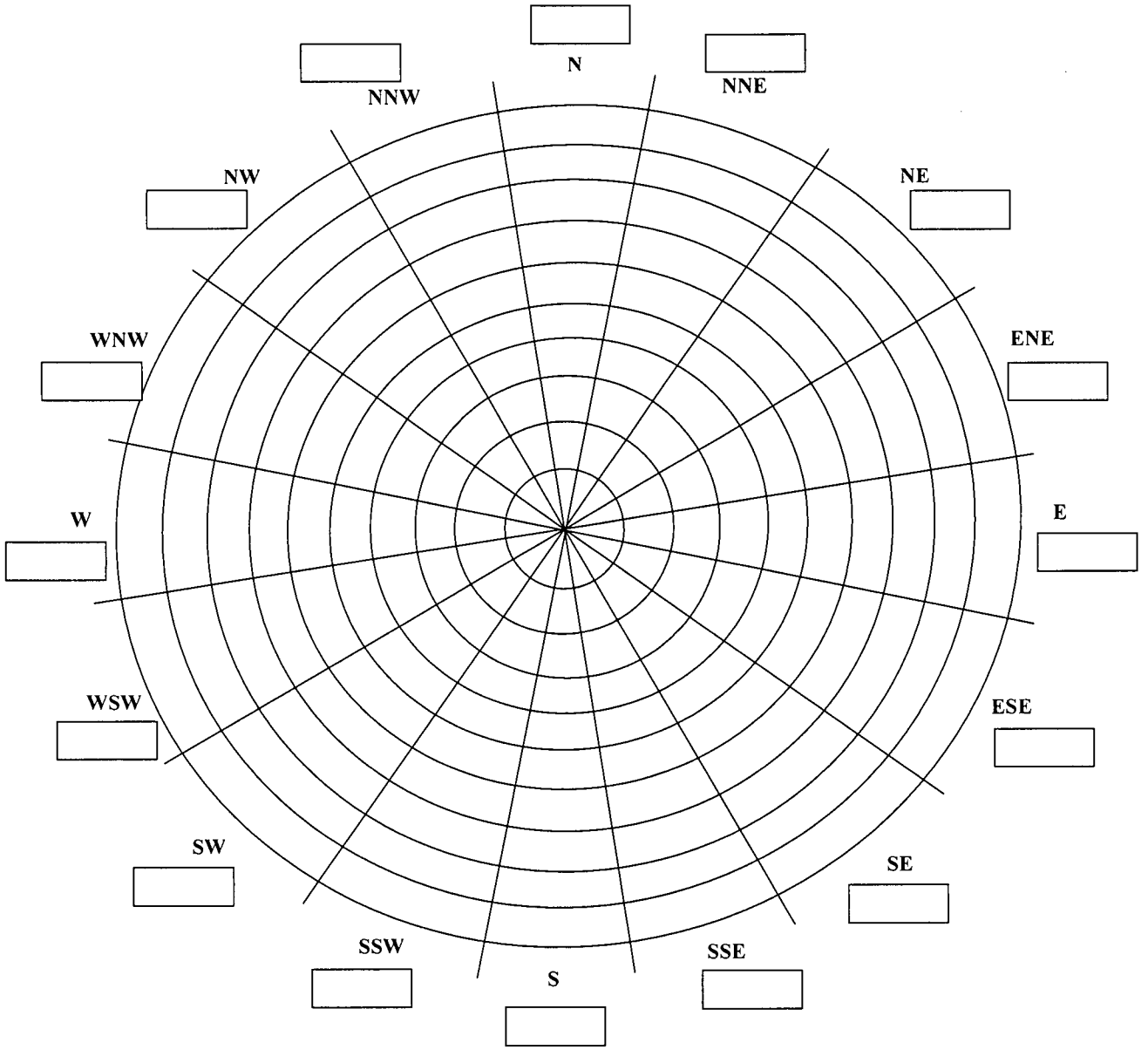
The responsibility for specifying protective measures to be used for the ingestion pathway rests with the state. These measures have been developed by the state and include the methods for protecting the public from consumption of contaminated water and foodstuffs.

12. Monitoring of Evacuees

The state and county organizations have the capability to register and monitor evacuees at designated reception centers. This capability includes personnel and equipment capable of monitoring residents and transients evacuating from the plume exposure EPZ and arriving at the reception centers, in accordance with DHS guidelines.

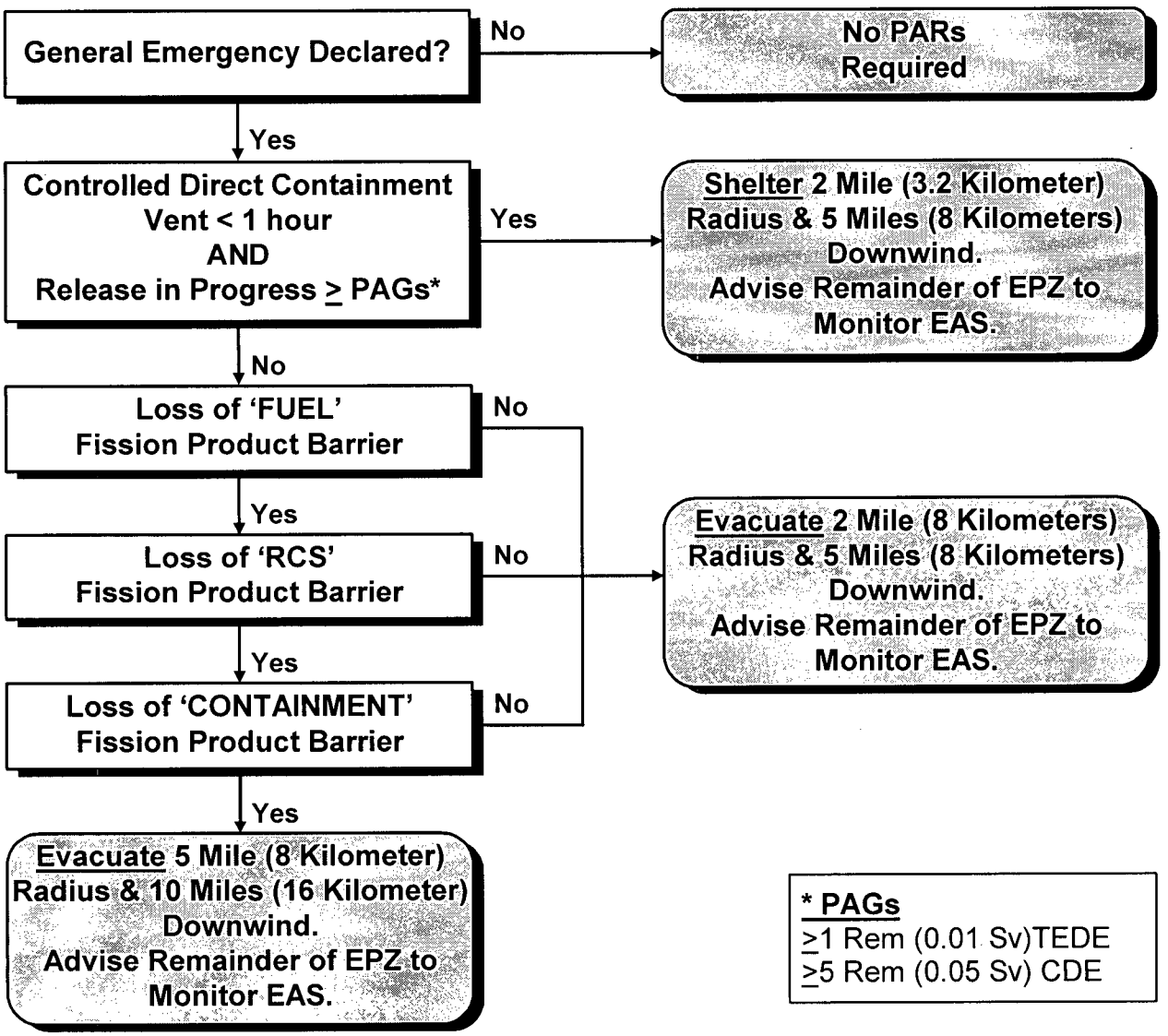
Figure J-1: Sector Population Distribution

[Site specific populations]



Ring	Total Population
0-2 mile (0-3.2 kilometer)	
0-5 mile (0-8 kilometer)	
0-10 mile (0-16 kilometer)	

Figure J-2: Generic PAR Flowchart



Note: LOSS of a fission product barrier as defined in the Emergency Action Level (EAL) Matrix.

[Site Specific Flowchart]

Section K: Radiological Exposure Control

This section of the plan describes the means for controlling emergency worker radiological exposures during an emergency, as well as the measures and exposure guidelines that are used by *[Name of Operating Company]* for removal of injured persons; undertaking corrective actions; performing assessment actions; providing first aid; performing personnel decontamination; providing ambulance service; and providing medical treatment services to persons exposed to radiation and/or radioactive materials.

Exposure guidelines in this section are consistent with EPA Emergency Worker and Lifesaving Activity Protective Action Guides described in EPA 400-R-92-001.

1. Emergency Exposure Guidelines

Being licensed by the NRC, all *[Name of Operating Company]* generating stations maintain personnel exposure control programs in accordance with 10 CFR 20 under normal operating conditions. The *[Emergency Plant Manager]* is assigned the non-delegable responsibility for authorizing personnel exposure levels under emergency conditions per EPA-400. In emergency situations, workers may receive exposure under a variety of circumstances in order to assure safety and protection of others and of valuable property. These exposures will be justified if the maximum risks or costs to others that are avoided by their actions outweigh the risks to which the workers are subjected. The Emergency Worker Dose Limits are as follows:

Dose Limit (Rem TEDE) (Sv TEDE)	Activity	Condition
0-5 (0-0.05)	All	Personnel should be kept within normal 10 CFR 20 limits during bona fide emergencies, except as authorized for activities as indicated below.
5-10 (0.05-0.1)	Protecting valuable property	Lower dose not practicable.
10-25 (0.1-0.25)	Lifesaving or protection of large populations	Lower dose not practicable.
> 25 (> 0.25)	Lifesaving or protection of large populations	Only on a voluntary basis to persons fully aware of the risks involved.

Limit dose to the lens of the eye to 3 times the above values and doses to any other organ (including skin and body extremities) to 10 times the above values.

Whenever possible, the concurrence of the Station's Radiation Protection Manager should be secured before exposing individuals to dose equivalents beyond the EPA-400 lower limit.

2. Emergency Radiation Protection Program

The *[Radiation Protection Manager]* is the individual responsible for the implementation of the radiation protection actions during an emergency. Radiation protection guidelines include the following:

- Volunteers over forty-five years of age are considered first for any emergency response action requiring exposure greater than normal limits. Routine dose limits shall not be extended to emergency dose limits for declared pregnant individuals. As in the case of normal occupational exposure, doses received under emergency conditions should be maintained as low as reasonably achievable.

- Persons undertaking any emergency operation in which the dose will exceed 25 Rem (0.25 Sv) TEDE should do so only on a voluntary basis and with full awareness of the risks involved including the numerical levels of dose at which acute effects of radiation will be incurred and numerical estimates of the risk of delayed effects.

- In the context of the emergency limits, exposure of workers that is incurred for the protection of large populations may be considered justified for situations in which the collective dose avoided by the emergency operation is significantly larger than that incurred by the workers involved.

- Exposure accountability is maintained and proper personnel radiological monitoring equipment is provided for all personnel during emergency conditions.

- Access to high radiation areas is only permitted with prior approval of the applicable *[Radiation Protection Manager].* Personnel are not allowed to enter known or potential high radiation areas unless their exposure has been properly evaluated.

- Periodic habitability surveys of emergency facilities are performed during an emergency. If the facility is determined to be uninhabitable, the facility is evacuated in order to prevent or minimize exposure to radiation and radioactive materials. Alternate assembly areas are established, as necessary, to relocate and monitor evacuated personnel.

3. Personnel Monitoring

a. Emergency workers will receive TLD badges and personal self-reading dosimeters capable of measuring expected exposures on a real time basis. The capability exists for the emergency processing of TLDs on a 24-hour per day basis, if necessary.

b. Emergency worker dose records are maintained by the *[Radiation Protection Manager]* (as appropriate) in accordance with the emergency and radiological protection procedures. Emergency workers are instructed to read their dosimeters frequently. TLDs may be processed with increased periodicity.

4. Non-*[Name of Operating Company]* Personnel Exposure Authorization

The responsibility for authorizing non-*[Name of Operating Company]* emergency workers (i.e. State and local agency emergency workers) to receive exposures in excess of the EPA General Public Protective Action Guides rests with the State and County organizations, except when such emergency workers are onsite. Authorization of exposures in excess of EPA General Public Protective Action Guides, in this latter instance, rests with the *[Emergency Plant Manager].*

5. Contamination and Decontamination

During an emergency, the *[Emergency Plant Manager]* is responsible for preventing or minimizing personnel exposure to radioactive materials deposited on the ground or other surfaces. Special consideration should be given to setting up contamination control arrangements for personnel entering the OSC after completion of assigned activities.

a. During emergency conditions, normal plant contamination control criteria will be adhered to as much as possible. However, these limits may be modified by the applicable *[Radiation Protection Manager]* per existing Radiation Protection procedures, should conditions warrant.

b. Contamination Control Means: Personnel found to be contaminated will normally be attended to at decontamination areas located onsite. Temporary decontamination areas can also be set up inside at various locations. Decontamination showers and supplies are provided onsite with additional personnel decontamination equipment and capabilities. Shower and sink drains in the controlled area are routed to the miscellaneous waste processing system where the liquid is processed and monitored prior to discharge. Potentially contaminated emergency vehicles will be surveyed before they are allowed to leave the plant or offsite assembly area. If the survey area is not suitable for monitoring and decontamination due to radiological or other concerns, vehicles will be surveyed at an alternate location.

6. Contamination Control Measures

Controls are established 24 hours per day to contain the spread of loose surface radioactive contamination.

a. Contaminated areas are isolated as restricted areas with appropriate radiological protection and access control. Personnel leaving contaminated areas are monitored to ensure they and their clothing are not contaminated. If contamination above acceptable levels is found, they will be decontaminated in accordance with plant procedures. If normal decontamination procedures do not reduce personnel contamination to acceptable levels, the case will be referred to a competent medical authority. Supplies, instruments, and equipment that are in contaminated areas or have been brought into contaminated areas will be monitored prior to removal. If found to be contaminated, they will be decontaminated using normal plant decontamination techniques and facilities or may be disposed of as radwaste. Contaminated vehicles will be decontaminated before being released.

b. Measures will be taken to control onsite access to potentially contaminated potable water and food supplies. Under emergency conditions when uncontrolled releases of activity have occurred, eating, drinking, smoking, and chewing are prohibited in all station emergency response facilities until such time as habitability surveys indicate that such activities are permissible.

c. Restricted areas and contaminated items will be returned to normal use when contamination levels have been returned to acceptable levels. Contamination control criteria for returning areas and items to normal use are contained in the plant procedures.

7. Decontamination of Relocated Personnel

Nonessential onsite personnel may be evacuated to an offsite relocation center or assembly area, as discussed in Section J. Radiological controls personnel at that location monitor evacuees and determine the need for decontamination. Existing and temporary facilities to limit contamination and exposure will be utilized and established at the site as necessary during an emergency situation. In the event that decontamination of evacuees locally is not possible, personnel will be sent to designated locations for monitoring and decontamination. Provisions for extra clothing are made and suitable decontaminates are available for the expected type of contaminations, particularly with regards to skin contaminations, including radioiodine contamination of the skin.

Section L: Medical and Public Health Support

This section describes the arrangements for medical services for contaminated injured individuals sent from the station.

1. Offsite Hospital and Medical Services

Hospital personnel have been trained and hospitals are equipped to handle contaminated or radiation injured individuals. Specifically, training of medical support personnel at the agreement hospitals will include basic training on the nature of radiological emergencies, diagnosis and treatment, and follow-up medical care. Station personnel are available to assist medical personnel with decontamination radiation exposure and contamination control. Arrangements, by letter of agreement or contract, are maintained by *[Name of Operating Company]* with a qualified hospital located in the vicinity of the station for receiving and treating contaminated or exposed persons with injuries requiring immediate hospital care. *[Name of Operating Company]* shall provide medical consultants to aid in any special care necessary at these facilities.

These agreements are verified *[annually]*. Refer to section P.4 for details.

2. Onsite First Aid Capability

[Site specific standard]

The station maintains onsite first aid supplies and equipment necessary for the treatment of contaminated or injured persons. In general, physicians or nurses are not staffed at *[Name of Operating Company]*'s generating stations, and as such, medical treatment given to injured persons is of a "first aid" nature. The station does have an *[industrial hygiene advisor]*. Additionally, the *[Radiation Protection Technicians]* at the station are experienced in control of radioactive contamination and decontamination work. Station personnel are also trained and qualified to administer first aid. *[At least two of these individuals]* are available on shift at all times. The functions of station personnel in handling onsite injured people are:

1) Afford rescue;

2) Administer first aid including such resuscitative measures as are deemed necessary;

3) Begin decontamination procedures; and

4) Arrange for suitable transportation to a hospital when required.

Primary attention shall be directed to the actual factors involved in the treatment of casualties, such as: control of bleeding, resuscitation including heart and lung, control of bleeding after resuscitation, protection of wounds from bacterial or radioactive contamination and the immobilization of fractures.

Station personnel provide an initial estimate of the magnitude of surface contamination of the injured and preliminary estimates of total body dose to the injured. Primary rapid and simple decontamination of the surface of the body (when possible and advisable) before transportation to a designated hospital may be carry out as directed or performed by Radiation Protection personnel. When more professional care is needed, injured persons are transported to a local clinic or hospital. Contaminated and injured persons are transported to a dedicated facility specified for the Station.

3. Medical Service Facilities

Because of the specialized nature of the diagnosis and treatment of radiation injuries, *[Name of Operating Company]* maintains an agreement with *[Radiation Medical Company]* is a radiological emergency response team of physicians, nurses, health physicists and necessary support personnel on 24-hour call to provide consultative or direct medical or radiological assistance at the *[Radiation Medical Company]* facility or at the accident site. Specifically, the team has expertise in and is equipped to conduct: medical and radiological triage; decontamination procedures and therapies for external contamination and internally deposited radionuclides, including chelation therapy; diagnostic and prognostic assessments or radiation-induced injuries; and radiation dose estimates by methods that include cytogenetic analysis, bioassay, and in vivo counting.

4. Medical Transportation

Arrangements are made by the station for prompt ambulance transport of persons with injuries involving radioactivity to designated hospitals. Such service is available on a 24-hour per day basis and is confirmed by letter of agreement. Radiation monitoring services shall be provided by *[Name of Operating Company]* whenever it becomes necessary to use the ambulance service for the transportation of contaminated persons.

A qualified Radiation Protection person shall accompany the ambulance to the hospital. Additional Radiation Protection personnel may be contacted and dispatched to local hospitals to assist in the monitoring and decontamination of the injured victim and hospital and ambulance facilities and personnel.

Section M: Reentry and Recovery Planning

This section describes the measures to be taken for reentry into the areas of the nuclear power station which have been evacuated as a result of an accident. It also outlines the *[Name of Operating Company]* Recovery Organization and its concepts of operation.

1. Reentry and Recovery

a. Evaluating Reentry Conditions

During an emergency, immediate actions are directed toward limiting the consequences of the accident to afford maximum protection to station personnel and the general public. Once corrective measures have been taken and effective control of the plant has been re-established, a more methodical approach to reentry is taken. This Emergency Plan divides reentry into two separate categories:

- Reentry *during the emergency phase of an accident* is performed to save a life, control a release of radioactive material, prevent further damage to plant equipment or restore plant equipment. If necessary, this category of reentry may be performed using emergency exposure limits. Briefings, rather than written radiation protection procedures, may be used when making these entries.

  All reentry activities conducted during the emergency are authorized by the *[Emergency Plant Manager and coordinated by the OSC Director and the Radiation Protection Manager].*

- Reentry *during the recovery phase of an accident* is performed using normal exposure limits. Either normal procedures or procedures that consider existing as well as potential conditions inside affected areas are developed specifically for each reentry.

  Reentry activities during the recovery phase are authorized by the *[Recovery Manager]* and coordinated by the recovery organization managers in charge of personnel making the reentry.

The following items are considered when planning for any reentry:

- Review of available radiation surveillance data to determine plant areas potentially affected by radiation and/or contamination.

- Review of radiation exposure history of personnel required to participate in the accident mitigation or recovery operations.

- Determination of the need for additional personnel and the sources of these additional personnel.

- Review of adequacy of radiation survey instrumentation and equipment (types, ranges number, calibration, etc.).
- Review of non-radiological hazards and required protective measures (e.g., fire, electrical, Hazmat).
- Pre-planning of activities and briefings for the reentry team that include the following:
  - Personnel knowledge requirements.
  - Methods and procedures that will be employed during the entry.
  - Specific tasks to be performed.
  - Anticipated radiation and contamination levels.
  - Radiation survey equipment and types and ranges of dosimetry required.
  - Shielding requirements and availability.
  - Appropriate communications.
  - Protective clothing and equipment requirements.
  - Access control procedures.
  - Decontamination requirements.
  - De-briefing requirements.
  - Respiratory protection.
- A review of security controls to prevent unauthorized or unintentional entry into hazardous areas.

b. Evaluating Entry into Recovery

The Recovery Phase is that period when major repairs are being performed to return the plant to an acceptable condition and the possibility of the emergency condition degrading no longer exists. Once the plant has been stabilized, contained and controlled, the Recovery Phase may be entered. It is the responsibility of the *[Emergency Director]* to declare emergency phase terminated and entry into Recovery after obtaining concurrence from the *[Emergency Plant Manager]* and consulting with offsite authorities.

Establishment of Recovery can be conducted from any emergency classification level. However, it is possible that the lower classifications of Unusual Event and Alert will conclude with the overall event being terminated. There may be cases where certain EAL initiating conditions remain exceeded, but the station is under control and no further danger of degradation exists. In such a case, it may be appropriate to enter Recovery. Site Area and General Emergencies will require a Recovery Phase to be established prior to event termination. *[Name of Operating Company]* may consult with/notify cognizant governmental agencies prior to declaring Recovery or event termination.

Termination/Recovery considerations are contained in the implementing procedures to provide guidance for evaluating the risk of entering Recovery without alleviating the intent of the Initiating Condition. The purpose of Recovery is to provide the necessary personnel to handle the long-term activities and to return the plant to an acceptable condition.

[Site specific guidelines]

The following conditions are guidelines for the determination of establishing Recovery (this is not intended to be a complete list and additional criteria may apply, depending on the specifics of the event):

- *[The risk to the health and safety of the public has been mitigated.*
- *Plant parameters and equipment status have been established and controlled.*
- *In-plant radiation levels are stable or decreasing, and acceptable, given the plant conditions.*
- *The potential for uncontrolled releases of radioactive material to the environment has been eliminated.*
- *Environmental monitoring has been established.*
- *The radioactive plume has dissipated and plume tracking is no longer required (the only environmental assessment activities in progress are those necessary to assess the extent of deposition resulting from passage of the plume).*
- *[Name of Operating Company] workers have been protected.*
- *Any security threat has been neutralized, and/or plant security is under the direction of [Name of Operating Company] personnel.*
- *Adequate plant safety systems are operable.*
- *The reactor is in a stable shutdown condition and long-term core cooling is available*

- *The fuel pool damage has been mitigated, or spent fuel damage has been contained and controlled.*
- *Primary containment **[For Multi-unit sites with BWRs:** and/or secondary containment] integrity has been established.*
- *Plant systems and equipment are restored and/or replaced such that plant conditions are stable highly unlikely to degrade further.*
- *Conditions that initiated the emergency have been contained, controlled, eliminated or stabilized such that the classification is no longer applicable.*
- *The operability and integrity of radioactive waste systems, decontamination facilities, power supplies, electrical equipment and of plant instrumentation including radiation monitoring equipment have been established.*
- *Any fire, flood, earthquake or similar emergency condition or threat to security no longer exists.*
- *All required notifications have been made.*
- *Discussions have been held with federal, state and county agencies and agreement has been reached to terminate the emergency.*
- *At an Alert or higher classification, the ERO is in place and emergency facilities are activated.*
- *Any contaminated injured person has been treated and/or transported to a medical care facility.*
- *Offsite conditions do not unreasonably limit access of outside support to the station and qualified personnel and support services are available.]*

It is not necessary that all conditions listed above be met; however, all items must be considered prior to entering the recovery phase. For example, it is possible after a severe accident that some conditions remain that exceed an Emergency Action Level, but entry into the Recovery Phase is appropriate.

2. Recovery Organization

Once plant conditions have been stabilized and the Recovery Phase has been initiated, the *[Emergency Director]* may form a Recovery Organization for long-term operations. These types of alterations should be discussed with the NRC prior to implementation.

- For events of a minor nature (i.e., for Unusual Event classifications), the normal on shift organization is normally adequate to perform necessary recovery actions.

- For events where damage to the plant has been significant, but no offsite releases have occurred and/or protective actions were not performed (i.e., for Alert classifications), the station Emergency Response Organization, or portions thereof, should be adequate to perform the recovery tasks prior to returning to the normal station organization.

- For events involving major damage to systems required to maintain safe shutdown of the plant and offsite radioactive releases have occurred (i.e., for Site Area Emergency or General Emergency classifications), the station recovery organization is put in place.

The specific members of the station recovery organization are selected based on the sequence of events that preceded the recovery activities as well as the requirements of the recovery phase. The basic framework of the station recovery organization is as follows:

[ERO Titles are site-specific. Functions may also be shifted between positions and facilities]

a. *[The Recovery Manager]*: The *[Emergency Director]* is initially designated as the [*Recovery Manager]*. The *[Recovery Manager]* is charged with the responsibility for directing the activities of the station recovery organization. These responsibilities include:

   - Ensuring that sufficient personnel, equipment, or other resources from *[Name of Operating Company]* and other organizations are available to support recovery.

   - Directing the development of a recovery plan and procedures.

   - Deactivating any of the plant Emergency Response Organization which was retained to aid in recovery, in the appropriate manner. Depending upon the type of accident and the onsite and offsite affects of the accident, portions of the ERO may remain in place after initiation of the recovery phase.

   - Coordinating the integration of available federal and state assistance into onsite recovery activities.

   - Coordinating the integration of *[Name of Operating Company]* support with federal, state and county authorities into required offsite recovery activities.

   - Approving information released by the public information organization which pertains to the emergency or the recovery phase of the accident.

   - Determining when the recovery phase is terminated.

b. The *[Recovery Plant Manager]*: The *[Plant Manager]* or a designated alternate will become the *[Recovery Plant Manager]*. The *[Recovery Plant Manage]* reports to the *[Recovery Manager]* and is responsible for:

- Coordinating the development and implementation of the recovery plan and procedures.
- Ensuring that adequate engineering activities to restore the plant, are properly reviewed and approved.
- Directing all onsite activities in support of the station recovery effort.
- Designating other *[Name of Operating Company]* recovery positions required in support of onsite recovery activities.

c. The *[Recovery Offsite Manager]*: A senior Emergency Preparedness or Regulatory Affairs individual, or a designated alternate, is the *[Recovery Offsite Manager]*. The *[Recovery Offsite Manager]* reports to the *[Recovery Manager]* and is responsible for:

- Providing liaison with offsite agencies and coordinating *[Name of Operating Company]* assistance for offsite recovery activities.
- Coordinating *[Name of Operating Company]* ingestion exposure pathway EPZ sampling activities and the development of an offsite accident analysis report.
- Developing a radiological release report.
- Designating other *[Name of Operating Company]* recovery positions required in support of offsite recovery activities.

d. *[The Company Spokesperson]*: A senior management individual is designated as the *[Company Spokesperson]*. The *[Company Spokesperson]* reports to the *[Recovery Manager]* and is responsible for:

- Functioning as the official spokesperson to the press for *[Name of Operating Company]* on all matters relating to the accident or recovery.
- Coordinating with all public information groups (federal, state, county, etc.).
- Coordinating media monitoring and rumor control.
- Determining what public information portions of the ERO will remain activated.

The remainder of the recovery organization is established and an initial recovery plan developed at the end of the emergency phase or just after entry into the recovery phase. Consideration is given to recovery activity needs and use of the normal station organizations. Individual recovery supervisors may be designated in any or all of the following areas:

- Training
- Radiation Protection

- Chemistry
- Technical/Engineering Support
- Nuclear Oversight
- Operations
- Security
- Maintenance
- Special Offsite Areas (Community Representatives, Environmental Samples, Investigations, etc.)

3. Recovery Phase Notifications

When the decision is made to enter the recovery phase, all members of the ERO are informed of the change. All *[Name of Operating Company]* personnel are instructed of the Recovery Organization and their responsibilities to the recovery effort.

4. Total Population Exposure

Total population exposure calculations are performed and periodically updated during the recovery phase of an accident. A method has been developed for estimating the total population exposure resulting from the accident from data collected in cooperation with the state and other federal agencies. Total population exposure is determined through a variety of procedures including:

- Examination of pre-positioned TLDs.
- Bioassay.
- Estimates based on release rates and meteorology.
- Estimates based on environmental monitoring of food, water, and ambient dose rates.

The State will be the lead agency in the collection and analysis of environmental air, soil, foliage, food, and water samples and for the generation of radiation monitoring reports. *[Name of Operating Company]* environmental sampling activities will be coordinated with State efforts, as requested, and results shared with cognizant agencies.

Section N: Drill and Exercise Program

This section describes the Drill and Exercise Program that *[Name of Operating Company]* has implemented to:

- Verify the adequacy of the Emergency Preparedness Program.
- Develop, maintain, and evaluate the capabilities of the ERO to respond to emergency conditions and safeguard the health and safety of station personnel and the general public.
- Identify deficiencies in the Emergency Plan and the associated procedures, or in the training of response personnel, and ensure that they are promptly corrected.
- Ensure the continued adequacy of emergency facilities, supplies and equipment, including communications networks.

1. Exercises

a. Biennial Exercises

Federally prescribed exercises are conducted at the station in order to test the adequacy of timing and content of implementing procedures and methods; to test emergency equipment and communication networks; and to ensure that emergency personnel are familiar with their duties. Exercises involving offsite agency participation, required under Section F.2.c & d to 10 CFR 50 Appendix E, are conducted at the station based on FEMA-REP-14 guidance and the respective State and local emergency response plans.

Partial participation means appropriate offsite authorities shall actively take part in the exercise sufficient to test direction and control functions to include protective action decision making related to Emergency Action Levels and communication capabilities among affected state and local authorities and *[Name of Operating Company]*.

Full participation exercises will include appropriate offsite local and state authorities and *[Name of Operating Company]* personnel physically and actively taking part in testing the integrated capability to adequately assess and respond to an accident at the plant. Additionally, full participation exercises will includes testing the major observable portions of the onsite and offsite emergency plans and mobilization of state, local, and *[Name of Operating Company]* personnel and other resources in sufficient numbers to verify the capability to respond to the accident scenario.

Where partial or full participation by offsite agencies occurs, the sequence of events simulates an emergency that results in the release of radioactivity to the offsite environs, sufficient in magnitude to warrant a response by offsite authorities.

b. Off-Year Exercises

An Off-Year Exercise is conducted at the station during the calendar year when an NRC Evaluated Exercise is not scheduled. An Off-Year Exercise shall involve a combination of at least two facilities in order to demonstrate at least two of the functions of management and coordination of emergency response, accident assessment, protective action decision-making, or plant system repair and corrective actions. For Off-Year Exercises involving no or limited participation by offsite agencies, emphasis is placed on development and conduct of an exercise that is more mechanistically and operationally realistic. Players will be able, by implementing appropriate procedures and corrective actions, to determine the outcome of the scenario to a greater extent than when core damage and the release of radioactivity are prerequisites for demonstration of all objectives.

c. Pre-Exercises

Pre-Exercise Drills may be conducted prior to a Biennial Exercise where Department of Homeland Security (DHS) evaluation of State and local performance is expected. Pre-Exercise Drills may be conducted prior to Off-Year Exercises that only involve the utility. The Pre-Exercise is a training and experience tool for the participants to sharpen awareness and practice skills necessary to accomplish specific Emergency Plan duties and responsibilities.

[Site specific standard]

Exercises provide an opportunity to evaluate the ability of participating organizations to implement a coordinated response to postulated emergency conditions. Exercises are conducted to ensure that all major elements of the emergency plan and preparedness program are demonstrated *[at least once in each six-year period]* and under various weather conditions. *[The station shall conduct at least one off-hours exercise between 6:00 p.m. and 4:00 a.m. every cycle (6 years). Weekends and holidays are also considered off-hours periods.]* Provisions will be made for qualified personnel from *[Name of Operating Company]*, federal, state, or local governments to observe and critique each exercise as appropriate. A State should fully participate in the ingestion pathway portion of exercises at least once every six years. *[In States with more than one site, the State should rotate this participation from site to site].*

2. Drills

[Site specific standard]

In addition to the exercises described above, *[Name of Operating Company]* conducts drills for the purpose of testing, developing, and maintaining the proficiency of emergency responders. Drills are scheduled on the Emergency Preparedness annual events plan, which contains provisions for the following drills:

a. Communication Drills

- *[Monthly]* - The capability of the State / County notification system to notify the state and local government warning points and EOCs within the plume exposure pathway EPZ are demonstrated. Also, the capability to notify the NRC is demonstrated using the Emergency Notification System (ENS) and the Health Physics Network (HPN) where available.

- *[Quarterly]* - The capability to notify the NRC Region, DHS Region, American Nuclear Insurers (ANI) and federal emergency response organizations as listed in the Emergency Telephone Directory are demonstrated from the EOF. Also, computer and critical communications equipment shall be functionally tested.

  Communications between states outside the 10-mile (16-kilometer) EPZ but within the 50-mile (80-kilometer) EPZ are tested by the host state.

- *[Annually]* - The emergency communications systems outlined in Section F are fully tested. This includes (1) communications between the plant and the state and local EOCs and Monitoring Teams, and (2) communications between the CR, the TSC, and the EOF.

Each of these drills includes provisions to ensure that all participants in the test are able to understand the content of the messages.

b. Fire Drills: Fire drills shall be conducted in accordance with the Fire Protection Plan and/or Station procedures.

c. Medical Emergency Drills: A medical emergency drill, involving a simulated contaminated individual, and containing provisions for participation by local support services organizations (i.e., ambulance and support hospital) are conducted *[annually]*. Local support service organizations, which support more than one station, shall only be required to participate *[once each calendar year]*. The offsite portions of the medical drill may be performed as part of the required biennial exercise.

d. Radiological Monitoring Drills: Plant environs and radiological monitoring drills (onsite and offsite) are conducted *[annually]*. These drills include collection and analysis of all sample media (such as, water, vegetation, soil, and air), and provisions for communications and record keeping.

e. Health Physics Drills: Health Physics Drills involving a response to, and analysis of, simulated airborne and liquid samples and direct radiation measurements within the plant are conducted semi-annually. *[At least annually]*, these drills shall include a demonstration of the sampling system capabilities, or the core damage assessment objectives as applicable.

f. Augmentation Drills: Augmentation drills serve to demonstrate the capability of the process to augment the on-shift staff with a TSC, OSC and EOF in a short period after declaration of an emergency. These drills are conducted using the following methods:

- [*Quarterly*], an unannounced off-hours ERO augmentation drill where no actual travel is required.
- *[At least once per drill cycle (every 6 years)]*, an off-hours unannounced activation of the ERO Notification System with actual response to the emergency facilities is conducted.

g. Accountability Drills: Accountability drills are conducted *[annually]*. The drill includes identifying the locations of all individuals within the protected area.

3. Conduct of Drills and Exercises

Advance knowledge of the scenario will be kept to a minimum to allow "free-play" decision making and to ensure a realistic participation by those involved. Prior to the drill or exercise, a package will be distributed to the controllers and evaluators that will include the scenario, a list of performance objectives, and a description of the expected responses.

For each emergency preparedness exercise or drill conducted, a scenario package is developed that includes at least the following:

a. The basic objective(s) of the drill or exercise and the appropriate evaluation criteria.

b. The date(s), time period, place(s), and participating organizations.

c. The simulated events.

d. A Master Scenario Events List (MSEL).

e. A narrative summary describing the conduct of the scenario to include such things as simulated casualties, offsite fire department assistance, rescue of personnel, use of protective clothing, deployment of radiological monitoring teams, and public information activities.

f. A list of qualified participants.

Prior approval by the appropriate station management is obtained for all drills and exercises conducted in support of the Emergency Preparedness Program. *[Station Name]* shall enable any State or local government located within the plume exposure pathway EPZ to participate in drills when requested by such State or local government.

4. Critique and Evaluation

Drill and exercise performance objectives are evaluated against measurable demonstration criteria. As soon as possible following the conclusion of each drill or exercise, a critique is conducted to evaluate the ability of the ERO to implement the emergency plan and procedures.

A formal written critique report is prepared by Emergency Preparedness following a drill or exercise involving the evaluation of designated objectives or following the final simulator set with ERO participation. The report will evaluate the ability of the ERO to respond to a simulated emergency situation. The report will also contain corrective actions and recommendations.

Biennially, representatives from the NRC observe and evaluate the licensee's ability to conduct an adequate self-critical critique. For partial and full offsite participation exercises both the NRC and DHS will observe, evaluate, and critique.

Critique comments identified by participants during a training drill where objectives are not formally being evaluated will be reviewed and dispositioned by Emergency Preparedness, but do not require a formal report.

5. Resolution of Drill and Exercise Findings

The critique and evaluation process is used to identify areas of the Emergency Preparedness Program that require improvement. The [*Emergency Preparedness Manager*] is responsible for evaluation of recommendations and comments to determine which items will be incorporated into the program or require corrective actions, and for the scheduling, tracking, and evaluation of the resolution to the items.

Whenever exercises and/or drills indicate deficiencies in the Emergency Plan or corresponding implementing procedures, such documents will be revised as necessary.

If required, *[Station Name]* will support remedial exercises if the emergency plan is not satisfactorily tested during the biennial exercise, such that NRC, in consultation with FEMA, cannot find reasonable assurance that adequate protective measures can be taken in the event of a radiological emergency.

Section O: Emergency Response Training

This section describes the emergency response training that is provided to those who may be called upon in an emergency. It outlines the training provided by *[Name of Operating Company]* to both its employees and offsite support personnel requiring site access.

[Site specific standards]

1. Assurance of Training

The Emergency Plan Training Program assures the training, qualification, and requalification of individuals who may be called on for assistance during an emergency. Specific emergency response task training, prepared for each Emergency Plan position, is described in lesson plans and study guides. The lesson plans, study guides, and written tests are contained in the ERO Training Program. Responsibilities for implementing the training program are contained in plant procedures. *[A description of the content of the training courses is given in the approved station training manual].*

Offsite training is provided to support organizations that may be called upon to provide assistance in the event of an emergency. The following outlines the training received by these organizations:

a. Emergency Preparedness shall *[annually train, or document an annual written offer to train],* those non-*[Name of Operating Company]* organizations that may provide specialized services during a nuclear plant emergency (e.g., local law enforcement, fire-fighting, medical services, transport of injured, etc.). The training made available is designed to acquaint the participants with the special problems potentially encountered during a nuclear plant emergency, notification procedures and their expected roles. Those organizations that must enter the site shall also receive site-specific emergency response training and be instructed as to the identity (by position and title) of those persons in the onsite organization who will control their support activities.

b. Training of offsite emergency response organizations is described in their respective radiological emergency plans, with support provided by *[Name of Operating Company]* as requested.

2. Functional Training of the ERO

In addition to general and specialized classroom training, members of the *[Name of Operating Company]* ERO receive periodic performance based emergency response training. Performance based training is provided using one or more of the following methods:

- Familiarization Sessions: A familiarization session is an informal, organized tabletop discussion of predetermined objectives.

- Walk Throughs: Consists of a facility walk through to familiarize plant ERO personnel with procedures, communications equipment, and facility layout. Walk throughs also provide the opportunity to discuss facility activities, responsibilities and procedures with an instructor.

- Drills: A drill is a supervised instruction period aimed at testing, developing and maintaining skills in a particular operation. Drills described in Section N of this plan are a part of training. These drills allow each individual to demonstrate the ability to perform their assigned emergency functions. During drills, on-the-spot correction of erroneous performance may be made and a demonstration of the proper performance offered by the Controller.

3. First Aid Response

Selected station personnel are trained in accordance with the *[Name of Operating Company]* approved First Aid program. First-Aid teams will likely be augmented with additional personnel such as Fire Brigade Members and other personnel qualified to assist in the rescue.

4. Emergency Response Organization Training Program

[Name of Operating Company] ERO personnel who are responsible for implementing this plan receive specialized training. The training program for emergency response personnel is developed based on the requirements of 10 CFR 50, Appendix E and position specific responsibilities as defined in this document.

On-Shift emergency response personnel perform emergency response activities as an extension of their normal duties and are trained *[annually]* as part of their duty specific training. Additional Emergency Preparedness information is provided as part of the Station General Employee Training.

New ERO personnel receive an initial overview course that familiarizes them with the Emergency Plan by providing basic information in the following areas as well as specific information as delineated in the sections below:

- Planning Basis
- Emergency Classifications
- Emergency Response Organization and Responsibilities
- Call-out of Emergency Organization
- Emergency Response Facilities
- Communications Protocol/Emergency Public Information
- Offsite Organizations

Emergency response personnel in the following categories receive knowledge and/or performance based training initially and retraining thereafter on an *[annual]* basis:

a. Directors, Managers and Coordinators within the ERO: Personnel identified by the Emergency Telephone Directory as Directors, Managers and Coordinators for the EROs receive training appropriate to their position in accordance with the approved ERO Training Program. These personnel receive specialized training in the areas of:

- Notifications
- Emergency Classifications
- Protective Action Recommendations
- Emergency Action Levels
- Emergency Exposure Control

Selected Directors, Managers, Coordinators and *[Interim Emergency Directors]* receive training in accordance with the approved ERO Training Program. Training in accident assessment sufficient to classify an event and to mitigate the consequences of an event is also covered.

b. Personnel Responsible for Accident Assessment:

The skills and knowledge required to perform plant stabilization and mitigation are a normal function of operations specific positions, as identified in Section B of this plan. Power changes and planned and unplanned reactor shutdowns are handled on a normal operation basis. Subsequent plant stabilization and restoration is pursued utilizing normal operating procedures. Licensed Operators receive routine classroom and simulator training to ensure proficiency in this area.

1) Active Senior Licensed Control Room Personnel shall have training conducted in accordance with the approved ERO Training Program such that proficiency is maintained on the topics listed below. These subjects shall be covered as a minimum on an annual basis.

- Event Classification.
- Protective Action Recommendations.
- Radioactive Release Rate Determination.
- Notification form completion and use of the State / County notification system.

- Federal, state and local notification procedures as appropriate.
- Site specific procedures for activating the onsite and offsite ERO.

To remove peripheral duties from the Operations shift, those on-call ERO positions responsible for accident assessment, corrective actions, protective actions, and related activities receive training in the above listed areas.

2) Core Damage Assessment Personnel: During an emergency when core/cladding damage is suspected, a specialized group of trained individuals perform core damage assessment. At a minimum, personnel responsible for core damage assessment receive classroom and hands-on training in the following areas:

- Available Instrumentation and Equipment
- Isotopic Assessment and Interpretation
- Computerized core damage assessment methodology and/or proceduralized assessment methods.

c. Radiological Monitoring Teams and Radiological Analysis Personnel

1) Offsite Radiological Monitoring: Offsite radiological monitoring is performed by trained individuals who provide samples and direct readings for dose assessment calculations and dose projection comparisons.

Personnel identified as members of Monitoring Teams receive training in accordance with the approved training program. Monitoring Team members receive classroom and hands-on training in the following areas:

- Equipment and Equipment Checks
- Communications
- Plume Tracking Techniques

2) Personnel Monitoring: Personnel monitoring is performed by trained individuals who monitor station personnel and their vehicles for contamination during an emergency. Personnel Monitoring Team members receive classroom and hands-on training in the following areas:

- Personnel Monitoring Equipment and Techniques
- Decontamination Techniques for Personnel
- Decontamination Techniques for Vehicles

3) Dose Assessment: Dose Assessment training includes the skills and knowledge necessary for calculation and interpretation of an offsite release and its impact on the environment under varying meteorological conditions. Individuals responsible for performing dose assessment are trained in the following areas:

- Computerized Dose Assessment
- Protective Action Recommendations
- Monitoring Team Interface
- Protective Action Guidelines associated with offsite plume exposure doses
- Basic Meteorology

d. Police, Security, and Fire Fighting Personnel

1) Local Police and Fire Fighting Personnel: The local Police and Fire Departments are invited to receive training as outlined in Part 1.a of this section.

2) Security Personnel: Station security personnel are trained in accordance with training defined by the General Employee Training (GET) and *[Name of Operating Company]* Security Plan.

3) Fire Control Teams (fire brigades): Station fire brigades are trained in accordance with training defined by the *[Name of Operating Company]* Fire Protection Program. Fire Brigade personnel are considered the primary members of rescue teams and will receive the appropriate EP training as part of their training program. Training also includes rescue of personnel from hazardous environments.

e. Repair Teams: Operations, Maintenance and Radiation Protection personnel are trained as part of their normal job specific duties to respond to both normal and abnormal plant operations.

Operations personnel are trained to: (1) recognize and to mitigate degrading conditions in the plant, (2) mechanically and electrically isolate damaged or malfunctioning equipment, (3) isolate fluid leaks, and (4) minimize transients.

Maintenance personnel are trained to troubleshoot and repair damaged or malfunctioning electrical, mechanical, or instrumentation systems as appropriate to their job classification.

Radiation Protection personnel are trained to assess the radiological hazards associated with equipment repair and instruct personnel as to the appropriate protective clothing requirements, respiratory protection requirements, stay times, and other protective actions specific to the conditions present.

[At least 50%] of personnel from those departments, who are potential responders to the OSC as repair team members, are required to be qualified in the use of respiratory protection equipment. This includes in-plant supervision and craft/technicians for the following departments:

- Operations
- Radiation Protection
- Chemistry
- Maintenance (mechanical, electrical and I&C)

f. First Aid and Rescue Personnel: First aid and rescue team members receive training as outlined in Part 3 of this section.

g. Local Support Service Personnel: Local support service personnel providing assistance during an emergency are invited to receive training as outline in Parts 1.a and 1.b of this section.

h. Medical Support Personnel: Onsite medical personnel receive specialized training in the handling of contaminated victims and hospital interface. Offsite ambulance and hospital personnel are offered annual training in accordance with a program provided by Emergency Preparedness.

i. Public Information Personnel: Corporate and station personnel responsible for disseminating emergency public information and responding to media and public information requests receive specialized public information training.

j. Communications Personnel: ERO personnel receive training on communications protocol as a part of the initial Emergency Response Overview Course. Personnel using specialized communications equipment that is not part of their normal daily function receive initial and requalification training on the equipment. Personnel involved in notifications to offsite agencies receive specialized training in the notification process.

5. General, Initial, and Annual Training Program Maintenance

a. Station Departments and Emergency Preparedness share the responsibility for ensuring that the ERO receives all necessary training and retraining. In order to carry this out, responsibilities are assigned as follows:

Station Responsibilities for Offsite ERO Personnel

- Scheduling and conducting initial, retraining, and make-up classes.
- Acting as the sole contact point for ensuring attendance.
- Record keeping for the training courses, including dates of scheduled classes and non-attendance information.
- Verifying that all emergency response personnel training records are current.
- Ensure instructional materials are prepared and reviewed every two years.

Station Responsibilities for Plant ERO Personnel

- Station management shall ensure the attendance of onsite personnel for training, including required Emergency Plan courses.
- The Station shall conduct onsite emergency personnel initial and retraining for station Emergency Response Personnel using approved lesson plans.
- The Station Training Department shall provide those shift personnel included in a continuing training program an annual review of the following items as a minimum:
  - Assembly Areas
  - Emergency Response Facility assignment
  - Potential Hazards (radiological and non-radiological)
  - Anticipated actions including assembly requirements, protective equipment requirements (clothing, masks, SCBA, etc.), the use of KI, emergency exposure limits and accountability requirements.

b. Initial and Requalification ERO Training: The proficiency of emergency response personnel (as defined in 10 CFR 50 Appendix E) is ensured by the following means:

- Assigning persons to emergency duties that are similar to those performed as a part of their regular work assignment or experience.
- Initial training and annual retraining on applicable generic and site-specific portions of the emergency plan and the corresponding implementing procedures. Individuals not demonstrating the required level of knowledge in initial or retraining classes receive additional training on the areas requiring improvement. *[Annual retraining is conducted on a calendar year basis].*

- Training on Emergency Plan changes shall be completed within *[one hundred twenty (120) days]* of implementation of the change.

- Participation in exercises and/or drills as developed or authorized by the Emergency Preparedness Department and designed to sharpen those skills that they are expected to use in the event of a nuclear emergency.

All personnel assigned position specific responsibilities in the ERO are documented by inclusion in the emergency telephone directory listing of positions and personnel.

c. General Employee Training (GET): All personnel with unescorted station access are provided with initial orientation training on the notification and instruction methods used in the event of an emergency. Additionally, all badged individuals also receive initial orientation on the basic principles of radiological safety including the effects of radiation and the theory and use of radiation detection devices. Appropriate actions for escorted individuals shall be the responsibility of the escort. GET provides initial and annual requalification training on the basic elements of the Emergency Plan for all personnel working at the plant. Specifically, these elements include:

- Station emergency alarms and their meaning

- Assembly areas

- Site and Exclusion Area Evacuation procedures

- Special precautions and limitations during an emergency

- Purpose of the Emergency Plan

Section P: Responsibility for the Maintenance of the Planning Effort

This section describes the responsibilities for development, review and distribution of the Emergency Plan and actions that must be performed to maintain the emergency preparedness program. It also outlines the criteria for insuring that personnel who perform the planning are properly trained.

[Site specific standards]

1. Emergency Preparedness Staff Training

The Emergency Preparedness staff is involved in maintaining an adequate knowledge of state of the art planning techniques and the latest applications of emergency equipment and supplies. *[At least once each calendar year each member of the Emergency Preparedness staff is involved in one of the following activities:*

- *Training courses specific or related to emergency preparedness.*
- *Observation of or participation in drills and/or exercises at other stations.*
- *Participation in industry review and evaluation programs.*
- *Participation in regional or national emergency preparedness seminars, committees, workshops or forums].*

2. Authority for the Emergency Preparedness Effort

The *[Site Vice President]* is responsible for the safe and reliable operation of the generating stations within *[Name of Operating Company].* The issuance and control of this plan and the activities associated with emergency preparedness at *[Name of Operating Company]* shall be the overall responsibility of the *[Site Vice President].* This individual is assigned the responsibility for overall implementation of the *[Name of Operating Company]* Emergency Plan *[and Unit Annexes]* for *[Station Title].*

3. Responsibility for Development and Maintenance of the Plan

The [*Emergency Preparedness Manager]* is responsible for the overall radiological emergency preparedness program associated with the operation of the nuclear power station and to administer the program to ensure availability of resources in the event of an emergency.

The [*Emergency Preparedness Manager*] is assisted by an Emergency Preparedness Staff. Specific responsibilities include the following:

Program Administration

- Develop and maintain the Emergency Plan, *[Unit Annexes,]* implementing procedures and administrative documents.
- Develop and maintain 10 CFR 50.54(q) evaluations for changes to EP documents.
- Develop and maintain working relationships and coordinate meetings with Federal, State and Local agencies.
- Ensure integration of plans between *[Name of Operating Company]* and offsite agencies.
- Provide an opportunity to discuss Emergency Action Levels and the availability of [*Nuclear Oversight*] audit results relating to interface with governmental agencies.
- Coordinate, negotiate and maintain agreements and contracts with offsite agencies and support organizations.
- Obtain Letters of Agreement with major medical facilities, and medical consultants specifically skilled in the medical aspects of radiation accidents and other medical consultants as might be necessary for the case of a person involved in a radiation incident.
- Coordinate the development and annual distribution of the station's public information publication.
- Coordinate and support EP Self-Assessments, Audits and Inspections.
- Ensure the documentation and resolution of adverse conditions in the emergency preparedness program discovered through drills, audits, etc. in accordance with the *[Name of Operating Company]* Corrective Action Program.
- Coordinate and develop Operational Experience responses.
- Coordinate, document and review Performance Indicator data and reports.
- Provide oversight of Drill and Exercise Performance (DEP) evaluations during License Operator Requalification (LOR) Training.
- Coordinate and conduct EP Event reviews and reports.
- Maintain adequate documentation/files to support EP activities.

- Develop and manage the EP budget.
- Maintain the Emergency Telephone Directory.

Drills and Exercises

- Coordinate and maintain the EP Drill and Exercise Schedule.
- Coordinate and conduct exercises and drills.
- Coordinate NRC, DHS, State, and local exercise scheduling and development activities.
- Coordinate drill and exercise scenario development activities.
- Develop and publish drill and exercise scenario manuals.
- Coordinate and perform controller and evaluator functions for drills and exercises.
- Coordinate response cells for drills and exercises.
- Develop and issue drill and exercise reports.

Facilities and Equipment

- Provide maintenance and administration of the Alert and Notification System (ANS).
- Provide maintenance of the ERO call-out system.
- Ensure the Emergency Response Facilities are maintained in a constant state of readiness.
- Coordinate and review the EP equipment inventories.
- Coordinate and conduct maintenance and testing of the communications systems.
- Maintain the EP computer applications.

ERO Qualification and Administration

- Develop and maintain ERO Lesson Plans, Examinations, and Qualification Cards.
- Maintain EP GET training content.
- Coordinate, schedule and conduct ERO qualification and requalification training.

- Oversee the maintenance of ERO training records.
- Maintain and coordinate publishing of the ERO Duty Rosters.
- Provide adequate oversight and support for the training of offsite response personnel.
- Coordinate conduct of Emergency Medical Assistance Program training.
- Coordinate annual training for the media.

The *[Site Vice President]* is responsible for implementation of the Emergency Plan. The *[Site Vice President]* has the following responsibilities for maintenance of the Emergency Preparedness Program:

- Ensure the adequate staffing and training of Plant ERO members.
- Schedule and conduct drills and exercises to maintain the state of readiness of the Emergency Preparedness Program.
- Ensure the operational readiness of station facilities and communication systems for use during an emergency.
- Ensure the operational readiness of station emergency equipment and supplies is maintained.
- Ensure the emergency response procedures and for training and retraining of Plant Emergency Response personnel are maintained.

4. Emergency Plan and Agreement Revisions

[Site specific standards]

The Emergency Plan *[, its Unit Annexes,]* and supporting Agreements are reviewed on an *[annual]* basis. This review may also include applicable State and local emergency response agencies based on established agreements.

The *[annual]* Emergency Plan review/update includes required changes identified during audits, assessments, training, drills, and exercises. The *[Emergency Preparedness Manager]* is responsible for determining which recommended changes are incorporated into a plan or emergency procedure revision. *[In those years when the review does not warrant a revision, a letter to that affect will be issued].*

The Emergency Plan *[and its Annexes]* shall be revised as needed and the most current approved revisions shall remain in effect so long as they are certified as current. Revisions to the Emergency Plan are reviewed by the Stations' *[Independent Review Committee (IRC)]* prior to approval. Changes to the plan are made without NRC approval only if such changes do not decrease the effectiveness of the plan per 10 CFR 50.54(q), and the plan as changed continues to meet the standards of 10 CFR 50.47(b) and the requirements of 10 CFR 50, Appendix E. Proposed changes that decrease or have a potential to decrease the effectiveness of the approved plan are not implemented without prior approval by the NRC.

- Proposed revisions to the Emergency Plan *[and Unit Annexes]* shall be completed in accordance with the *[Name of Operating Company]* review and approval processes.

- Emergency Plan *[and Unit Annexes]* changes shall be categorized as (1) minor/ administrative or (2) significant programmatic changes. Minor/administrative changes shall be implemented *[within 30 days]* of approval. Significant programmatic changes shall be implemented as soon as practical and *[within 60 days]* of final approval simultaneously at *[all]* units*[s]*.

- After review and approval, the Emergency Plan *[and Unit Annexes]* shall be:

  a) Reviewed by the *[Emergency Preparedness Manager]* or designee, and

  b) Approved for use by the *[Site Vice President]*, or designee.

- The Implementing Procedures shall be developed and revised concurrent with the Emergency Plan *[and Unit Annexes]*, and reviewed every *[two years]*.

[Annually], each Letter of Agreement is reviewed and certified current in order to assure the availability of assistance from each supporting organization not already a party to the individual State Plan for Radiological Accidents.

5. Emergency Plan Distribution

Emergency Plan manuals *[, Unit Annexes]* and implementing procedures are distributed as necessary on a controlled basis to the Emergency Response Facilities. All controlled documents holders are issued revision changes upon approval. Selected Federal, State, and local agencies, and other appropriate locations requiring them are also issued copies. Procedures are in place that control the revision of the Emergency Plan and *[require the use of revision bars and individual page identifications (i.e. section of plan, revision number, date of revision, etc.)]*.

6. Supporting Emergency Response Plans

Other plans that support this Emergency Plan are:

- NUREG-1471, US Nuclear Regulatory Commission, "Concept of Operations: NRC Incident Response"
- Federal Radiological Emergency Response Plan
- *[10 Mile (16 Kilometer) EPZ State Name Plan(s)]*
- *[10 Mile (16 Kilometer) EPZ Local Community Plan(s)]*
- *[50 Mile (80 Kilometer) EPZ State Name Plan(s)]*
- Department of Energy, Region *[x],* "Radiological Assistance Plan"
- INPO Emergency Resources Manual.
- *[Station Name]* Security Plan - Note: The *[Station Name]* Security Plan contains safeguards information that must be protected from unauthorized disclosure under provisions of 10 CFR 73.21.

7. Implementing and Supporting Procedures

Appendix 2 of this plan contains a listing, by number and title, of those procedures that implement this plan during an emergency. Additionally, administrative procedures that outline the steps taken to maintain the *[Station's Name]* Emergency Preparedness Program have been developed and are listed in Appendix 2.

8. Cross Reference to Planning Criteria

The Plan contains a table of contents and is formatted in the same manner as NUREG-0654, FEMA-REP-1, Revision 1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in support of Nuclear Power Plants." The use of this format lends itself to uncomplicated comparison of the criteria set forth in NUREG-0654, FEMA-REP-1.

9. Audit/Assessment of the Emergency Preparedness Program

[Site specific standards]

To meet the requirements of 10 CFR 50.54(t), *[Name of Operating Company]* [*Oversight*] shall coordinate an independent review of the Emergency Preparedness Program *[at least every 12 months]* to examine conformance with 10 CFR 50.47, 10 CFR 50.54, and 10 CFR 50 Appendix E. Included in the audit/assessment are the following:

- The Emergency Plan and associated implementing procedures.
- The Emergency Preparedness Training Program including drills and exercises.

- The readiness of the *[Station's Name]* Emergency Response Organization to perform its function.
- The readiness of facilities and equipment to perform as outlined in the plan and procedures.
- The interfaces between *[Name of Operating Company]*, the state, and county governmental agencies pertaining to the overall Emergency Preparedness Program.

Results of this audit are submitted for review to Station Management and the *[Site Vice President].* The *[Emergency Preparedness Manager]* ensures that any findings that deal with offsite interfaces are reviewed with the appropriate agencies. Written notification will be provided to the state and counties of the performance of the audit and the availability of the audit records for review at *[Name of Operating Company]* facilities. Management controls shall be implemented for evaluation and correction of review findings. Records of the audit are maintained for *[at least five years].*

10. Maintenance of Emergency Telephone Directory

[Site specific standard]

Names and phone numbers of the Emergency Response Organization and support personnel shall be reviewed and updated *[at least quarterly].*

Appendix 1: References

References consulted in the writing of this Emergency Plan are listed in this section. With exception of regulatory requirements, inclusion of material on this list does not imply adherence to all criteria or guidance stated in each individual reference.

1. 10 CFR 50.47, Emergency Plans
2. 10 CFR 50.54, Conditions of Licenses
3. 10 CFR 50.72, Immediate Notification Requirements for Operating Nuclear Power Reactors
4. 10 CFR 50.73, Licensee Event Report System
5. 10 CFR 50 Appendix B, Quality Assurance Criteria for Nuclear Power Plants and Fuel Reprocessing Plants
6. 10 CFR 50 Appendix E, Emergency Planning and Preparedness for Production and Utilization Facilities
7. 10 CFR 20, Standards for Protection Against Radiation
8. 10 CFR 70, Domestic Licensing of Special Nuclear Material
9. 10 CFR 73, Physical Protection of Plants and Materials
10. 10 CFR 73.21, Requirements for Protection of Safeguards Information.
11. 10 CFR 100, Reactor Site Criteria.
12. 40 CFR 355, Emergency Planning and Management.
13. 44 CFR 350, Review and Approval of Site and Local Radiological Emergency Plans and Preparedness.
14. 40 CFR 172, Hazardous Materials Table, Special Provisions, Hazardous Material Communications, Emergency Response Information, and Training Requirements.
15. NUREG-0654, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," Revision 1, November, 1980.
16. NUREG-0654, Supplement 1, "Criteria for Utility Offsite Planning and Preparedness," November 1987.
17. NUREG-0654, Supplement 3, "Criteria for Protective Action Recommendations for Severe Accidents," July 1996.

18. NUREG-0396, "Planning Basis for the Development of State and Local Government Radiological Emergency Response Plans in Support of Light Water Nuclear Power Plants," December 1978.

19. NUREG-0578, "TMI-2 Lessons Learned Task Force Status Report and Short-Term Recommendations," 1979.

20. NUREG-0696, Revision 1, Functional Criteria for Emergency Response Facilities, February 1981.

21. NUREG-0737, Clarification of TMI Action Plan Requirements, October 1980.

22. NUREG-0737, Supplement 1, Requirements for Emergency Response Capability, January 1983.

23. NUREG-0728 - "Report to Congress: NRC Incident Response Plan," September, 1980.

24. US NRC Regulatory Guide 1.101, "Emergency Planning and Preparedness for Nuclear Power Reactors," Revision 4, July, 2003.

25. U.S. NRC Response Technical Manual (RTM-96), 1996.

26. NUMARC/NESP-007, Rev. 2, "Methodology for Development of Emergency Action Level," June 1, 1995.

27. EPA 400-R-92-001, October 1991, "Manual of Protective Action Guides and Protective Actions for Nuclear Incidents."

28. FEMA-REP-10, "Guide for Evaluation of Alert and Notification Systems for Nuclear Power Plants," November, 1985.

29. FEMA-REP-14, "Exercise Evaluation Methodology," 1991.

30. FEMA-Guidance Memorandum, "MS-1 "Medical Services," November, 1986.

31. INPO Emergency Resources Manual

32. "Maintaining Emergency Preparedness Manual," dated December, 1996 INPO 96-009.

33. "Federal Bureau of Investigation and Nuclear Regulatory Commission Memorandum of Understanding for Cooperation Regarding Threat, Theft, or Sabotage in U.S. Nuclear Industry," Federal Register, Vol. 44, p. 75535, December 20, 1979.

34. "Voluntary Assistance Agreement By and Among Electric Utilities involved in Transportation of Nuclear Materials," dated November 1, 1980.

35. Comprehensive Environmental Response, Compensation and Liability Act of 1980.

36. Accidental Radioactive Contamination of Human Food and Animal Feeds; Recommendation for State and Local Agencies, Volume 47, No. 205, October 22, 1982.

37. American Nuclear Insurers Bulletin #5B (1981), "Accident Notification Procedures for Liability Insureds".

38. "Potassium Iodide as a Thyroid Blocking Agent in a Radiation Emergency: Final Recommendations on Use," Federal Register Vol. 47, No. 125, June 29, 1982.

39. Letter from William J. Dircks, Executive Director for Operations, NRC, to Dr. Donald F. Knuth, President KMC, Inc. dated October 26, 1981.

40. INPO Coordination agreement on emergency information among USCEA, EPRI, INPO, NUMARC and their member utilities, dated April (1988).

41. Babcock and Wilcox Company, Post Accident Sample Offsite Analysis Program (1982).

42. ANI/MAELU Engineering Inspection Criteria For Nuclear Liability Insurance, Section 6.0, Rev. 1, "Emergency Planning."

43. EPPOS No. 2, Rev. 0, "Timeliness of Classification of Emergency Condition," August 1, 1995.

44. EPPOS No. 3, Rev. 0, "Requirement for Onshift Dose Assessment Capability, November 8, 1995.

45. EPPOS No. 5, Rev. 0, "Emergency Planning Information Provided to the Public," December 4, 2002.

46. Regulatory Issue Summary (RIS) 2000-08, "Voluntary Submission of Performance Indicator Date," March 29, 2000 (ADAMS Accession No. ML003685821).

47. RIS 2000-11, "NRC Emergency Telecommunications System," June 30, 2000 (ADAMS Accession No. ML003727812).

48. RIS 2000-11, Supp. 1, "NRC Emergency Telecommunications System," March 22, 2001 (ADAMS Accession No. ML010570103).

49. RIS 2001-16, "Update of Evacuation Time Estimates," August 1, 2001 (ADAMS Accession No. ML012070310).

50. RIS 2003-12, "Clarification of NRC Guidance for Modifying Protective Actions," June 24, 2003 (ADAMS Accession No. ML031680611).

51. RIS 2003-18, "Use of NEI 99-01, "Methodology for Development of Emergency Action Levels," Revision 4, Dated January 2003," October 8, 2003 (ADAMS Accession No. ML032580518).

52. RIS 2003-18, Supp. 1, "Supplement 1, Use of Nuclear Energy Institute (NEI) 99-01, "Methodology for Development of Emergency Action Levels," Revision 4, Dated January 2003," July 13, 2004 (ADAMS Accession No. ML041550395).

53. RIS 2003-18, Supp. 2, "Supplement 2, Use of Nuclear Energy Institute (NEI) 99-01, "Methodology for Development of Emergency Action Levels," Revision 4, Dated January 2003," December 12, 2005 (ADAMS Accession No. ML051450482).

54. RIS 2005-02, "Clarifying the Process for Making Emergency Plan Changes," February 14, 2005 (ADAMS Accession No. ML042580404).

55. RIS 2005-08, "Endorsement of Nuclear Energy Institute (NEI) Guidance "Range of Protective Actions for Nuclear Power Plant Incidents"," June 6, 2005 (ADAMS Accession No. ML050870432).

56. RIS 2006-03, "Guidance on Requesting an Exemption from Biennial Emergency Preparedness Exercise Requirements," February 24, 2006 (ADAMS Accession No. ML053390039).

57. RIS 2006-12, "Endorsement of Nuclear Energy Institute Guidance "Enhancements to Emergency Preparedness Programs for Hostile Action"," July 19, 2006 (ADAMS Accession No. ML061530290).

58. Information Notice (IN) 81-34, "Accidental Actuation of Prompt Public Notification System," November 16, 1981.

59. IN 85-41, "Scheduling of Pre-Licensing Emergency Preparedness Exercises," May 25, 1985.

60. IN 85-44, "Emergency Communication System Monthly Test," May 30, 1985.

61. IN 85-52, "Errors in Dose Assessment Computer Codes and Reporting Requirements Under 10 CFR Part 21," July 10, 1985.

62. IN 85-80, "Timely Declaration of an Emergency Class, Implementation of an Emergency Plan, and Emergency Notifications," October 15, 1985.

63. IN 86-18, "NRC On-Scene Response During a Major Emergency," March 26, 1986.

64. IN 86-43, "Problems with Silver Zeolite Sampling of Airborne Radioiodine," June 10, 1986.

65. IN 86-55, "Delayed Access to Safety-Related Areas and Equipment During Plant Emergencies," July 10, 1986.

66. IN 86-98, "Offsite Medical Services," December 2, 1986.

67. IN 87-54, "Emergency Response Exercises (Off-Year Exercises)," October 23, 1987.

68. IN 87-58, "Continuous Communications Following Emergency Notification," November 16, 1987.

69. IN 88-15, "Availability of U.S. Food and Drug Administration (FDA)-Approved Potassium Iodide for Use in Emergencies Involving Radioactive Iodine," April 18, 1988.

70. IN 91-77, "Shift Staffing at Nuclear Power Plants," November 26, 1991.

71. IN 92-32, "Problems Identified with Emergency Ventilation Systems for Near-Site (Within 10 Miles) Emergency Operations Facilities and Technical Support Centers," April 29, 1992.

72. IN 92-38, "Implementation Date for the Revision to the EPA Manual of Protective Action Guides and Protective Actions for Nuclear Incidents (EPA-400-R-92-001)," May 12, 1992.

73. IN 93-81, "Implementation of Engineering Expertise on Shift," October 12, 1993.

74. IN 95-23, "Control Room Staffing Below Minimum Regulatory Requirements," April 24, 1995.

75. IN 95-48, "Results of Shift Staffing Study," October 10, 1995.

76. IN 96-19, "Failure of Tone Alert Radios to Activate When Receiving a Shortened Activation Signal," April 2, 1996.

77. IN 97-05, "Offsite Notification Capabilities," February 27, 1997.

78. IN 98-20, "Problems with Emergency Preparedness Respiratory Programs," June 3, 1998.

79. IN 02-14, "Ensuring a Capability to Evacuate Individuals, Including Members of the Public, from the Owner-Controlled Area," April 8, 2002.

80. IN 02-25, "Challenges to Licensees' Ability to Provide Prompt Public Notification and Information During an Emergency Preparedness Event," August 26, 2002.

81. IN 04-19, "Problems Associated with Back-up Power Supplies to Emergency Response Facilities and Equipment," November 4, 2004.

82. IN 05-19, "Effect of Plant Configuration Changes on the Emergency Plan," July 18, 2005.

Appendix 2: Procedure Cross-Reference to NUREG-0654

[Station Specific]

Criteria	Planning Standard	Procedure/Document
NUREG-0654.II.A	Assignment of Responsibility (Organization Control)	
NUREG-0654.II.B	Onsite Emergency Organization	
NUREG-0654.II.C	Emergency Response Support and Resources	
NUREG-0654.II.D	Emergency Classification System	
NUREG-0654.II.E	Notification Methods and Procedures	
NUREG-0654.II.F	Emergency Communications	
NUREG-0654.II.G	Public Education and Information	
NUREG-0654.II.H	Emergency Facilities and Equipment	

Appendix 2: Procedure Cross-Reference to NUREG-0654

[Station Specific]

Criteria	Planning Standard	Procedure/Document
NUREG-0654.II.I	Accident Assessment	
NUREG-0654.II.J	Protective Response	
NUREG-0654.II.K	Radiological Exposure Control	
NUREG-0654.II.L	Medical and Public Health Support	
NUREG-0654.II.M	Recovery and Reentry Planning and Post-Accident Operations	
NUREG-0654.II.N	Exercises and Drills	
NUREG-0654.II.O	Radiological Emergency Response Training	
NUREG-0654.II.P	Responsibility for the Planning Effort: Development, Periodic Review and Distribution of Emergency Plans	

Appendix 3: List of Letters of Agreements

[Station specific list]

Appendix 4: Glossary of Terms and Acronyms

[Site specific standards]

Accident Assessment	Accident assessment consists of a variety of actions taken to determine the nature, effects and severity of an accident and includes evaluation of reactor operator status reports, damage assessment reports, meteorological observations, seismic observations, fire reports, radiological dose projections, in plant radiological monitoring, and environmental monitoring.
Activation	*(1) ["ERO Activation" is the process of initiating actions to notify and mobilize Emergency Response Organization (ERO) personnel following an event classification under the emergency plan.* (2) *"Facility Activation" refers to the decision to consider a facility fully operational based on the minimum staffing required under Table B-1 of the emergency plan and the ability of facility staffing and equipment to perform its designed function(s)].*
Annual	*[Frequency of occurrence equal to once per calendar year, January 1 to December 31].*
Assembly/Accountability	A procedural or discretionary protective action taken for all persons within the security "Protected Area", which involves the gathering of personnel into pre-designated areas, and the subsequent verification that the location of these personnel is known.
Assessment Actions	Those actions taken during or after an emergency to obtain and process information that is necessary to make decisions to implement specific emergency measures.
Biennial	Frequency of occurrence equal to once per two calendar year periods.
Biennial Exercise	An event that tests the integrated capability and a major portion of the basic elements existing within an emergency plan. An exercise usually involves participation of personnel from State and local governments, utility personnel, and may involve participation of Federal government personnel.

Appendix 4: Glossary of Terms and Acronyms

[Site specific standards]

Classification	The classification of emergencies is divided into Five (5) categories or conditions, covering the postulated spectrum of emergency situations. The first four (4) emergency classifications are characterized by Emergency Action Levels (EALs) or event initiating conditions and address emergencies of increasing severity. The fifth, the Recovery classification, is unique in that it may be viewed as a phase of the emergency, requiring specific criteria to be met and/or considered prior to its declaration.
Command and Control	When in Command and Control, the designated Emergency Response Facility (ERF) has overall responsibility for *[Name of Operating Company]*'s emergency response efforts, including the non-delegable responsibilities of Command and Control.
Committed Dose Equivalent (CDE)	The Dose Equivalent to organs or tissues of reference that will be received from an intake of radioactive material by an individual during the 50-year period following the intake.
Corrective Action	Those emergency measures taken to lessen or terminate an emergency situation at or near the source of the problem, to prevent an uncontrolled release of radioactive material, or to reduce the magnitude of a release. Corrective actions include, equipment repair or shutdown, installation of emergency structures, fire fighting, repair, and damage control.
Damage Assessment	Estimates and descriptions of the nature and extent of damages resulting from an emergency or disaster; of actions that can be taken to prevent or mitigate further damage; and of assistance required in response and recovery efforts based on actual observations by qualified engineers and inspectors.
Decontamination	The reduction or removal of contaminated radioactive material from a structure, area, material, object, or person. Decontamination may be accomplished by (1) treating the surface so as to remove or decrease the contamination; (2) letting the material stand so that the radioactivity is decreased as a result of natural decay; and (3) covering the contamination.

Appendix 4: Glossary of Terms and Acronyms

[Site specific standards]

Dedicated Communications	A communications link between two or more locations, access to which is limited to designated locations, and used only for the purpose intended. The communications link may be either telephone or radio.
Deep Dose Equivalent (DDE)	The dose equivalent at a tissue depth of 1 cm (1000 mg/cm^2); applies to external whole body exposure.
Dose	A generic term that means absorbed dose, dose equivalent, effective dose equivalent, deep dose equivalent, committed dose equivalent, committed effective dose equivalent, or total effective dose equivalent.
Dose Equivalent (DE)	The product of the absorbed dose in tissue, quality factor, and all other necessary modifying factors at the location of interest. The unit of dose equivalent is the Rem (Sv).
Dose Projection	The calculated estimate of a radiation dose to individuals at a given location (normally off-site), determined from the source term/quantity of radioactive material (Q) released, and the appropriate meteorological dispersion parameters (X/Q).
Dose Rate	The amount of ionizing (or nuclear) radiation to which an individual would be exposed per unit of time. As it would apply to dose rate to a person, it is usually expressed as rems per hour or in submultiples of this unit, such as millirems per hour. The dose rate is commonly used to indicate the level of radioactivity in a contaminated area.
Dosimeter	An instrument such as a thermoluminescent dosimeter (TLD), self-reading pocket dosimeter (SRPD), or electronic dosimeter (ED) for measuring, registering, or evaluating total accumulated dose or exposure to ionizing radiation.
Drill	A supervised instruction period aimed at testing, developing and maintaining skills in a particular operation.
Early Phase	The period at the beginning of a nuclear incident when immediate decisions for effective use of protective actions are required and must be based primarily on predictions of radiological conditions in the environment. This phase may last from hours to days. For the purposes of dose projections it is assumed to last four days.

Appendix 4: Glossary of Terms and Acronyms

[Site specific standards]

Emergency Action Levels (EALs)	A pre-determined, site-specific, observable threshold for a plant Initiating Condition that places the plant in a given emergency class. An EAL can be an instrument reading; an equipment status indicator; a measurable parameter (onsite or offsite); a discrete, observable event; or another phenomenon which, if it occurs, indicates entry into a particular emergency class.
Emergency Alert System (EAS)	A network of broadcast stations and interconnecting facilities which have been authorized by the Federal Communications Commission to operate in a controlled manner during a war, state of public peril or disaster, or other national or local emergency. In the event of a nuclear reactor accident, instructions/notifications to the public on conditions or protective actions would be broadcast by state or local government authorities on the EAS.
[*Emergency Director*]	The [*Director]* of the facility in Command and Control. One of the following: the *[Interim Emergency Director]* (Control Room), *[Emergency Plant Manager]* (TSC) or the *[Emergency Director]* (EOF).
Emergency Notification System (ENS)	The NRC Emergency Notification System hot line is a dedicated telephone system that connects the plant with NRC headquarters in White Flint, Maryland. It is directly used for reporting emergency conditions to NRC personnel.
Emergency Operating Procedures (EOPs)	EOPs are step-by-step procedures for direct actions taken by licensed reactor operators to mitigate and/or correct an off normal plant condition through the control of plant systems.
Emergency Operations Center (EOC)	A facility designed and equipped for effective coordination and control of emergency operations carried out within an organization's jurisdiction. The site from which civil government officials (municipal, county, State, and Federal) exercise direction and control in a civil defense emergency.
Emergency Operations Facility (EOF)	An emergency response facility designed and equipped for effective communication, coordination and control of emergency operations carried out by the Station and communicated to the offsite emergency response organizations.

Appendix 4: Glossary of Terms and Acronyms

[Site specific standards]

Emergency Personnel	Those organizational groups that perform a functional role during an emergency condition. Within *[Name of Operating Company]*, emergency personnel include the Managers and Directors of the Emergency Response Organization, accident assessment personnel, radiological monitoring teams, fire brigades, first aid teams and security personnel.
Emergency Planning Zones (EPZ)	That area surrounding a nuclear station in which emergency planning is conducted for the protection of the public. With respect to protecting the public from the plume exposure resulting from an incident, the EPZ is usually an area with a radius of about 10 miles (16 kilometers) surrounding the facility. With respect to the ingestion exposure pathway, the EPZ is usually an area with a radius of about 50 miles (80 kilometers).
Emergency Preparedness	A state of readiness that provides reasonable assurance that adequate protective measures can and will be taken upon implementation of the emergency plan in the event of a radiological emergency.
Emergency Response Data System (ERDS)	ERDS is a direct near real-time electronic data link between the licensee's onsite computer system and the NRC Operations Center that provides for the automated transmission of a limited data set of selected parameters.
Environmental Monitoring	The use of radiological instruments or sample collecting devices to measure and assess background radiation levels and/or the extent and magnitude of radiological contamination in the environment around the plant. This may be done in various stages such as pre-operational, operational, emergency, and post operational.
Essential Personnel	Essential personnel are those needed to achieve the goals and tasks as deemed necessary by the *[Emergency Plant Manager].*
Evacuation	The urgent removal of people from an area to avoid or reduce high level, short-term exposure usually from the plume or from deposited activity.

Appendix 4: Glossary of Terms and Acronyms

[Site specific standards]

Exclusion Area	An Exclusion Area is an area specified for the purpose of reactor site evaluation in accordance with 10 CFR 100. It is an area of such size that an individual located at any point on its boundary for two hours immediately following onset of the postulated release would not receive a total radiation dose to the whole body in excess of 25 rem (0.25 Sv) or a total radiation dose of 300 rem (3 Sv) to the thyroid from iodine exposure.
Exercise	An event that tests the integrated capability of a major portion of the basic elements existing within emergency preparedness plans and organizations.
Exercise Cycle	A six-year period of time.
Fission Product Barrier	The fuel cladding, reactor coolant system boundary, or the containment boundary.
Hazardous Material	A substance or material which has been determined by the United States Secretary of Transportation to be capable of posing an unreasonable risk to health, safety, and property when transported in commerce, and which has been so designated in 49 CFR 172.
Health Physics Network (HPN) Line	In the event of a Site Area Emergency, the NRC HPN line will be activated by the NRC Operations center in White Flint, Maryland. This phone is part of a network that includes the NRC Regional Office and the NRC Operations Headquarters in White Flint, Maryland. This system is dedicated to the transmittal of radiological information by plant personnel to NRC Operations Center and the Regional office. HPN phones are located in the TSC and EOF.
Imminent	Mitigation actions have been ineffective and trended information indicates that the event or condition will occur *[within 2 hours]*.
Ingestion Exposure Pathway	The potential pathway of radioactive materials to the public through consumption of radiologically contaminated water and foods such as milk or fresh vegetables. Around a nuclear power plant this is usually described in connection with the 50-mile (80-kilometer) radius Emergency Planning Zone (50 mile (80-kilometer) EPZ).

Appendix 4: Glossary of Terms and Acronyms

[Site specific standards]

Initiating Condition	A predetermined Unit condition where either the potential exists for a radiological emergency or such an emergency has occurred.
Intermediate Phase	The period beginning after the source and releases have been brought under control and reliable environmental measurements are available for use as a basis for decisions on additional protective actions.
Joint Information Center	An Emergency Response Facility activated by *[Name of Operating Company]* and staffed by *[Name of Operating Company]*, State, and Federal Public Information personnel. This facility serves as the single point of contact for the media and public to obtain information about an emergency.
Late Phase	The period beginning when recovery action designed to reduce radiation levels in the environment to acceptable levels for unrestricted use are commenced and ending when all recovery actions have been completed. This period may extend from months to years (also referred to as the recovery phase).
Local Evacuation	The evacuation of personnel from a particular area, such as a room or building.
Main Control Room	The operations center of a nuclear power plant from which the plant can be monitored and controlled.
Monthly	Frequency of occurrence equal to once per calendar month.
Non-Essential Site Personnel	Those personnel not needed for the continuing existence or functioning of the ERO. They are personnel not required to fill certain positions in the ERO. Identification of non-essential personnel is circumstance-oriented as determined by the *[Emergency Plant Manager].*

Appendix 4: Glossary of Terms and Acronyms

[Site specific standards]

Notification, Public	Public notification means to communicate instructions on the nature of an incident that prompted the public alerting/warning and on protective or precautionary actions that should be taken by the recipients of the alert. A state and local government process for providing information promptly to the public over radio and TV at the time of activating the alerting (warning) signal (sirens). Initial notifications of the public might include instructions to stay inside, close windows, and doors, and listen to radio and TV for further instructions. Commercial broadcast messages are the primary means for advising the general public of the conditions of any nuclear accident. (See Emergency Alert System.)
Off-Site	The area around a nuclear generating station that lies outside the station's "site boundary".
Offsite Dose Calculation Manual (ODCM)	The ODCM presents a discussion of the following: 1. The ways in which nuclear power stations can affect their environment radiologically 2. The regulations which limit radiological effluents from the nuclear power stations; and 3. The methodology used by the nuclear power stations to assess radiological impact on the environment and compliance with regulations.
On-Site	The area around a nuclear generating station that lies within the station's "site boundary".
Owner Controlled Area	Company owned property on which a Nuclear Station is located and may include *[Name of Operating Company]* leased lands adjacent to that Nuclear Station.
Operations Support Center (OSC)	An emergency response facility at the Plant to which support personnel report and stand by for deployment in an emergency situation.
Personnel Monitoring	The determination of the degree of radioactive contamination on individuals, using standard survey meters, and/or the determination of dosage received by means of dosimetry devices.

Appendix 4: Glossary of Terms and Acronyms

[Site specific standards]

Puff Release	A controlled containment vent that will be terminated prior to exceeding 60 minutes in duration **AND** exceeds either the EPA-400 TEDE or CDE Thyroid PAG.
Plume Exposure Pathway	The potential pathway of radioactive materials to the public through: (a) whole body external exposure from the plume and from deposited materials, and (b) inhalation of radioactive materials.
Population-at-Risk	Those persons for whom protective actions are being or would be taken. In the 10-mile (16-kilometer) EPZ the population-at-risk consists of resident population, transient population, special facility population, and industrial population.
Potassium Iodide	(Symbol KI) A chemical compound that readily enters the thyroid gland when ingested. If taken in a sufficient quantity prior to exposure to radioactive iodine, it can prevent the thyroid from absorbing any of the potentially harmful radioactive iodine-131.
Potential	Mitigation actions are not effective and trended information indicates that the parameters are outside desirable bands and not stable or improving.
Projected Dose	That calculated dose that some individuals in the population group may receive if no protective actions are implemented. Projected doses are calculated to establish an upper limit boundary.
Protected Area	That onsite area within the security boundary as defined in each station's Security Plan.
Protection Factor (PF)	The relation between the amount of radiation that would be received by a completely unprotected person compared to the amount that would be received by a protected person such as a person in a shielded area. PF = Unshielded dose rate X shielded dose rate.
Protective Action	Those emergency measures taken for the purpose of preventing or minimizing radiological exposures to affected population groups.

Appendix 4: Glossary of Terms and Acronyms

[Site specific standards]

Protective Action Guide (PAG)	Projected radiological dose values to individuals in the general population that warrant protective action. Protective Action Guides are criteria used to determine if the general population needs protective action regarding projected radiological doses, or from actual committed (measured) dose values.
Protective Action Recommendations (PARs)	Recommended actions to the States for the protection of the offsite public from whole body external gamma radiation, and inhalation and ingestion of radioactive materials. The PAR issued may be to evacuate or shelter-in-place. Access control and other recommendations concerning the safeguards of affected food chain processes may be issued by the States as PARs.
Public Alerting/Warning	The process of signaling the public, as with sirens, to turn on their TV's or radios and listen for information or instructions broadcast by state or local government authorities on the Emergency Alert System (EAS).
Quarterly	Frequency of occurrence equal to once in each of the following four periods: January 1 through March 31; April 1 through June 30; July 1 through September 30; October 1 through December 31.
Recovery	The process of reducing radiation exposure rates and concentrations of radioactive material in the environment to levels acceptable for unconditional occupancy or use.
Release	*[A 'Release in Progress' is defined as ANY radioactive release that is a result of, or associated with, the emergency event].*
Restricted Area	Any area, access to which is controlled by *[Station's Name]* for purposes of protection of individuals from exposure to radiation and radioactive materials.
Restricted Area Boundary	For classification and dose projection purposes, the boundary is a *[xxx-mile (xxx-kilometer) radius]* around the plant. The actual boundary is specified in the ODCM.

Appendix 4: Glossary of Terms and Acronyms

[Site specific standards]

Safety Analysis Report, *[Updated]* Final (FSAR)	The *[U]*FSAR is a comprehensive report that a utility is required to submit to the NRC as a prerequisite and as part of the application for an operating license for a nuclear power plant. The multi-volume report contains detailed information on the plant's design and operation, with emphasis on safety-related matters.
Semi-Annual	Frequency of occurrence equal to once in each of the following periods: January 1 through June 30; July 1 through December 31.
Shielding	Any material or barrier that attenuates (stops or reduces the intensity of) radiation.
Site Boundary	The Nuclear Station's Site Boundary is described in detail in the ODCM.
Site Evacuation	The evacuation of non-essential personnel from the plant site.
Source Term	Radioisotope inventory of the reactor core, or amount of radioisotope released to the environment, often as a function of time.
Technical Support Center (TSC)	An emergency response facility outside of the Control Room in which information is supplied on the status of the plant to those individuals who are knowledgeable or responsible for engineering and management support of reactor operations in the event of an emergency, and to those persons who are responsible for management of the on-site emergency response.
Threshold Value	Measurable, observable detailed conditions which must be satisfied to determine an EAL applicability.
Thyroid Blocking Agent	An agent which when properly administered to an individual will result in sufficient accumulation of stable iodine in the thyroid to prevent significant uptake of radioiodine. Potassium Iodide is such an agent.
Total Effective Dose Equivalent (TEDE)	The sum of the deep dose equivalent (for external exposure) and the committed effective dose equivalent (for internal exposure) and – for offsite dose projections - 4 days of deposition exposure.

Appendix 4: Glossary of Terms and Acronyms

[Site specific standards]

Unrestricted Area	Any area to which access is not controlled by the licensee for protecting individuals from exposure to radiation and radioactive materials, and any area used for residential quarters.
Vital Areas	*[Areas within the station security fence which contain vital equipment].*
Vital Equipment	*[Any equipment, system, device or material, the failure, destruction, or release of which could directly or indirectly endanger the public health and safety by exposure to radiation. Equipment or systems which would be required to function to protect public health and safety following such failure, destruction, or release are also considered to be vital].*
Weekly	Frequency occurrence equal to once per calendar week: Sunday through Saturday.

Appendix 4: Glossary of Terms and Acronyms

Note: Any abbreviation followed by a lower case 's' denotes the plural form of the term.

ac ..... alternating current

ALARA ..... as low as reasonably achievable

ANI ..... American Nuclear Insurers

ANS ..... Alert and Notification System

ANSI ..... American National Standards Institute

ARM ..... Area Radiation Monitor

ASLB ..... Atomic Safety Licensing Board

BWR ..... boiling water reactor

CB ..... citizen band

cc ..... cubic centimeter

CEOC ..... County Emergency Operation Center

CFR ..... Code of Federal Regulations

CHRMS ..... Containment High Range Monitoring System

cm^2 ..... square centimeter

CR ..... Control Room

Cs ..... Cesium

dc ..... direct current

DEQ ..... Department of Environmental Quality

DER/BRP ..... Dept of Environmental Resources, Bureau of Radiation Protection (PA)

DHFS ..... Department of Health and Family Services

DOE ..... U. S. Department of Energy

DOT ..... U. S. Department of Transportation

DPH ..... Department of Public Health

dpm ..... disintegration per minute

EAL ..... Emergency Action Level

Appendix 4: Glossary of Terms and Acronyms

EAS ..... Emergency Alerting System

EMA ..... Emergency Management Agency

ENC ..... Emergency News Center

ENS ..... Emergency Notification System (NRC)

EOC ..... Emergency Operations (or Operating) Center

EOF ..... Emergency Operations Facility

EOP ..... Emergency Operating Procedure

EPA ..... U. S. Environmental Protection Agency

EPDS ..... Emergency Preparedness Data System

EPZ ..... Emergency Planning Zone

ERF ..... Emergency Response Facility

ESF ..... Engineered Safety Feature

DHS ..... Department of Homeland Security

FEMA ..... Federal Emergency Management Agency (now DHS)

FRERP ..... Federal Radiological Emergency Response Plan

FRMAP ..... Federal Radiological Monitoring and Assessment Plan

FRPCC ..... Federal Radiological Preparedness Coordinating Committee

Ge ..... Germanium

GET ..... General Employee Training

HEPA ..... high efficiency particulate air

HPN ..... Health Physics Network (NRC)

hr ..... hour

I ..... Iodine

IRAP ..... Interagency Radiological Assistance Plan

Appendix 4: Glossary of Terms and Acronyms

INPO ..... Institute of Nuclear Power Operations

JIC ..... Joint Information Center

LGEOC ..... Local Government Emergency Operations Center

Li ..... Lithium

LOCA ..... Loss of Coolant Accident

MAELU ..... Mutual Atomic Energy Liability Underwriters

[*S*]EMA ..... *[State]* Emergency Management Agency

MCP ..... Municipal Command Post

mR ..... milliroentgen

NCRP ..... National Council on Radiation Protection

NOP ..... Nuclear Organization Procedure

NRC ..... U. S. Nuclear Regulatory Commission

OSC ..... Operations Support Center

PAG ..... Protective Action Guide

PANS ..... Prompt Alert and Notification System

PAR ..... Protective Action Recommendation

PASS ..... Post Accident Sampling System

QAPD ..... Quality Assurance Program Description

R ..... roentgen

RAC ..... Regional Advisory Committee (DHS)

RAP ..... Radiological Assistance Plan

Appendix 4: Glossary of Terms and Acronyms

REAC ..... Radiological Emergency Assessment Center

REP ..... Radiological Emergency Plan

SAMG ..... Severe Accident Management Guidelines

SCBA ..... self contained breathing apparatus

SEOC ..... State Emergency Operations Center

SFCP ..... State Forward Command Post

SGTS ..... Standby Gas Treatment System

SHL ..... State Hygienic Laboratory

SPCC ..... Spill Prevention Control and Countermeasure

SPDS ..... Safety Parameter Display System

Sr ..... Strontium

Sv ..... Sievert

STA ..... Shift Technical Advisor

TDD ..... Telecommunications Device for the Deaf

TLD ..... Thermoluminescent Dosimeter

TSC ..... Technical Support Center

µCi ..... microcurie

*[U]*FSAR ..... *[Updated]* Final Safety Analysis Report

Appendix 5: ETE Summary

[Site specific]

Appendix 6: Local Support Organization

[Site specific]

[Site Title]

EMERGENCY PLAN EXISTING UNIT(S) ANNEX

UNIT*[S]* *[Unit No(s).]*

UniStar Nuclear

Revision 0

[This Emergency Plan Existing Unit(s) Annex provides unit specific details for Unit[s] [Units No(s).] should a U.S. EPR be co-located on an existing nuclear station site. For a green site, this annex would not be required.

This annex will include a unit description (type of reactor, relationship to other units, special emergency equipment), shift staffing, Emergency Action Levels (EALs), emergency measures, and any emergency facility locations which differ from those described in the [Site Title] emergency plan to provide a full understanding and representation of the station's emergency response capabilities. This annex is subject to the same review and audit requirements as the [Site Title] Emergency Plan.]

[Site Title]

EMERGENCY PLAN U.S. EPR ANNEX

UNIT*[S] [Unit No(s).]*

UniStar Nuclear

Revision 0

Table of Contents

Section **Page**

Section 1: Introduction

1.1 Unit Description 1-1

Section 2: Organization and Control of Emergencies

2.1 Normal Station Management Overview 2-1
2.2 Normal Shift Staffing 2-4
2.3 Shift Emergency Response Responsibilities 2-4
2.4 Unit Specific Emergency Response Organization Positional Responsibilities 2-6

Section 3: Classification of Emergencies

3.1 Emergency Action Levels 3-1
3.2 Emergency Action Levels Categories 3-2

Section 4: Emergency Response Facilities and Equipment

4.1 Unit Specific Emergency Response Facilities 4-1
4.2 Assessment Resources 4-3

Section 5: Emergency Measures

5.1 Unit Assembly Areas 5-1
5.2 Unit Evacuation Routes 5-1

Section 1: Introduction

This *[Site Title]* Emergency Plan Annex provides unit specific details for Unit*[s] [Unit No(s).].*

This includes a unit description (type of reactor, relationship to other units, special emergency equipment), shift staffing, Emergency Action Levels (EALs), and any emergency facility locations which differ from those described in the emergency plan to provide a full understanding and representation of the station's emergency response capabilities. The Unit Annex is subject to the same review and audit requirements as the *[Site Title]* Emergency Plan.

1.1 Unit Description

The *[Unit No(s).]* AREVA Evolutionary Power Reactor (EPR) is an evolutionary Pressurized Water Reactor (PWR) designed by Framatome ANP, Inc., a jointly-owned subsidiary of AREVA and Siemens. It is a four-loop plant with a rated thermal power of 4,590 MWt. The primary system design, loop configuration, and main components are similar to those of currently operating PWRs.

The EPR safety design features include four redundant trains of emergency core cooling, containment and Shield Building, and a core melt retention system for severe accident mitigation, which meet applicable regulatory and commercial requirements.

The safety design of the EPR is based primarily on deterministic analyses complemented by probabilistic analyses. The deterministic approach is based on the "defense-in-depth" concept which comprises four levels:

1. A combination of conservative design, quality assurance, and surveillance activities to prevent departures from normal operation

2. Detection of deviations from normal operation and protection devices and control systems to cope with them (This level of protection is provided to ensure the integrity of the fuel cladding and of the Reactor Coolant Pressure Boundary (RCPB) in order to prevent accidents.)

3. Engineered safety features and protective systems that are provided to mitigate accidents and consequently to prevent their evolution into severe accidents

4. Measures to preserve the integrity of the containment and enable control / mitigation of severe accidents

Low probability events with multiple failures and coincident occurrences up to the total loss of safety-grade systems are considered in addition to the deterministic design basis. Representative scenarios are defined for preventing both core melt and large releases in order to develop parameters for risk reduction features. A probabilistic approach is used to define these events and assess the specific measures available for their management. Consistent with international and U.S. probabilistic safety objectives, the frequency of core melt is less than 10-5/reactor-year including all events and all reactor states.

Design provisions for the reduction of the residual risk, core melt mitigation, and the prevention of large releases are:

- Prevention of high pressure core melt by high reliability of decay heat removal systems, complemented by primary system Overpressure Protection (OPP)
- Primary system discharge into the containment in the event of a total loss of secondary side cooling
- Features for corium spreading and cooling
- Prevention of hydrogen detonation by reducing the hydrogen concentration in the containment at an early stage with catalytic hydrogen recombiners
- Control of the containment pressure increase by a dedicated Severe Accident Heat Removal System (SAHRS) consisting of a spray system with recirculation through the cooling structure of the melt retention device

External events such as an aircraft hazard, Explosion Pressure Wave (EPW), seismic events, missiles, tornado, and fire have been considered in the design of Safeguard Buildings and the hardening of the Shield Building.

A. Overview of the EPR Design

The EPR is furnished with a four-loop, pressurized water, Reactor Coolant System (RCS) composed of a reactor vessel that contains the fuel assemblies, a pressurizer including control systems to maintain system pressure, one Reactor Coolant Pump (RCP) per loop, one SG per loop, associated piping, and related control and protection systems.

The RCS is contained within a concrete containment building. The containment building is enclosed by a Shield Building with an annular space between the two buildings. The post-tensioned concrete shell of the Containment Building is furnished with a steel liner and the Shield Building wall is reinforced concrete. The Containment and Shield Buildings comprise the Reactor Building. The Reactor Building is surrounded by four Safeguard Buildings and a Fuel Building. The internal structures and components within the Reactor Building, Fuel Building, and two Safeguard Buildings (including the plant Control Room) are protected against aircraft hazard and external explosions. The other two Safeguard Buildings are not protected against aircraft hazard or external explosions. However, they are separated by the Reactor Building, which restricts damage from these external events to a single safeguards building.

Redundant 100% capacity safety systems (one per Safeguard Building) are strictly separated into four divisions. With four divisions, one division can be out-of-service for maintenance and one division can fail to operate, while the remaining two divisions are available to perform the necessary safety functions, even if one is ineffective due to the initiating event.

In the event of a loss of off-site power, each safeguard division is powered by a separate Emergency Diesel Generator (EDG). In addition to the four safety-related diesels that power various safeguards, two independent diesel generators are available to power essential equipment during a postulated Station Blackout (SBO) event—loss of off-site AC power with coincident failure of all four EDGs.

Water storage for safety injection is provided by the In-containment Refueling Water Storage Tank (IRWST). Also inside containment, below the Reactor Pressure Vessel (RPV), is a dedicated spreading area for molten core material following a postulated worst-case severe accident.

The fuel pool is located outside the Reactor Building in a dedicated building to simplify access for fuel handling during plant operation and handling of fuel casks. The Fuel Building is protected against aircraft hazard and external explosions. Fuel pool cooling is assured by two redundant, safety-related cooling trains.

Section 2: Organizational Control of Emergencies

Section B of the *[Site Title]* Emergency Plan describes the station's Emergency Response Organization (ERO). When the ERO is fully activated it will be staffed as described in the plan. This section of the Unit Annex describes the ERO staffing and their responsibilities to implement the emergency plan.

2.1 Normal Station Management Overview

A. Corporate Organization and Functions

[Name of Operating Company] is the operator of the *[Name of Operating Company]* operated nuclear power plants. *[Name of Operating Company]* is responsible for design, construction and operation in accordance with its Quality Assurance Program. The President, *[Name of Operating Company]* reports to the Chief Executive Officer, *[Name of Operating Company]*.

1. President, *[Name of Operating Company]*

   This position is responsible for overall corporate policy and provides executive direction and guidance for the corporation as well as promulgates corporate policy through the Company's senior management staff.

   The position has overall responsibility for the design, construction, and safe reliable operation of the *[Name of Operating Company]* operated stations, including management oversight and support of the day-to-day operations of the stations. This is the senior executive responsible for setting and implementing policies, objectives, expectations, and priorities to ensure activities are performed in accordance with the quality assurance program and other requirements.

B. Corporate and Technical Support Functions

Support groups provide management, technical and oversight support during the operations phase for such activities as design, construction, operation, modification and decommissioning. Reporting to the President, *[Name of Operating Company]* are the Executive Management position responsible for Technical Services, Executive Management position responsible for Operations Support, Executive Management position responsible for Facility Operations, Senior Management position responsible for Quality and Performance Improvement, and Project Management.

Figure 2-1, Organizational Relationships of Key Management and Functional Groups, Corporate and Technical Support for Site Operating Organization, delineates the levels of authority and lines of communications for the Corporate and Technical Support functions.

1. Operations Support

   An executive management position for operations support reports to the President, *[Name of Operating Company]* and provides direction to the nuclear security, emergency preparedness, training, and fleet procedures departments. Responsibilities for nuclear security include facility physical security, nuclear access programs, and fitness for duty programs. Emergency preparedness responsibilities include development and maintenance of the company radiological emergency plans and coordination with off-site radiological emergency response groups for the nuclear facilities. Training ensures qualified personnel operate and support the nuclear facilities and administers the fleet corrective action, self-assessment, and industry operating experience programs. The fleet procedures department ensures that fleet procedures are prepared in accordance with applicable regulatory requirements, industry quality standards, and the *[Name of Operating Company]* Quality Assurance Program Description (QAPD).

   Additionally, corporate oversight and support is provided in the areas of operations, maintenance, refueling services, radiation protection, chemistry, and work management. Some of these responsibilities may be assigned to Executive Management position responsible for Facility Operations at the discretion of the President, *[Name of Operating Company].*

2. Technical Services

   The Executive Management position for Technical Services reports to the President, *[Name of Operating Company]* and provides direction to corporate engineering, licensing, nuclear fuel services, and probabilistic risk assessment (PRA) departments. Additionally, corporate oversight and support is provided for site engineering. This position is responsible for the engineering functions supporting design and construction activities and long-term nuclear operations, providing for regulatory compliance and licensing support through NRC communications, and activities related to safety and management of nuclear fuel. Some of these responsibilities may be assigned to the Executive Management position responsible for Facility Operations at the discretion of the President, *[Name of Operating Company].*

3. Project Management

   A senior management position reporting to the President, *[Name of Operating Company]* is responsible for the implementation of large projects for the nuclear facilities. Implementation includes development of the detailed scope, estimate, schedule, cost, design procurement, construction, testing, and closeout of each project. Focus is on defined projects separate from ongoing routine engineering projects. Some of these responsibilities may be assigned to the Executive Management position responsible for Facility Operations at the discretion of the President, *[Name of Operating Company].*

C. Operating Organization and Functions

The overall structure of the organization described herein is applied for all facilities, however, there may be slight variations in responsibilities between facilities, but the overall reporting relationships remain. Depending on the scope of the activities, one or more individuals may be assigned the described management responsibilities.

1. Executive Management position responsible for Facility Operations

   This position reports to the President *[Name of Operating Company]* and is responsible for overall plant nuclear safety and implementation of the Company's quality assurance program. This position is responsible for the station's compliance with its NRC Operating License, governmental regulations, and ASME Code requirements. Areas of responsibility also include site engineering and training. This position provides day-to-day direction and management oversight of activities associated with the safe and reliable operations of a nuclear station. The Independent Review Committee (IRC) reports to the Executive Management position responsible for Facility Operations.

2. Management Position responsible for Facility Operations and Maintenance

   This position reports to the Executive Management position responsible for Facility Operations and is responsible for plant operations and maintenance. This position assures the safe, reliable, and efficient operation of the plant within the constraints of applicable regulatory requirements, Operating License, and the quality assurance program. The Management Position responsible for Facility Operations and Maintenance, in carrying out the responsibility for overall safety of plant operations, is responsible for timely referral of appropriate plant matters to management and independent reviewers. Areas of responsibility also include chemistry activities, health physics/radiological protection, operations and support, work management, records management, maintenance and production planning, and related procedures and programs.

3. Training

   A site management position reports to the Executive Management position responsible for Facility Operations and functionally to a corporate management position (offsite), and is responsible for the training of personnel who operate or support the nuclear facilities. Training responsibilities include determining the need for training based on information provided by the various groups, developing performance-based training programs, implementing training programs to support employee and facility needs, and evaluating training programs. Certain functional groups may be assigned responsibility for the development and conduct of their own training programs provided these groups are not required to have a systems approach to training under 10 CFR 50.120. This position is also responsible for administration of the corrective action, nonconformance, self-assessment, and industry operating experience programs.

4. Engineering

   A site management position reports to the Executive Management position responsible for Facility Operations and functionally to the Executive Management position responsible for Technical Services (offsite), and is responsible for day-to-day engineering support activities including design engineering, engineering programs, equipment reliability, and system engineering.

Figure 2-2, Organizational Relationships of Key Management and Functional Groups, Site Operating Organization, delineates the levels of authority and lines of communications for the Site Operating functions.

2.2 Normal Shift Staffing

The makeup of the normal shift is controlled by the unit's Technical Specifications. Section B.1 of the Generic Plan describes the normal responsibilities of shift personnel.

2.3 Shift Emergency Response Positional Responsibilities

[Site/Unit specific titles]

Table B-1a outlines Shift ERO positions required to meet minimum staffing and the major tasks assigned to each position.

Table B-1a
Shift Emergency Response Organization

Functional Area	Major Tasks	Emergency Positions		Minimum Shift Size
1. Plant Operations and Assessment of Operational Aspects	Control Room Staff	*[Shift Manager]*	*(CR)*	1
		[Control Room Supervisor]	*(CR)*	1
		[Reactor Operator]	*(CR)*	2
		[Equipment Operator]		2
2. Emergency Direction and Control	Command and Control /Emergency Operations	*[Interim Emergency Director]*	*(CR)*	1[(a)]
3. Notification & Communication	Emergency Communications	*[Shift Communicator]*[(e)]	*(CR)*	1
4. Radiological Accident Assessment and Support of Operational Accident Assessment	In-plant Surveys	*[RP Technicians]*		1
	Chemistry	*[Chemistry Personnel]*		1
5. Plant System Engineering, Repair and Corrective Actions	Technical Support	*[STA]*[(e)]	*(CR)*	1
	Repair and Corrective Actions	*[Mechanical Maintenance]*		1[(b)]
		[Electrical / Instrument & Control]		1[(b)]
6. In-Plant Protective Actions	Radiation Protection	*[RP Personnel]*		2[(b)]
7. Fire Fighting	--	*[Fire Brigade]*		(c)
8. First Aid and Rescue Operations	--	*[Plant Personnel]*		2[(b)]
9. Site Access Control and Personnel Accountability	Security & Accountability	*[Security Team Personnel]*		(d)
			TOTAL:	**10**

(a) The Shift Manager shall function as the *[Interim Emergency Director]* prior to TSC activation.
(b) May be provided by personnel assigned other functions. Personnel can fulfill multiple functions.
(c) Per Station Fire Protection Plan
(d) Per Station Security Plan
(e) An Individual shall be designated as *[Shift Communicator]* and an Individual shall be designated as *[STA]* for a classified event. Once assigned these individuals shall not be assigned other responsibilities.

2.4 Unit Specific Emergency Response Organization Positional Responsibilities

[If Station Units share an Emergency Response Organization (ERO), list the Station ERO in the main body of the Plan and remove this table]

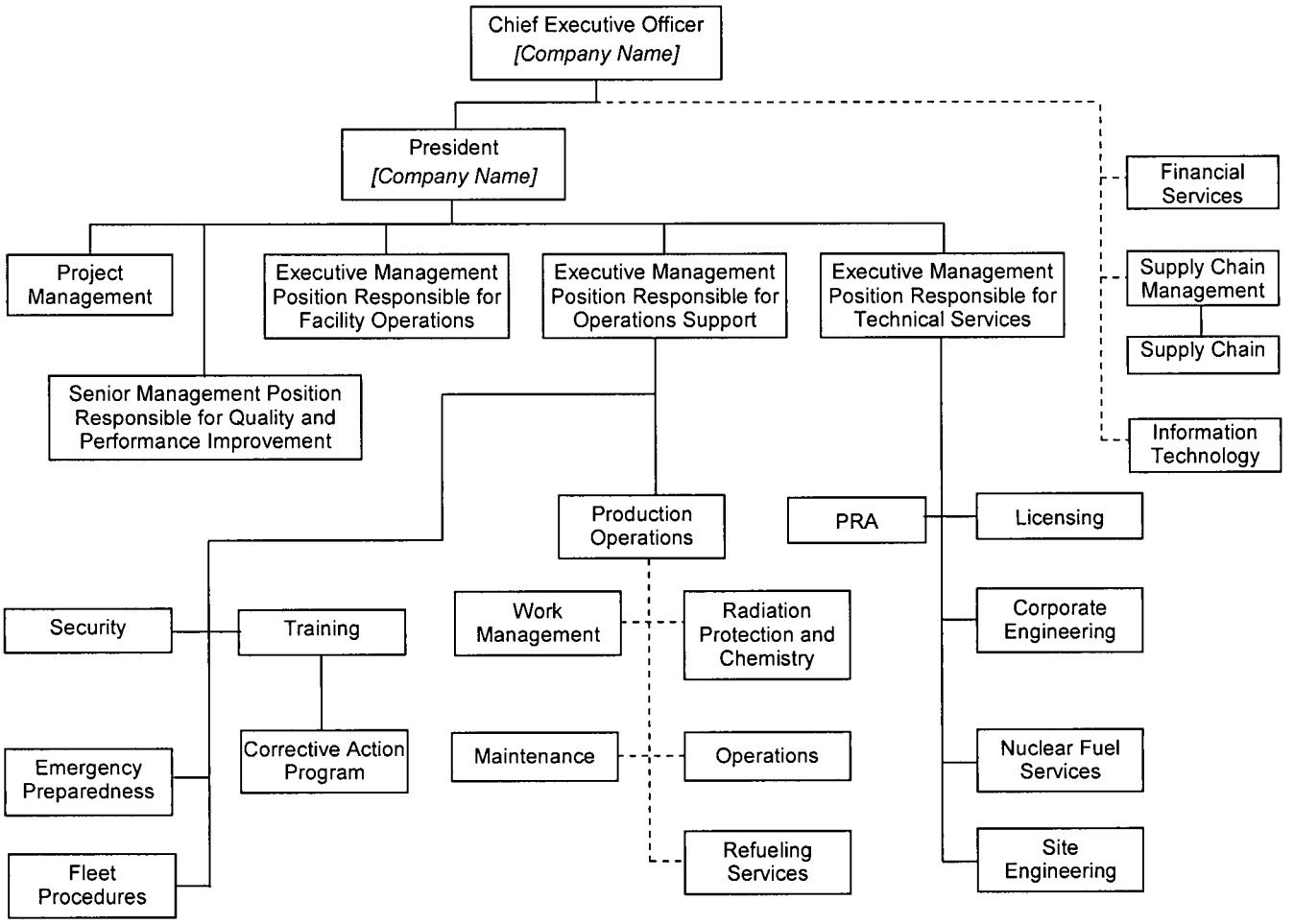
Generic Plan ERO / *[Unit Title]* ERO Comparison Matrix

Functional Area	Major Tasks	Generic Plan Emergency Positions		*[Unit Title]* Plan Emergency Positions	
1. Plant Operations and Assessment of Operational Aspects	Control Room Staff	See Table B-1a located in Unit Specific Annexes for Shift Staffing.		See Table B-1a located in Unit Specific Annexes for Shift Staffing.	
2. Emergency Direction and Control	Command and Control	Interim Emergency Director	(CR)	*[Interim Emergency Director]*	*(CR)*
		Emergency Plant Manager	(TSC)	*[Emergency Plant Manager]*	*(TSC)*
		Emergency Director	(EOF)	*[Emergency Director]*	*(EOF)*
3. Notification & Communication	Emergency Communications	TSC Director	(TSC)	*[TSC Director]*	*(TSC)*
		EOF Director	(EOF)	*[EOF Director]*	*(EOF)*
		TSC/EOF Communicators		*[TSC/EOF Communicators]*	
		ENS Communicator	(TSC/EOF)	*[ENS Communicator]*	*(TSC/EOF)*
		HPN Communicator	(EOF)	*[HPN Communicator]*	*(EOF)*
		State/Local Communicator	(EOF)	*[State/Local Communicator]*	*(EOF)*
	Plant Status	OPs Communicator	(CR/TSC)	*[OPs Communicator]*	*(CR/TSC)*
		Operations Advisor	(EOF)	*[Operations Advisor]*	*(EOF)*
	In-Plant Team Control	Communicator	(CR/TSC/OSC)	*[Communicator]*	*(CR/TSC/OSC)*
	Technical Activities	Operations Advisor	(EOF)	*[Operations Advisor]*	*(EOF)*
	Governmental	EOC Communicator	(EOF)	*[EOC Communicator]*	*(EOF)*
		State EOC Liaison	(State EOC)	*[State EOC Liaison]*	*(State EOC)*
		County EOC Liaison	(County EOC)	*[County EOC Liaison]*	*(County EOC)*
		Regulatory Liaison	(EOF)	*[Regulatory Liaison]*	*(EOF)*

Functional Area	Major Tasks	Generic Plan Emergency Positions	*[Unit Title] Plan Emergency Positions*
4. Radiological Assessment	Offsite Dose Assessment	Radiological Assessment Coordinator (EOF)	*[Radiological Assessment Coordinator] (EOF)*
		Radiological Assessment Specialist (EOF)	*[Radiological Assessment Specialist] (EOF)*
		Radiation Controls Coordinator (TSC/OSC)	*[Radiation Controls Coordinator] (TSC/OSC)*
	Offsite Surveys	Environmental Assessment Director (EOF)	*[Environmental Assessment Director] (EOF)*
		Offsite Monitoring Team Personnel	*[Offsite Monitoring Team Personnel]*
	Onsite Surveys	Onsite Monitoring Team Personnel	*[Onsite Monitoring Team Personnel]*
	In-plant Surveys	RP Personnel	*[RP Personnel]*
	Chemistry	Chemistry Personnel	*[Chemistry Personnel]*
	RP Supervisory	Radiation Protection Manager (TSC)	*[Radiation Protection Manager] (TSC)*
		Radiological Assessment Director (EOF)	*[Radiological Assessment Director] (EOF)*
5. Plant System Engineering, Repair, and Corrective Actions	Technical Support / Accident Analysis	Engineering Director (TSC)	*[Engineering Director] (OSC)*
		Reactor Engineer (TSC)	*[Reactor Engineer] (TSC)*
		Mechanical Engineer (TSC)	*[Mechanical Engineer] (TSC)*
		Electrical Engineer (TSC)	*[Electrical Engineer] (TSC)*
		SAMG Decision-Maker (TSC)	*[SAMG Decision-Maker] (TSC)*
		SAMG Evaluator (TSC)	*[SAMG Evaluator] (TSC)*
		Operations Manager (TSC)	*[Operations Manager] (TSC)*
		Radiation Controls Engineer (TSC)	*[Radiation Controls Engineer] (TSC)*
		Technical Support Manager (EOF)	*[Technical Support Manager] (EOF)*
	Repair and Corrective Actions	Mechanical Maintenance (OSC)	*[Mechanical Maintenance] (OSC)*
		Electrical/I&C Maintenance (OSC)	*[Electrical/I&C Maintenance] (OSC)*
		Maintenance Manager (TSC)	*[Maintenance Manager] (TSC)*
		OSC Director (OSC)	*[OSC Director] (OSC)*
		OSC Lead & Team Members (OSC)	*[OSC Lead & Team Members] (OSC)*
6. In-Plant Protective Actions	Radiation Protection	RP Personnel	*[RP Personnel]*
7. Fire Fighting	--	Fire Brigade	*[Fire Brigade]*
8. 1st Aid and Rescue Operations	--	Plant Personnel	*[Plant Personnel]*

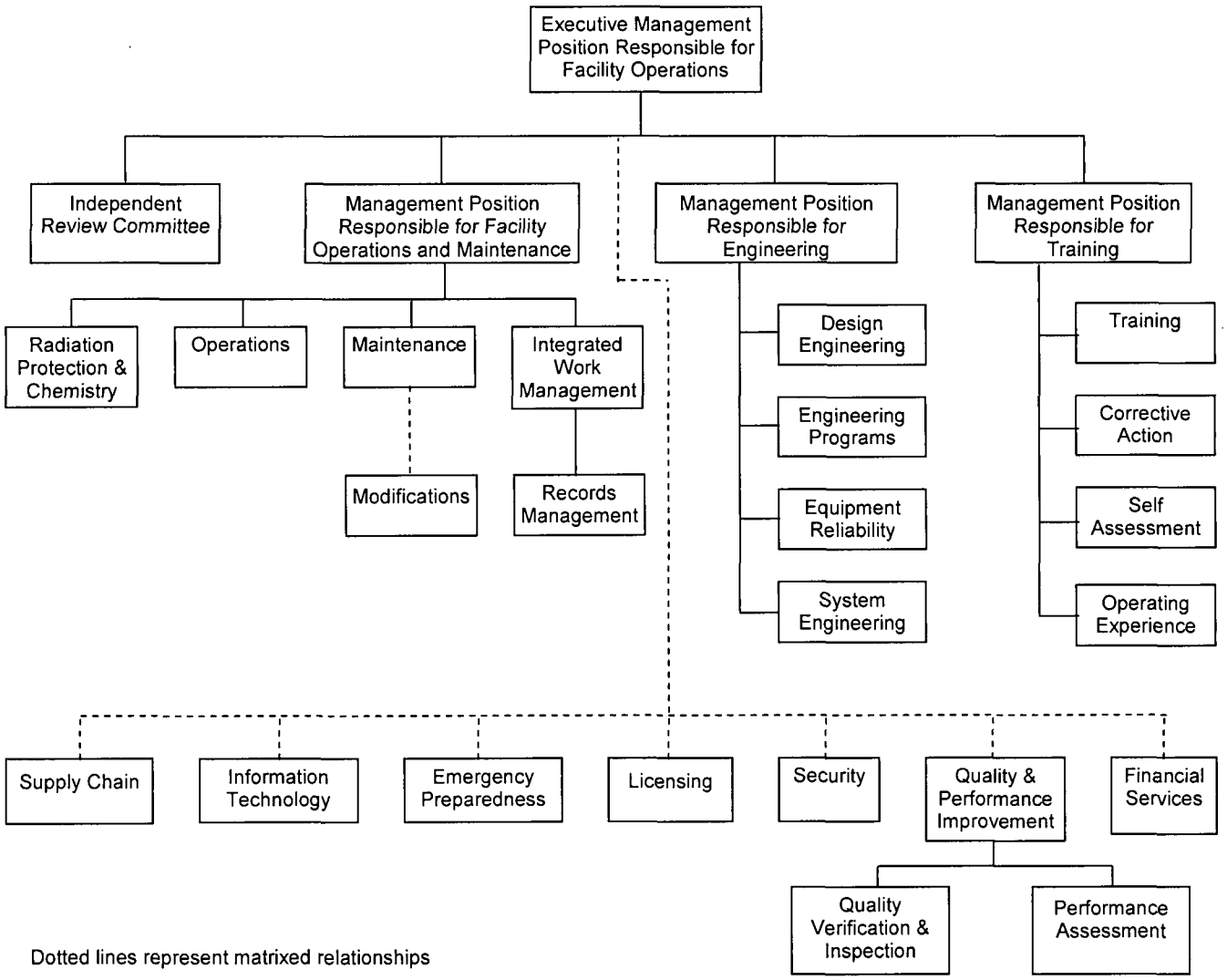
Functional Area	Major Tasks	Generic Plan Emergency Positions		*[Unit Title] Plan Emergency Positions*	
9. Site Access Control and Personnel Accountability	Security & Accountability	Security Team Personnel		*[Security Team Personnel]*	
		Security Coordinator	(TSC)	*[Security Coordinator]*	*(TSC)*
10. Resource Allocation and Administration	Logistics	Administrative Support Manager	(EOF)	*[Administrative Support Manager]*	*(EOF)*
		Administrative Support Manager	(TSC)	*[Administrative Support Manager]*	*(TSC)*
	Administration	Clerical Staff	(TSC/EOF)	*[Clerical Staff]*	*(TSC/EOF)*
	Facility Support	Computer Maintenance Staff	(EOF)	*[Computer Maintenance Staff]*	*(EOF)*
11. Public Information	Media Interface	Company Spokesperson	(JIC)	*[Company Spokesperson]*	*(JIC)*
		Rad Protection Spokesperson	(JIC)	*[Rad Protection Spokesperson]*	*(JIC)*
		Technical Spokesperson	(JIC)	*[Technical Spokesperson]*	*(JIC)*
	Information Development	Public Information Director	(JIC or EOF)	*[Public Information Director]*	*(JIC or EOF)*
		Radiological Advisor	(JIC or EOF)	*[Radiological Advisor]*	*(JIC or EOF)*
		Technical Advisor	(JIC or EOF)	*[Technical Advisor]*	*(JIC or EOF)*
		News Writer	(JIC or EOF)	*[News Writer]*	*(JIC or EOF)*
		Public Information Liaison	(JIC)	*[Public Information Liaison]*	*(JIC)*
	Media Monitoring and Rumor Control	Media Monitoring Staff	(JIC or EOF)	*[Media Monitoring Staff]*	*(JIC or EOF)*
		Rumor Control Staff	(JIC or EOF)	*[Rumor Control Staff]*	*(JIC or EOF)*
	Facility Operation and Control	JIC Director	(JIC)	*[JIC Director]*	*(JIC)*
		JIC Coordinator	(JIC)	*[JIC Coordinator]*	*(JIC)*
		Administrative Support Manager	(JIC)	*[Administrative Support Manager]*	*(JIC)*
		Security	(JIC)	*[Security]*	*(JIC)*
		Facility Support Staff	(JIC)	*[Facility Support Staff]*	*(JIC)*
		Clerical Staff	(JIC)	*[Clerical Staff]*	*(JIC)*

Figure 2-1: Organization Relationships of Key Management and Functional Groups – Corporate and Technical Support for Site Organization



Dotted lines represent matrixed relationships

Figure 2-2, Organization Relationships of Key Management and Functional Groups - Site Operating Organization



Section 3: Classification of Emergencies

Section D of the *[Station Title]* Emergency Plan describes the classification of emergencies into four levels of Emergency Class. They are the UNUSUAL EVENT, ALERT, SITE AREA EMERGENCY, and GENERAL EMERGENCY. These classification levels are entered by meeting the criteria of Emergency Action Levels (EALs) provided in this section of the U.S. EPR Annex.

3.1 Emergency Action Levels (EALs)

[UniStar Nuclear commits to using NEI 99-01 methodology and to the development of a U.S. EPR Emergency Action Level Technical Basis Document using this methodology. A Technical Basis document which incorporates the specifics of the U.S. EPR design will be included as part of the UniStar Nuclear U.S. EPR reference COLA submittal.]

An Emergency Action Level scheme based on Revision 4 of NEI 99-01, "Methodology for Development of Emergency Action Levels," dated January 2003, which was endorsed in Revision 4 of Regulatory Guide 1.101, "Emergency Planning and Preparedness for Nuclear Power Reactors," dated October 2003 is used for *[Station Title/Unit No(s).]*. Specific items not applicable to the U.S. EPR design are identified and alternate initiating conditions used as appropriate. Table 3-1, Emergency Action Level Initiating Conditions, provides a list of conditions considered for classification.

Emergency Action Level Threshold Values for each of the Initiating Conditions are provided in an EAL Technical Basis Document with appropriate basis and references.

An emergency is classified by assessing plant conditions and comparing abnormal conditions to Initiating Conditions and Threshold Values for each Emergency Action Level. Individuals responsible for the classification of events will refer to the Initiating Condition and Threshold Values in an Emergency Plan Implementing Procedure (EPIP). This EPIP contains Initiating Conditions, EAL Threshold Values, Mode Applicability Designators, appropriate EAL numbering system, and additional guidance necessary to classify events.

The EALs are set up in Recognition Categories. The first relates to Abnormal Radiological Conditions / Abnormal Radiological Effluent Releases. The second relates to Fission Product Barrier Degradation. The third relates to Hot Condition System Malfunctions. The fourth relates to Hazards and Other Conditions. The fifth related to Cold Shutdown System Malfunctions.

Emergency Action Levels are the measurable, observable detailed conditions that must be met in order to classify the event. Classification is not to be made without referencing, comparing and satisfying the Threshold Values specified in the Emergency Action Levels.

Mode Applicability provides the unit conditions when the Emergency Action Levels represent a threat. The Basis contains explanations and justification for including the Initiating Condition and Emergency Action Level.

A list of definitions is provided as part of this document for terms having specific meaning to the Emergency Action Levels. Site specific definitions are provided for terms with the intent to be used for a particular Initiating Condition/Threshold Value and may not be applicable to other uses of that term at other sites, the Emergency Plan or procedures.

An EAL Technical Basis Document provides references to documents which were used to develop the EAL Threshold Values.

References to the *[Emergency Director]* means the person in Command and Control as defined in the Emergency Plan. Classification of emergencies is a non-delegable responsibility of the *[Emergency Director]*.

Classifications are based on evaluation of the U.S. EPR Unit condition. All classifications are to be based upon VALID indications, reports or conditions. Indications, reports or conditions are considered VALID when they are verified by (1) an instrument channel check, or (2) indications on related or redundant indications, or (3) by direct observation by plant personnel, such that doubt related to the indication's operability, the condition's existence, or the report's accuracy is removed. Implicit in this definition is the need for timely assessment.

EALs are for unplanned events. A planned evolution involves preplanning to address the limitations imposed by the condition, the performance of required surveillance testing, and the implementation of specific controls prior to knowingly entering the condition. Planned evolutions to test, manipulate, repair, perform maintenance or modifications to systems and equipment that result in an EAL Threshold Value being met or exceeded are not subject to classification and activation requirements as long as the evolution proceeds as planned. However, these conditions may be subject to the reporting requirements of 10 CFR 50.72 and/or 10 CFR 50.73.

When two or more Emergency Action Levels are determined, declaration will be made on the highest classification level for the unit. When *[both]* units are affected, the highest classification for the Station will be used for notification purposes and *[both]* units' classification levels will be noted.

3.2. Emergency Action Levels Categories

The EAL Scheme is broken into the following five major categories and numerous sub-categories as appropriate. Each major initiating condition described in Table 3-1, Emergency Action Level Initiating Conditions may be broken into additional sub conditions based on actual threshold values.

A. Category R – Abnormal Rad Levels / Radiological Effluent

Many EALs are based on actual or potential degradation of fission product barriers because of the elevated potential for offsite radioactivity release. Degradation of fission product barriers though is not always apparent via non-radiological symptoms. Therefore, direct indication of elevated radiological effluents or area radiation levels are appropriate symptoms for emergency classification.

At lower levels, abnormal radioactivity releases may be indicative of a failure of containment systems or precursors to more significant releases. At higher release rates, offsite radiological conditions may result which require offsite protective actions.

Elevated area radiation levels in plant may also be indicative of the failure of containment systems or preclude access to plant vital equipment necessary to ensure plant safety.

Events of this category pertain to the following subcategories:

1. Offsite Rad Conditions

   Direct indication of effluent radiation monitoring systems provides a rapid assessment mechanism to determine releases in excess of classifiable limits. Projected offsite doses, actual offsite field measurements or measured release rates via sampling indicate doses or dose rates above classifiable limits.

2. Onsite Rad Conditions

   Sustained general area radiation levels in excess of those indicating loss of control of radioactive materials or those levels which may preclude access to vital plant areas also warrant emergency classification.

B. *Category C – Cold Shutdown / Refueling System Malfunction*

Category C EALs are directly associated with cold shutdown or refueling system safety functions. Given the variability of plant configurations (e.g., systems out-of-service for maintenance, containment open, reduced AC power redundancy, time since shutdown) during these periods, the consequences of any given initiating event can vary greatly. For example, a loss of decay heat removal capability that occurs at the end of an extended outage has less significance than a similar loss occurring during the first week after shutdown. Compounding these events is the likelihood that instrumentation necessary for assessment may also be inoperable. The cold shutdown and refueling system malfunction EALs are based on performance capability to the extent possible with consideration given to RCS integrity, containment closure, and Fuel Clad integrity for the applicable operating modes (5 - Cold Shutdown, 6 - Refueling, D – Defueled).

The events of this category pertain to the following subcategories:

1. Loss of Power

   Loss of vital plant electrical power can compromise plant safety system operability including decay heat removal and emergency core cooling systems which may be necessary to ensure fission product barrier integrity. This category involves total losses of vital plant power sources.

2. RCS Level

   Reactor Vessel or RCS water level is directly related to the status of adequate core cooling and, therefore, Fuel Clad integrity.

3. RCS Temperature

   Uncontrolled or inadvertent temperature or pressure increases are indicative of a potential loss of safety functions.

4. Communications

   Certain events that degrade plant operator ability to effectively communicate with essential personnel within or external to the plant warrant emergency classification.

5. Fuel Clad Degradation

   During normal operation, reactor coolant fission product activity is very low. Small concentrations of fission products in the coolant are primarily from the fission of tramp uranium in the Fuel Clad or minor perforations in the clad itself. Any significant increase from these base-line levels (2% - 5% clad failures) is indicative of fuel failures and is covered under the Fission Product Barriers category. However, lesser amounts of clad damage may result in coolant activity exceeding Technical Specification limits. This EAL, for Cold Shutdown and Refueling, will be based on the coolant activity limits that are applicable during the operational modes unless other mode specific limits have been established. These fission products will be circulated with the reactor coolant and can be detected by coolant sampling.

6. RCS Leakage

   The Reactor Vessel provides a volume for the coolant that covers the reactor core. The Reactor Vessel and associated pressure piping (reactor coolant system) together provide a barrier to limit the release of radioactive material should the reactor Fuel Clad integrity fail.

   Excessive RCS leakage greater than Technical Specification limits are utilized to indicate potential pipe cracks that may propagate to an extent threatening Fuel Clad, RCS and containment integrity. This EAL, for Cold Shutdown and Refueling, will be based on RCS leakage limits that are applicable during the operational modes unless other mode specific limits have been established.

7. Inadvertent Criticality

   Inadvertent criticalities pose potential personnel safety hazards as well being indicative of losses of reactivity control.

C. Category H – Hazards

Hazards are non-plant, system-related events that can directly or indirectly affect plant operation, reactor plant safety or personnel safety.

The events of this category pertain to the following subcategories:

1. Natural & Destructive Phenomena

   Natural events include hurricanes, earthquakes or tornados that have potential to cause plant structure or equipment damage of sufficient magnitude to threaten personnel or plant safety. Non-naturally occurring events that can cause damage to plant facilities and include aircraft crashes, missile impacts, etc. are included.

2. Fire or Explosion

   Fires can pose significant hazards to personnel and reactor safety. Appropriate for classification, are fires within the site Protected Area or which may affect operability of vital equipment.

3. Toxic and Flammable Gas

   Non-naturally occurring events that can cause damage to plant facilities and include toxic or flammable gas leaks.

4. Security

   Unauthorized entry attempts into the Protected Area, bomb threats, sabotage attempts, and actual security compromises threatening loss of physical control of the plant.

5. Control Room Evacuation

   Events that are indicative of loss of Control Room habitability. If the Control Room must be evacuated, additional support for monitoring and controlling plant functions is necessary through the emergency response facilities.

6. *[Emergency Director]* Judgment

   The EALs defined in other categories specify the predetermined symptoms or events that are indicative of emergency or potential emergency conditions and thus warrant classification. While these EALs have been developed to address the full spectrum of possible emergency conditions which may warrant classification and subsequent implementation of the Emergency Plan, a provision for classification of emergencies based on operator/management experience and judgment is still necessary. The EALs of this category provide the *[Interim Emergency Director, Emergency Plant Manager and/or Emergency Director]* the latitude to classify emergency conditions consistent with the established classification criteria based upon their judgment.

D. Category S – System Malfunction

Numerous system-related equipment failure events that warrant emergency classification have been identified in this category. They may pose actual or potential threats to plant safety.

The events of this category pertain to the following subcategories:

1. Loss of Power

   Loss of vital plant electrical power can compromise plant safety system operability including decay heat removal and emergency core cooling systems which may be necessary to ensure fission product barrier integrity. This category includes total losses of vital plant power sources.

2. Reactor Protection System Failure

   Events related to failure of the Reactor Protection System (RPS) to initiate and complete reactor trips. In the plant licensing basis, postulated failures of the RPS to complete a reactor trip comprise a specific set of analyzed events referred to as Anticipated Transient Without Scram (ATWS) events. For EAL classification however, ATWS is intended to mean any trip failure event that does not achieve reactor shutdown. If RPS actuation fails to assure reactor shutdown, positive control of reactivity is at risk and could cause a threat to Fuel Clad, RCS and Containment integrity.

3. Inability to Reach or Maintain Shutdown Conditions

   System malfunctions may lead to loss of capability to remove heat removal the reactor core and RCS.

   Only one EAL falls into this subcategory. It is related to the failure of the plant to be brought to the required plant operating condition required by technical specifications if a limiting condition for operation (LCO) is not met.

4. Instrumentation / Communications

   Certain events that degrade plant operator ability to effectively assess plant conditions within the plant warrant emergency classification. Losses of annunciators are in this subcategory.

   Certain events that degrade plant operator ability to effectively communicate with essential personnel within or external to the plant warrant emergency classification.

5. Fuel Clad Degradation

   During normal operation, reactor coolant fission product activity is very low. Small concentrations of fission products in the coolant are primarily from the fission of tramp uranium in the Fuel Clad or minor perforations in the clad itself. Any significant increase from these base-line levels (2% - 5% clad failures) is indicative of fuel failures and is covered under the Fission Product Barriers category. However, lesser amounts of clad damage may result in coolant activity exceeding Technical Specification limits. These fission products will be circulated with the reactor coolant and can be detected by coolant sampling.

6. RCS Leakage

   The Reactor Vessel provides a volume for the coolant that covers the reactor core. The Reactor Vessel and associated pressure piping (reactor coolant system) together provide a barrier to limit the release of radioactive material should the reactor Fuel Clad integrity fail.

   Excessive RCS leakage greater than Technical Specification limits are utilized to indicate potential pipe cracks that may propagate to an extent threatening Fuel Clad, RCS and Containment integrity.

7. Inadvertent Criticality

   Inadvertent criticalities pose potential personnel safety hazards as well being indicative of losses of reactivity control.

E. Category F – Fission Product Barriers

EALs in this category represent threats to the defense in depth design concept that precludes the release of highly radioactive fission products to the environment. This concept relies on multiple physical barriers any one of which, if maintained intact, precludes the release of significant amounts of radioactive fission products to the environment. The primary fission product barriers are:

1. Reactor Fuel Clad (FC): The zirconium tubes which house the ceramic uranium oxide pellets along with the end plugs which are welded into each end of the fuel rods comprise the Fuel Clad.

2. Reactor Coolant System (RCS): The Reactor Vessel shell, vessel head, vessel nozzles and penetrations and all primary systems directly connected to the Reactor Vessel up to the first Containment isolation valve comprise the RCS.

3. Containment (CNMT): The vapor Containment structure and all isolation valves required to maintain Containment integrity under accident conditions comprise the Containment barrier.

The EALs in this category require evaluation of the Loss and Potential Loss thresholds listed in the fission product barrier matrix of Table 3-1. "Loss" and "Potential Loss" signify the relative damage and threat of damage to the barrier. "Loss" means the barrier no longer assures containment of radioactive materials. "Potential Loss" means integrity of the barrier is threatened and could be lost if conditions continue to degrade.

The number of barriers that are lost or potentially lost and the following criteria determine the appropriate emergency classification level:

Unusual Event: Any loss or any potential loss of Containment

Alert: Any loss or any potential loss of either Fuel Clad or RCS

Site Area Emergency: Loss or potential loss of any two barriers

General Emergency: Loss of any two barriers and loss or potential loss of third barrier

The logic used for emergency classification based on fission product barrier monitoring should reflect the following considerations:

The ability to escalate the emergency classification as an event deteriorates must be maintained. For example, RCS leakage steadily increasing would represent an increasing risk to public health and safety.

Fission product barrier monitoring must be capable of addressing dynamic conditions. If reaching a loss or potential loss threshold is imminent (i.e., within 1 to 2 hours) while an event or multiple events occur, judgment dictates that the imminent situation deserves classification as if the thresholds were actually exceeded.

Table 3-1, Emergency Action Level Initiating Conditions

GENERAL EMERGENCY	SITE AREA EMERGENCY	ALERT	UNUSUAL EVENT
R – Abnormal Rad Levels / Radiological Effluent			
1 – Offsite Rad Conditions			
RG1 Offsite dose resulting from an actual or imminent release of gaseous radioactivity exceeds 1000 mRem (10 mSv) TEDE or 5000 (50 mSv) mRem thyroid CDE for the actual or projected duration of the release using actual meteorology	**RS1** Offsite dose resulting from an actual or imminent release of gaseous radioactivity exceeds 100 mRem (1 mSv) TEDE or 500 (5 mSv) mRem thyroid CDE for the actual or projected duration of the release	**RA1** Any unplanned release of gaseous or liquid radioactivity to the environment that exceeds 200 times the radiological effluent Offsite Dose Calculation Manual (ODCM) limits for 15 minutes or longer	**RU1** Any unplanned release of gaseous or liquid radioactivity to the environment that exceeds two times the radiological effluent Offsite Dose Calculation Manual (ODCM) limits for 60 minutes or longer
2 – Onsite Rad Conditions			
		RA2 Damage to irradiated fuel or loss of water level that has or will result in the uncovering of irradiated fuel outside the Reactor Vessel.	**RU2** Unexpected increase in plant radiation
C – Cold Shutdown / Refueling System Malfunction			
1 – Loss of Power			
		CA1 Loss of all offsite power and loss of all onsite AC power to vital buses	**CU1** Loss of all offsite power to vital buses for greater than 15 minutes
2 – RCS Level			
CG2 Loss of Reactor Vessel inventory affecting Fuel Clad integrity with Containment challenged and irradiated fuel in the Reactor Vessel	**CS2** Loss of Reactor Vessel inventory affecting core decay heat removal capability	**CA2** Loss of RCS inventory	**CU2** Unplanned loss of RCS inventory with irradiated fuel in the Reactor Vessel
3 – RCS Temperature			
		CA3 Inability to maintain plant in cold shutdown with irradiated fuel in the Reactor Vessel	**CU3** Unplanned loss of decay heat removal capability with irradiated fuel in the reactor vessel
4 – Communications			
			CU4 Unplanned loss of all onsite or offsite communications capabilities
5 – Fuel Clad Degradation			
			CU5 Fuel Clad degradation
6 – RCS leakage			
			CU6 RCS leakage
7 – Inadvertent Criticality			
			CU7 Inadvertent criticality

GENERAL EMERGENCY	SITE AREA EMERGENCY	ALERT	UNUSUAL EVENT
H – Hazards			
1 – Natural & Destructive Phenomena			
		HA1 Natural and destructive phenomena affecting the plant Vital Area	**HU1** Natural and destructive phenomena affecting the Protected Area
2 – Fire or Explosion			
		HA2 Fire or explosion affecting the operability of plant safety systems required to establish or maintain safe shutdown	**HU2** Fire within Protected Area boundary not extinguished within 15 minutes of detection
3 – Toxic and Flammable Gas			
		HA3 Release of toxic or flammable gases within or contiguous to a Vital Area which jeopardizes operation of systems required to establish or maintain safe shutdown	**HU3** Release of toxic or flammable gases deemed detrimental to normal operation of the plant
4 – Security			
HG4 Security event resulting in loss of physical control of the facility	**HS4.1** Confirmed security event in a plant vital area **HS4.2** Site Attack	**HA4.1** Confirmed security event in a plant Protected Area **HA4.2** Notification of Airborne Attack threat. **HA4.3** Notification of Hostile Action within the Owner Controlled Area	**HU4.1** Confirmed security event which indicates a potential degradation in the level of safety of the plant **HU4.2** Confirmed terrorism security event which indicates a potential degradation in the level of safety of the plant.
5 – Control Room Evacuation			
	HA5 Control Room evacuation has been initiated and plant control cannot be established	**HA5** Control Room evacuation has been initiated	
6 – *[Emergency Director]* Judgment			
HG6 Other conditions existing which in the judgment of the Emergency Director warrant declaration of a General Emergency Other conditions exist which in the judgment of the *[Interim Emergency Director/Emergency Plant Manger/Emergency Director]* 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 security events 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 (1 Rem (0.01 Sv) TEDE and 5 Rem (0.05 Sv) thyroid CDE) offsite for more than the site boundary	**HS6** Other conditions existing which in the judgment of the Emergency Director warrant declaration of a Site Area Emergency Other conditions exist which in the judgment of the *[Interim Emergency Director/Emergency Plant Manger/Emergency Director]* indicate that events are in progress or have occurred which involve an actual or likely major failures of plant functions needed for protection of the public. ANY releases are <u>not</u> expected to result in exposure levels which exceed EPA Protective Action Guideline exposure levels (1 Rem (0.01 Sv) TEDE and 5 Rem (0.05 Sv) thyroid CDE) beyond the site boundary	**HA6** Other conditions existing which in the judgment of the Emergency Director warrant declaration of a Alert Other conditions exist which in the judgment of the *[Interim Emergency Director/Emergency Plant Manger/Emergency Director]* indicate that are in progress or have occurred which involve an actual or potential substantial degradation of the level of safety of the plant. ANY releases are expected to be limited to small fractions of the EPA Protective Action Guideline exposure levels (1 Rem (0.01 Sv) TEDE and 5 Rem (0.05 Sv) thyroid CDE)	**HU6** Other conditions existing which in the judgment of the Emergency Director warrant declaration of a Unusual Event Other conditions exist which in the judgment of the *[Interim Emergency Director/Emergency Plant Manger/Emergency Director]* indicate that events are in progress or have occurred which indicate a potential degradation of the level of safety of the plant. <u>No</u> releases of radioactive material requiring offsite response or monitoring are expected unless further degradation of safety systems occurs
F – Fission Product Barriers			
FG1 Loss of any two barriers and loss or potential loss of third barrier	**FA1** Loss or potential loss of any two barriers	**FA1** Loss or any potential loss of either Fuel Clad or RCS	**FU1** Any loss or any potential loss of Containment
The three Fission Product Barriers analyzed for the Fission Product Barrier category are: Fuel Cladding Barrier, Reactor Coolant System Barrier and the Containment Barrier. These barriers will be determined Lost or Potentially Lost based on specific plant parameters such as; Emergency Operating Procedures, Containment Radiation Levels, Containment Pressure, Core Exit Thermocouples, Rector Vessel Level and other plant specific parameters. *[Emergency Director]* and plant operations personnel will also consider conditions outside the identified threshold values for barrier Lost or Potential Lost.			

GENERAL EMERGENCY	SITE AREA EMERGENCY	ALERT	UNUSUAL EVENT
S – System Malfunction			
1 – Loss of Power			
SG1 Prolonged loss of all offsite AC power and prolonged loss of all onsite AC power to vital buses	**SS1.1** Loss of all offsite AC power and loss of all onsite AC power to vital buses	**SA1** AC power capability to vital buses reduced to a single power source for greater than 15 minutes such that any additional single failure would result in station blackout	**SU1** Loss of all offsite AC power to vital buses for greater than 15 minutes
	SS1.2 Loss of all vital DC power		
2 – Reactor Protection System Failure			
SG2 Failure of the Reactor Protection System to complete an automatic trip and manual trip was not successful and there is indication of an extreme challenge to the ability to cool the core	**SS2** Failure of Reactor Protection System instrumentation to complete or initiate an automatic reactor trip once a Reactor Protection System setpoint has been exceeded and manual trip was not successful	**SA2** Failure of Reactor Protection System instrumentation to complete or initiate an automatic reactor trip once a Reactor Protection System setpoint has been exceeded and manual trip was successful	
3 – Inability to Reach or Maintain Shutdown Conditions			
	SS3 Complete loss of heat removal capability		**SU3** Inability to reach required shutdown within Technical Specification limits
4 – Instrumentation / Communications			
	SS4 Inability to monitor a significant transient in progress	**SA4** 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 non-alarming indicators are unavailable	**SU4.1** Unplanned loss of most or all safety system annunciation or indication in the control room for greater than 15 minutes
			SU4.2 Unplanned loss of all onsite or offsite communications capabilities
5 – Fuel Clad Degradation			
			SU5 Fuel Clad degradation
6 – RCS Leakage			
			SU6 RCS leakage
7 – Inadvertent Criticality			
			SU7 Inadvertent criticality

Section 4: Emergency Response Facilities and Equipment

4.1 Unit Specific Emergency Response Facilities

A. Technical Support Center

[Provide information here only if a Unit specific Technical Support Center exists and it differs from the generic U.S. EPR Emergency Plan.]

The TSC is located on the Control Rooms floor level outside the Main Control Room and has a separate access. It is located in the fully hardened Safeguards Building. Thus the TSC is protected against radiological hazards, internal and external missiles, and seismic activity. Also, this arrangement ensures suitable ambient environmental conditions.

The TSC is sized to provide:

- Working space, without crowding, for the personnel assigned to the TSC at the maximum level of occupancy;
- Space for the TSC data system equipment needed to acquire, process, and display data used in the TSC;
- Sufficient space to perform repair, maintenance, and service of equipment, displays, and instrument;
- Space for data transmission equipment needed to transmit data originating in the TSC to other locations;
- Space for personnel access to functional displays of TSC data;
- Space for unhindered access to communications equipment by all TSC personnel who need communications capabilities to perform their functions;
- Space for storage of and/ or access to plant records and historical data; and
- A separate room adequate for at least three persons to be used for private NRC consultations.

In summary, the minimum size of working space of the TSC shall be 1875 square feet (174 square meters). This includes space for 25 personnel (5 which are NRC personnel) at 75 square feet (7 square meters)/person.

The TSC has the same protection from radiological hazards, including direct radiation and airborne radioactivity under accident conditions as the Control Room.

The TSC is provided with several means of communications within and outside the plant. Communications shall be established between the CR and the TSC, The EOF, the principle state and local EOCs, the monitoring teams and a general line throughout the site in accordance with the requirements of 10 CFR Part 50, Appendix E: Section (E)(9)(c).

Communications will also be established with NRC Headquarters and the appropriate Regional Office Operations Center, from the CR, TSC and EOF in accordance with 10 CFR, Appendix E: Section (E)(9)(d).

B. Operations Support Center

The Operations Support Center (OSC) is located in the Access Building within the protected area separate from Control Room and Technical Support Center. Both the CR and TSC shall have diverse means of communication with various plant locations including the OSC.

C. Onsite Laboratories

Chemistry laboratories are located in the Nuclear Auxiliary Building for routine sampling and in the Fuel Building for post accident sampling. The Fuel Building laboratory is designed to process highly radioactive gas and liquid samples from the containment liquid sources and atmosphere following an accident. All modules, the sampling box and the local control cabinet are located in the Fuel Building. To ensure protection of the operating staff while taking a sample, in the sampling box, all modules and pipes which convey highly contaminated fluids are located behind biological shields.

D. Decontamination Facilities

The personnel decontamination facility is located in the Access Building and contains provisions for radiological decontamination of personnel, their wounds, supplies, instruments and equipment. This facility has extra clothing and decontaminants suitable for the type of contamination expected, including radioiodine skin contamination.

E. First Aid

The First Aid station located in the Access Building facilitates medical treatment and initial assessment of radiation exposure and uptake.

4.2 Assessment Resources

A. Onsite Meteorological Monitoring Instrumentation

[Provide information here if Unit specific Meteorological Monitoring Instrumentation exists and it differs from the generic U.S. EPR Emergency Plan.]

Meteorological tower instrumentation shall include sensors for measurement of wind speed, wind direction, and ambient temperature. A rain gauge shall be located at or near the base of the tower. Measurements of wind speed, direction, and temperature shall be made at 10 meters above grade and at a height above grade at which measurements will be representative of conditions at the stack top. A distance approximately ten times the obstruction height around the tower will be maintained in accordance with established standards for meteorological measurements.

B. Onsite Radiation Monitoring Equipment

The onsite radiation monitoring capability includes an installed process, effluent, and area radiation monitoring system; portable survey instrumentation; counting equipment for radiochemical analysis; and a personnel dosimetry program to record integrated exposure. Some onsite equipment is particularly valuable for accident situations and is described in the following subsections.

1. Radiation Monitoring Systems

   a. Area Radiation Monitoring

      The area monitoring system provides information of existing radiation levels in various areas of the plant to ensure safe occupancy. It is equipped with Control Room and local readout and audible alarms to warn personnel of a raised radiation level.

   b. Radiological Noble Gas Effluent Monitoring

      [Monitors range will be included as part of the UniStar Nuclear U.S. EPR reference COLA submittal.]

      The wide range gas monitors are installed on normal station effluent release points. These monitors have the capability to monitor noble gas activity in the range *[of postulated accidents and in support of emergency response].* Each monitor system has a microprocessor which utilizes digital processing techniques to analyze data and control monitor functions. These monitors provide readout and alarm functions to the Control Room.

c. Radioiodine and Particulate Effluent Monitoring

The wide range gas monitors include a sampling rack for collection of the auxiliary building vent stack particulate and radioiodine samples. Filter holders and valves are provided to allow grab sample collection for isotopic analyses in the station's counting rooms. The sampling rack is shielded to minimize personnel exposure. The sampling media will be analyzed by a gamma ray spectrometer which utilizes a gamma spectrometer system.

d. High Range Containment Radiation Monitors

[Monitors range will be included as part of the UniStar Nuclear U.S. EPR reference COLA submittal.]

High range containment radiation monitors are installed for the EPR. The monitors will detect and measure the radiation level within the reactor containment during and following an accident. The monitors are in the range *[of postulated accidents and in support of emergency response].*

e. In-plant Iodine Instrumentation

Effective monitoring of increasing iodine levels in buildings under accident conditions will include the use of portable instruments using silver zeolite as a sample media. It is expected that a sample can be obtained, purged, and analyzed for iodine content within a two-hour time frame.

2. Onsite Process Monitors

An adequate monitoring capability exists to properly assess the plant status for all modes of operation and is described in the unit's *[U]*FSAR. The operability of the post-accident instrumentation ensures information is available on selected plant parameters to monitor and assess important variables following an accident. Instrumentation is available to monitor the parameters given in Technical Specifications.

The unit's Emergency Operating Procedures assist personnel in recognizing inadequate core cooling using applicable instrumentation.

C. Onsite Fire Detection Instrumentation

The Plant Fire Alarm System (PFAS) is designed to meet the requirements of the applicable National Fire Protection Association (NFPA) Standards as described in the EPR FSAR and detection is generally provided in areas containing safety related components/systems as recommended in Regulatory Guide 1.189, "Fire Protection for Operating Nuclear Power Plants." The PFAS is furnished with electrically supervised circuits that monitor field input devices including smoke and heat detection, water supply and suppression supervisory devices and output devices such as suppression releasing and alarm notification devices. Instrumentation is provided in the Control Room and at the local fire control panels to alert operators of the location of a detected fire, the release of a suppression system, or the annunciation of a trouble condition within a portion of the system.

In the event that a portion of the PFAS is inoperable, compensatory measures may be required for the affected areas.

Further details on the unit's Plant Fire Alarm system can be found in the unit's FSAR and Fire Hazards Analysis.

D. Unit Specific Station Parameter Monitoring System

The Process and Information Control System (PICS) provides access to all process information needed to monitor the state of the plant in all plant states, including accident conditions. The PICS displays information on workstations providing selected data to anyone with authorization to access the data. The PICS displays are used for:

- Reviewing the accident sequence,
- Determining appropriate mitigating actions,
- Evaluating the extent of any damage, and
- Determining plant status during recovery operations.

The ERO shall use the information obtained from the PICS to monitor plant parameters and provide recommendations to the operators.

Section 5: Emergency Measures

5.1 Unit Assembly Areas

Unit assembly areas have been identified at the Access Building and the clean area of the Radioactive Waste Processing Building. Evacuation of non-essential personnel is usually conducted immediately after accountability if a Site Area Emergency or General Emergency has been declared and conditions permit.

If it is determined that the prearranged Assembly Area is unfit for personnel, the Shift Manager or the *[Emergency Plant Manager]* may designate an alternative Assembly Area and direct personnel using appropriate communication systems that are available.

5.2 Unit Evacuation Routes

Unit and Station Evacuation Routes will normally be via normal site egress routes. Alternate egress routes may be considered and are determined based on the event in progress and provided to evacuees over the unit's public address system.

ENCLOSURE 2

U.S. EPR Emergency Plan Site Specific Information Requirements

Enclosure 2

U.S. EPR Emergency Plan Site Specific Information Requirements

The following is a listing of emergency plan site specific requirements would be provided as part of the COL application submittal:

- Site specific Emergency Action Levels (EALs) evaluated against NEI-99-01, "Methodology for Development of Emergency Action Levels," for U.S. EPRs.
- EAL Technical Basis document to support the site specific EALs.
- Initial EAL review agreement with appropriate state and local authorities.
- Site specific dose code evaluated against the criteria in NUREG-0654, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants," and EPA-400-R-92-001, "Manual of Protective Action Guides and Protective Actions for Nuclear Incidents."
- Site specific Evacuation Maps/Routes and Shelter Areas.
- Site specific Emergency Planning Inspections, Tests, Analyses, and Acceptance Criteria.
- Offsite Planning requirements in accordance with Section 13.3, Emergency Planning of NUREG-0800, "Standard Review Plan."
- Designation of site specific subareas mutually agreed upon by appropriate state and local authorities.
- Site specific Protective Action Recommendations process utilizing site specific subareas with the process evaluated against NUREG-0654, Supplement 3, "Criteria for Protective Action Recommendations for Severe Accidents."
- Site specific Letters of Agreements for Plan identified resources.
- Co-located licensee exercise periodicity commitment in accordance with 10 CFR 50 Appendix E.
- Site specific means for annual update of public information materials.
- Regulatory Guide 1.23, "Meteorological Programs in Support of Nuclear Power Plants" and NUREG-0654 Appendix 2 review of the site specific meteorological program.
- NUREG-0654 Appendix 3 and FEMA compliance review of the site specific siren system.
- Evacuation Time Estimates (ETE) evaluation against NUREG-0654 Appendix 4 and NUREG/CR 4831, "State of the Art in Evacuation Time Estimate Studies for Nuclear Power Plants" and NUREG/CR 6863, "Development of Evacuation Time Estimate Studies for Nuclear Power Plants" criteria.