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**Thomas J. Palmisano**
Vice President & Chief Nuclear Officer

March 17, 2015

10 CFR 50.90

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

Subject: **Docket No. 50-206, 50-361, 50-362, and 72-041**
**Permanently Defueled Emergency Plan, Supplement 2**
**Amendment Application Numbers 223, 267, and 252**
**San Onofre Nuclear Generating Station, Units 1, 2, and 3 and ISFSI**

Reference: (1) Letter from Thomas J. Palmisano (SCE) to Document Control Desk (NRC) dated March 31, 2014; Subject: Docket Nos. 50-206, 50-361, 50-362, and 72-041, Amendment Application Numbers 223, 267, and 252, Permanently Defueled Emergency Plan, San Onofre Nuclear Generating Station, Units 1, 2, and 3, respectively, and Independent Spent Fuel Storage Installation (ADAMS Accession No. ML14092A314)

(2) Letter from Thomas J. Palmisano (SCE) to Document Control Desk (NRC) dated October 21, 2014; Subject: Docket No. 50-206, 50-361, 50-362, and 72-041, Response to Request for Additional Information and Supplement, Regarding Permanently Defueled Emergency Plan, Amendment Application Numbers 223, 267, and 252, San Onofre Nuclear Generating Station, Units 1, 2, and 3 and ISFSI (ADAMS Accession No. ML 14345A338)

Dear Sir or Madam:

By letter dated March 31, 2014 (Reference 1), Southern California Edison (SCE) submitted a License Amendment Request (LAR) for the proposed Permanently Defueled Emergency Plan (PDEP) for San Onofre Nuclear Generating Station (SONGS), Units 1, 2, 3, and Independent Spent Fuel Storage Installation (ISFSI). By letter dated October 21, 2014 (Reference 2), SCE provided a supplement to the proposed PDEP incorporating changes identified in responses to NRC Requests for Information (RAIs). The supplement included a complete version of the proposed PDEP, which included the changes to the proposed PDEP based on SCE's responses to the RAIs.

Subsequent to the submittal of the October 21, 2014 letter, SCE has noted that a change made to Section B.5 of the proposed PDEP was not consistently applied throughout the proposed PDEP. Specifically, Section B.5 was revised to require the Radiation Protection Coordinator report to the Command Center within 2 hours of declaration of an Alert classification or at the discretion of the Shift Manager for other events. However, Section H.4 of the proposed PDEP was not similarly revised. SCE has reevaluated the wording in Section H.4 concerning the

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augmented Emergency Response Organization (ERO) personnel assignments, and has determined that the ERO information is redundant to that already included in Section B.5 of the proposed PDEP. Section H.4 should include only the Command Center facility activation information, not the ERO information. Therefore, this supplement revises Section H.4 to read as follows (changes shown in strikeout):

> The Command Center is open on a continuing basis. There is no activation needed. ~~The augmented ERO, which initially consists only of the Duty ERO Coordinator, reports to the Command Center within about 2 hours of declaration of an Alert classification or at the discretion of the Shift Manager.~~

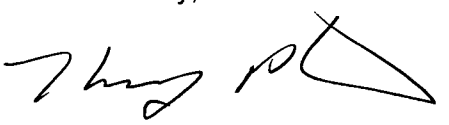
A complete version of the proposed PDEP, which includes the change described above, is provided in the Enclosure to this letter. The proposed change is shown on page H-1 of the proposed PDEP and is identified by a revision bar on the right side of the page. The conclusions of the no significant hazards consideration and environmental considerations contained in Reference 1 are not affected by, and remain applicable to, this revised request.

There are no new regulatory commitments in this submittal. Should you have any questions or require additional information, please contact Ms. Andrea Sterdis at (949) 368-9985.

I declare under penalty of perjury that the foregoing is true and correct.

Executed on 3/17/2015

Sincerely,



Enclosure: Revised Permanently Defueled Emergency Plan

cc: M. L. Dapas, Regional Administrator, NRC Region IV
T. J. Wengert, NRC Project Manager, SONGS Units 2 and 3
R. L. Kellar, NRC Region IV, Branch Chief, Repository and Spent Fuel Safety
S. Y. Hsu, California Department of Public Health, Radiologic Health Branch

**ENCLOSURE**

**Revised Permanently Defueled Emergency Plan**

**San Onofre Nuclear Generating Station**

# San Onofre Nuclear Generating Station (SONGS) Permanently Defueled Emergency Plan

**(Volume 1, PDEP-1)**

Prepared by: _____
xxxx Date

Reviewed by: _____
xxxx Date

Approved by: _____
xxxx Date

Revision 0b

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**Volume 2** – PDEP-2, EAL Technical Bases Manual

## Section A: Purpose

The purpose of this Permanently Defueled Emergency Plan (PDEP) is to assure an adequate level of preparedness by which to cope with a spectrum of emergencies that could be postulated to occur, including means to minimize radiation exposure to plant personnel. This PDEP integrates the necessary elements to provide effective emergency response considering cooperation and coordination of organizations expected to respond to potential emergencies.

## Section B: Background

SONGS is owned by Southern California Edison (SCE), San Diego Gas and Electric (SDG&E) and the cities of Anaheim and Riverside, California. SCE is authorized to act as agent for the co owners and has exclusive responsibility for the operation of the facility.

The PDEP describes the station's plan for responding to emergencies that may arise at the station while in a permanently shutdown and defueled configuration. All irradiated fuel is stored in the Independent Spent Fuel Storage Installation (ISFSI) and in the Spent Fuel Pool. In this condition, no reactor operations can take place and the station is prohibited from moving the fuel from the Spent Fuel Pool to the reactor vessel. An analysis of the possible design basis events and consequences is presented in the evaluation of the Safety Analysis Report accident assessment. This PDEP addresses the risks associated with SONGS current conditions.

The analysis of the potential radiological impact of design basis accidents in a permanently defueled condition indicates that any releases beyond the Site Boundary are limited to small fractions of the Environmental Protection Agency (EPA) Protective Action Guide (PAG) exposure levels, as detailed in the EPA's "Protective Action Guide and Planning Guidance for Radiological Incidents," Draft for Interim Use and Public Comment dated March 2013 (PAG Manual). Exposure levels, which warrant pre-planned response measures, are limited to onsite areas. For this reason, radiological emergency planning is focused onsite.

## Section C: Scope

SONGS has developed this PDEP to respond to potential radiological emergencies at the station considering it's permanently shutdown and defueled status. Because there are no postulated design basis accidents that would result in off-site dose consequences that are large enough to require off-site emergency planning, the overall scope of this plan delineates the actions necessary to safeguard onsite personnel and minimize damage to property.

In addition to the description of activities and steps that can be implemented during a potential emergency, this PDEP also provides a general description of the steps taken to recover from an emergency situation.

Furthermore the PDEP provides for:

- Identification and evaluation of emergency situations
- Protective measures
- Communications
- Coordination and notification of governmental authorities
- Document review and control
- Emergency Preparedness assessment
- Training of all emergency personnel
- An exercise and drill program
- An emergency recovery phase

## Section D: Planning Basis

The concepts presented in this PDEP address the applicable regulations stipulated in 10 CFR 50.47, "Emergency Plans" and 10 CFR 50, Appendix E, "Emergency Planning and Preparedness for Production and Utilization Facilities" and are consistent with the applicable guidelines established in 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."

Exemptions to 10 CFR 50.47 and 10 CFR 50 Appendix E for SONGS were granted by the Nuclear Regulatory Commission (NRC) per XXX (xx/xx/xx).

The PDEP revision 0 was approved for use by the NRC per Safety Evaluation Report (SER) XXX (xx/xx/xx).

## Section E: Emergency Response Organization

SONGS has primary responsibility for planning and implementing emergency measures within the site boundary including overall accident assessment. These emergency measures include mitigation, corrective actions, protective measures, and aid for personnel onsite. To assist in accomplishing these responsibilities, advance arrangements have been made with offsite organizations for special emergency assistance such as ambulance, medical, hospital, fire, and police services.

## Section F: Form and Content of Plan

The PDEP 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 and addresses the guidance provided in NSIR/DPR-ISG-02, Emergency Planning Exemption Requests for Decommissioning Nuclear Power Plants.

Each Part II section begins by listing the planning standard implemented by section as modified by the exemptions granted to SONGS by the NRC for a permanently defueled station.

## A. Assignment of Responsibility

*Planning Standard 50.47(b)(1) (as exempted in Reference 11) – Primary responsibilities for emergency response by the nuclear facility licensee and by State and local organizations have been assigned, the emergency responsibilities of the various supporting organizations have been specifically established, and each principal response organization has staff to respond and to augment its initial response on a continuous basis.*

### 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. Primary Governmental Response Organizations

Identified below are federal, off-site agencies, and county organizations that are involved in a response to an emergency at SONGS.

1) Federal Agencies

The National Response Framework (NRF) is a guide to how the Nation responds to all types of disasters and emergencies. It is built on scalable, flexible, and adaptable concepts identified in the National Incident Management System (NIMS) to align key roles and responsibilities across the Nation. The NRF describes specific authorities and best practices for managing incidents that range from the serious but purely local to large-scale terrorist attacks or catastrophic natural disasters. The NRF describes the principles, roles and responsibilities, and coordinating structures for delivering the core capabilities required to respond to an incident and further describes how response efforts integrate with those of the other mission areas. The federal family response for an emergency at a SONGS station is made up of the following:

a) Nuclear Regulatory Commission (NRC)

With regard to emergency preparedness, the NRC will perform the following:

- Assess licensee emergency plans for adequacy;
- Make decisions with regard to the overall state of emergency preparedness and issuance of operating licenses.
- Coordinate with other federal response agencies.

The NRC will respond to incidents at licensed facilities or vehicular accidents involving licensed materials, including radionuclides, in transit. The NRC will act as the lead Federal agency with regard to technical response during a nuclear incident including radiological assistance.

b) Department of Homeland Security (DHS)

Per the NRF, DHS is responsible for the overall coordination of a multi-agency Federal response to a radiological incident. The primary role of DHS is to support local agencies by coordinating the delivery of Federal non-technical assistance. DHS coordinates local agencies requests for Federal assistance, identifying which Federal agency can best address specific needs.

c) Marine Corps Base, Camp Pendleton

Marine Corps Base, Camp Pendleton is the responsible agency for all emergency responses affecting all personnel located at the Base. The Commanding General, Marine Corps Base is the decision maker. Through a Letter of Agreement the Marine Corps Base Fire Department provides fire, medical, and rescue responses to SONGS.

d) Federal Bureau of Investigation (FBI)

The FBI acts as the lead agency for the coordination of law enforcement agencies responding to Security related events at the San Onofre Nuclear Generating Station. Response actions to Security events are addressed in the SONGS Safeguards Contingency Plan.

2) State of California

The California Office of Emergency Services (OES) is designated the state authority for coordination of all State level response. Cal OES is the primary state response agency that coordinates the State's response to requests for assistance from local jurisdictions. The primary method of initial notification of Cal OES is by a commercial telephone line from the SONGS Command Center to the Warning Center in Sacramento.

3) Local Agencies

a) Orange County

The Orange County Sheriff's Department is responsible for offsite coordination and response in unincorporated Orange County.

b) San Diego County

The San Diego County Office of Emergency Services is the lead governmental agency for offsite coordination and response in San Diego County.

b. SONGS Concept of Operations

During an emergency, the ERO replaces the normal station organization. The ERO provides the following functions:

- Control and operation of station activities.
- Mitigation of the emergency condition.
- Protection of station personnel.
- Emergency event classification.
- Radiological monitoring and dose assessment
- Emergency notifications to Federal, State and local agencies.
- Coordination of emergency support for fire fighting, security, and rescue/first aid.

c. Block Diagram of Organization Interrelationships

Interrelationships between major SONGS organizations and sub-organizations in the total response effort are illustrated in a block diagram in Figure A-1.

d. Individual in Charge of the Emergency Response

The individual in charge of the SONGS emergency response is given the title of Emergency Director.

e. 24 Hour Emergency Response

Individuals assigned to the shifts are available 24 hours per day. These individuals can perform all required response actions until individuals arrive to augment shift personnel.

## 2. State and County Functions and Responsibilities

The state and counties have plans that specify the responsibilities and functions for the major agencies, departments, and key individuals of their organizations. This information is located in their respective plans and standard operating procedures. These plans address multiple types of accidents which may occur at facilities within their jurisdictions.

## 3. Agreements in Planning Effort

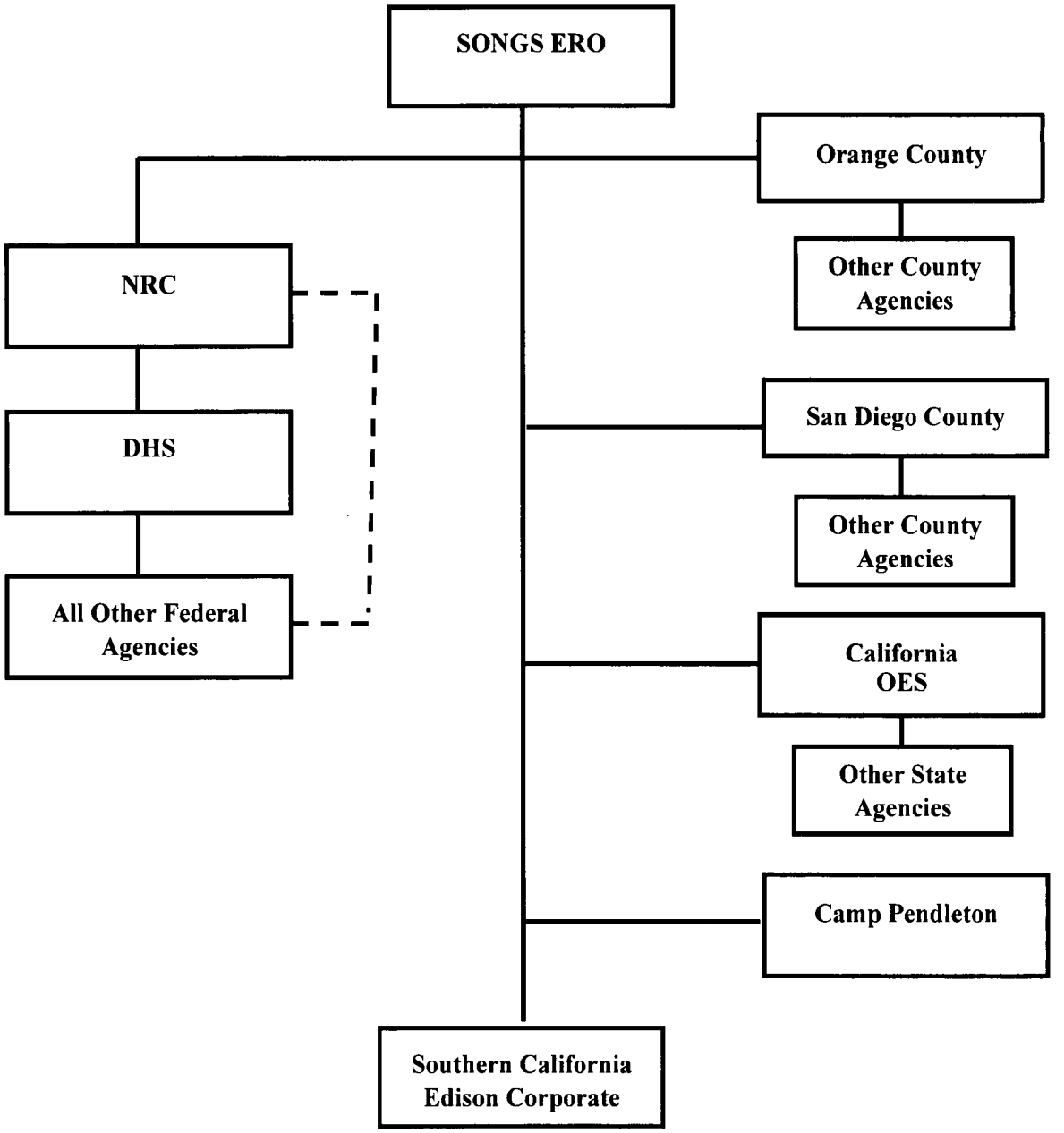
Written agreements describing the concept of operations between SONGS and other support organizations having an emergency response have been established. These agreements identify the emergency measures to be provided, the mutually accepted criteria for implementation, and the arrangements for exchange of information. A formal contract/purchase order is considered acceptable in lieu of a letter of agreement for the specified duration of the contract.

Appendix 3 of this PDEP contains the list of active and in force letters of agreement. The actual letters of agreement are maintained in Emergency Preparedness files.

## 4. Continuous Coverage

The ERO maintains the depth and capability for continuous 24-hour coverage of the emergency response for a protracted period.

Figure A-1: SONGS Emergency Response Organization Interrelationships



## B. SONGS Emergency Response Organization

*Planning Standard 50.47(b)(2) – On-shift facility licensee responsibilities for emergency response are unambiguously defined, adequate staffing to provide initial facility accident response in key functional areas is maintained at all times, timely augmentation of response capabilities is available and the interfaces among various onsite response activities and offsite support and response activities are specified.*

### 1. On-Shift Emergency Response Organization Assignments

SONGS has personnel on-shift at all times that provide the initial response to an event. 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 necessary response actions until the augmenting ERO arrives or the event is terminated. The normal shift staffing assignments include the roles and responsibilities for their emergency response functions. The relationship between normal and emergency response positions for the shift personnel is unchanged when an event occurs.

An on-shift analysis was performed for ERO functions to ensure sufficient personnel will be able to respond to the limiting event, a catastrophic loss of spent fuel pool (SFP) water inventory.

Shift ERO Positions:

a. Shift Manager (Emergency Director), see section B.4 for Emergency Director (ED) responsibilities.

b. Certified Operator, performs system and component manipulations and basic radiation surveys as needed.

c. Station Security will report to the ED when implementing the PDEP. Security personnel will assist ED as directed.

d. Radiation Protection Technician performs radiological assessment and radiation protection duties.

Refer to Table B-1, ERO Minimum Staffing Requirements, for summary of ERO shift and augmented positions.

### 2. Initial Assignment of Event Response Authority and Responsibility

The Shift Manager is the on-shift individual who declares the initial emergency classification and assumes the role of Emergency Director upon event declaration and has the authority and responsibility to immediately and unilaterally initiate any emergency actions. If the Shift Manager is unavailable or incapacitated for any reason the Certified Operator will assume duties until another Shift Manager arrives.

The Emergency Director has the authority to suspend any security measure described in the Physical Security Plan as necessary to facilitate response to emergency conditions.

**3. Line of Succession**

The Shift Manager assumes the title and responsibilities of the Emergency Director when an event is initially recognized and declared, and remains the Emergency Director throughout the event.

**4. Functional Responsibilities of the Emergency Director**

Non-delegable responsibilities of the Emergency Director include the following:

- Event classification and declaration
- Notification of offsite authorities (State/local and NRC notifications)
- Authorization for the use of EPA-400 emergency exposure controls (emergency worker dose limits that exceed 10 CFR 20 occupational exposure limits)

Key delegable responsibilities of the Emergency Director include the following:

- Management of available station resources
- Initiation of assessment and mitigative/corrective actions
- Initiation of onsite protective actions
- Decision to call for offsite police, fire or ambulance assistance
- Augment the emergency staff as deemed necessary
- Notify SCE corporate officers and the company's duty spokesperson

**5. Emergency Response Organization Positional Responsibilities**

The Emergency Response Organization (ERO) is responsible for implementing the actions described in this Emergency Plan. The ERO is made up of shift personnel (described in section B.1), augmented by the Duty ERO Coordinator, Radiation Protection Coordinator and supplemental positions described below.

The Duty ERO Coordinator and Radiation Protection Coordinator shall report to the Command Center within 2 hours of declaration of an Alert classification or at the discretion of the Shift Manager for other events. The supplemental ERO is activated at the discretion of the Emergency Director and/or the Duty ERO Coordinator.

a. Duty ERO Coordinator

The Duty ERO Coordinator reports to the Emergency Director. The responsibilities of the Duty ERO Coordinator when implementing the PDEP include:

- Report to the Command Center and assist Emergency Director with assessment, mitigation, and communications tasks.
- Assist the Emergency Director to supplement the emergency staff as deemed necessary.
- Coordinate supplemental personnel and resource to support for emergency response.

b. Radiation Protection Coordinator

The Radiation Protection Coordinator reports to the Duty ERO Coordinator. The responsibilities of the Radiation Protection Coordinator when implementing the PDEP include:

- Monitor personnel accumulated dose
- Advise the Emergency Director concerning Radiological EALs
- Augment the emergency staff as deemed necessary
- Establish Radiological Controls
- Perform Dose Assessment
- Establish and maintain communications as desired by the Emergency Director
- Maintain a record of event activities

The following positions are supplemental ERO and may be filled by staff or contract personnel possessing requisite knowledge to support the response:

a. Technical Coordinator

The Technical Coordinator reports to the Duty ERO Coordinator. The responsibilities of the Technical Coordinator when implementing the PDEP include:

- Assist with and arrange for other resources to evaluate technical data pertinent to plant conditions
- Augment the emergency staff as deemed necessary
- Assist with incident assessment and recommend mitigative and corrective actions
- Assist with search and rescue actions
- Coordinate maintenance and equipment restoration
- Establish and maintain communications as desired by the Emergency Director
- Maintain a record of event activities

b. Radiation Protection Technicians (RPTs)

RPTs report to the Radiation Protection Coordinator when activated.

Additional RPTs are called as needed to support emergency response. They may be provided through a services contract.

Technicians perform radiological monitoring and surveys of plant areas and radionuclide analysis of air and water samples. When an event is classified and the PDEP is implemented, the Technicians report to the Radiation Protection Coordinator. Their responsibilities when implementing the PDEP include:

- Perform radiological monitoring and surveys as directed
- Ensure the habitability of the occupied areas of the plant
- Monitor personnel exposures
- Perform radioisotopic analysis as directed

- Establish and monitor Radiological Control Areas (RCAs)
- Provide radiological and first aid support to search and rescue and medical emergencies.
- Maintain a record of event activities and surveys performed
- Perform decontamination functions as necessary

c. Other Emergency Response Personnel

Various emergency response personnel may be assembled as emergency needs dictate. Such personnel include: emergency services (fire, rescue, first aid), radiological monitoring and damage assessment, control and repair. Personnel from other SCE areas or outside private entities will be used to support emergency response.

**6. Emergency Response Organization Block Diagram**

Figure B-1 illustrates the overall emergency response organization.

**7. Corporate Emergency Response Organization**

No formal corporate response organization has been pre-identified. Southern California Edison will provide personnel and resource support as needed to mitigate any emergency conditions at the station. The company owns and operates an extensive fleet of ground transportation vehicles consisting of heavy-duty trucks, equipment, and four-wheel drive vehicles. These are available to SONGS as needed.

**8. Industry/Private Support Organizations**

Industry and private support will be used based on needs of the event.

**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 provide services of:

a. Fire protection;

b. Ambulance services;

c. Medical and hospital support

d. Law Enforcement

Support groups that provide fire protections are listed in Appendix 3, List of Letters of Agreement.

Support groups providing transportation and treatment of injured station personnel are described in Section L of this plan and Appendix 3.

**Table B-1: ERO Minimum Staffing Requirements**

| Functional Area | Major Tasks | Emergency Positions | Shift Staffing | Augmented Staffing |
|---|---|---|---|---|
| 1. Plant Operations, Assessment of Operational and Mitigation Aspects | Command Center Staff | Shift Manager **<br>Certified Operator ** | 1<br>1 | |
| 2. Emergency Direction and Control | Command and Control | Shift Manager (Emergency Director) | 1[(a)] | |
| | ERO Coordination | Duty ERO Coordinator | | 1 |
| 3. Notification & Communication | Notification of:<br>Licensee<br>Local/ State<br>Federal | Shift Manager or Security | 1[(a)] | |
| 4. Radiological Assessment | Supervision | Radiation Protection Coordinator | | 1 |
| | Dose Assessment | Shift Manager or Shift RP Technician | 1[(a)] | |
| | Onsite Surveys | Shift RP Technician **<br>RP Support | 1 | <br>(c) |
| | Offsite Surveys | RP Support | | (c)(d) |
| | Chemistry | Chemistry Support | | (c) |
| 5. Plant System Engineering, Repair, and Corrective Actions | Repair and Corrective Actions | Technical Coordinator | | (b) |
| | | Certified Operator<br>Support Personnel | 1[(a)] | <br>(c) |
| 6. In-Plant Protective Actions | Radiation Protection | Shift RP Technician | 1[(a)] | |
| 7. Fire Fighting | -- | Offsite fire fighting resources | (e) | |
| 8. 1st Aid and Rescue | -- | Shift Personnel and Outside fire resources | (e) | |
| 9. Site Access Control and Accountability | Security & Accountability | Security Personnel | (f) | |
| | | **TOTAL:** | **3** | **2** |

** On-shift personnel required to direct or perform site-specific mitigation strategies required for a catastrophic loss in spent fuel pool inventory.

(a) Indicates concurrent or sequential functions performed by existing on shift minimum staff.

(b) Supplemental positions called as needed based on event. May be contract personnel.

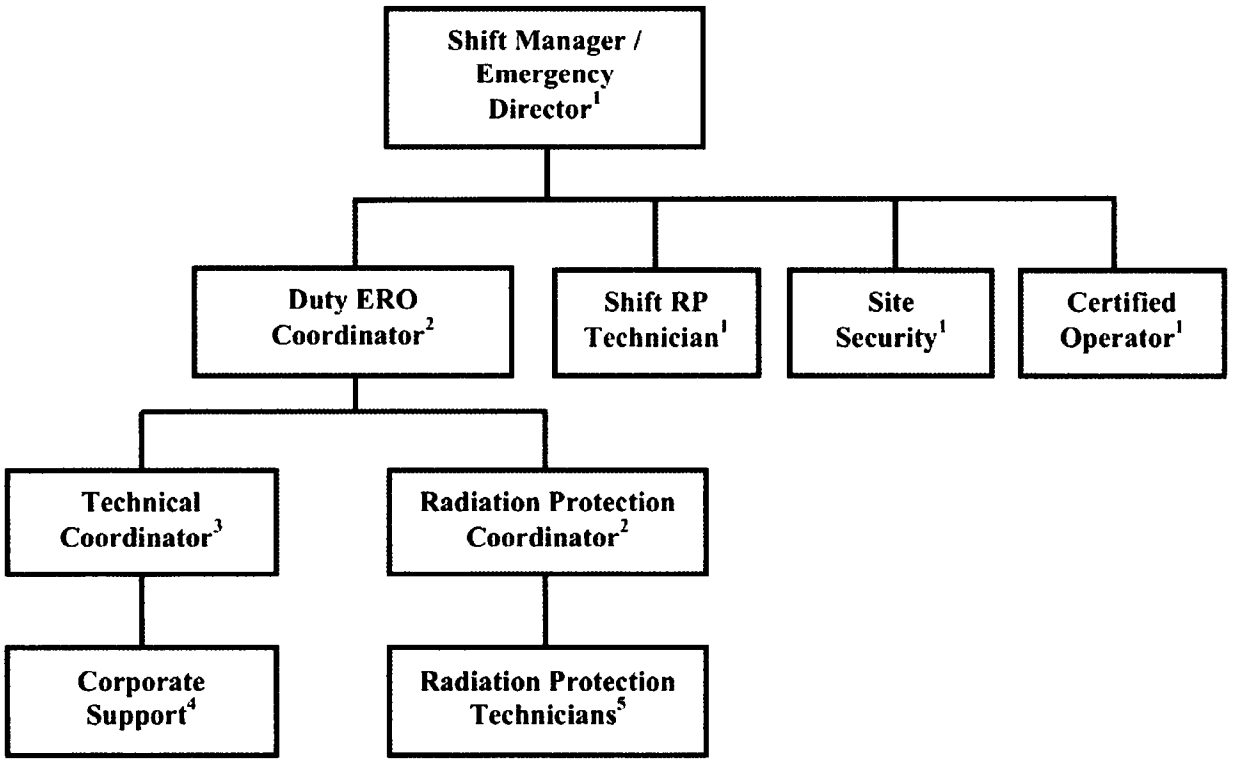
(c) Number of Corporate Support, Radiation Protection, Repair Personnel and Chemistry personnel called to support onsite response based on event. May be contract personnel.

(d) Pre planning for offsite surveys not required due to the radiological consequences of design basis accidents or other credible events not expected to exceed EPA Protective Action Guides. Survey can be performed with assistance from outside sources if deemed necessary.

(e) Fire Fighting and rescue operations are provided by agreement with offsite resources.

(f) Per the Station Security Plan.

**Figure B-1: Emergency Response Organization**




**NOTES**

1. On-shift positions.
2. Augmented position that will respond within 2 hours when called.
3. Pre-Designated supplemental positions, called as needed based on event.
4. Southern California Edison will provide or arrange for additional technical, maintenance and other support as needed to restore station to pre-event condition.
5. Additional Radiation Protection Technicians are called to support response as needed. They may be provided by an Emergency Services Contract. Shift personnel are trained as radiation workers and to perform limited RP duties until additional support is available.

## C. Emergency Response Support and Resources

*Planning Standard 50.47(b)(3) (as exempted in Reference 11) – Arrangements for requesting and effectively using assistance resources have been made and other organizations capable of augmenting the planned response have been identified.*

### 1. Federal Response Support and Resources

a. Individuals Authorized to Request Federal Assistance

The Emergency Director is authorized to request assistance as needed.

b. Federal Resources

Federal agencies that may provide assistance in direct support of SONGS in the event of an accident are identified in Section A of this plan.

c. Resources Available to Support Federal Response

The Command Center has space available to accommodate limited NRC response team members.

### 2. Liaisons

a. If a near site Incident Command Post (ICP) has been established for a large scale or hostile actions event, SONGS will send liaisons to the ICP to provide specific information relative to the event and assist as needed. Individuals assigned as ICP Liaisons will be part of the supplemental ERO.

### 3. Radiological Laboratories

Laboratory facilities are available and equipped to support normal plant and expected emergency operations. Services will be contracted as needed for declared events. Agreements may also be used to obtain laboratory services from other stations.

Support for chemical analysis is provided by Sierra Analytical Labs, located in Laguna Hills, California. Support for radiological analysis is provided by GEL Laboratories, located in Charleston, South Carolina. The laboratories have the capability for analyses of terrestrial, marine, and air samples.

### 4. Other Assistance

Refer to Appendix 3, List of Letters of Agreement for outside organizations that have pre-agreed arrangements to support onsite response actions.

No other specific assistance has been pre-identified.

## D. Emergency Classification System

*Planning Standard 50.47(b)(4) (as exempted in Reference 11) – A standard emergency classification and action level scheme, the bases of which include facility system and effluent parameters, is in use by the nuclear facility licensee.*

### 1. Emergency Classification System

A graded scale of response for distinct classifications of emergency conditions, actions appropriate for those classifications, and criteria for escalation to a more severe classification is provided.

The station maintains the capability to assess, classify, and declare an emergency condition within 30 minutes of the availability of indications that an Emergency Action Level (EAL) has been exceeded.

- The 30-minute criterion will commence when plant instrumentation, plant alarms, computer displays, or incoming verbal reports corresponding to an EAL first become available to the individual in command and control (SM/ED) or Certified Operator.

- Validation or confirmation of plant indications, alarms or reports is to be accomplished within the 30-minute criterion as part of the classification assessment.

- For EAL thresholds that specify a duration (time imbedded EALs), the declaration process runs concurrently with that specified threshold duration. If it is determined that the condition will not clear within the time period, the event is declared regardless of whether the imbedded time period has been met. Once the condition has existed for the specified duration, no further classification assessment is warranted and the EAL must be promptly declared.

- The 30-minute criterion is not used as a grace period to attempt to restore plant conditions to avoid declaring an emergency in which an EAL has been exceeded.

- The 30-minute criterion will not prevent implementation of response actions necessary to protect public health or deny the State and local authorities the opportunity to implement measures necessary to protect the public health and safety.

SONGS utilizes a classification methodology endorsed by the NRC. Specifically SONGS classification system follows the methodology in NEI 99-01, Rev 6, Development of Emergency Action Levels for Non-Passive Reactors.

The emergency classification system utilizes two categories for classification of emergency events. The specific initiating conditions for each classification and their corresponding emergency action levels are provided in the EAL Technical Bases Manual controlled as Volume 2 of this PDEP.

The definitions and discussions of the two Emergency Classification Levels (ECLs), from lowest to highest severity, are as follows:

a. Notification of Unusual Event

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

This is the less severe of the two 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 will classify a Notification of Unusual Event.

Required actions at this classification include:

- Notifications to station personnel.
- Notification, within 60 minutes, of the required off-site agencies.
- At the discretion of the Emergency Director augment shift personnel if needed.
- 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.
- Appropriate measures to mitigate the effects of the emergency and return conditions to normal operation status.
- When the event is terminated, closeout is performed over communication links to offsite authorities (i.e., NRC and local agencies), followed by written summary within 24 hours.

b. Alert

Events are in progress or have occurred which involve an actual or potential substantial degradation of the level of safety of the plant or a security event that involves probable life threatening risk to site personnel or damage to site equipment because of HOSTILE ACTION. Any releases are expected to be limited to small fractions of the EPA PAG 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 a Notification of Unusual Event.

Required actions at this classification include:

- Notifications to station management.
- Notification, within 60 minutes, of the required off-site agencies.
- Activation of the Emergency Response Organization.
- Notification of the NRC as soon as possible but within 60 minutes of classification.

- Keeping offsite authorities informed of plant status by providing periodic updates, including radiological data.
- When the event is terminated, closeout is performed over communication links to offsite authorities (i.e., NRC and local agencies), followed by written summary within 8 hours.
- Site evacuation and personnel accountability may be directed by the Emergency Director based on hazards associated with the event.
- Appropriate measures to mitigate the effects of the emergency and return conditions to normal operation status.

**2. Emergency Action Level Technical Bases**

The initiating conditions, their corresponding emergency actions levels and the technical bases for each classifiable threshold are contained in the station's EAL Technical Basis Manual, which was based on NEI 99-01, Revision 6, Section 8 and Appendix C, and was approved for use by the NRC.

**3. Offsite Classification Systems**

SONGS emergency planning personnel periodically review the classification system with state and local agencies.

**4. Offsite Emergency Planning**

Offsite agencies maintain plans to respond to various natural or man-made emergencies. Although they may not be specific to an event at SONGS the Emergency Preparedness Manager shall coordinate with offsite agencies for response planning to an emergency at the station.

## E. Notification Methods and Procedures

*Planning Standard 50.47(b)(5) (as exempted in Reference 11) – Procedures have been established for notification, by the licensee, of State and local response organizations and for notification of emergency personnel by all organizations; the content of initial and follow-up messages to response organizations has been established.*

### 1. Bases for Notification of Offsite Agencies

SONGS, in cooperation with state and local authorities, has established mutually agreeable methods and procedures for notification of offsite response organizations consistent with the approved emergency classification level scheme. Notifications to offsite agencies include a means of verification.

### 2. Notification and Mobilization of Emergency Response Personnel

Emergency implementing procedures are established for notification and mobilization of emergency response personnel.

a. Notification of Onsite Personnel and Mobilization of the ERO

Each emergency classification results in onsite personnel being notified of the initial classification or any 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 as applicable.

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.

When an emergency classification level is declared or upgraded, an announcement is made over the plant public address system (or by other means) that states the emergency classification level declared and response actions to be taken by site personnel.

At an Alert classification level all ERO augmentation personnel are notified to respond.

Notifications of onsite personnel will be made as soon as possible after the triggering event (emergency declaration or decision to take protective actions) to ensure that actions can be completed within required time frames.

b. Notification and Mobilization of the Offsite Response Organizations (ORO)

When an emergency classification level is declared or upgraded, initial notifications are promptly made to staffed warning points for the OROs.

Notification and mobilization of federal, state and local agency response personnel is performed in accordance with their applicable emergency plans and procedures.

1) State and Local Response Agencies

State and local agency staffed Warning Points are notified within sixty (60) minutes of an event declaration (initial or an escalation) or change in radiological release status (occurring outside of an event classification, based on an agreement with the local agencies).

2) Nuclear Regulatory Commission (NRC)

The NRC is notified immediately after notification of the appropriate state and local agencies and not later than one (1) hour after the time of initial classification, escalation, termination or entry into the recovery phase.

For hostile action events, the NRC is notified immediately following or concurrent with state and local notifications.

c. Support Organizations

- Medical, rescue, and fire fighting support services are notified for assistance, using normal 911 procedures, as the situation dictates.
- The American Nuclear Insurers (ANI) is notified at an Alert classification with requests for assistance as necessary.

## 3. Initial Notification Messages

The Initial Emergency Notification Message contains the current emergency classification level and whether a release is taking place.

SONGS, in conjunction with authorities from local agencies has established the specific content and format of the initial notification message to be transmitted during an emergency, along with methods of transmission. The initial notification form will provide the following information if it is known and appropriate:

a. Location of incident, and name and telephone number of caller.
b. Date/Time of incident.
c. Class of emergency.
d. Type of actual or projected abnormal release (airborne or liquid).
e. Actual or projected dose rates and/or integrated dose at the Site Boundary.
f. Estimate of any abnormal surface radioactive contamination in plant or onsite.
g. Plant emergency response actions underway.
h. Request for offsite support from onsite personnel.
i. Prognosis for event based on plant or response team information.

The following offsite agencies, at a minimum, will receive Initial Notification Messages:

- State of California
- Orange County

- San Diego County
- Marine Corps Base, Camp Pendleton

4. **Follow-up Messages**

   Follow up calls will also be made to each of the lead agencies notified initially. Follow-up messages will be made approximately every 2 hours (or at time intervals agreed upon during each event) utilize a follow-up notification form with information similar to the initial notification form.

5. **State and County Information Dissemination**

   Information dissemination is performed in accordance with state and local plans.

6. **Notification of the Public**

   Notifications to the public are performed through the media in accordance with state and local plans.

7. **Messages to the Public**

   Messages to the public are delivered through the media in accordance with state and local plans.

## F. Emergency Communications

*Planning Standard 50.47(b)(6) (as exempted in Reference 11) – Provisions exist for prompt communications among principal response organizations to emergency personnel.*

### 1. Communications/Notifications

SONGS has reliable communication systems installed.

a. 24 Hour Notification Capabilities

SONGS maintains the capability to make initial notifications to the designated offsite agencies on a 24-hour per day basis.

b. Communications with State/Local Governments

Offsite notifications are provided to the California Office of Emergency Services (CAL OES), the Marine Corps Base (Camp Pendleton) and local agencies warning points (which are continually staffed) from the Command Center using commercial telephone (the primary means of communications) or satellite phone (the back-up means of communication).

**Table F-1: Offsite Response Agency Notification (Warning Points)**

| Offsite Response Agency | Notified By | Individual Answering |
|---|---|---|
| CAL OES | SONGS Emergency Director or designee | Duty Personnel |
| Marine Corps Base, Camp Pendleton | SONGS Emergency Director or designee | Command Duty Officer or 911 Dispatch |
| Orange County | SONGS Emergency Director or designee | Orange County Communications Control 1 |
| San Diego County | SONGS Emergency Director or designee | San Diego County Communications Shift |

c. Communications with Federal Organizations

The Command Center uses NRC Emergency Notification System (ENS) phones through the Emergency Telephone System (ETS), commercial telephone lines, or other mobile communications devices such as cell or satellite phones to communicate with Federal Organizations.

d. Communications between Station Facilities

1. Private Automatic Exchange (PAX) Telephone System

The PAX telephone system provides communication capability between telephones located within the plant by dialing a five-digit station code.

The PAX telephone system also provides for outside communications through interconnections with the corporate telephone communications system and commercial telephone lines.

2. 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.

e. ERO Notification System

ERO notification is performed by the use of call trees initiated by commercial telephone as the primary method of communications or a satellite phone as the back-up method of communications. The station public address system may also be used to notify on site personnel.

f. NRC Emergency Notification System (ENS)

Communications with the NRC Operations Center will be performed primarily via the NRC ENS, commercial telephone lines, or other mobile communications devices such as cell or satellite phones.

## 2. Medical Communications

Communications are established with a primary or backup medical hospital 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 equipment utilized to notify and communication with the NRC Headquarters and the appropriate NRC Regional Office Operations Center as described in F.1.f are tested monthly for operability.

Communications drills between SONGS and local agencies government facilities are conducted in accordance with Section N.2.a.

## G. Emergency Public Information

*Planning Standard 50.47(b)(7) (as exempted in Reference 11) –The principal points of contact with the news media for dissemination of information during an emergency are established in advance, and procedures for coordinated dissemination of information to the public are established.*

The company's Corporate Communications Department is the principle point of contact for the dissemination of information during an event at the station. The Communications Department will disseminate information to the public through press releases and media conferences in accordance with current corporate communication protocols.

Due to the lack of postulated events that would impact offsite areas or requiring Offsite Response Organizations to take pre-planned actions, no arrangements are made for a Joint Information Center.

SCE maintains a corporate media line that is available at all times (24/7). A Corporate Communications Spokesperson maintains a liaison with local media and would act as the initial company spokesperson for a declared emergency at SONGS. SCE also has a Local Public Affairs officer who acts as a liaison between SCE and State and local public affairs officers to coordinate the timely flow of information and address any mis-information related to the event.

## H. Emergency Facilities and Equipment

*Planning Standard 50.47(b)(8) – Adequate emergency facilities and equipment to support the emergency response are provided and maintained.*

### 1. Command Center

The Command Center is the onsite facility used to respond to emergency events. Plant systems and equipment parameters necessary to initiate emergency measures and assess conditions can be monitored in this location. The Command Center also has internet capabilities, which allows access to geophysical (i.e., meteorological, hydrologic, and seismic) information.

Command Center personnel evaluate and control the emergency and initiate activities necessary for coping with the emergency. The Command Center may be relocated as determined by the Emergency Director in the event that it is threatened with security events or hazardous conditions. The activities conducted by the Command Center staff include:

- Initial direction of all plant related operations
- Accident recognition, classification, mitigation, and initial corrective actions
- Activation of emergency response facilities and ERO notification
- Notification of offsite agencies
- Continuous evaluation of the magnitude and potential consequences of an incident

In the event that augmented staff personnel respond, the Command Center provides space for those personnel to support the response. These activities include:

- Assessment of plant status
- Implementation of emergency actions and mitigation strategies.
- Provide voice communications with the NRC and local agencies as needed
- Radiological monitoring and assessment
- Brief and prepare personnel for work assignments in response to the event

### 2. Emergency Operations Facility

The SONGS PDEP does not include an Emergency Operations Facility.

### 3. Emergency Operations Centers

Offsite agencies maintain Emergency Operations Centers, for all types of emergencies, in accordance with their respective plans.

### 4. Activation

The Command Center is open on a continuing basis. There is no activation needed.

## 5. Onsite Monitoring Equipment

Radiation monitoring equipment provides radiological surveillance capabilities. The equipment provides for the following basic functions:

- Warns personnel of radiological health hazards, which have developed.
- Gives early warning of certain plant malfunctions, which might lead, to a radiological health hazard or plant damage.
- Prevents or minimizes the effects of inadvertent releases of radioactivity to the environment by consequence-limiting automatic responses.

Station instrumentation provides a display of plant parameters from which the safety status of systems can be assessed in the Command Center. Key parameters are:

- Gaseous Effluent Monitor readings
- Radiation Levels
- Fuel Handling Area Radiation Levels

Portable radiation and contamination monitoring instruments and sampling equipment normally utilized and maintained by the station is available for emergency use.

## 6. Offsite Monitoring Equipment

No radiation and contamination monitoring equipment is maintained specifically for offsite monitoring.

## 7. Offsite Monitoring Equipment Storage

Monitoring equipment is not stored offsite. Limited offsite monitoring near the site boundary will be performed using onsite equipment or arrangements will be made for additional equipment as needed.

## 8. Meteorological Monitoring

The station maintains meteorological instrumentation for near instant time readings of wind speed and direction to provide guidance if onsite protective actions are implemented.

Backup meteorological information can also be obtained from the National Weather Service.

## 9. Facility and Equipment Readiness

The Command Center and emergency equipment are inspected and inventoried quarterly and after each use in accordance with site procedures. These procedures provide information on location and availability of emergency equipment and supplies. A system of sealed containers or facilities may be utilized versus actual performance of item-by-item inventories.

## 10. General Use Emergency Equipment

Station procedures identify the general category of equipment and supplies that make up equipment available to assist with emergency response and requirements for inventorying and testing equipment. General types of equipment available to support emergency response include:

- Radiation Monitoring Equipment
- Contamination Control Supplies
- Decontamination Equipment and Supplies
- Protective Clothing
- Damage Control and Mitigation Equipment
- Communications and Radio Equipment
- Supplemental Lighting

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.

## I. Accident Assessment

*Planning Standard 50.47(b)(9) – Adequate methods, systems, and equipment for assessing and monitoring actual or potential offsite consequences of a radiological emergency condition are in use.*

### 1. Plant Parameters and Corresponding Emergency Classification

Emergency Action Level thresholds have been established in accordance with the NRC endorsed methodology in Regulatory Guide 1.101. Refer to section D.

The EAL Technical Bases Manual identifies the system parameter and effluent parameter values which can be used to determine the emergency condition.

Emergency Plan Implementing Procedures (EPIP) and EAL user aids have been developed to identify the system and effluent parameter values which are used to determine an existing emergency classification level.

### 2. Onsite Accident Assessment Capabilities

On-site capabilities and resources are available to provide initial and continuing information for accident assessment throughout the course of an event and include area and process radiation monitoring systems.

### 3. Source Term Determination

Station specific dose assessment procedures are used to calculate accumulated or projected dose at some time in the future if current or projected conditions continue. Radiological and meteorological readings are used to project dose rates at predetermined distances from the release point.

Due to the constantly declining source term, based on natural decay of fission products contained in the spend fuel, source terms used for dose projections can also be based on actual on or offsite radiological readings at the time of an event.

### 4. Effluent Monitor Data and Dose Projection

Station specific dose assessment procedures address calculating accumulated or projected dose at some time in the future if current or projected conditions continue. Radiological instrumentation readings and meteorological data are used to project dose rates at the Site Boundary, and to determine the integrated dose received.

### 5. Meteorological Information

Local meteorological information is available to the Command Center staff. The meteorological parameters include wind speed and direction. Procedures have been developed to determine stability class as needed for atmospheric dispersion calculations. A description of the onsite meteorological capabilities is given in Section H.

6. **Off-scale or Inoperable Effluent Monitors (Unmonitored Releases)**

Dose projections can be made during a release through use of actual survey and air sample data in situations where effluent monitors are either off-scale or inoperative or the release occurs by an unmonitored flow path.

7. **Field Monitoring**

In the event of a radiological release onsite field monitoring activities are performed by qualified individuals to confirm dose projections or assist in event classification. Portable radiological survey instrumentation and equipment is provided as part of the SONGS Radiation Protection Program. This equipment is available to support emergency response.

8. **Field Monitoring Team**

No pre defined field monitoring teams are assigned. Qualified individuals will be deployed as needed from the Command Center to perform surveys.

Prior to deployment, field monitoring teams are assembled at the Command Center to inventory and test survey and sampling equipment. Following the equipment and inventory checks, field monitoring teams are provided a briefing. Teams are then dispatched to perform surveys.

Communications are performed via radio or cell phones.

9. **Air Monitoring**

Instrumentation to measure radioactivity in counts per minute (cpm) and to determine dose rate in mRem/hr is used for detection and measurement of airborne isotopic concentrations. The air sample will be taken with a Portable Air Sampler. Air sampling results will be obtained through the use of a portable multi-channel analyzer and appropriate gamma sensitive detector.

The presence of significant levels of radioiodines in the spent fuel is extremely limited, therefore no special equipment is provided to measure for radioiodines.

10. **Dose Estimates**

Design Basis Accidents at SONGS can no longer exceed the Alert level (i.e. offsite doses will only reach a fraction of the EPA Protective Action Guides). Dose estimates will be performed to determine projected onsite doses and potential offsite consequences of any release to the environment.

11. **Offsite Agencies Monitoring Capabilities**

The offsite agencies have the ability and resources to coordinate with federal monitoring teams as deemed necessary.

## J. Protective Response

| |
|---|
| Planning Standard 50.47(b)(10) (as exempted in Reference 11) – A range of protective actions has been developed for emergency workers and the public. |

It is no longer possible for the radiological consequences of design basis accidents or other credible events at SONGS to exceed the limits of the EPA PAGs beyond the site boundary or require offsite protective actions. Therefore, pre-planned protective actions for the public are no longer necessary and the emergency planning zones will no longer exist. Therefore, SONGS will not have pre-defined Protective Action Recommendations. Offsite agencies maintain the ability, under their emergency management plans, to implement offsite protective measures, if needed, in the unlikely event of a release due to a beyond design-basis event.

### 1. Protective Actions for Site Personnel

Protective actions for onsite personnel will be delineated in the site procedures and will include:

- Criteria for ordering a site evacuation
- Means and timely notification of onsite persons impacted
- Ability to account for individuals within the Protective Area within 30 minutes from the time accountability is initiated
- Provisions for determining and maintaining accountability of assembled and evacuated personnel, and for identifying and determining the locations of personnel that were not evacuated
- Search and rescue
- Evacuation routes and means for transporting onsite personnel (e.g., privately owned vehicles, buses, company vehicles)
- Monitoring of evacuees for contamination and control measures if contamination is found
- Means for evacuating and treating onsite injured personnel, including potentially contaminated personnel

Notification and protective response actions for onsite emergency workers are also addressed in section E.2 and section K of this plan.

### 2. Mitigation Strategies and Equipment

SONGS has documented strategies for mitigation of designated emergencies involving the Spent Fuel Pool and has equipment available to be used in those strategies/mitigative actions.

The Shift Manager (Emergency Director) and Duty ERO Coordinator are responsible for assessing the need for and directing mitigation activities. Additional assistance may be provided by the Technical Coordinator upon arrival or via available communication devices. The Implementing Procedures to this plan detail their responsibilities and offer a brief summary of the available strategies.

## K. Radiological Exposure Control

*Planning Standard 50.47(b)(11) – Means for controlling radiological exposures, in an emergency, are established for emergency workers. The means for controlling radiological exposures shall include exposure guidelines consistent with EPA Emergency Worker and Lifesaving Activity Protective Action Guides.*

### 1. Emergency Exposure Guidelines

SONGS maintains personnel exposure control programs in accordance with 10 CFR 20 under normal conditions. Personnel exposure levels are maintained under EPA-400 levels for emergency workers during declared emergencies.

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. The Emergency Worker Dose Limits are as follows:

| Dose Limit (Rem TEDE) | Activity | Condition |
|---|---|---|
| 5 | All | All Emergency Workers may be authorized up to 5 Rem Emergency Exposure for the emergency; however attempts should be made to keep exposures within 10CFR20 limits. |
| 10 | Protecting valuable property | Lower dose not practicable. |
| 25 | Lifesaving or protection of large populations | Lower dose not practicable. |
| > 25 | Lifesaving or protection of large populations | Only on a voluntary basis to persons fully aware of the risks involved. |

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.

### 2. Emergency Radiation Protection Program

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 are and 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 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 personnel during emergency conditions.

- Access to high radiation areas is only permitted with prior approval. Personnel are not allowed to enter known or potential high radiation areas unless their exposure has been properly evaluated.

- Periodic habitability surveys of the Command Center 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.

- Assembly areas are established, as necessary, to relocate and monitor personnel evacuated from areas of the plant.

Station Emergency Plan Implementing Procedures are in place for expeditious decision-making with reasonable consideration of the relative risks involved in a lifesaving mission involving radiation exposure.

**3. Emergency Personnel Exposure and Records**

a. Dosimetry

Emergency workers are issued permanent reading dosimeters as a means for recording exposure for permanent records prior to entering a radiologically controlled area. Additionally, personal are issued digital dosimetry capable of measuring dose and dose rate on a real time basis.

b. Dose Records

Emergency worker dose records are maintained in accordance with the emergency and radiological protection procedures. Emergency workers are instructed to read their dosimeters frequently. Permanent reading dosimeters may be processed with increased periodicity during an event.

**4. Contamination Control and Decontamination**

a. Action Levels for Determining the Need for Decontamination

During emergency conditions, normal plant contamination control criteria will be adhered to as much as possible. However, these limits may be modified by the Emergency Director should conditions warrant.

b. Means for Radiological Decontamination

Contaminated personnel will normally be attended to at an onsite decontamination area in accordance with radiation protection procedures. Decontamination showers and supplies are provided at those onsite areas. If contamination above acceptable levels is found, personnel 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 (refer to Section L).

Processes for the control of solid contaminated waste are established. Shower and sink drains are routed to where the liquid is contained or is processed and monitored prior to discharge.

Temporary decontamination areas can also be set up inside at various locations.

Arrangements have been made to transfer contaminated injured personnel to hospitals capable of assisting with treatment and decontamination efforts.

## 5. Contamination Control Measures

Onsite contamination controls are established to contain the spread of loose surface radioactive contamination.

a. Area Access Control

Contaminated areas are isolated as restricted areas with appropriate radiological protection and access control. Personnel leaving contaminated areas are monitored to ensure both themselves and their clothing are not contaminated. Supplies, instruments, and equipment that are in contaminated areas or have been brought into contaminated areas will be monitored prior to removal. Items found to be contaminated, will be decontaminated using normal plant decontamination techniques and facilities or may be disposed of as radioactive waste.

b. Drinking Water and Food Supplies

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 and drinking are prohibited in station emergency response facilities until habitability surveys indicate that such activities are permissible.

c. Return of Areas and Items to Normal Use

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.

## 6. Provisions for Onsite Personnel

Protective equipment and supplies will be distributed (as needed) to personnel remaining or arriving on site during the emergency to minimize the effects of radiological exposures or contamination. Protective measures to be utilized are as follows:

a. Individual Respiratory Protection: Emergency response personnel may be required to use respiratory protection in any environment involving exposure to airborne radionuclides, an oxygen deficient atmosphere, or where air quality is in doubt. In the presence of airborne particulates, qualified emergency response personnel may be directed by radiation protection personnel to use full-face filter type respirators. Self-Contained Breathing Apparatus (SCBA) is available for use by the ERO when needed due to hazardous conditions. The criteria for issuance of respiratory protection are described in station procedures.

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

## L. Medical and Public Health Support

*Planning Standard 50.47(b)(12) – Arrangements are made for medical services for contaminated injured individuals.*

### 1. Offsite Hospital and Medical Services

Arrangements, by letter of agreement or contract, are maintained with primary and back-up hospitals or medical facilities located in the vicinity of the station. These facilities are equipped and qualified for receiving and treating contaminated or exposed persons with injuries requiring immediate hospital care.

Letters of agreement or contracts for medical services for SONGS are listed in Appendix 3.

### 2. Onsite First Aid Capability

The station maintains onsite first aid supplies and equipment necessary for the treatment of contaminated or injured persons. Medical treatment given to injured persons is of a "first aid" nature. The functions of station personnel in handling onsite injured people are:

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

2) Begin decontamination procedures; and

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

### 3. Medical Service Facilities

The following facilities are available to provide medical support for any contaminated injured individuals:

- Saddleback Memorial Medical Center, San Clemente Campus
- Mission Hospital

### 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.

If contaminated, efforts will be made to decontaminate the victim before transportation as long as the decontamination does not obstruct the medical attention given the victim or cause an unnecessary delay in transporting. During transportation Radiation Protection department personnel will accompany the victim and prevent the further spread of contamination.

## M. Reentry and Recovery Planning

*Planning Standard 50.47(b)(13) – General plans for recovery and reentry are developed.*

### 1. Reentry and Recovery

During a declared emergency, a point will be reached at which the plant will be placed in a stable condition. With the understanding that this condition could be attained even though specific Emergency Action Levels are still exceeded, the Emergency Director will determine that there is no longer a need to keep the emergency organization in effect and to begin plant recovery.

The extent and nature of the corrective and protective measures and the extent of plant recovery will depend on the emergency conditions at hand and the status of plant areas and equipment. The general goals for plant recovery are:

- An orderly evaluation of the cause and effect of the emergency and the implementing of solutions to prevent the immediate recurrence of the incident.
- A planned approach for returning the plant to a stable condition by obtaining the appropriate manpower, materials, and equipment needed to accomplish that end.
- An evaluation of the radiation exposure records for all on-site emergency response personnel involved in the incident.
- A planned approach to ensure that radiation exposures and contamination control are in keeping with the ALARA program.

### 2. Recovery Organization

The recovery organization will be based on normal SONGS organizations and functions with the SONGS executive management position being responsible for directing all site activities. The normal station organization is documented in the UFSAR, as required by Technical Specification 5.2.1.a.

If the event results in additional support being required to return the site to pre-event status along with increased interface with offsite agencies and/or media involvement, a recovery organization similar to that shown in Figure M-1 will be put in place.

Notification of onsite personnel and offsite response organizations that the plant recovery is to commence will be performed in accordance with Emergency Plan Implementing Procedures.

### 3. Recovery Phase Notifications

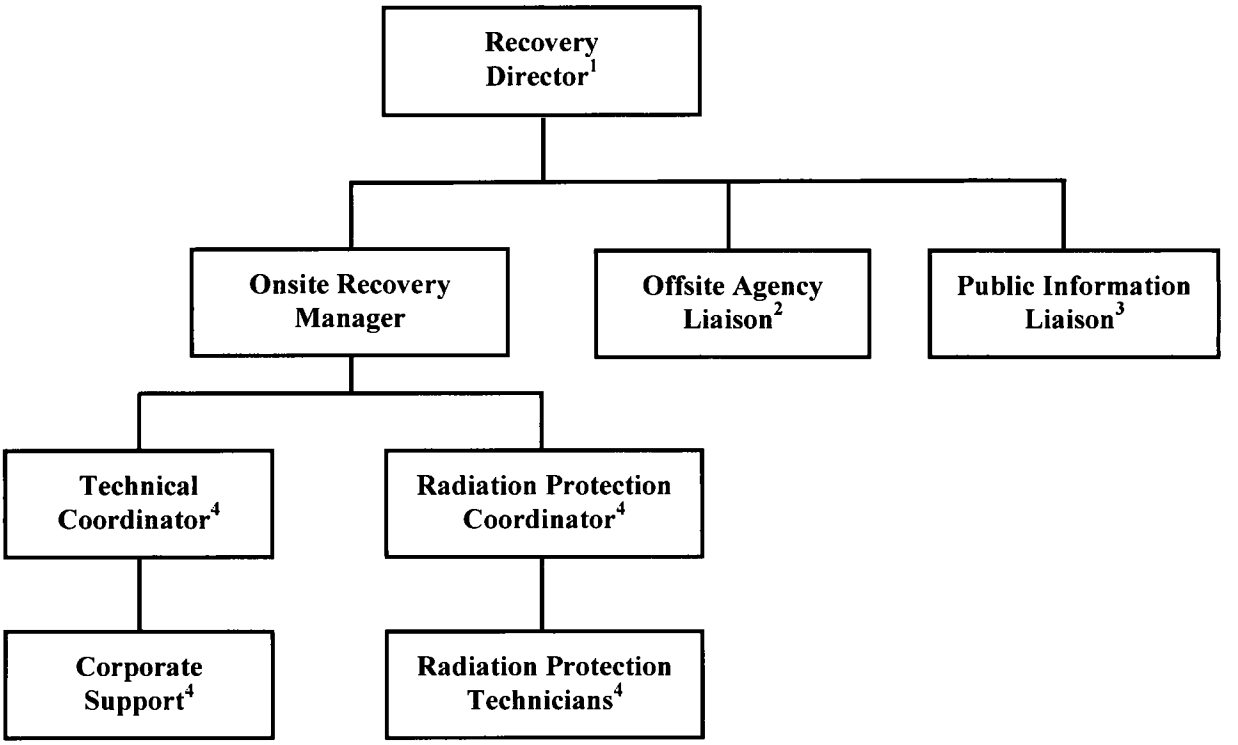
Offsite authorities will be notified when recovery phase begins and ends.

### 4. Emergency Response Records

- Records associated with the emergency that are to be maintained include:
    - cause of the incident,
    - personnel and equipment involved,
    - extent of injury and damage (onsite and offsite) as a result of the incident,
    - locations of contamination with the final decontamination survey results,

- corrective actions taken to terminate the emergency,
- actions taken or planned to prevent a recurrence of the incident,
- onsite and offsite assistance requested and received, and
- any program changes resulting from a critique of emergency response activities.

**Figure M-1: Typical Recovery Organization**




**NOTES**

1. Senior Management
2. Position normally filled by site Emergency Preparedness Manager
3. Position filled from SCE Communications Department
4. SCE will provide or arrange for additional technical, maintenance, radiation protection and other support as needed to restore station to pre-event condition

## N. Drill and Exercise Program

*Planning Standard 50.47(b)(14) – Periodic exercises are (will be) conducted to evaluate major portions of emergency response capabilities, periodic drills are (will be) conducted to develop and maintain key skills, and deficiencies identified as a result of exercises or drills are (will be) corrected.*

### 1. Biennial Exercise

SONGS conducts a biennial exercise 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. Each exercise will be evaluated by station evaluators and possibly federal evaluators.

For alternating years, an integrated drill will be conducted for the purpose of testing, developing, and maintaining the proficiency of emergency responders.

Biennial Exercises and alternate year integrated drills will allow the ERO to demonstrate the following principal functional areas at least once every 6 years:

- Activities such as management and coordination of emergency response
- Accident assessment
- Event classification
- Notification of offsite authorities
- Assessment of onsite impact of radiological releases
- System repair and mitigate action implementation
- An opportunity to consider accident management strategies
- The Operating Staff would have opportunity to resolve problems (success paths)

The scenarios used for biennial exercise and drills will include, but not be limited to, the following:

- The basic objective(s) used in the exercise.
- The date(s), time period, place(s), and participating organizations.
- A time schedule of real and simulated initiating events.
- A narrative summary describing the conduct of the drill to include such items as simulated casualties, off-site fire assistance, rescue of personnel, use of protective clothing.

Critiques shall be scheduled at the conclusion of each exercise or drill to evaluate the performance of the organizations. The ability of personnel to self-evaluate weaknesses and identify areas for improvement is the key to successful ERO performance.

SONGS will allow observers from federal, state, and local governments, when requested, to observe scheduled exercises.

## 2. Other Drills

Drills are conducted to provide supervised instruction, training and practice opportunities for ERO members. Equipment and proficiency drills may be performed as part of the biennial exercise, integrated drill or as an independent drill.

a. Communication Drills

Communications with state and local governments shall be tested monthly. These communication drills will include the aspect of understanding the content of messages and the operation of communications equipment.

Communications with NRC Headquarters and the NRC Regional Office Operations Center will be tested quarterly.

b. Radiation Protection Drills

Radiation Protection Drills involving a response to, and analysis of, simulated airborne and liquid samples and direct radiation measurements within the plant are conducted semi-annually.

Radiation Protection Drills involving collection and analysis of all sample media (water, vegetation, soil and air) at or near the site boundary will be conducted annually. These drills will include demonstration of communications and record keeping. At least once during the drill cycle State and local organizations will be invited to participate.

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) is conducted annually. The offsite portions of the medical drill may be performed as part of the required biennial exercise.

d. Augmentation Drills

Augmentation drills are performed to demonstrate the capability to activate the ERO in a timely manner.

e. Fire Drills

At least once each year a drill shall be conducted which involves participation of the Camp Pendleton Fire Department.

## 3. Critique and Evaluation

Exercise and drill performance objectives are evaluated against measurable demonstration criteria. As soon as possible following the conclusion of each exercise or drill, a critique, including participants and evaluators, is conducted to evaluate the ability of the ERO to implement the PDEP and its procedures.

A formal written critique report is prepared following an exercise or drill involving the evaluation of designated objectives. The report evaluates and documents the ability of the ERO to respond to a simulated emergency situation. The report will also contain reference to corrective action documents and recommendations.

## 4. Resolution of Findings

The critique process is used to identify areas of ERO performance and the Emergency Preparedness Program that require improvement. The Emergency Preparedness Manager is responsible for ensuring that items identified in the critique are correctly dispositioned and ensuring resolution of each item.

## 5. Records

Drill/exercise records and reports are to formulated and maintained. The reports should include a summary of the drill/exercise scenario, objectives, and response actions demonstrated during the drill/exercise. Critique findings from participants, controllers and evaluators should be entered in the Corrective Action program for evaluation.

## O. Emergency Response Training

*Planning Standard 50.47(b)(15) – Radiological emergency response training is provided to those who may be called on to assist in an emergency.*

### 1. Assurance of Training of the Offsite Response Organizations

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 provided to these organizations:

a. Non-SONGS organizations that may provide specialized services during an emergency (e.g., local law enforcement, fire-fighting, rescue, medical services, transport of injured, etc.) are provided or formally offered annual training.

   The training made available is designed to acquaint the participants with the special problems potentially encountered during a nuclear plant emergency (including effects of radiation exposures and radiological contamination), notification procedures and their expected roles. Organizations that must enter the site also receive site-specific emergency response training and are 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 local agencies emergency plans, with support provided by SONGS as requested.

### 2. Functional Training of the ERO

All aspects of emergency preparedness training administration are specified in the station training program. This program identifies the level and the depth to which individuals are to be trained. Appropriate personnel will be trained in the areas such as radiation protection, respiratory protection, and first aid or its equivalent as part of the applicable training programs.

Outside contracted personnel who are brought in to assist with mitigating or recovery actions who have not received emergency plan training will receive just-in-time training prior to performing response actions.

### 3. First Aid Response

Selected station personnel receive basic training in first aid.

### 4. Emergency Response Organization

The training for ERO personnel is developed from the position specific responsibilities as defined in this plan. Members of the ERO receive initial and annual refresher training.

On-shift emergency response personnel perform emergency response activities as an extension of their normal duties and are given emergency preparedness training as part of their formal department specific training.

New ERO personnel receive an initial overview course that familiarizes them with the PDEP 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

a. Emergency Directors

Receive specialized training in the areas of:

- Notifications
- Emergency Classification
- Emergency Action Levels
- Mitigation and Protective Actions
- Emergency Exposure Control

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. Subsequent stabilization and restoration is pursued utilizing station procedures. Operators receive routine training to ensure proficiency in this area.

Those positions that are called to assist operators with accident assessment, corrective actions, protective actions, and related activities receive appropriate training.

c. Radiological Assessment Personnel

In addition to the training received to qualify for their normal duties, Radiation Protection Personnel receive specific emergency response training on:

- Dose Assessment
- Basic Meteorology
- Transportation of Contaminated injured persons.

d. Police, Site Protection, 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 Section O.1.

Provisions are in place to provide "Just in Time Training" to untrained emergency workers responding to the site during a large-scale event. This includes training on radiological and plant specific hazards.

e. Repair and Damage Control 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.

f. Communications Personnel

Personnel using specialized communications equipment that is not part of their normal daily function receive training on the equipment. Personnel involved in notifications to offsite agencies receive training in the notification process.

g. Site Security Force

The Security Force will receive specific emergency response training on:

- Emergency Plan fundamentals and Site Accountability procedures
- Site Evacuation Procedure

h. Key SCE Communications Department Personnel

Individuals assigned to act as spokespersons or to coordinate public information will receive training on:

- Emergency Plan fundamentals
- Dissemination of information during declared events at the station

## 5. General, Initial, and Annual Training Program Maintenance

Personnel assigned to work at the station receive initial and annual refresher training on general station procedures and policy. This training includes required actions to be taken if an emergency is declared at the station.

## 6. Records

- Records of training for SONGS ERO personnel are to be documented and maintained.
- Records for training offered and/or provided for the offsite responders is to be documented and maintained.

## P. Responsibility for the Maintenance of the Planning Effort

*Planning Standard 50.47(b)(16) – Responsibilities for plan development and review and for distribution of emergency plans are established, and planners are properly trained.*

### 1. Emergency Preparedness Staff Training

The individual assigned the duties of the Emergency Preparedness Manager is to maintain an adequate knowledge of regulations, planning techniques and the latest applications of emergency equipment and supplies. This training may include:

- 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

Southern California Edison (SCE) is responsible for the safe and reliable maintenance of SONGS. The issuance and control of this plan and the activities associated with emergency preparedness at SONGS shall be the overall responsibility of station's Emergency Preparedness Manager.

### 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 station and to administer the program to ensure availability of resources in the event of an emergency.

Specific responsibilities include the following:

- Maintaining and updating this PDEP and associated procedures and documenting those reviews and required revisions
- Coordination of PDEP with other station programs and procedures
- Overseeing Emergency Preparedness Training Program and ensuring that proper records are maintained to document training and retaining of the ERO.
- Overseeing and documenting Emergency Preparedness Drill and Exercise Program
- Documenting and maintaining Emergency Preparedness Facilities and Equipment
- Documenting and maintaining Emergency Preparedness interfaces with offsite agencies.
- Performing and documenting appropriate evaluations of program and of classified emergency events
- Ensuring that onsite personnel and offsite response organizations are notified of updates to the Emergency Plan or procedures.
- Ensuring all Letters of Agreement are reviewed annually and updated as needed.

### 4. Emergency Plan and Agreement Revisions

The PDEP is reviewed on an annual basis. This review may also include applicable local agencies emergency response based on established agreements.

The annual Plan review/update includes required changes identified during audits, assessments, training, drills, and exercises.

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 local agencies plans.

**5. Emergency Plan Distribution**

The PDEP volumes and implementing procedures are distributed on a controlled basis.

**6. Supporting Emergency Response Plans**

Other plans that support this PDEP are:

- NUREG-0728, US Nuclear Regulatory Commission, Concept of Operations: NRC Incident Response
- National Response Framework
- State of California Emergency Response Plan

**7. Implementing and Supporting Procedures**

Emergency Plan procedures provide specific instructions taken for each emergency classification including responsibilities, notification of offsite emergency organizations, and mobilization of the ERO. These procedures provide specific instructions to personnel for response to events and actions required to maintain the Emergency Planning program.

Appendix 2 of this plan contains a listing, by number and title, of those response and administrative/maintenance procedures that implement this PDEP.

**8. Cross Reference to Planning Criteria**

The PDEP is formatted in the same manner as NUREG-0654. The use of this format lends itself to uncomplicated comparison of the criteria set forth in NUREG-0654. Changes to these procedures are subject to evaluation under 10 CFR 50.54(q).

**9. Audit/Assessment of the Emergency Preparedness Program**

To meet the requirements of 10 CFR 50.54(t), SONGS coordinates an independent review the Emergency Preparedness Program 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 PDEP and associated implementing procedures.
- The emergency preparedness training including drills and exercises as well as any activation of the PDEP since the last program audit.
- The readiness of the station Emergency Response Organization to perform its function.
- The readiness of facilities and equipment to perform as outlined in the PDEP and procedures.
- The interfaces between SONGS and local agencies pertaining to the overall Emergency Preparedness Program.

Results of this review are submitted to Corporate Management and the Chief Nuclear Officer. 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 local agencies of the performance of the audit and the availability of the audit records for review at SONGS facilities. Records of the review are maintained for at least five years.

**10. Maintenance of Emergency Telephone Directory**

Names and phone numbers of the Emergency Response Organization, support personnel and applicable offsite organizations shall be reviewed and updated at least quarterly.

## Appendix 1: References

References consulted in the writing of this Permanently Defueled 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 Appendix E, Emergency Planning and Preparedness for Production and Utilization Facilities

3. 10 CFR 20, Standards for Protection Against Radiation

4. NUREG-0654, Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants, Revision 1, November, 1980

5. NUREG-0728, Report to Congress: NRC Incident Response Plan

6. US NRC Regulatory Guide 1.101, Emergency Planning and Preparedness for Nuclear Power Reactors, revision 4, July, 2003

7. EPA 400-R-92-001, Manual of Protective Action Guides and Protective Actions for Nuclear Incidents, October 1991

8. FEMA-Guidance Memorandum, MS-1, Medical Services

9. American Nuclear Insurers Bulletin #5B (1981), Accident Notification Procedures for Liability Insured

10. US NRC NSIR/DPR-ISG-02, Interim Staff Guidance, Emergency Planning Exemption Requests for Decommissioning Nuclear Power Plants

11. NRC letter from [date and title of exemption approval letter].

## Appendix 2: Procedure Cross-Reference to Plan Sections

| Procedure | Plan Sections Implemented |
|---|---|
| SO123-VIII-ERO-1, Classification and Notifications | Section D &E |
| SO123-VIII-ERO-2, Shift Manager / Emergency Director Checklist | Sections B, D, E, I,J & M |
| SO123-VIII-ERO-3, Duty ERO Coordinator Checklist | Sections B, E, I,J & M |
| SO123-VIII-ERO-4, Technical Coordinator Checklist | Section B & I |
| SO123-VIII-ERO-5, Radiation Protection Coordinator Checklist | Section B, I, J & K |
| SO123-VIII-ERO-6, Dose Assessment | Section J |
| SO123-VIII-ADMIN-1, Emergency Preparedness Program Maintenance | Sections A, C, F, G, H, L, P |
| SO123-VIII-ADMIN-2, Emergency Preparedness Program Training | Section O |
| SO123-VIII-ADMIN-3, Emergency Preparedness Program Drill Development and Evaluation | Section N |
| SO123-VIII-ADMIN-4, 50.54(q) Evaluations | Section P |

## Appendix 3: List of Letters of Agreements

| Organization/Agreement Type | Applicable To |
|---|---|
| Tri-City Medical Center | Medical Treatment |
| Mission Hospital | Medical Treatment |
| Air Methods Corporation | Transport of Injured Persons |
| Commanding Officer, Marine Corps Base, Camp Pendleton | Fire Fighting / Transport of Injured Person |
| Orange County Fire Authority | Transport of Injured Person |

## Appendix 4: Glossary of Terms and Acronyms

| | |
|---|---|
| Accident Assessment | Accident assessment consists of a variety of actions taken to determine the nature, effects and severity of an accident. |
| Activation | "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. |
| ALARA | Acronym for "As Low as Reasonably Achievable," a basic concept of radiation protection that specifies that radioactive discharges from nuclear plants and radiation exposure to personnel be kept as far below regulation limits as feasible. |
| Annual | At least once per calendar year, January 1 to December 31. |
| Assembly/Accountability | A procedural or discretionary protective action taken for all persons within the Protected Area, which involves the gathering of personnel into pre-designated areas, and the subsequent verification that the location of these personnel is known. |
| Assembly Area | An area designated for the assembly of site personnel upon evacuation of the protected area. |
| 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 | Occurring every two years |
| Classification | The classification of emergencies is divided into TWO (2) categories or conditions, covering the postulated spectrum of emergency situations. |
| Command and Control | When in Command and Control of the event, the designated individual has overall responsibility for SONGS's emergency response efforts. |
| Command Center | The operations center of the station from which the plant can be monitored. |
| Company, the | A term used to describe the holder of SONGS license. |
| Confinement Boundary | The outside surfaces of a storage cask containing spent fuel that act as a barrier between the radioactive substances contained within and the environment. |
| 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. |

## Appendix 4: Glossary of Terms and Acronyms

| | |
|---|---|
| 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. |
| 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 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. |
| Drill | A supervised instruction period aimed at testing, developing and maintaining skills in a particular operation. |
| 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 Director | The Director of the facility in Command and Control of the event. The Shift Manager fills the role of Emergency Director throughout an event. |
| 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 Response Personnel | SCE personnel who may be called upon during an emergency to perform duties to mitigate accident conditions at SONGS. |

## Appendix 4: Glossary of Terms and Acronyms

| | |
|---|---|
| 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. |
| 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 normal operations, emergency, and recovery. |
| Evacuation | The urgent removal of people from an area to avoid or reduce high level, short-term exposure usually from activity release of radioactivity or other environmental hazard. |
| Exercise | A test of the integrated capability and a major portion of the basic elements existing within emergency preparedness plans and organizations. An exercise may involve participation of offsite organizations. |
| Hostile Action | An act toward the station or its personnel that includes the use of violent force to destroy equipment, takes hostages, and/or intimidate the licensees to achieve an end. This includes attack by air, land, or water using guns, explosives, projectiles, vehicles, or other devices used to deliver destructive force. Other acts that satisfy the overall intent may be included. This should not be construed to include acts of civil disobedience or felonious acts that are not part of a concerted attack on the station. |
| Initiating Condition | A predetermined condition where either the potential exists for an emergency or such an emergency has occurred. |
| Integrated Drill | A training activity that incorporates multiple demonstration requirements to be conducted in connection with one another. An example could be including a contaminated injured person with a loss of spent fuel coolant accident. |
| Local agencies | An all-inclusive term referring to county and municipal governments. |
| Meteorological Instrumentation | A device mounted in a location that will provide the Command Center with local wind sped and direction to assist in the assessment and decision-making to implement onsite protective actions. |
| Monthly | At least once per calendar month. |
| Offsite | The area around a nuclear generating station that lies outside the "Owner Controlled Area". |

## Appendix 4: Glossary of Terms and Acronyms

| | |
|---|---|
| Onsite | The area around the station that lies within the station's "Owner Controlled Area". |
| Owner Controlled Area | SCE SONGS controlled property, to include facilities and parking lots located on the west side of the Interstate 5 freeway, extending westward from Old Highway 101 to the median high-tide line, bordered on the north and south by the State Park Beach. |
| 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. |
| Radiation Monitoring System | An instrumentation system designed to detect and alarm abnormal radiation levels in spent fuel pool area and effluent streams. |
| 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 the station's Security Plan. |
| Protective Action | Those emergency measures taken for the purpose of preventing or minimizing radiological exposures to affected population groups. |
| Quarterly | At least 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. |
| Radiological Release | A '*Release in Progress*' is defined as ANY radioactive release that is a result of, or associated with, the emergency event. Normal off-gas or plant vent releases that occur during operations or shutdown are not considered to be a release unless the value exceeds an alarm setpoint. |
| Safety System | A system required for cooling the spent fuel pool of in the permanently defueled mode of operation. |
| Semi-Annual | At least once in each of the following periods: January 1 through June 30; July 1 through December 31. |
| Site Evacuation | The evacuation of non-essential personnel from the plant site. |
| Source Term | Radioisotope inventory of spent fuel, or amount of radioisotope released to the environment, often as a function of time. |
| Staffed Warning Points | Offsite agency locations that are staffed 24 hours a day. Such as 911 centers or other staffed watch locations. |
| Threshold Value | Measurable, observable detailed conditions which must be satisfied to determine an EAL applicability. |
| 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 4 days of deposition exposure. |

## Appendix 4: Glossary of Terms and Acronyms

| | |
|---|---|
| Unrestricted Area | Any area to which access is not controlled for protecting individuals from exposure to radiation and radioactive materials, or other industrial hazards. |
| Vehicle Barrier System VBS) | Vehicle control measures (passive or active) used to protect against the malevolent use of a land vehicle. The VBS consists of both active and passive components, terrain features, man-made structural features, and vehicle access checkpoints. |
| Weekly | At least once per calendar week: Sunday through Saturday. |

Any abbreviation followed by a lower case 's' denotes the plural form of the term.

## Appendix 4: Glossary of Terms and Acronyms

ACRONYMS

ARM ..... Area Radiation Monitor

CFR ..... Code of Federal Regulations

CC ..... Command Center

DHS ..... Department of Homeland Security

DOE ..... Department of Energy

DOT ..... Department of Transportation

DPH ..... Department of Public Health

EAL ..... Emergency Action Level

EAS ..... Emergency Alerting System

ENS ..... Emergency Notification System (NRC)

EOC ..... Emergency Operations (or Operating) Center

EPA ..... Environmental Protection Agency

EPZ ..... Emergency Planning Zone

HPN ..... Health Physics Network (NRC)

ISFSI ..... Independent Spent Fuel Storage Installation

NRC ..... Nuclear Regulatory Commission

OES ..... California Office of Emergency Services

PAG ..... Protective Action Guide

PDEP ..... Permanently Defueled Emergency Plan

RAC ..... Regional Advisory Committee (FEMA)

SCBA ..... Self Contained Breathing Apparatus

VBS ..... Vehicle Barrier System