

10 CFR 50, Appendix E, Section V

October 19, 2010

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

Subject: **Docket Nos. 50-206, 50-361, 50-362, and 72-41
Emergency Plan Implementing Procedures
San Onofre Nuclear Generating Station, Units 1, 2 and 3,
and Independent Spent Fuel Storage Installation**

Dear Sir or Madam:

Pursuant to 10 CFR 50, Appendix E, Section V, Attachment 1 of this letter provides copies of the following revised Emergency Plan Implementing Procedures:

Procedure	Rev.	TCN/EC	Effective Date
SO123-VIII-10.5 "EVENT CLOSE OUT AND RECOVERY"	4		September 30, 2010
SO23-VIII-50.3 "CORE DAMAGE ASSESSMENT"	9		September 30, 2010
SO123-VIII-10 "EMERGENCY COORDINATOR DUTIES"	27		October 7, 2010

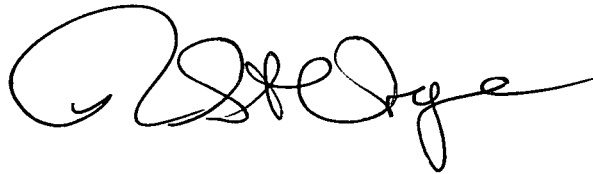
For your convenience, Attachment 2 provides an updated index listing titles, revisions, and temporary change notices (TCNs)/editorial corrections (ECs) of the San Onofre Nuclear Generating Station (SONGS) Emergency Plan Implementing Procedures. A bar in the right margin indicates items changed since our previous submittal.

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Attachment 3 lists the current Emergency Planning Orders and the Emergency Plan Training Program Description that are referenced in the Emergency Plan.

If you have any questions, please contact Mr. Clay E. Williams at (949) 368-6707.

Sincerely,

A handwritten signature in black ink, appearing to read "Clay E. Williams", with a long horizontal flourish extending to the right.

Attachments 1, 2, and 3

cc: Emergency Response Coordinator, NRC Region IV (2 copies of Attachment 1)
G. G. Warnick, NRC Senior Resident Inspector, San Onofre Units 2 and 3

Attachment 1

REVISED EMERGENCY PLAN IMPLEMENTING PROCEDURES

EVENT CLOSEOUT AND RECOVERY

TABLE OF CONTENTS

<u>SECTION</u>	<u>PAGE</u>
1.0 OBJECTIVES	2
2.0 REFERENCES	2
3.0 PREREQUISITES	3
4.0 PRECAUTIONS	3
5.0 CHECKLIST(S)	3
6.0 PROCEDURE	4
6.1 Emergency Event Termination	4
6.2 Recovery Phase Entry Conditions	6
6.3 Recovery Plan Selection	7
6.4 Long-Term Recovery Plan Staffing	8
6.5 Activation of Long-Term Recovery Organization	9
6.6 Short-Term Recovery and Repair Plan	9
6.7 Long-Term Recovery and Repair Plan	10
7.0 RECORDS	11
ATTACHMENTS	
1 Typical Recovery Organization Key Positions	12
2 Description of Recovery Organization Key Positions and ERO Counterpart	13
3 Recovery Issues Guide	18

EVENT CLOSEOUT AND RECOVERY

1.0 OBJECTIVES

- 1.1 Provide guidance for the following:
 - 1.1.1 Termination of a declared emergency Alert or Higher.
 - 1.1.2 Establishment of a Recovery Organization to conduct recovery activities.
 - 1.1.3 Transition to normal or long-term operations.

2.0 REFERENCES

2.1 NRC Commitments

- 2.1.1 SONGS Emergency Plan
- 2.1.2 Offsite Dose Calculation Manual

2.2 Procedures

- 2.2.1 SO123-III-8.2.23, Units 2/3 Containment Sampling Using the Post-Accident Sampling System
- 2.2.2 SO123-III-8.3.23, Units 2/3 PASS Reactor Coolant Sampling
- 2.2.3 SO123-VIII-1, Recognition and Classification of Emergencies
- 2.2.4 SO123-VIII-10.1, Station Emergency Director Duties
- 2.2.5 SO123-VIII-10.2, Corporate Emergency Director Duties
- 2.2.6 SO123-0-A7, Notification and Reporting of Significant Events
- 2.2.7 SO123-XV-109, Procedure and Instruction Format and Content
- 2.2.8 SO123-XV-HU-3, Written Instruction Use and Adherence

2.3 Other

- 2.3.1 NUREG-0654/FEMA-REP-1, Rev. 1, Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants
- 2.3.2 NRC Administrative Letter 97-03, Plant Restart Discussions Following Natural Disasters
- 2.3.3 NRC Regulatory Guide 1.109, Calculation of Annual Doses to Man from Routine Releases of Reactor Effluent for the Purposes of Evaluating Compliance with 10 CFR Part 50 Appendix I

2.3.4 Form EP(123) 10, Event Notification Form

2.3.5 Form EP(123) 11, Verbal Notification Form

3.0 PREREQUISITES

- 3.1 Personnel are responsible for ensuring they use the current copy of this document when not in a declared emergency or drill by checking the electronic document management system or by one of the methods described in SO123-XV-109 and SO123-XV-HU-3.
- 3.2 Emergency Planning is responsible for ensuring the current copy of this document is in the Emergency Notebooks for use during declared emergencies and drills.
- 3.3 Personnel are responsible for verifying and following the level of use requirements on the first page of this document.
- 3.4 For full implementation of the Recovery Organization, the event must be an Alert or higher. If the event is an Unusual Event, then Section 6.6 may be used alone.

4.0 PRECAUTIONS

- 4.1 Exposure to personnel should be maintained As Low As Reasonably Achievable (ALARA) consistent with the nature of the recovery operation required.

5.0 CHECKLIST(S)

- 5.1 None

6.0 PROCEDURE

NOTES

- 1) The Responsible Positions (Resp Pos) who will implement different steps of this procedure are the Shift Manager (SM), Station Emergency Director (SED), the Corporate Emergency Director (CED), Emergency Group Leader (EGL), and the Long-Term Recovery Manager (LTRM) and their team.
- 2) The steps listed in this procedure may be completion any order by the user, as conditions dictate. Steps should be marked N/A that are not performed at the termination of the emergency event or prior to the turnover process.

6.1 Emergency Event Termination

NOTE

An emergency event may be terminated when the criteria for classification described in SO123-VIII-1 no longer apply.

Responsible Position

- | | | |
|---------------|-------|--|
| <u>SM/SED</u> | 6.1.1 | <u>If</u> event resulted in radiological release, <u>then</u> confirm the following conditions exist: <ul style="list-style-type: none">• The release is controlled <u>OR</u> within design limits• Radiation levels within the plant are decreasing <u>OR</u> stable• Contaminated personnel who were injured have received appropriate medical treatment |
| <u>SM/SED</u> | 6.1.2 | <u>If</u> the emergency event was result of natural or manmade disaster, <u>then</u> confirm onsite conditions that led to the emergency event are controlled. |
| <u>SM/SED</u> | 6.1.3 | <u>If</u> the emergency event required response from offsite agencies, <u>then</u> confirm the need for offsite response is significantly reduced or not required. |

Responsible
Position

- SM/SED** 6.1.4 If Site Area Emergency, General Emergency, or an Alert with offsite consequences was declared, then perform the following steps:
- .1 Review basis for decision to terminate emergency event and entry into the recovery phase.
 - .2 Obtain input, where appropriate, for recovery actions, consult with NRC counterparts and refer to Section 6.2.
 - .3 Ensure the following agencies and personnel listed below are contacted:
 - Incident Command Lead Authority (SECURITY EVENT ONLY)
 - Orange County
 - San Diego County
 - City of San Juan Capistrano
 - Nuclear Regulatory Commission
 - Federal Emergency Management Agency
 - Cal EMA
 - Marine Corps Base Camp Pendleton
 - California Highway Patrol
 - City of Dana Point
 - California Department of Parks and Recreation
 - City of San Clemente
- SED, CED, EGL** 6.1.5 Verify that **NO** additional considerations need to be addressed prior to termination (refer to Section 6.2.1).
- 6.1.6 Document that event has been terminated in log book.

**Responsible
Position**

SM/SED 6.1.7 When conditions are met for event termination, then initiate notification of event termination to emergency response facilities and offsite agencies as follows:

- .1 Direct Technical Support Center (TSC) EA Operations **OR** EOF SRO Briefer to notify facility leaders via Ivory Phone that the emergency event is terminated.
- .2 Direct TSC Emergency Advisor-Notifications **OR** EOF Emergency Advisor Notifications to prepare Forms EP(123) 10 and EP(123) 11 for emergency event termination.
- .3 Direct the Red Phone Talker to notify NRC Headquarters Operations Officer (HOO) of emergency event termination.
- .4 Direct the TSC Manager to make public address announcements for emergency event termination.
- .5 Direct Nuclear Regulatory Affairs staff to provide written report to offsite agencies in accordance with SO123-0-A7.

SM/SED 6.1.8 Refer to and implement Section 6.2 of this procedure.

6.2 Recovery Phase Entry Conditions

NOTES

- 1) The emergency status can change to the recovery phase only after termination of the emergency classification or the Plant is considered to be in a stable condition.
- 2) If the TSC and EOF are activated, then the SED and CED will jointly determine if conditions for entry into the recovery phase are satisfied.

SM/SED 6.2.1 Determine that **ALL** of the following Recovery Plan entry conditions applicable to the event are satisfied:

- Implement Attachment 3, Recovery Issues Guide, and assign applicable sections to appropriate personnel to assist in determination if entry conditions to the Recovery Phase are met.
- Shift Technical Advisor (STA) confirms all Critical Safety Functions are recovered per criteria specified in Emergency Operating Instructions.
- Radiation levels in ALL in-plant areas are stable **OR** decreasing.
- Release of radioactive material to environment from the plant is controlled **OR** within design limits.
- Fire, flooding, or similar emergency conditions are controlled.
- Need for emergency response is significantly reduced or not required.

**Responsible
Position**

SM/SED 6.2.1 (Continued)

- Contaminated/injured personnel have been transferred to hospital OR have received appropriate medical treatment.
- TSC Security Leader confirms that security event has been stabilized in accordance with SO123-VIII-60 and any other applicable security documents and procedures.

SED/CED .1 Concur that ALL Recovery Plan entry conditions are satisfied.

SED/CED 6.2.2 If all of the above Recovery Plan entry conditions are met, then refer to and implement Section 6.3 of this procedure.

SED/CED 6.2.3 If all of the above Recovery Plan entry conditions are NOT met, then the Recovery Phase should NOT be entered.

6.3 Recovery Plan Selection

NOTES

- 1) An Unusual Event does **NOT** require any type of Recovery Plan.
- 2) The Senior Vice President and Chief Nuclear Officer determine which Recovery Plan (i.e., Short-Term or Long-Term) is appropriate, with assistance from the SED and CED.
- 3) The Long-Term Recovery Plan may be used in lieu of the Short-Term Recovery Plan, if deemed necessary by the Senior Vice President and Chief Nuclear Officer.
- 4) The TSC staff serves as the Recovery Organization, with the SED responsible for implementing the Short-Term Recovery Plan.
- 5) The SED is the position to staff the Short-Term Recovery Plan, with assistance from the CED and Attachments 1 and 2.
- 6) The SED is the position to initially implement the Short-Term Recovery Plan, with assistance from the CED.

SED/CED 6.3.1 Assist the Senior Vice President and Chief Nuclear Officer in selection of appropriate Recovery Plan.

.1 If ALL of the following conditions exist, then the Short-Term Recovery Plan should be selected:

- Post-accident conditions are uncomplicated
- Expected to be of short duration
- Highest Emergency Classification was an Alert, with no offsite consequences.

**Responsible
Position**

- SED** 6.3.2 If the Short-Term Recovery Plan has been selected, then:
- .1 Assume the Short-Term Recovery Manager position.
 - .2 Direct the TSC personnel to coordinate onsite recovery efforts.
 - .3 Request assistance from the CED and appropriate EOF personnel with Offsite actions, as appropriate.
 - .4 Refer to and implement Section 6.6 of this procedure.

SED/CED 6.3.3 If conditions for Short-Term Recovery Plan **ARE NOT MET**, then Selection of the Long-Term Recovery Plan should be made.

CED 6.3.4 Implement Section 6.4 of this procedure.

6.4 Long-Term Recovery Plan Staffing

NOTES

- 1) The Senior Vice President and Chief Nuclear Officer is required to select a Recovery Manager to oversee the Long-Term Recovery Organization, with assistance from the CED.
- 2) The Senior Vice President and Chief Nuclear Officer may add or delete Long-Term Recovery positions found in Attachment 1, depending on the situation.
- 3) The CED should be the position to staff the Long-Term Recovery Plan, with assistance from the SED, Long-Term Recovery Manager, and Attachments 1 and 2 of this procedure.

CED 6.4.1 Assist the Senior Vice President and Chief Nuclear Officer in selection of a Long-Term Recovery manager.

- CED** 6.4.2 Determine Recovery Organization as follows:
- .1 Select personnel to fill key positions in the Recovery Organization as shown in Attachment 1 of this procedure.
 - .2 Refer to responsibilities and actions in Attachment 2 of this procedure to assist in filling key positions.
 - .3 When Long-Term Recovery Manager advises that Recovery Organization key personnel have reported to their respective facilities and are ready to take turnover, then contact the SED and EGL and report that the Long-Term Recovery Organization is ready to take turnover.
 - .4 Refer to and implement Section 6.5 of this procedure.

**Responsible
Position**

6.5 Activation of the Long-Term Recovery Organization

CAUTION

The Long-Term Recovery Organization shall **NOT** take command and control from the Emergency Response Organization (ERO) until the emergency event is in a stable condition or is terminated.

- CED 6.5.1 If the emergency event is in a stable condition or is terminated, then the Recovery Organization may take command and control from the ERO.
- CED 6.5.2 Provide turnover to the Long-Term Recovery Manager and request the appropriate lead members of the recovery Organization to take turnover from ERO counterparts. Refer to Attachment 2 for ERO counterparts.
- CED 6.5.3 If Turnover is complete, then inform the SM, SED and EGL that turnover has been completed with the Long-Term Recovery Organization.
- SM, SED, EGL, CED 6.5.4 Announce the Long-Term Recovery Organization is activated upon completion of turnover to your Emergency Response Facility.
- SED, EGL, CED 6.5.5 The Emergency Response Facility Leads should inform their appropriate Emergency Response Personnel that they are no longer required and are relieved.
- LTRM 6.5.6 Refer to and implement Section 6.7.

6.6 Short-Term Recovery and Repair Plan

NOTES

- 1) The Short-Term Recovery and Repair Plan is intended to transition the site from emergency operations to normal operations. It is implemented in lieu of the Long-Term Recovery and Repair Plan if the event was uncomplicated, there were no offsite consequences and there was minimal damage to equipment and systems.
- 2) The TSC and OSC staff serves as the Recovery Organization, with the SED responsible for implementing the Short-Term Recovery and Repair Plan.
- 3) The CED and EOF emergency response staff will support the SED and coordinate any offsite actions that may be necessary during the implementation of the Short-Term Recovery and Repair Plan.
- 4) Normal procedures and processes should be used during implementation of the Short-Term Recovery and Repair Plan, where practical.

- SED 6.6.1 Implement Attachment 3, Recovery Issues Guide, and assign applicable sections to appropriate personnel.
- SED 6.6.2 Contact SM and EGL to obtain briefing of most current Plant conditions.

**Responsible
Position**

- SED** 6.6.3 Direct TSC Technical Leader to prepare damage report and plan to return equipment and systems to their normal configuration.
- SED** 6.6.4 Prepare Short-Term Recovery and Repair Plan that describes actions AND ANY additional resources necessary to return site to its normal configuration.
- SED** 6.6.5 Obtain necessary resources for implementation of Short-Term Recovery and Repair Plan.
- SED** 6.6.6 Implement Short-Term Recovery and Repair Plan.
- SED** 6.6.7 When implementation of Short-Term Recovery and Repair Plan has begun, then declare the Recovery portion of the Recovery Repair Plan complete.
- SED** 6.6.8 Oversee necessary Repair actions until the Repair Portion of the Short-Term Recovery Plan is complete.

6.7 Long-Term Recovery and Repair Plan

NOTES

- 1) The Long-Term Recovery Plan process is intended to transition the site from emergency operations to normal or long-term operations. Eventually the affected unit will restart or be placed in a long-term safe condition. The purpose of the Long-Term Recovery Plan is to make the unit safe, determine what the ultimate condition will be and implement the Long-Term Recovery and Repair Plan to achieve that condition. The Recovery Portion will be complete when the Long-Term Recovery and Repair Plan is determined and implementation has begun.
- 2) The Long-Term Recovery Manager is responsible for implementing the Long-Term Recovery Plan.
- 3) Normal procedures and processes should be used during implementation of the Long-Term Recovery and Repair Plan, where practical.

- LTRM** 6.7.1 Implement Attachment 3, Recovery Issues Guide, and assign applicable sections to appropriate personnel.
- LTRM** 6.7.2 Prepare and direct the implementation of the Long-Term Recovery and Repair Plan.
- LTRM** 6.7.3 When the Long-Term Recovery and Repair Plan is issued AND implementation has begun, then communicate with the Key Positions (refer to Attachment 1) concerning if the Recovery portion of the Long-Term Recovery and Repair Plan should be declared complete.

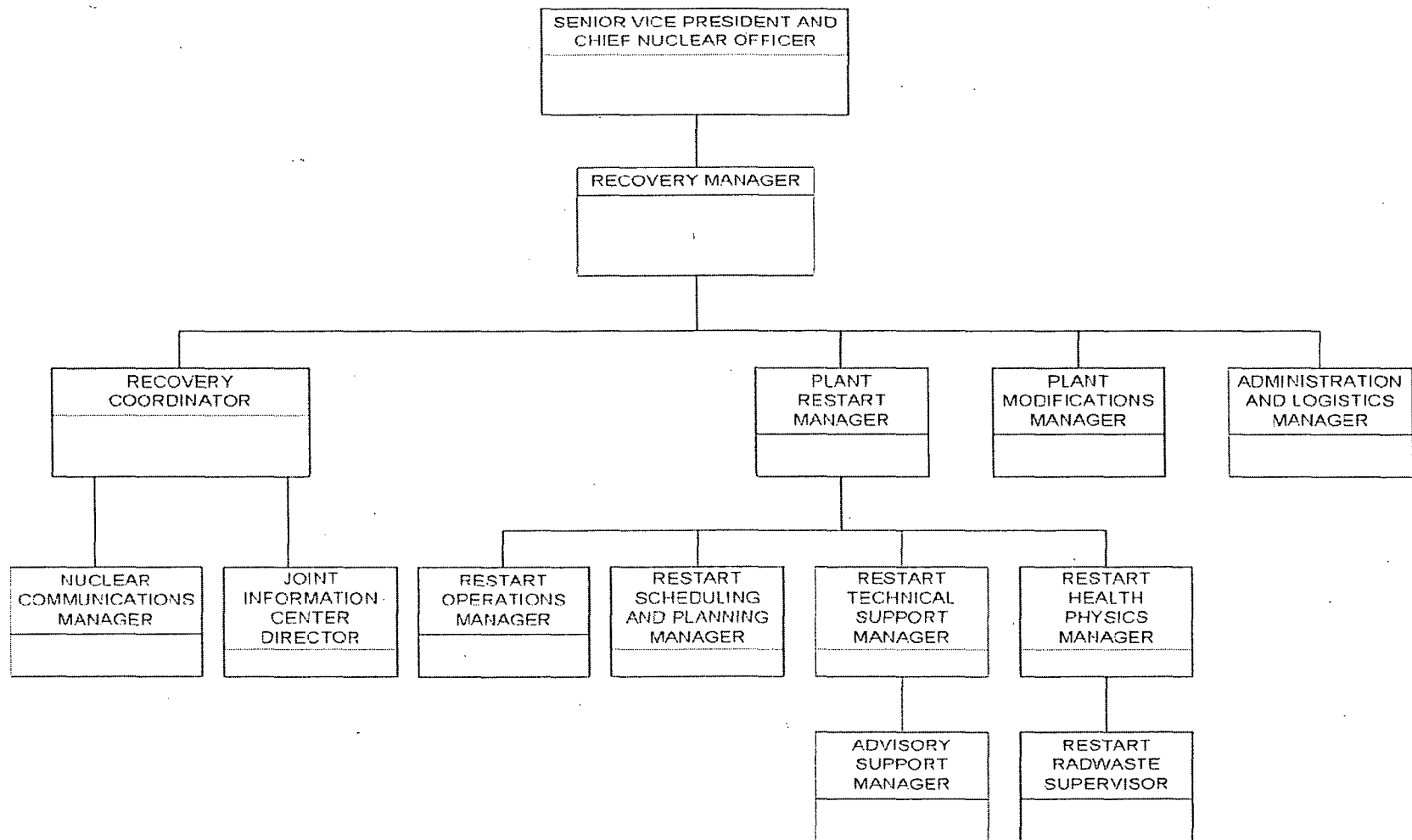
**Responsible
Position**

- LTRM** 6.7.4 *If* concurrence of the Key Positions is that the Recovery portion of the Long-Term Recovery and Repair Plan is completed, then turn all required attention and resources to the full implementation and completion of the Repair portion of the Long-Term Recovery and Repair Plan.
- LTRM** 6.7.5 *If* concurrence of the Key Positions is that the Recovery portion of the Long-Term Recovery and Repair Plan is NOT complete, then perform necessary adjustments to the Long-Term Recovery and Repair Plan and perform necessary tasks until the Recovery Portion is determined to be completed.

7.0 RECORDS

- 7.1 The Emergency Planning Manager is responsible for entering all pertinent documentation generated during the response to a declared emergency event (e.g., logs, procedures, attachments, completed forms and checklists) into the Station's record retention program in accordance with SO123-VIII-0.100.

TYPICAL RECOVERY ORGANIZATION KEY POSITIONS



**DESCRIPTION OF RECOVERY ORGANIZATION KEY POSITIONS AND
ERO COUNTERPART**

1. **Senior Vice President and Chief Nuclear Officer** **ERO Counterpart - NONE**

Responsibilities

- Implementation and coordination of recovery operations.

Action

- Select Recovery Manager and fill key Recovery Organization positions as shown in Attachment 1 of this procedure.

2. **Recovery Manager** **ERO Counterpart - SED or CED**

Responsibilities

- Senior Manager who provides oversight of the operation of the functional groups.

Action

- Ensure that activities, proposed actions and contingency plans are properly analyzed and reviewed.

3. **Plant Restart Manager** **ERO Counterpart - Operations Coordinator**

Responsibilities

- Senior Manager who provides coordination of operations, technical, radiation protection and scheduling activities.

Action

- Direct preparation of a damage report.
- Develop and implement repair plans.

4. **Restart Operations Manager** **ERO Counterpart - TSC Emergency Advisor
Operations**

Responsibilities

- Senior Manager who reports to the Plant Restart Manager. Provides oversight of operations functions in the TSC.

Action

- Provide summary report of operations concerns to the Plant Restart Manager for inclusion in the damage report.
- Coordinate operations and maintenance activities with the Control Room.

**DESCRIPTION OF RECOVERY ORGANIZATION KEY POSITIONS AND
ERO COUNTERPART (Continued)**

5. **Restart Technical Support Manager** **ERO Counterpart - TSC Technical Leader**

Responsibilities

- Senior Manager who reports to the Plant Restart Manager. Provides engineering and technical support for planning and analysis.

Action

- Obtain copies of the PMS and CFMS computer printouts of plant parameters for analysis and reconstruction of events in the plant.
- Provide a report summarizing equipment damage that occurred during the event to the Plant Restart Manager for inclusion in the damage report.
- Identify and initiate appropriate root cause analyses.

6. **Restart Health Physics Manager** **ERO Counterpart - TSC / EOF Health Physics Leader**

Responsibilities

- Senior Manager who reports to the Plant Restart Manager. Provides direction to control and limit radiological exposure to personnel. Provides oversight for the development and approval of Health Physics procedures and in-plant Health Physics management.

Action

- Develop and/or approve all new, or changes to, Health Physics procedures.
- Request Effluent Engineering assistance to calculate population exposure in accordance with the requirements of Reg. Guide 1.109, using methodologies prescribed in the Offsite Dose Calculation Manual.

7. **Restart Radwaste Supervisor** **ERO Counterpart - None**

Responsibilities

- Senior Manager who reports to Restart Health Physics Manager. Ensures that radioactive solids, liquids and gases resulting from the event are safely and effectively managed.

Action

- Develop a plan to identify and manage radioactive gases, liquids and solids that might exist during the recovery phase. This plan should include means to process contaminated solids, liquids and gases, and establish priorities based on plant needs.
- Identify and quantify contamination in buildings and systems.

**DESCRIPTION OF RECOVERY ORGANIZATION KEY POSITIONS AND
ERO COUNTERPART (Continued)**

8. **Plant Modifications Manager** **ERO Counterpart - None**

Responsibilities

- Manager who reports to the Recovery Manager. Provides oversight of engineering, design, materials and construction activities involved in plant repair and modification.

Action

- Coordinate work by SCE personnel and any contractors, including the NSSS vendor, and architects/engineers.
- Direct engineering staff in the coordination of design and construction of plant modifications.
- Report status of activities to the Recovery Manager.

9. **Recovery Coordinator** **ERO Counterpart - EOF Emergency
Planning Coordinator
TSC Manager**

Responsibilities

- Coordinator who reports to the Recovery Manager. Ensures proper implementation of the Emergency Plan, assessment of offsite consequences and serves as a point of contact for state and local governments.

Action

- Coordinate press releases and media relations through the Nuclear Communications Manager and Joint Information Center Director. Review news releases prior to release.
- Direct a review of the Emergency Plan to ensure that the recovery process is in compliance with the plan.

10. **Advisory Support Manager** **ERO Counterpart - TSC Technical Leader
and TSC Assessor**

Responsibilities

- Manager who reports to the Restart Technical Support Manager. Provides independent assessment of technical issues relating to the plant and reactor core conditions.

Action

- Identify areas where the NSSS vendor, architect/engineer or other technical consultants needed to perform independent reviews of technical issues affecting plant systems or core status. Coordinate efforts of technical resources as necessary.
- Identify where INPO resources are needed to support plant repairs and modifications.

**DESCRIPTION OF RECOVERY ORGANIZATION KEY POSITIONS AND
ERO COUNTERPART (Continued)**

11. **Restart Scheduling and Planning Manager** **ERO Counterpart - Emergency Group Leader**

Responsibilities

- Manager who reports to the Plant Restart Manager. Direct efforts to plan and schedule repair and modification work.

Action

- Set priorities, coordinate, and monitor status of tasks and work in progress by technical groups.
- Track highlights of technical group discussions with the Nuclear Regulatory Commission and report them to the Plant Restart Manager.

12. **Administration and Logistics Manager** **ERO Counterpart - EOF Admin Leader**

Responsibilities

- Manager who reports to the Recovery Manager. Oversee and direct administrative and logistic activities such as communications, staffing resources, transportation, commissary arrangements, accommodations, office space and equipment.

Action

- Identify office space needs and make arrangements as necessary, including office supplies and equipment.
- Arrange for supplementary personnel (technical and/or administrative) from other plants or contractors as requested.

13. **Nuclear Communications Manager** **ERO Counterpart - None**

Responsibilities

- Manager who reports to the Recovery Coordinator. Directs the writing and dissemination of news releases.

Action

- Direct the writing, review, approval and distribution of news releases.

**DESCRIPTION OF RECOVERY ORGANIZATION KEY POSITIONS AND
ERO COUNTERPART (Continued)**

14. Joint Information Center Director

**ERO Counterpart -
Joint Information
Center Director**

Responsibilities

- Manager who reports to the Recovery Coordinator. Provide oversight of the operations of the Joint Information Center and liaison activities with the news media. Ensure that information is timely and accurate.

Action

- Coordinate the release of information to the media with federal, state and local agencies.
- Direct the activities at the Joint Information Center.

RECOVERY ISSUES GUIDE

NOTE : The steps listed in Sections 1 through 6 should be implemented as required in whatever order that is required.

1.0 Present Activities Being Performed by the ERO

1.1 Identify ongoing ERO activities below and determine if these activities are needed to be continued.

Responsible Position	✓ CONT YES	✓ CONT NO	ACTIVITY

RECOVERY ISSUES GUIDE (Continued)

2.0 EQUIPMENT STATUS

2.1 Perform the below steps to identify Equipment Status.

Responsible Position	✓ WIP	✓ CPL	STEP	ACTIONS
			.1	Perform and Document Equipment Alignments
			.2	List and Identify Inoperable Equipment
			.3	Ensure appropriate tags are hung on equipment
			.4	Document any temporary equipment repairs or alignments
			.5	Obtain appropriate samples to verify core status, if required
			.6	Identify present cooling alignments
			.7	Document available back-up cooling alignments
			.8	Confirm condition of cooling systems
			.9	Develop a plan to transition to long term cooling, if required
			.10	Prioritize out of service equipment for restoration
			.11	Plan restoration process by milestones
			.12	Determine testing to increase and ensure equipment reliability
			.13	Determine long term resolution of temporary repairs
			.14	Request Industry expertise, as necessary
			.15	Ensure proper Quality Assurance for any repairs made during the Emergency

RECOVERY ISSUES GUIDE (Continued)

3.0 RADIOLOGICAL CONDITIONS

3.1 Perform the below steps to identify Radiological Conditions.

Responsible Position	✓ WIP	✓ CPL	STEP	ACTIONS
			.1	Perform comprehensive surveys of OCA, ISFSI and PAs
			.2	Perform comprehensive surveys of the Mesa Area
			.3	Establish survey frequency and requirements
			.4	Establish sampling frequency and requirements
			.5	Ensure require coordination to obtain liquid and/or gaseous samples
			.6	Determine if additional monitoring equipment is required
			.7	Acquire additional monitoring equipment, if found necessary
			.8	Develop Decontamination Plans
			.8.1	Units 2/3 PA Decontamination Plan
			.8.2	OCA and ISFSI Decontamination Plan
			.8.3	Mesa Decontamination Plan
			.9	Contract for large volume decontamination equipment and expertise, if necessary
			.10	Begin Bioassay Program, as required
			.11	Assessment of Total Population Exposure using methodology described in Reg. Guide 1.109
			.12	Actions to minimize radiological exposure for site personnel

RECOVERY ISSUES GUIDE (Continued)

Responsible Position	✓ WIP	✓ CPL	STEP	ACTIONS
			.13	<p>If Containment entry is necessary, <u>then</u> direct sampling of one or more of the following to assess radiological conditions inside Containment PRIOR to entry:</p> <ul style="list-style-type: none"> • Reactor Coolant • Containment Sumps • Containment Atmosphere

RECOVERY ISSUES GUIDE (Continued)

4.0 WATER MANAGEMENT ISSUES

4.1 Perform the below steps to identify Water Management Issues.

Responsible Position	✓ WIP	✓ CPL	STEP	ACTIONS
			.1	Identify Water Sources, Volumes, and activity of water inventories
			.2	Prioritize Clean-up
			.3	Verify and Evaluate condition of existing clean-up systems
			.4	Establish controls to preclude inadvertent discharges
			.5	Evaluate need to contact portable filtering systems expertise
			.6	Establish terms and restraints for control and mitigation of spills
			.7	Evaluate the need for additional onsite waste storage capability

RECOVERY ISSUES GUIDE (Continued)

5.0 RECOVERY OPERATION LOGISTICS

5.1 Perform the below steps to identify Recovery Operation Issues.

Responsible Position	✓ WIP	✓ CPL	STEP	ACTIONS
			.1	Identify additional staffing needs
			.2	Identify required regulatory and governmental interfaces
			.3	Obtain necessary damage control equipment
			.4	Assess the need for off normal/just in time training
			.5	<u>If</u> Just In Time training is required, <u>then</u> prioritize training needs
			.6	Contact appropriate NTD personnel and request training
			.7	Ensure NTD personnel are aware of required timetable
			.8	Consider restricting Site Access
			.9	<u>If</u> Site Access is to be restricted, <u>then</u> determine which specific parts of the Site are to be restricted
			.10	Order additional HP supplies to support recovery operations
			.11	Evaluate the need for additional Security personnel
			.12	Obtain additional Security personnel, if required
			.13	Evaluate the need for remote technology for inspections, surveys, and cleanup.
			.14	Obtain remote technology, if required
			.15	Evaluate the need for additional communication capabilities

RECOVERY ISSUES GUIDE (Continued)

Responsible Position	✓ WIP	✓ CPL	STEP	ACTIONS
			.16	Obtain additional communication capabilities, if required

RECOVERY ISSUES GUIDE (Continued)

6.0 DOCUMENTATION

6.1 Perform the below steps to ensure documentation is filled out properly.

Responsible Position	✓ WIP	✓ CPL	STEP	ACTIONS
			.1	Initiate required actions to complete ANY required NRC reports per SO123-0-A7, Notification and Reporting of Significant Events
			.2	Evaluate the need to create special reports to support tasks outside normal procedures
			.3	<u>If</u> new procedures or modifications of current procedures are required, <u>then</u> prioritize procedure needs
			.4	Contact appropriate Procedure Technical Writer(s) and request required procedures

CORE DAMAGE ASSESSMENT

TABLE OF CONTENTS

<u>SECTION</u>	<u>PAGE</u>
1.0 OBJECTIVES	2
2.0 REFERENCES	2
3.0 PREREQUISITES	3
4.0 PRECAUTIONS	4
5.0 CHECKLIST(S)	4
6.0 PROCEDURE	5
6.1 Preliminary Information	5
6.2 Core Damage Assessment	6
7.0 RECORDS	6
ATTACHMENTS	
1 Preliminary Information	7
2 Core Damage Assessment Using "CDAM" Computer Program	9
3 Terms and Definitions	33
4 Manual Core Damage Assessment	34
5 Projected RCS Activity After Shutdown	42
6 Containment Dose Rate with 100% Noble Gas Gap Release	45
7 Containment Atmospheric Activity with 100% Noble Gas Gap Release	46

REFERENCE USE
QA PROGRAM AFFECTING
50.59 DNA/72.48 DNA

CORE DAMAGE ASSESSMENT

1.0 OBJECTIVES

- 1.1 Provide methods for Emergency Operations Facility (EOF) and Technical Support Center (TSC) Technical Teams to estimate post-accident reactor core damage.
- 1.2 This Core Damage Assessment process is designed to assist in estimating core damage after an accident with potential clad or core damage conditions. This is done to assist in:
 - 1.2.1 Determining if fuel barriers are breached to evaluate appropriate Emergency Action Level (EAL) classification.
 - 1.2.2 Providing input on core configuration (coolable or uncoolable) for prioritization of mitigating activities.
 - 1.2.3 Determining potential quantity and isotopic mix of radiological release to project offsite doses.
 - 1.2.4 Predicting radiation protection actions that should be considered for long term recovery activities.
 - 1.2.5 Satisfying inquiries from local and federal government agencies and provide evidence the utility knows the plant conditions.

2.0 REFERENCES

2.1 Procedures

- 2.1.1 SO123-XV-109, Procedure and Instruction Format and Content |
- 2.1.2 SO123-XV-HU-3, Written Instruction Use and Adherence |
- 2.1.3 SO123-VII-20.9.5, Alternate Pre-Planned Methods for Radiation Monitors

2.2 Other

- 2.2.1 Response Technical Manual (RTM-96), VOL 1, NUREG/BR-0150 Rev. 4
- 2.2.2 Development of the Interim Procedure Guidelines for Core Damage Assessment, CE Owners Group Task 467, January 1982
- 2.2.3 Program Documentation for "P094, Assessment of San Onofre Core Damage," SCE D/P-Engineering Programming

-
- 2.2.4 Development of the Comprehensive Procedure Guidelines for Core Damage Assessment, C-E Owners Group Task 467, May 1983
 - 2.2.5 Generic Thermal-Hydraulic Functional Design Objectives for Inadequate Core Cooling Instrumentation, CE-NPSD-199, Prepared for the C-E Owner's Group
 - 2.2.6 Memorandum for File from Thomas Remick, dated August 16, 1996, Subject: Core Damage Estimation Based on Dose Rate at Containment Outside Surface (Revision 1).
 - 2.2.7 Westinghouse Owner's Group Post Accident Core Damage Methodology, Revision 2, November 1984
 - 2.2.8 Westinghouse Owner's Group Core Damage Assessment Guidance (WCAP-14696-A, Rev. 1)
 - 2.2.9 NUREG-0771. "Regulatory Impact of Nuclear Reactor Accident Source Term Assumptions", 1981
 - 2.2.10 NUREG-1228, "Source Term Estimation During Incident Response to Severe Nuclear Power Plant Accidents", October 1988
 - 2.2.11 NFM Calculation, N-4098-005, NEI 99-01 EAL's - Containment High Range Radiation Monitors

3.0 PREREQUISITES

- 3.1 Emergency Preparedness is responsible for ensuring the current copy of this Document is in the emergency notebook for use during declared emergencies and drills.
- 3.2 Personnel are responsible for ensuring they use the current copy of this Document and any issued TCN when not in a declared emergency or drill by checking the electronic document management system or by use of one of the methods described in SO123-XV-109 and SO123-XV-HU-3 (Reference 2.1.1 and 2.1.2).
- 3.3 Verify level of use requirements on the first page of the document.
- 3.4 Qualified personnel need to be authorized to use Microsoft Access.
- 3.5 Steam Tables should be available for reference by user.

4.0 PRECAUTIONS

- 4.1 Core Damage Assessment obtained by using this procedure is only an estimate.
- 4.2 Judgement must always be used when evaluating program output. It is recommended a peer checker be utilized if possible.
- 4.3 Samples should be obtained as soon as possible after an accident has been recognized and, if possible, under stabilized plant conditions.
- 4.4 Using one compartment (i.e., containment atmosphere, containment sump, or RCS) to estimate core damage may significantly underestimate actual conditions due to differing transport mechanisms.
- 4.5 Pressing the **"Quit"** button exits the program. When the program is closed all data is reset and the program saves no information to disk.
- 4.6 The purpose of the Manual Core Damage Assessment calculations found in Attachments 4 - 7 is to provide information which assists the Technical Team Emergency Response members with assessment of key plant conditions following an Alert, or higher, event. Information found in these attachments is to be evaluated to determine if it is applicable for the current conditions before use.
- 4.7 The accuracy requirement for the Manual Core Damage Assessment calculations information found in Attachments 4 - 7 is that the results produce correct Classifications and Protective Action Recommendations (PARs).
- 4.8 It is the intent of Attachments 4 - 7 to include template calculations which are accurate enough to classify events, support determination of appropriate PARs and which can be performed in a timely manner.

5.0 CHECKLISTS

- 5.1 None

6.0 PROCEDURE

CAUTION

Pressing "Quit" button exits program. When program is closed all data is reset. Program saves no information to disk; printed reports serve as record of core damage assessments.

NOTE

There are three factors considered in this procedure which are related to the specific activity of the samples:

- identity of those isotopes released from core;
- ratios of specific activity of isotopes;
- percent of source inventory at time of accident present in samples.

6.1 Preliminary Information

6.1.1 When available, obtain specific activity data from samples of the following:

- Reactor coolant
- Containment sump water
- Containment atmosphere

.1 Record RCS and Containment conditions at time samples are obtained in Attachment 1, page 1 (**Optional**).

.2 Record specific activity for isotopes listed in Attachment 1, page 2 (**Optional**).

6.2 Core Damage Assessment

CAUTION

Using one compartment (i.e., containment atmosphere, containment sump, or RCS) to estimate core damage may significantly underestimate actual conditions due to differing transport mechanisms.

NOTES

1. Manual core damage assessment calculations should be used as a back-up to core damage assessment calculations using CDAM.
2. Manual core damage assessment may be performed using Attachments 4-7.

6.2.1 Calculate core damage using one or more available methods described in CDAM User's Guide (Attachment 2).

.1 Provide all results and calculations to Technical Leader.

7.0 RECORDS

7.1 None

PRELIMINARY INFORMATION

Record of Plant Parameters

NOTE: Use of this form is optional

Date _____ Time _____ Recorded By _____

Reactor Coolant System

Pressure _____ psig

Temperature _____ °F

Vessel Level _____ %

Pressurizer Level _____ %

RCS Volume 3.14×10^8 cc

Containment Building

Pressure _____ psig

Temperature _____ °F

Sump Level _____ ft

Containment Volume 6.53×10^{10} cc

Prior 30 Days Power History

Power _____ % for (duration) _____ days, then

Power _____ % for (duration) _____ days, then

Power _____ % for (duration) _____ days, then

Power _____ % for (duration) _____ days to time of shutdown

Reactor Shutdown

Time _____ Date _____

PRELIMINARY INFORMATION

(Continued)

Record of Sample Specific Activity ($\mu\text{Ci/cc}$)

Sample Number			
Time of Analysis			
Sample Temperature ($^{\circ}\text{F}$)			
Sample Pressure (psig)			
Isotope	Reactor Coolant System	Containment Atmosphere	Containment Sump
Kr-85m			
Kr-87			
Xe-131m			
Xe-133			
I-131			
I-132			
I-133			
I-135			
Cs-136			
Rb-88			
Te-129			
Te-132			
Ba-140			
La-140			

CORE DAMAGE ASSESSMENT USING THE "CDAM" COMPUTER PROGRAM

- NOTES:** (1) CDAM program is loaded on desktop computers in EOF and TSC. CDAM is loaded on a laptop at Alternate EOF (AEOF). Users require MS ACCESS rights or a standalone version of MS ACCESS.
- (2) AEOF laptop computers should be powered by AC adaptor; internal batteries lasts for about 4 hours during use.
- (3) Additional CDAM program CDs are provided in EOF and TSC Tech Team Notebook. Program can be run by an alternate PC using CD/DVD drive by:
- (.1) Download CDAM into the PC
 - (.2) Right click on CDAM and open PROPERTIES
 - (.3) Remove check from "READ ONLY" and check "APPLY."
- (4) A Summary Form is generated by CDAM Software for use in documenting results of assessment. (Refer to Section 6.0 of this attachment.)

1.0 OVERVIEW

- 1.1 As a Windows based application designed in Access, PWR CDAM, uses many standard user interfaces. Instructions are not provided in basic computer operations in the Windows® environment. User must be familiar with these to efficiently operate program.
- 1.2 It is also assumed user is familiar with basic reactor physics and core damage fundamentals. Emergency Response Organization training will provide an overview of core damage assessment methodologies.
- 1.3 Program should be used by qualified personnel as a tool to estimate type and amount of core damage.
- 1.4 Judgement must always be used when evaluating program output.
- 1.5 Use of a peer check during data input is recommended, but not required.

CORE DAMAGE ASSESSMENT USING THE "CDAM" COMPUTER PROGRAM
(Continued)

2.0 DETERMINE APPROPRIATE AND AVAILABLE ASSESSMENT METHODS

2.1 Magnitude and type of event, transport mechanism and time after shutdown will be influencing factors on method(s) utilized to determine extent of core damage. Damage estimates can be developed using one or more methods as they become available or applicable.

2.1.1 Indications of Core Damage

.1 Primary indicators of core damage that are available during early phases of an event:

.1.1 Containment Radiation Monitor Readings

.1.2 Radiation Readings taken outside Containment

.1.3 Core Exit Thermocouple Readings

.1.4 Valid isolation of normal chemistry sample line on Hi Rad Alarm

.1.5 Containment Hydrogen Readings

2.1.2 Auxiliary indicators that are used to confirm and better define possible type of damage are:

.1 Estimation of maximum temperature reached within the core

.2 Reactor Coolant System Hot Leg Temperature

.3 Estimated core uncover time

.4 Reactor Vessel Level Indication System readings

.5 Abnormal Source Range Monitor readings

2.1.3 Long Term Indicators (once liquid or gaseous samples can be safely obtained) are:

.1 Isotopic Ratios

.2 Presence of high levels of rare isotopes

.3 Quantity of isotopes present in samples

CORE DAMAGE ASSESSMENT USING THE "CDAM" COMPUTER PROGRAM

(Continued)

- 2.2 Choose assessment method(s) most appropriate for existing conditions. Methods available for assisting in determination of extent of core damage include the following:

Method	Use	Comment
Core Exit Thermocouples	Indication of onset of Core Damage	Limited due to range of instruments. Not reliable during later phases of core overheating due to changes in core geometry.
RVLIS	Indication of Core Uncovery	Indicates possible damage not useful in estimating the quantity of damage.
Source Range Monitor	Indication of Core Uncovery	Loss of water level leads to increase in gamma detection.
Hot Leg RTDs	Indication of Core Uncovery	Only measures bulk flow through core. Hot spots in core may not be detected by core exit thermocouples.
Containment Radiation Monitor	Early Indication of Core Damage	Uncertainties due to variables in release of fission products from RCS and effects of containment sprays.
Containment Hydrogen Monitor	Early Indication of Core Damage	Significant uncertainties due to variable Hydrogen generation in core and in release of Hydrogen from RCS and effects of containment sprays.
RCS Samples and Containment Sump and Atmosphere Samples	Late Indication of Core Damage – Sump Samples provide indication of Rx Vessel Failure	Very large uncertainties until all systems have reached equilibrium. Useful in planning long term recovery.

3.0 START UP

- 3.1 The application is accessed by one of the following:
- 3.1.1 Open CDAM desktop icon on applicable dose assessment computers.
 - 3.1.2 Select RUN from 'Start Bar' and type in file path and name as follows:
 - C:\CDAM\SONGS CDAM.MDB
- 3.2 **IF** assigned Core Damage Assessment Computer cannot access application or CDAM program will not run, **THEN** Install SONGS CDAM on any computer from CDs located in TSC or EOF Tech Team Notebook. Refer to NOTE # 3 found located on page 9.

CORE DAMAGE ASSESSMENT USING THE "CDAM" COMPUTER PROGRAM
(Continued)

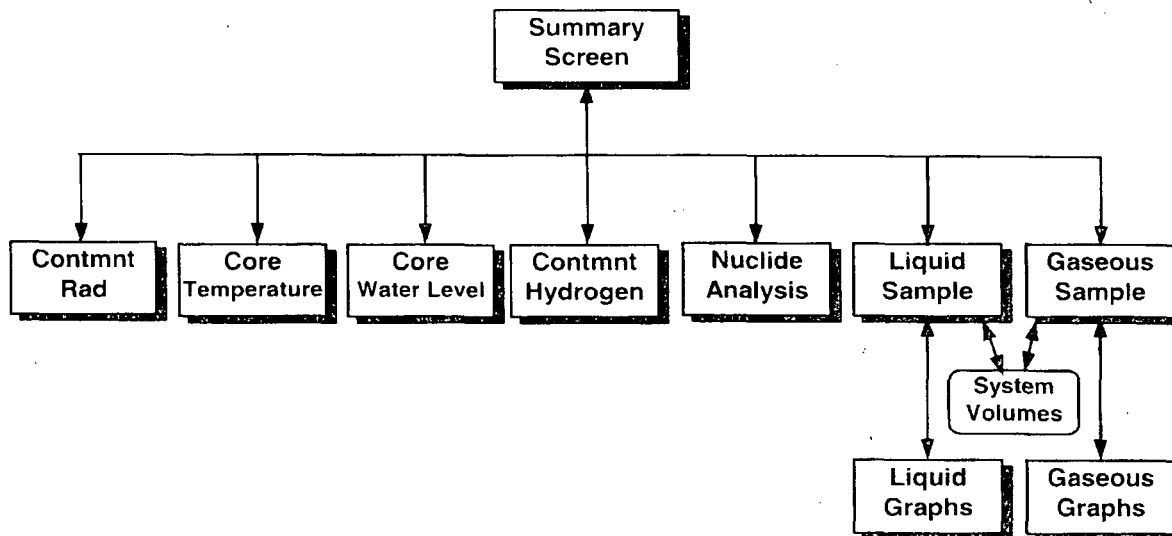
4.0 SELECTION AND PERFORMANCE OF ASSESSMENT

NOTE: Use as many appropriate indications as possible in determining extent of core damage.

- 4.1 Choose assessment method(s) most appropriate for existing conditions. Methods available for assisting in determination of extent of core damage include the following:
 - 4.1.1 Containment Radiation Monitoring Method- (Section 5.2)
 - 4.1.2 Radiation Readings Outside Containment - (Section 5.3)
 - 4.1.3 Core Temperature Method - (Section 5.4)
 - 4.1.4 Core Level Evaluations - (Section 5.5)
 - 4.1.5 Containment Hydrogen Evaluations - (Section 5.6)
 - 4.1.6 Nuclide Analyses (Section 5.7) [Ratios and Abnormal Isotopes
(Alkaline Earths, Refractories, Noble Metals, or Rare Earths)]
 - 4.1.7 Liquid Samples - (Section 5.8)
 - 4.1.8 Gaseous Samples - (Section 5.9)

CORE DAMAGE ASSESSMENT USING THE "CDAM" COMPUTER PROGRAM (Continued)

4.2 Basic Program Flow Diagram



5.0 PROGRAM SCREENS AND INPUTS

5.1 Main Screen – Summary Page

- 5.1.1 When program is started the following screen appears: (boxes are empty when program is originally launched.)

CORE DAMAGE ASSESSMENT USING THE "CDAM" COMPUTER PROGRAM
(Continued)

Core Damage Assessment Methodology - San Onofre Station

CDAM
03/03/05 v1.0

Current Date: _____

SOUTHERN CALIFORNIA EDISON

See 5.6

Print: _____ Quit: _____

See 6.1

See 7.0

See 5.9

Assessment Methods

See 5.2

Cont Rad Monitors

See 5.3

Outside Cont. Dose Rates

Core Temp

See 5.4

CEI Temps

Core Temp

Hot Leg Temp

Core Level

See 5.5

Uncovery Duration

RVLMS

Start-Up Channel Count Rate

Cont Hydrogen

Nuclide Analysis

See 5.7

Ratios

Abnormal Isotopes

Liquid Samples

See 5.8

Gas Samples

Melt

<1%

10%

<1%

50% Melt

0%

Clad

35%

>100%

8%

Clad Failure

Possible Melt

Clad Failure

No Core Damage

No Core Damage

Cladding Failure

3 of 19 Present

7%

CORE DAMAGE ASSESSMENT USING THE "CDAM" COMPUTER PROGRAM (Continued)

5.2 Containment Radiation Monitor Method

5.2.1 Pressing "**Cont Rad Monitors**" button opens the following form:

The screenshot shows the 'Containment Radiation Monitor Evaluation' form. Callouts point to the following elements:

- See 5.2.2**: Points to the 'Monitor (R/hr)' input fields.
- See 5.2.3**: Points to the 'Spray On' checkbox.
- See 5.2.4**: Points to the 'Time since S/D (hrs)' input field.
- See 5.2.5**: Points to the 'RCS Pressure (psig)' input field.
- See 5.2.6**: Points to the 'CET (deg F)' input field.
- See 5.2.7**: Points to the 'Reset Values' button.
- See 5.2.8**: Points to the 'Graph' button.
- See 5.2.9**: Points to the 'Back' button.
- See 5.2.2** (second instance): Points to the 'Core Damage Possible' status bar at the bottom.

Form Content:

Monitor (R/hr)

RE7820-1	2.00E+02
RE7820-2	1.00E+02

Note: The highest monitor reading is used for the damage assessment calculations.

Other Parameters

☐ Spray Off ☒ Spray On

Time since S/D (hrs): 2.0

RCS Pressure (psig): 1400

CET (deg F): 1200

Assessment Results

	Melt	Clad
Damage Estimate:	<1%	11%
100% Reading (R/Hr):	2.81E+05	1.21E+04
1% Reading (R/Hr):	2.81E+03	1.21E+02

Buttons: Reset Values, Graph, Back

Core Damage Possible

Preliminary results (affect of input data) are shown here

5.2.2 Highest containment radiation monitor reading which occurred is entered in these boxes. Program only lists containment high range monitors, however a reading may be entered from any monitor which accurately showed containment radiation levels. If two entries are made only the highest is used.

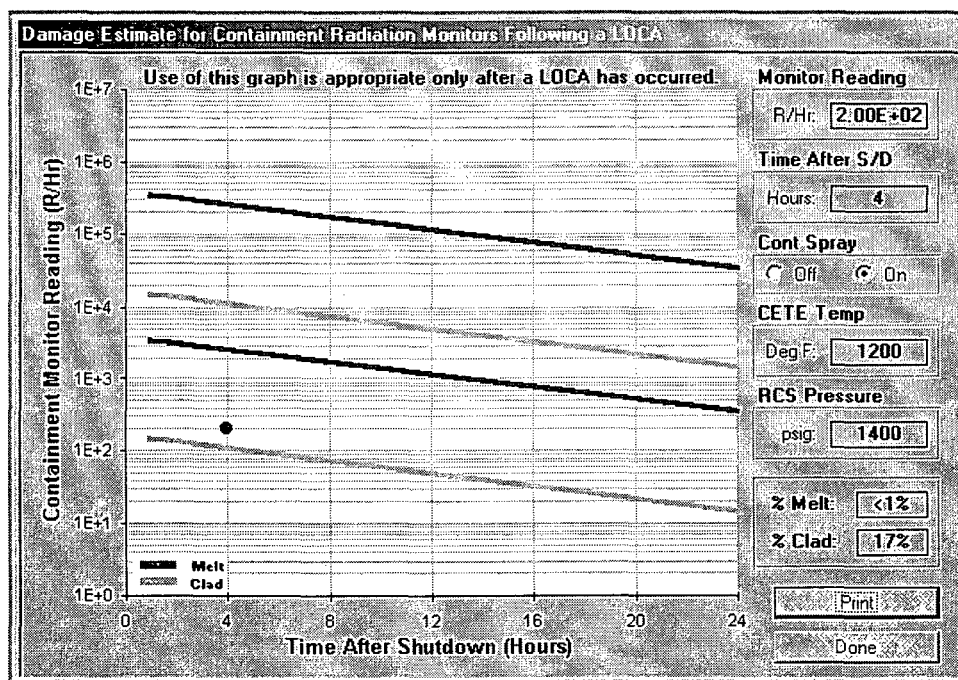
5.2.3 Containment Spray

- 1 IF Containment Spray system was operated for the majority of the time since the estimated time of onset of core damage **THEN** choose "Spray On".
- 2 IF Containment Spray system was **NOT** operated or only operated for a short period of time since the estimated time of onset of core damage **THEN** choose "Spray Off".

5.2.4 Enter time after reactor shutdown, which corresponds the time containment radiation reading was taken. Value must be between 1 hour and 24 hours after shutdown, which corresponds to time period in which this method is considered effective.

CORE DAMAGE ASSESSMENT USING THE "CDAM" COMPUTER PROGRAM (Continued)

- 5.2.5 Enter estimated Reactor Coolant System pressure at time when core damage occurred (usually same time as high CET temperatures were observed).
- 5.2.6 Enter the highest Representative Core Exit Thermocouple (REPCET) reading observed during the event.
- 5.2.7 Pressing "**Reset**" button resets values on this form only.
- 5.2.8 Pressing "**Graph**" button displays the follow screen.



- .1 Graph shows high and low containment radiation levels which correspond to 100% Melt or Clad or 1% Melt or Clad damage. A dot shows the last containment radiation level entered into the program for assessment.
 - .2 Pressing the "Print Button" will display the Print Screen.
 - .3 Press the "Print Button" again to print report of containment radiation method inputs and best estimate of damage.
- 5.2.9 Pressing "**Back**" button takes the user back to the summary screen.

CORE DAMAGE ASSESSMENT USING THE “CDAM” COMPUTER PROGRAM
(Continued)

5.3 Radiation Readings Outside Containment

NOTE: Obtain the outside Containment dose rate from HP.

5.3.1 Pressing “**Outside Cont Dose Rates**” button opens the following form:

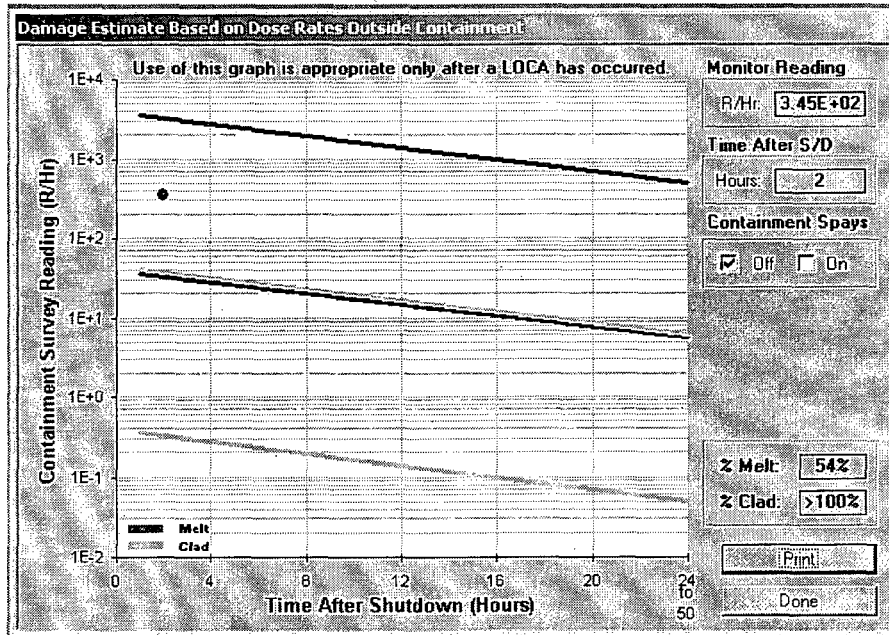
The screenshot shows a computer window titled "Outside Containment Dose Rates". It contains input fields for "Survey Reading (R/hr)" and "Time since S/D (hrs)". Below these are checkboxes for "Spray Off" (checked) and "Spray On". To the right are "Graph" and "Back" buttons. A section titled "Assessment Results" has columns for "Melt" and "Clad", with rows for "Damage Estimate", "100% Reading (R/Hr)", and "1% Reading (R/Hr)". Three callout boxes on the right point to specific fields: "See 5.3.2" points to the Survey Reading field, "See 5.3.3" points to the Graph button, and "See 5.3.4" points to the Clad column header.

Assessment Results		
	Melt	Clad
Damage Estimate:		
100% Reading (R/Hr):		
1% Reading (R/Hr):		

5.3.2 Enter the highest reading taken outside the containment at the pre-designated outside surface of Containment location.

5.3.3 Pressing “**Graph**” button displays the following screen.

CORE DAMAGE ASSESSMENT USING THE "CDAM" COMPUTER PROGRAM (Continued)



5.3.4 Pressing "Back" button takes the user back to the summary screen.

5.4 Core Temperature Methods

5.4.1 Pressing "Core Temp" button opens the following form:

CORE DAMAGE ASSESSMENT USING THE "CDAM" COMPUTER PROGRAM (Continued)

Core Temperature Evaluation

CET Temperature (in °F)

RCS Pressure (psig): 1650

Total # Operable CETs: 55

CETs > 1200 (deg F): 12

CETs > 1400 (deg F): 6

CETs > 2000 (deg F): 2

Melt 4% **Clad** 11%

Hot Leg Temperature (in °F)

Saturation Temp (deg F): 600

Hot Leg Temp (deg F): 620

Assessment Results

Possible Clad

Estimated Core Temp (in °F)

Core Temperature: 1800

Assessment Results

Between 1800°F and 2400°F. Very rapid Zirc-Water reaction. Hydrogen is released and the fuel cladding fails.

Reset Print Back

5.4.2 Core Exit Thermocouples (CETs)

1. Enter the Reactor Coolant System pressure at the time the CETs readings were taken.
2. Normally there are 56 operating CETs, however user should enter the number that were operating when temperature readings were taken. (CFMS Page 731)
3. Enter number of CETs that exceeded the listed temperatures. Program will not allow user to enter a higher number of CETs than the temperature box above it. (i.e., if only 5 CETs exceeded 1200°F there cannot be 6 exceeding 1400°F).

CORE DAMAGE ASSESSMENT USING THE "CDAM" COMPUTER PROGRAM

(Continued)

- 5.4.3 Reactor Coolant System Hot Leg temperature.
 - .1 Enter saturation temperature for RCS pressure at time of highest RCS Hot Leg temperature. Value must be looked up in steam tables. Value is limited to 650°F, which corresponds to max system pressure.
 - .2 Enter highest Hot Leg temperature observed during expected time of core damage.
- 5.4.4 Based on inputs from Reactor Operators, TSC Staff and other engineering personnel, enter the estimated highest temperature reached in the reactor core.
- 5.4.5 Pressing "**Reset**" button resets values on this form only.
- 5.4.6 Pressing "**Print**" button prints report of inputs and results of core temperature methods of core damage assessment.
- 5.4.7 Pressing "**Back**" button takes the user back to the summary screen.

CORE DAMAGE ASSESSMENT USING THE "CDAM" COMPUTER PROGRAM (Continued)

5.5 Core Level Evaluations

5.5.1 Pressing "**Core Level**" button opens the following form:

Core Level Evaluation

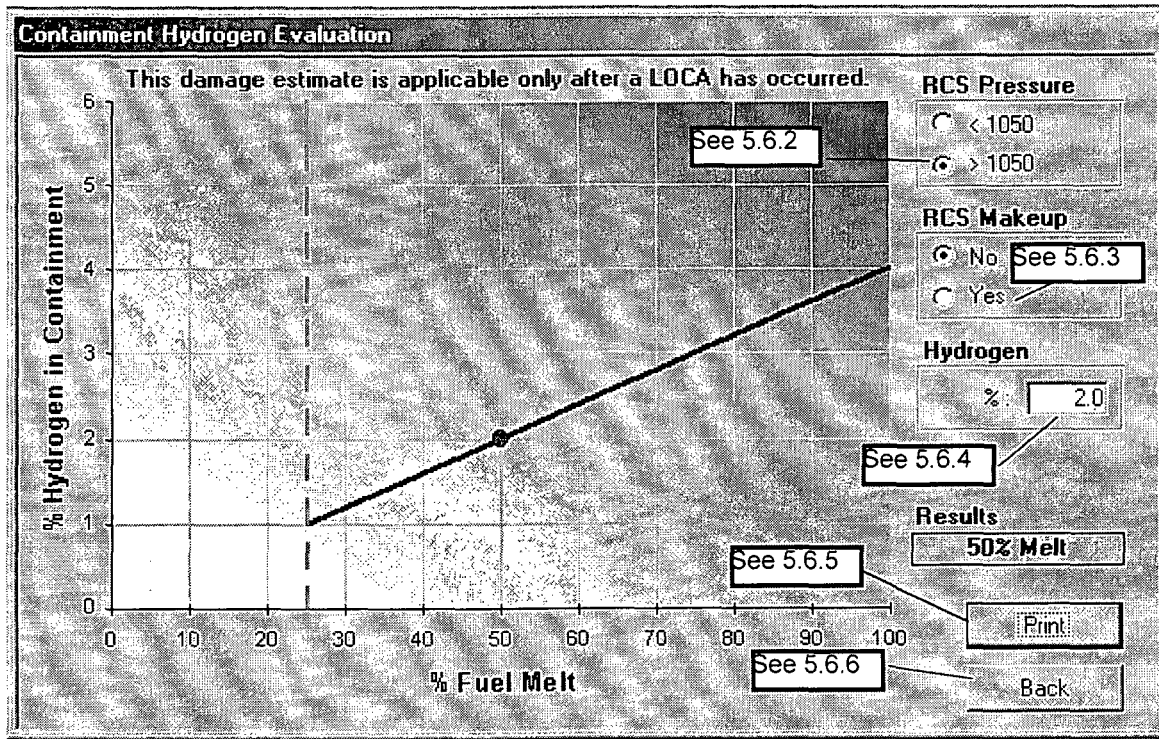
Core Uncovery Time (in Hours)	RVLIS Level (in % Plenum)	Source Range Monitor (Count Rate)
<p>3.00 2.00 1.00 0.00</p> <p>Uncovery Time: <input type="text" value="0.20"/></p> <p>Assessment Results 0 to 1/2 hour. Minimal uncovery time. No core damage is expected.</p> <p>See 5.5.2</p>	<p>If the RVLIS indicates water level below 0% Plenum on OH Scale Low, this is an indication of core uncovery. Depending how low the water level goes clad damage or fuel melt may occur.</p> <p>RVLIS < 0%: <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes</p> <p>Assessment Results The core has remained covered. Local damage may have occurred due to other events. No core damage is expected.</p> <p>See 5.5.3</p>	<p>The SRM will begin to increase as shielding (the water) is removed from the region between the core and the detector. Is the SRM reading 10x higher than the expected value?</p> <p>SRM 10x Normal: <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes</p> <p>Assessment Results SRM count rate one decade above normal is an indication of core uncovery. Clad or melt damage is possible.</p> <p>See 5.5.4</p>
		<p>See 5.5.5</p> <p>See 5.5.6</p> <p>Print Back</p>

- 5.5.2 Enter estimated time portions of the reactor core was uncovered.
- 5.5.3 Enter if the Reactor Vessel Level Indication System (RVLIS) was off-scale low or indicated below 0% Plenum.
- 5.5.4 Check if the Source Range Monitoring system indicated abnormally high readings during the event (i.e., 1 decade above normal reading).
- 5.5.5 Pressing "**Print**" button prints report of inputs and results of core level methods of core damage assessment.
- 5.5.6 Pressing "**Back**" button takes user back to summary screen.

CORE DAMAGE ASSESSMENT USING THE "CDAM" COMPUTER PROGRAM (Continued)

5.6 Containment Hydrogen Evaluations

5.6.1 Pressing "**Cont Hydrogen**" button opens the following form:



5.6.2 Choose the estimated Reactor Coolant System (RCS) pressure at the time core damage was occurring.

5.6.3 RCS Makeup:

1. Choose "**No**" if no or little water was added to the RCS system during the time period core damage was occurring.
2. Choose "**Yes**" if water was added to the RCS during the time core damage was occurring or prior to the time a Large Leak occurred from the RCS into the containment structure.

5.6.4 Enter highest containment hydrogen level measured. H₂ monitoring equipment is only accurate within a ± 1 % range so no damage is reported until level reaches at least 1 %. Range of instrument is 0 – 10 %.

5.6.5 Pressing "**Print**" button prints report of inputs and results of core level methods of core damage assessment.

CORE DAMAGE ASSESSMENT USING THE "CDAM" COMPUTER PROGRAM (Continued)

5.6.6 Pressing "**Back**" button takes the user back to the summary screen.

5.7 Nuclide Analysis

5.7.1 Pressing "**Nuclide Analysis**" button opens the following form:

Ratio Comparison/Abnormal Nuclide Identification

Time Since Shutdown (hours) See 5.7.2

Noble Gas	Activity	Melt	Sample	Clad
Xe-133	1.00E+00	1.0	1.0	1.0
Kr-85m	2.00E-02	0.11	> 0.11	0.022
Kr-87	1.00E-01	0.22	> 0.22	0.022
Kr-88	3.30E-01	0.29	> 0.29	0.045
Xe-131m	2.20E-01	0.04	> 0.04	0.004
Xe-133m	2.20E-02	0.14	< 0.096	0.096
Xe-135	2.20E-01	0.19	> 0.19	0.051

Halogens	Activity	Melt	Sample	Clad
I-131	3.33E+03	1.0	1.0	1.0
I-132	2.00E-01	1.46	< 0.127	0.127
I-133	2.00E-03	2.09	< 0.685	0.685
I-134	2.20E+01	2.30	> 2.30	0.155
I-135	1.10E+01	1.97	< 0.364	0.364

Visible Isotopes

Analyzed: ☐ No ☒ Yes See 5.7.4

Alkaline Earths

☒ Sr ☐ Br

Refractories

☒ Zr ☐ Nb

Noble Metals

☐ Ru ☐ Rh ☐ Pd

☒ Mo ☐ Tc

Rare Earths

☐ Y ☐ La ☐ Ce

☐ Nd ☐ Eu ☐ Pm

☒ Sm ☐ Np ☐ Pr

☐ Pu

See 5.7.3.1 points to Noble Gas table. See 5.7.3.2 points to Halogens table.

5.7.2 Enter the time since reactor shutdown when sample was taken.

5.7.3 If the ratio is greater than predicted melt ratio, melt damage is predicted. If less than clad ratio, clad damage is predicted.

.1 Noble Gases are ratioed to Xe-133.

.2 Halogens are ratioed to I-131.

5.7.4 **IF** abnormal levels of rare isotopes are present **THEN** check yes **AND** check which isotopes are present.

CORE DAMAGE ASSESSMENT USING THE "CDAM" COMPUTER PROGRAM

(Continued)

5.8 Liquid Samples

5.8.1 Pressing "Liquid Samples" button opens the following form:

The screenshot shows the 'Liquid Sample Evaluation' form with the following sections and callouts:

- Sample Type/Location** (See 5.8.2):
 - ☒ I-131 (Short Lived) ☐ Cs-137 (Long Lived)
 - ☒ Reactor/Coolant System ☐ Containment Sump (See 5.8.3)
 - ☐ Both Reactor Coolant and Sump
- Sample Information** (See 5.8.4):
 - Activity (μCi/ml): (RCS)
 - Time After S/D (hr):
 - RCS and Sump in Equilibrium: ☒ Yes ☐ No
- Power History** (See 5.8.5):

# of Days in Period	Avg Power (%)
<input type="text" value="800"/>	<input type="text" value="100"/>
- % Damage Estimates** (See 5.8.6):

	Melt	Clad
Highest:	<input type="text" value="9"/>	<input type="text" value="12"/>
Best:	<input type="text" value="0"/>	<input type="text" value="1"/>
Lowest:	<input type="text" value="1"/>	<input type="text" value="8"/>
- Buttons** (See 5.8.7, 5.8.8, 5.8.9):
 - Calculate (See 5.8.6)
 - Volumes (See 5.8.7)
 - Graphs (See 5.8.8)
 - Back (See 5.8.9)

5.8.2 Select appropriate isotope.

NOTE: A volume entry must be made for sump volume, Before you can choose "Containment Sump" or "Both Reactor Coolant and Sump." Refer to see 5.8.7.

5.8.3 Select sample location. If samples are available from both locations select both.

5.8.4 Enter sample activity(s) and Time After S/D that samples were taken.

5.8.5 Enter power history of core since last refueling. Shutdown times are entered as the number of days with Ave Power (%) set at 0 (zero).

.1 For short-lived isotopes power history should extend at least 30 days.

.2 For long-lived isotopes power history should extend at least 100 days, however the power history for the extent of the cycle is preferred.

CORE DAMAGE ASSESSMENT USING THE "CDAM" COMPUTER PROGRAM (Continued)

- 5.8.5.3 Variations in steady state power should be limited to $\pm 20\%$ within each operational period entered.
- 5.8.6 Once all data has been entered pressing the "Calculate" button will display the % Damage Estimates.
- 5.8.7 Pressing "Volumes" button displays the following screen:

System Volumes

Reactor Coolant System - RCS (ml): 2.46E+08 See 5.8.7.1

Containment Atmosphere (cc): 7.82E+10 See 5.8.7.2

ECCS Used: ☐ No ☒ Yes Cont Sump (ml): 2.65E+07

RWST Added See 5.8.7.3

% Initial: 100 See 5.8.7.4

% at Sample: 100

Added (cc): 0.00E+00

Other Sources Added

Gallons Added: 0.00E+00 See 5.8.7.6

Added (ml): 0.00E+00

Safety Injection Tanks See 5.8.7.5

No. Used: 1

Added (cc): 2.65E+07 See 5.8.7.7

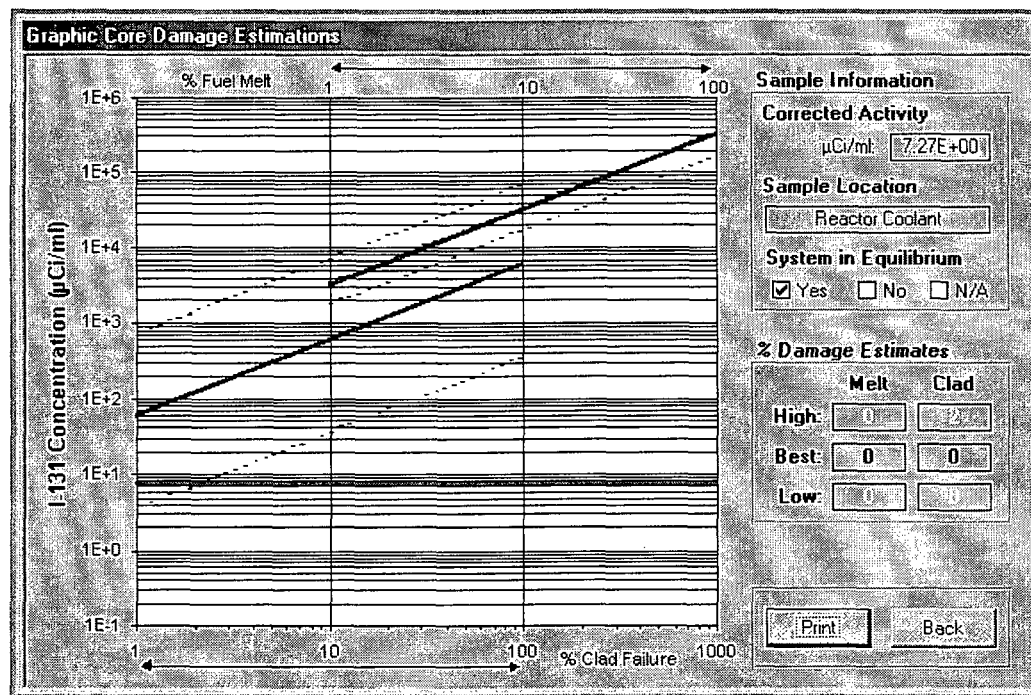
See 5.8.7.8

Reset Print Back

- .1 Program enters default RCS volume, which the user may change based on RVLIS Readings and Pressurizer level at time of sample.
- .2 Program enters default Containment free air volume which user may change based on containment sump level at time of sample.
- .3 Program assumes Containment Sump volume is 0 unless there has been an activation of the Emergency Core Cooling System (ECCS). Checking yes allows user to estimate Containment Sump volume.

CORE DAMAGE ASSESSMENT USING THE "CDAM" COMPUTER PROGRAM (Continued)

- 5.8.7.4 The change in level of the Refueling Water Storage Tank (RWST) determines amount of water in Containment Sump from this source.
- .5 The number of Safety Injection Tanks (SITs) that have injected into the RCS determines amount of water in Containment Sump from this source.
- .6 User may enter other sources of water added during an event. (such as fire main, secondary water, potable water, etc.).
- .7 Pressing "**Reset**" button resets all volumes to default values.
- .8 Pressing "**Back**" button takes the user back to the Liquid or Gaseous screen, which user used to call volume form.
- 5.8.8 Pressing "**Graph**" button displays the following screen:



- .1 Graph shows High, Low, and Best melt curves; High, Low, and Best clad damage curves, and a red line across graph indicating entered corrected sample activity.

CORE DAMAGE ASSESSMENT USING THE "CDAM" COMPUTER PROGRAM

(Continued)

- 5.8.8.2 User can select "Print" button to print graph and summary of inputs or press "Back" button to go back to liquid or gaseous form which called this form.
- 5.8.9 Pressing "**Back**" button again takes the user back to the summary screen.

CORE DAMAGE ASSESSMENT USING THE "CDAM" COMPUTER PROGRAM (Continued)

5.9 Gaseous Samples

5.9.1 Pressing "Gas Samples" button opens the following form:

The screenshot shows the 'Gaseous Sample Evaluation' form. It is divided into several sections:

- Sample Type:** Radio buttons for 'Xe-133 (Short Lived)' and 'Kr-85 (Long Lived)'. A callout 'See 5.9.2' points to this section.
- Sample Information:** Fields for 'Activity (µCi/cc)', 'Time After S/D (hr)', 'System Press (psig)', 'System Temp (°F)', 'Sample Press (psig)', and 'Sample Temp (°F)'. A callout 'See 5.9.3' points to this section.
- Power History:** A table with columns '# of Days in Period' and 'Avg Power (%)'. A callout 'See 5.9.4' points to this section.
- % Damage Estimates:** Fields for 'Highest', 'Best', and 'Lowest' damage estimates, with sub-sections for 'Melt' and 'Clad'. A callout 'See 5.9.5' points to this section.
- Buttons:** 'Calculate', 'Volumes', 'Graphs', and 'Back'. Callouts 'See 5.9.6', 'See 5.9.7', and 'See 5.9.8' point to these buttons.

5.9.2 **Select** appropriate isotope.

5.9.3 **Enter** Sample Information:

- .1 Enter sample activity for selected isotope.
- .2 Enter Time After S/D that sample was taken.
- .3 Enter the pressure and temperature of the system sampled.
- .4 Enter the end pressure and temperature of sample.

5.9.4 **Enter** power history of core since last refueling. Shutdown times are entered as the number of days with Ave Power (%) set at 0 (zero).

- .1 For short-lived isotopes power history should extend at least 30 days.
- .2 For long-lived isotopes power history should extend at least 100 days, however the power history for the extent of the cycle is preferred.

CORE DAMAGE ASSESSMENT USING THE "CDAM" COMPUTER PROGRAM (Continued)

- 5.9.4.3 Variations in steady state power should be limited to $\pm 20\%$ within each operational period entered.
- 5.9.5 Once all data has been entered pressing the "Calculate" button will display the % Damage Estimates.
- 5.9.6 Pressing "Volumes" button displays the follow screen (Same as 5.8.7):

System Volumes

Reactor Coolant System - RCS (ml): 2.46E+08

Containment Atmosphere (cc): 7.82E+10

ECCS Used: ☐ No ☒ Yes Cont Sump (ml): 2.65E+07

RWST Added

% Initial: 100

% at Sample: 100

Added (cc): 0.00E+00

Safety Injection Tanks

No. Used: 1

Added (cc): 2.65E+07

Other Sources Added

Gallons Added: 0.00E+00

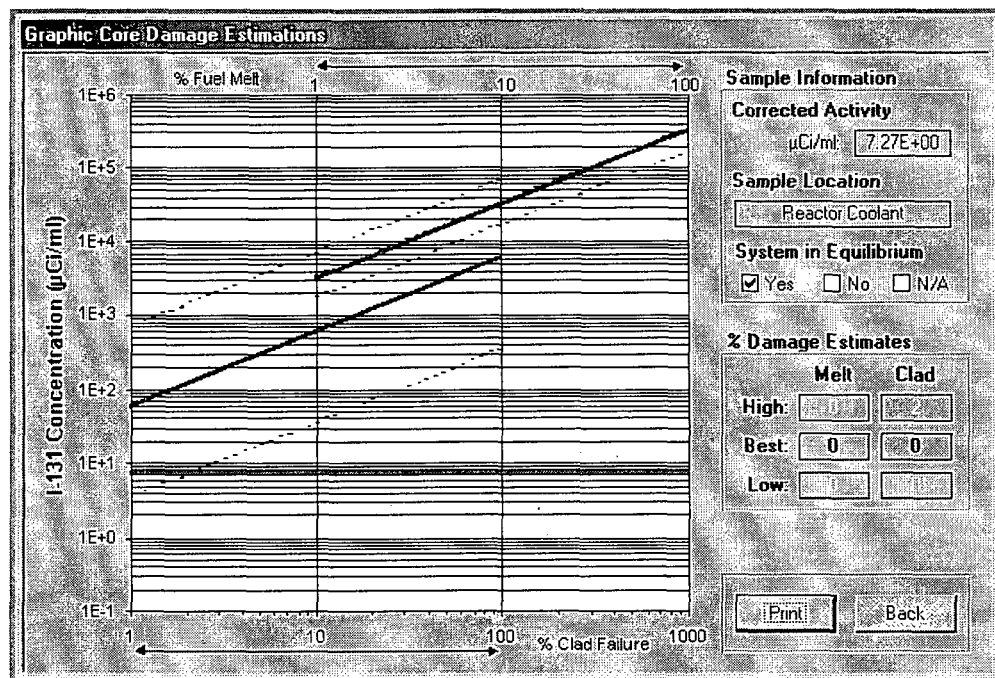
Added (ml): 0.00E+00

Reset Print Back

- .1 Program enters default RCS volume, which the user may change based on RVLIS Readings and Pressurizer level at time of sample.
- .2 Program enters default Containment free air volume which user may change based on containment sump level at time of sample.
- .3 Program assumes Containment Sump volume is 0 unless there has been an activation of the Emergency Core Cooling System (ECCS). Checking yes allows user to estimate Containment Sump volume.

CORE DAMAGE ASSESSMENT USING THE "CDAM" COMPUTER PROGRAM (Continued)

- 5.9.6.4 The change in level of the Refueling Water Storage Tank (RWST) determines amount of water in Containment Sump from this source.
- .5 The number of SITs that have injected into the RCS determines amount of water in Containment Sump from this source.
- .6 User may enter other sources of water added during an event. (such as fire main, secondary water, potable water, etc.).
- .7 Pressing "**Reset**" button resets all volumes to default values.
- .8 Pressing "**Back**" button takes the user back to the Liquid or Gaseous screen, which user used to call volume form.
- 5.9.7 Pressing "**Graph**" button displays the following screen:



- .1 Graph shows High, Low, and Best melt curves; High, Low, and Best clad damage curves, and a red line across graph indicating entered.

CORE DAMAGE ASSESSMENT USING THE "CDAM" COMPUTER PROGRAM

(Continued)

- 5.9.7.2 User can select "Print" button to print graph and summary of inputs or press "Back" button to go back to liquid or gaseous form which called this form.
- 5.9.8 Pressing "**Back**" button again takes the user back to the summary screen.

6.0 CORE DAMAGE SUMMARY REPORT

- 6.1 Once the program user enters data for all available assessment methods and the program calculates damage based on inputs, **SELECT** the "**Print**" button to print a summary of all methods used.
 - 6.1.1 A sample report is shown on the next page.
 - 6.1.2 Individual tasked with assessing core damage shall then analyze report to determine best estimate of type and amount of damage.

7.0 QUITTING OR EXITING THE PROGRAM

CAUTION

Pressing the "**Quit**" button exits the program. When the program is closed all data is reset. Program saves no information to disk; printed reports serve as record of core damage assessments.

- 7.1 Pressing the "Quit" button on the Summary Screen exits the program.
 - 7.1.1 When the program is closed all data is reset.
 - 7.1.2 Program saves no information to disk; printed reports serve as record of core damage assessments.

CORE DAMAGE ASSESSMENT USING THE "CDAM" COMPUTER PROGRAM
(Continued)

SAMPLE SUMMARY REPORT

CDAM Method:		Core Damage Summary	
Assessment Methods:		Melt	Clad
Containment Radiation*	High Range Monitors:	<1%	<1%
		CRM/CET Mismatch	
Outside Containment Dose Rates:		46%	>100%
Core Temperatures	CET Temps:	< 1%	7%
Core Temp:		Clad Failure	
Hot Leg Temp:		Possible Clad	
Core Levels	Core Uncovery Time:	No Core Damage	
RVLMS:		Possible Clad or Melt	
Start-Up Channel Count Rate:		No Core Damage	
Containment Hydrogen*	No Core Melt		
Sample Analysis	Ratios:	Cladding Failure	
Abnormal Isotopes:		3 of 19 Present	
RCS: Liquid Samples:		0%	4%
Gas Samples:		0%	23%

* These methods should NOT be used for qualitative or quantitative assessment except in the case of a LOCA.

Analyst's Estimate:

<input type="checkbox"/> No Core Damage	<input type="checkbox"/> Cladding Failure	<input type="checkbox"/> Fuel Melt	Amount: <input style="width: 50px;" type="text"/>
Comments:			

Generated By: _____ **Date:** 03/03/05 **Time:** 8:08 AM

Core Damage Summary SONGS CDAM v1.0

EXAMPLE

TERMS AND DEFINITIONS

1.0 Core Damage - a term used to qualify and quantify core state and amount of damage.

A. Cladding Failure

1. Also referred to as "Cladding Oxidation", "Gap Release" or "Clad Rupture" in other documents.
2. One hundred percent (100%) clad failure refers to rupture of 100% of the fuel rods in the core. This would result in all fission products contained in gap space being released to reactor coolant system.

B. Fuel Melt

1. Referred to as "Core Melt" "In-Vessel Melt" or "Over-temperature" damage in reference documents.
2. One hundred percent (100%) fuel melt refers to high temperatures in fuel pellets of 100% of the fuel rods in the core. This would result in all fission products contained in fuel pellet matrix being released to reactor coolant system.

C. Vessel Melt-Through:

1. Referred to as "Ex-Vessel Melt" or "Melt Release" in reference documents.
2. Core debris is relocated to containment building where reactor pressure vessel has failed.

MANUAL CORE DAMAGE ASSESSMENT

SECTION 1: Qualitative Assessment of Fuel Condition

UNIT: _____

DATE/TIME: _____ / _____

A. Normal Fuel Clad Condition

Check if Present

1. Less than 3 uCi/cc noble gas (Xe-133) in coolant or less than 1000 Ci noble gas (Xe-133) available for release _____
2. Containment atmosphere less than 2 R/hr during Large Break Loss Of Coolant Accident (LBLOCA) _____

B. RCS Activity Near Technical Specification Limits

1. Near Technical Specification Limits < 1.0 uCi/gm and gross specific activity < 100/E uCi/gm. _____
2. Containment atmosphere around 20 R/hr LBLOCA _____
3. Greater than 10 mR/hr of Main Steam Line (MSL) for each 100 gpm of Steam Generator Tube Rupture (SGTR) leakage (Post Reactor Trip: i.e. assumes no N16 contribution) _____

C. Iodine Spike is a Potential Cause for Above Normal RCS Activity

1. The affected Core had a known fuel pin leak prior to event _____

D. RCS Activity "Equivalent" to Approximately 1 % Clad Gap Release

1. Greater than 300 uCi/cc DEI in coolant _____
2. Greater than 100 R/hr in containment around 1 hour after the clad damage and LBLOCA with Containment Spray in operation _____
3. Greater than 3 R/hr on MSL for each 100 gpm of Primary to Secondary Leakage (without N16) _____
4. RCS normal sample valve isolated automatically _____

MANUAL CORE DAMAGE ASSESSMENT (continued)

SECTION 1: Qualitative Assessment of Fuel Condition (continued)

	<u>Check if Present</u>
E. <u>Clad Damage Suspected As Cause for Above Normal RCS Activity</u>	
1. Sheared Reactor Coolant Pump Shaft	_____
2. Ejected CEA	_____
3. Excess Steam Demand (FW or Steam Line Break) with loss of AC leading to RCP coast down prior to reactor trip	_____
4. Mechanical / Handling event	_____
5. ATWS Event and Core Protection Calculator(s) show DNBR trip	_____
6. Greater than 100X Iodine Spike indicated by sample results	_____
7. Fuel uncovered for about 10 minutes or more	_____
8. Core Exit Thermocouple (CET) > 1300 degrees Fahrenheit	_____
9. CET > 1800 degrees Fahrenheit (Zircaloy/Water reaction could exist)	_____
10. Containment H2 concentration >1%	_____
 F. <u>Fuel Melt Suspected as Cause for Above Normal RCS Activity</u>	
1. Fuel uncovered for about 30 minutes or more	_____
2. CET > 2400 degrees Fahrenheit	_____
3. Isotopes of Te, Sb, Ba, Sr, Ru, La present in coolant	_____
 G. <u>Conclusion</u>	<u>Circle One</u>
Fuel condition and RCS activity are within normal levels	<u>YES / NO</u>
Elevated RCS activity consistent with an iodine spike	<u>YES / NO</u>
Clad damage suspected as cause for elevated RCS activity	<u>YES / NO</u>
Fuel melt suspected	<u>YES / NO</u>

MANUAL CORE DAMAGE ASSESSMENT (continued)

SECTION 2: Core Damage Estimate Based on Projections for RCS Activity

NOTE

This method is available for decay times up to 20 hours

A. Obtain RCS or Containment Sump sample results

B. Determine Decay Time

Decay Time = (Sample Collection Time) minus (Reactor Trip Time)

Reactor Trip Time = _____

Sample Collection Time = _____

Decay Time = _____

C. Use appropriate tables found in Attachment 5 to determine if the sample analysis indicates FSAR Normal, Gas Gap, or Fuel Pellet Inventory activity

D. **Conclusion**

Circle One

Fuel condition and RCS activity are within FSAR normal levels

YES / NO

Clad gas gap release has occurred (refer below)

YES / NO

Fuel melt / Fuel release to coolant has occurred (refer below)

YES / NO

Fuel Condition = _____ % **Clad Gas / Fuel** Release to Coolant
(Enter Estimated Value) (Circle Clad Gas or Fuel)

Comments: _____

MANUAL CORE DAMAGE ASSESSMENT (continued)

SECTION 3: Core Damage Estimate Based on Projections for Containment Noble Gas Activity

NOTE

This method is available for decay times up to 24 hours.

A. Obtain containment atmosphere noble gas sample results and document below:

Xe-133 = _____ uCi/cc

Xe-135 = _____ uCi/cc

Kr-88 = _____ uCi/cc

Kr-85m = _____ uCi/cc

B. Determine Decay Time

Decay Time = (Sample Collection Time) minus (Reactor Trip Time)

Reactor Trip Time = _____

Sample Collection Time = _____

Decay Time = _____

C. From Attachment 7, estimate the containment atmosphere 100% noble gas activity and document below:

Xe-133 = _____ uCi/cc

Xe-135 = _____ uCi/cc

Kr-88 = _____ uCi/cc

Kr-85m = _____ uCi/cc

MANUAL CORE DAMAGE ASSESSMENT (continued)

SECTION 3: Core Damage Estimate Based on Projections for Containment Noble Gas Activity
(continued)

- D. Divide the activity (from Section A) by the estimated containment atmosphere 100% noble gas activity (from Section C). The result is the estimate for clad gas gap release. Document below:

Xe-133 Clad Release % _____ = $\frac{(\text{Section A})}{(\text{Section C})}$ (100%)

Xe-135 Clad Release % _____ = $\frac{(\text{Section A})}{(\text{Section C})}$ (100%)

Kr-88 Clad Release % _____ = $\frac{(\text{Section A})}{(\text{Section C})}$ (100%)

Kr-85m Clad Release % _____ = $\frac{(\text{Section A})}{(\text{Section C})}$ (100%)

E. Conclusion

Circle One

Fuel condition and RCS activity are within FSAR normal levels **YES / NO**

Clad gas gap release has occurred (refer below) **YES / NO**

Fuel Condition = _____ % Clad Gas release to Coolant
(Enter Average of Section D)

Comments: _____

MANUAL CORE DAMAGE ASSESSMENT (continued)

SECTION 4: Core Damage Estimate Based on Projections for Containment Dose Rate

NOTE

This method outlined below is available for decay times up to 24 hours

- A.** Obtain Containment High Range Radiation monitor values and document below:

RE7820 A = _____ mR/hr

RE7820 B = _____ mR/hr

Average RE7820 values = _____ mR/hr

- B.** Determine Decay Time

Decay Time = (Time Containment High Range monitor value obtained) minus (Reactor Trip Time)

Reactor Trip Time = _____

Sample Collection Time = _____

Decay Time = _____

- C.** From Attachment 6, determine the expected radiation monitor response to 100% noble gas activity and document below:

Expected 2/3RT7820 value with 100% noble gas = _____ mRem/hr

- D.** Divide the average value (from Section A) by the Expected value for 100% noble gas activity (from Section C). The result is the estimate for clad gas gap release. Document below:

Clad Release % _____ = $\frac{(\text{Section A})}{(\text{Section C})} (100\%)$

MANUAL CORE DAMAGE ASSESSMENT (continued)

SECTION 4: Core Damage Estimate Based on Projections for Containment Dose Rate
(continued)

E. Conclusion

Circle One

Fuel condition and RCS activity are within normal levels

YES / NO

Clad gas gap release has occurred (refer to value in Section D)

YES / NO

Comments:

MANUAL CORE DAMAGE ASSESSMENT (continued)

SECTION 5: Core Damage Estimate Based on Other Indications

NOTE

Any of the indications listed below would be considered a challenge to the fuel clad barrier.

- A. Normal Sample System isolates during RCS sampling due to a valid alarm on 2/3RE7838 or 2/3RE7839.
- B. High containment radioactivity levels indicated by:
2(3)RE7820-1(2) Containment High Range 100 R/hr with Containment Sprays
OR
500 R/hr without Containment Sprays
- C. Radiation levels detected outside of containment at the Emergency Radiation Monitoring System (ERMS) locations > 0.07 mR/hr above background with Containment Spray
OR
> 0.35 mR/hr above background without Containment Sprays
- D. Main Steam Line Radiation Monitor 2(3)RE7874A(B) indicating > 50 mR/hr

Comments: _____

PROJECTED RCS ACTIVITY AFTER SHUTDOWN

FSAR NORMAL ACTIVITY (μCi/cc) NOTE: These Values correspond to approximately 0.12% Clad Damage

Hours After Trip	0	1	2	3	4	6	8	10	12	16	20
Kr-85	1.50E-01	1.50E-01	1.50E-01	1.50E-01	1.50E-01	1.50E-01	1.50E-01	1.50E-01	1.50E-01	1.50E-01	1.50E-01
Kr-85m	2.20E-01	1.88E-01	1.61E-01	1.38E-01	1.18E-01	8.70E-02	6.38E-02	4.68E-02	3.44E-02	1.85E-02	9.97E-03
Kr-87	6.00E-02	3.48E-02	2.02E-02	1.17E-02	6.79E-03	2.28E-03	7.67E-04	2.58E-04	8.68E-05	9.81E-06	1.11E-06
Kr-88	2.00E-01	1.57E-01	1.23E-01	9.67E-02	7.59E-02	4.67E-02	2.88E-02	1.77E-02	1.09E-02	4.14E-03	1.57E-03
Xe-131m	1.10E-01	1.10E-01	1.09E-01	1.09E-01	1.09E-01	1.08E-01	1.08E-01	1.07E-01	1.07E-01	1.06E-01	1.05E-01
Xe-133	1.80E+01	1.79E+01	1.78E+01	1.77E+01	1.76E+01	1.74E+01	1.72E+01	1.71E+01	1.69E+01	1.65E+01	1.62E+01
Xe-135	3.50E-01	3.40E-01	3.29E-01	3.18E-01	3.06E-01	2.82E-01	2.57E-01	2.33E-01	2.11E-01	1.69E-01	1.34E-01
Xe-135m	1.30E-02	3.12E-02	2.95E-02	2.66E-02	2.40E-02	1.94E-02	1.58E-02	1.28E-02	1.04E-02	6.81E-03	4.48E-03
I-131	4.56E-01	4.54E-01	4.53E-01	4.51E-01	4.49E-01	4.46E-01	4.43E-01	4.40E-01	4.37E-01	4.31E-01	4.24E-01
I-132	1.08E-01	7.97E-02	5.89E-02	4.35E-02	3.21E-02	1.75E-02	9.54E-03	5.20E-03	2.84E-03	8.43E-04	2.51E-04
I-133	5.28E-01	5.11E-01	4.94E-01	4.78E-01	4.62E-01	4.33E-01	4.05E-01	3.79E-01	3.55E-01	3.11E-01	2.72E-01
I-134	4.88E-02	2.21E-02	1.00E-02	4.53E-03	2.05E-03	4.21E-04	8.64E-05	1.77E-05	3.64E-06	1.53E-07	6.44E-09
I-135	2.26E-01	2.04E-01	1.83E-01	1.65E-01	1.49E-01	1.20E-01	9.77E-02	7.92E-02	6.42E-02	4.22E-02	2.78E-02
TOTAL NOBLE GAS	1.91E+01	1.89E+01	1.87E+01	1.86E+01	1.84E+01	1.81E+01	1.79E+01	1.76E+01	1.74E+01	1.70E+01	1.66E+01
TOTAL IODINE	1.37E+00	1.27E+00	1.20E+00	1.14E+00	1.09E+00	1.02E+00	9.55E-01	9.03E-01	8.59E-01	7.84E-01	7.24E-01
DEI	5.53E-01	5.47E-01	5.42E-01	5.37E-01	5.32E-01	5.23E-01	5.15E-01	5.06E-01	4.99E-01	4.84E-01	4.71E-01

IODINE SPIKE ACTIVITY INDUCED BY MSLB EVENT W/PRE-EVENT TECH SPEC IODINE ACTIVITY (1.0 μCi/gm DEI) NOTE: For SGTR Event Multiply Post Trip (t>0) Iodine Values By 0.67

Hours After Trip	0	1	2	3	4	6	8	10	12	16	20
I-131	8.24E-01	6.73E+01	1.32E+02	1.94E+02	2.55E+02	3.71E+02	4.80E+02	5.82E+02	6.77E+02	8.52E+02	1.00E+03
I-132	2.28E-01	7.18E+01	1.05E+02	1.15E+02	1.12E+02	9.00E+01	6.42E+01	4.29E+01	2.76E+01	1.05E+01	3.78E+00
I-133	9.54E-01	1.37E+02	2.62E+02	3.75E+02	4.78E+02	6.55E+02	7.98E+02	9.12E+02	1.00E+03	1.12E+03	1.17E+03
I-134	9.15E-02	7.31E+01	6.55E+01	4.40E+01	2.63E+01	7.94E+00	2.13E+00	5.35E-01	1.29E-01	6.97E-03	3.53E-04
I-135	4.31E-01	1.20E+02	2.14E+02	2.85E+02	3.39E+02	4.02E+02	4.25E+02	4.21E+02	4.01E+02	3.36E+02	2.64E+02
TOTAL IODINE	2.53E+00	4.70E+02	7.78E+02	1.01E+03	1.21E+03	1.53E+03	1.77E+03	1.96E+03	2.11E+03	2.32E+03	2.44E+03
DEI	1.00E+00	9.46E+01	1.83E+02	2.67E+02	3.46E+02	4.94E+02	6.27E+02	7.49E+02	8.59E+02	1.05E+03	1.21E+03

PROJECTED RCS ACTIVITY AFTER SHUTDOWN

PRE-TRIP IODINE SPIKE ACTIVITY ($\mu\text{Ci/gm}$) DUE TO FUEL LEAKAGE (Trip from >80% Power w/activity at TS 3.4.16)

Hours After Trip	0	1	2	3	4	6	8	10	12	16	20
I-131	4.95E+01	4.93E+01	4.91E+01	4.90E+01	4.88E+01	4.84E+01	4.81E+01	4.78E+01	4.74E+01	4.67E+01	4.61E+01
I-132	1.37E+01	1.01E+01	7.47E+00	5.52E+00	4.07E+00	2.22E+00	1.21E+00	6.60E-01	3.60E-01	1.07E-01	3.18E-02
I-133	5.72E+01	5.53E+01	5.35E+01	5.18E+01	5.01E+01	4.69E+01	4.39E+01	4.11E+01	3.84E+01	3.37E+01	2.95E+01
I-134	5.49E+00	2.49E+00	1.13E+00	5.10E-01	2.31E-01	4.74E-02	9.72E-03	2.00E-03	4.09E-04	1.72E-05	7.25E-07
I-135	2.59E+01	2.33E+01	2.10E+01	1.89E+01	1.70E+01	1.38E+01	1.12E+01	9.08E+00	7.36E+00	4.84E+00	3.18E+00
TOTAL IODINE	1.52E+02	1.41E+02	1.32E+02	1.26E+02	1.20E+02	1.11E+02	1.04E+02	9.86E+01	9.36E+01	8.53E+01	7.88E+01
DEI	6.00E+01	5.94E+01	5.89E+01	5.83E+01	5.78E+01	5.68E+01	5.59E+01	5.50E+01	5.41E+01	5.26E+01	5.11E+01

1 % CLAD DAMAGE AT TRIP ACTIVITY ($\mu\text{Ci/gm}$) NO IODINE SPIKE

Hours After Trip	0	1	2	3	4	6	8	10	12	16	20
Kr-85	6.41E+00	6.41E+00	6.41E+00	6.41E+00	6.41E+00	6.41E+00	6.41E+00	6.41E+00	6.41E+00	6.41E+00	6.41E+00
Kr-85m	1.84E+00	1.58E+00	1.35E+00	1.16E+00	9.91E-01	7.27E-01	5.34E-01	3.92E-01	2.88E-01	1.55E-01	8.34E-02
Kr-87	1.08E+00	6.26E-01	3.63E-01	2.11E-01	1.22E-01	4.11E-02	1.38E-02	4.64E-03	1.56E-03	1.77E-04	2.00E-05
Kr-88	3.36E+00	2.64E+00	2.07E+00	1.62E+00	1.27E+00	7.85E-01	4.84E-01	2.98E-01	1.83E-01	6.96E-02	2.64E-02
Xe-131m	4.73E+00	4.72E+00	4.71E+00	4.70E+00	4.68E+00	4.66E+00	4.64E+00	4.62E+00	4.59E+00	4.55E+00	4.51E+00
Xe-133	3.27E+02	3.25E+02	3.23E+02	3.22E+02	3.20E+02	3.17E+02	3.13E+02	3.10E+02	3.06E+02	3.00E+02	2.93E+02
Xe-135	1.41E+01	1.33E+01	1.24E+01	1.17E+01	1.10E+01	9.62E+00	8.43E+00	7.38E+00	6.46E+00	4.92E+00	3.73E+00
Xe-135m	8.11E-01	3.99E-01	3.36E-01	3.01E-01	2.71E-01	2.19E-01	1.78E-01	1.44E-01	1.17E-01	7.69E-02	5.05E-02
I-131	4.88E+00	4.86E+00	4.85E+00	4.83E+00	4.81E+00	4.78E+00	4.74E+00	4.71E+00	4.67E+00	4.61E+00	4.54E+00
I-132	1.35E+00	9.97E-01	7.36E-01	5.43E-01	4.01E-01	2.19E-01	1.19E-01	6.50E-02	3.55E-02	1.05E-02	3.13E-03
I-133	5.65E+00	5.47E+00	5.29E+00	5.12E+00	4.95E+00	4.63E+00	4.33E+00	4.06E+00	3.80E+00	3.32E+00	2.91E+00
I-134	5.42E-01	2.45E-01	1.11E-01	5.04E-02	2.28E-02	4.68E-03	9.60E-04	1.97E-04	4.04E-05	1.70E-06	7.16E-08
I-135	2.55E+00	2.30E+00	2.07E+00	1.86E+00	1.68E+00	1.36E+00	1.10E+00	8.94E-01	7.25E-01	4.76E-01	3.13E-01
TOTAL NOBLE GAS	3.60E+02	3.55E+02	3.51E+02	3.48E+02	3.45E+02	3.39E+02	3.34E+02	3.29E+02	3.24E+02	3.16E+02	3.08E+02
TOTAL IODINE	1.50E+01	1.39E+01	1.30E+01	1.24E+01	1.19E+01	1.10E+01	1.03E+01	9.72E+00	9.23E+00	8.42E+00	7.77E+00
DEI	5.92E+00	5.86E+00	5.80E+00	5.75E+00	5.70E+00	5.60E+00	5.51E+00	5.42E+00	5.34E+00	5.18E+00	5.04E+00

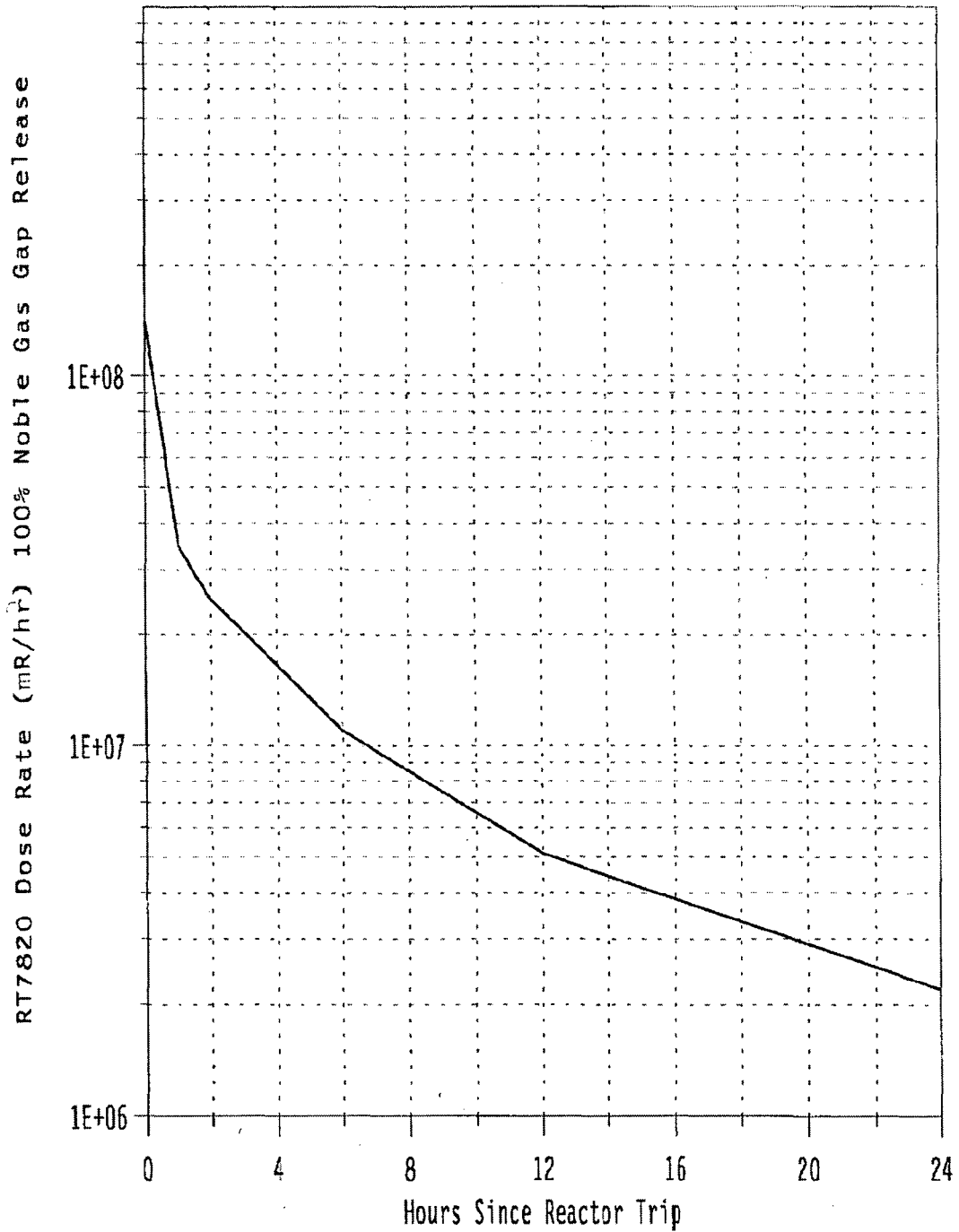
PROJECTED RCS ACTIVITY AFTER SHUTDOWN (continued)

1 % FUEL MELT INVENTORY ACTIVITY ($\mu\text{Ci/gm}$) (40 GWd/t Average Fuel Assembly Burnup)

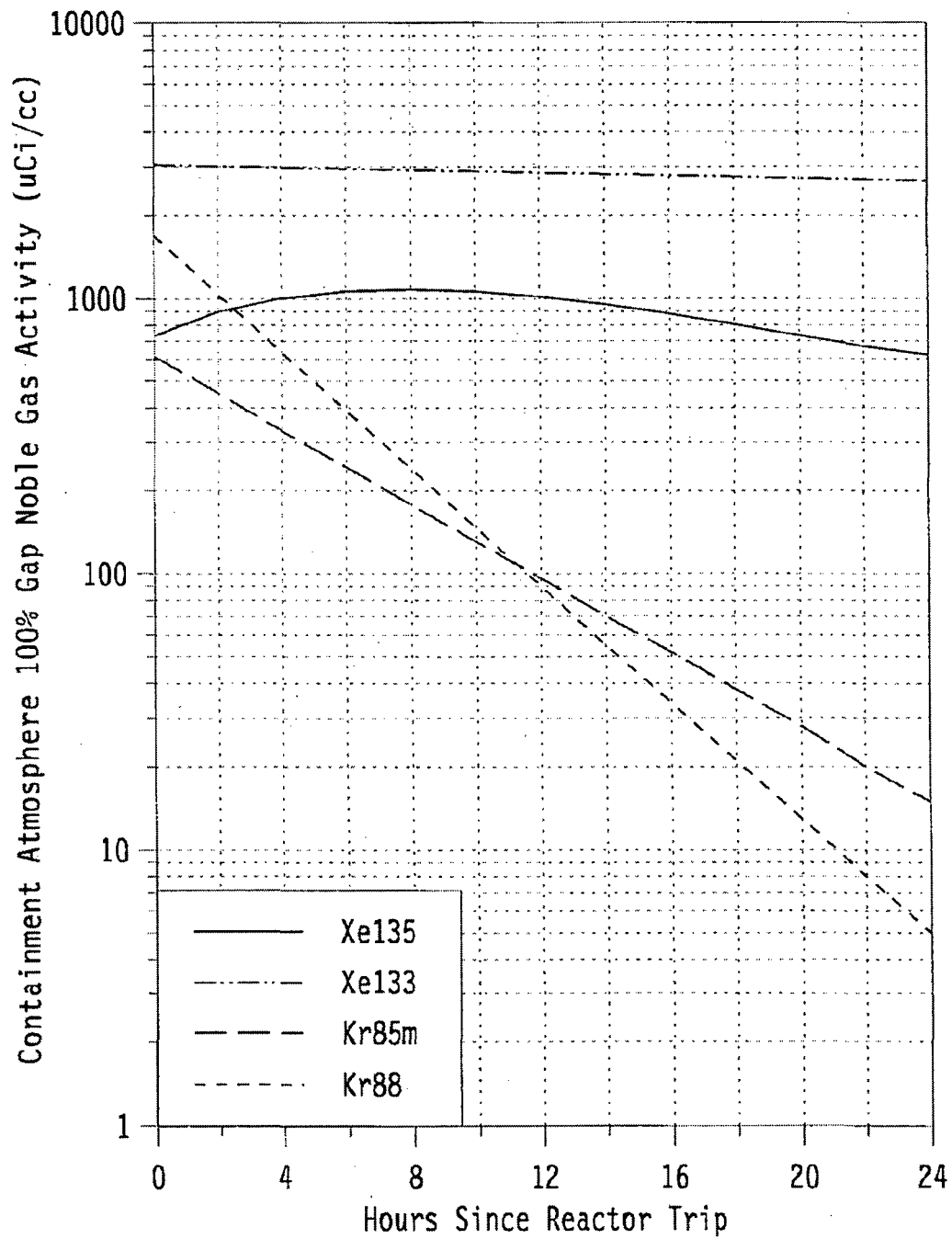
Hours After Trip	0	1	2	3	4	6	8	10	12	16	20
Kr-85	5.41E+01	5.41E+01	5.41E+01	5.41E+01	5.41E+01	5.41E+01	5.41E+01	5.41E+01	5.41E+01	5.41E+01	5.41E+01
Kr-85m	1.55E+03	1.33E+03	1.14E+03	9.75E+02	8.35E+02	6.13E+02	4.50E+02	3.30E+02	2.42E+02	1.30E+02	7.03E+01
Kr-87	3.17E+03	1.84E+03	1.07E+03	6.18E+02	3.59E+02	1.21E+02	4.05E+01	1.36E+01	4.59E+00	5.19E-01	5.86E-02
Kr-88	4.46E+03	3.50E+03	2.75E+03	2.16E+03	1.69E+03	1.04E+03	6.42E+02	3.95E+02	2.44E+02	9.24E+01	3.50E+01
Xe-131m	6.06E+01	6.05E+01	6.04E+01	6.03E+01	6.03E+01	6.01E+01	5.99E+01	5.97E+01	5.96E+01	5.92E+01	5.89E+01
Xe-133	9.58E+03	9.55E+03	9.53E+03	9.50E+03	9.47E+03	9.41E+03	9.35E+03	9.28E+03	9.22E+03	9.08E+03	8.94E+03
Xe-135	3.50E+03	3.60E+03	3.63E+03	3.63E+03	3.60E+03	3.48E+03	3.31E+03	3.10E+03	2.87E+03	2.40E+03	1.95E+03
Xe-135m	2.02E+03	7.63E+02	6.13E+02	5.47E+02	4.92E+02	3.99E+02	3.24E+02	2.62E+02	2.13E+02	1.40E+02	9.20E+01
I-131	2.33E+03	2.32E+03	2.31E+03	2.31E+03	2.30E+03	2.28E+03	2.26E+03	2.25E+03	2.23E+03	2.20E+03	2.17E+03
I-132	3.37E+03	2.51E+03	1.87E+03	1.40E+03	1.05E+03	6.00E+02	3.56E+02	2.22E+02	1.48E+02	8.52E+01	6.50E+01
I-133	4.91E+03	4.75E+03	4.60E+03	4.45E+03	4.30E+03	4.03E+03	3.77E+03	3.53E+03	3.30E+03	2.89E+03	2.53E+03
I-134	5.61E+03	2.57E+03	1.18E+03	5.37E+02	2.45E+02	5.07E+01	1.05E+01	2.16E+00	4.44E-01	1.87E-02	7.89E-04
I-135	4.64E+03	4.18E+03	3.76E+03	3.39E+03	3.05E+03	2.47E+03	2.01E+03	1.63E+03	1.32E+03	8.67E+02	5.70E+02
TOTAL NOBLE GAS	2.44E+04	2.07E+04	1.88E+04	1.75E+04	1.66E+04	1.52E+04	1.42E+04	1.35E+04	1.29E+04	1.20E+04	1.12E+04
TOTAL IODINE	2.09E+04	1.63E+04	1.37E+04	1.21E+04	1.09E+04	9.43E+03	8.40E+03	7.62E+03	7.00E+03	6.04E+03	5.34E+03
DEI	3.32E+03	3.27E+03	3.21E+03	3.17E+03	3.12E+03	3.04E+03	2.96E+03	2.89E+03	2.83E+03	2.72E+03	2.61E+03

NOTE: Iodine spike data based on design data. Measured activity may be lower than design estimates for the same amount of fuel damage. Post trip activity are based on decay without removal via letdown or RCS dilution due to SI flow. Compare measured and predicted noble gas values to determine if post event activity is due to iodine spike event induced clad damage.

CONTAINMENT DOSE RATE WITH 100% NOBLE GAS GAP RELEASE



**CONTAINMENT ATMOSPHERIC ACTIVITY WITH 100% NOBLE GAS GAP
RELEASE**





EMERGENCY COORDINATOR DUTIES

Procedure Usage Requirements		Sections
Reference Use	<ul style="list-style-type: none"> Review and understand the procedure before performing any steps. Have a copy of the procedure or applicable pages/sections available at the work site. Use Placekeeping method according to SO123-XV-HU-3. If any portion of the procedure is performed from memory, do so in the sequence specified in the procedure. Perform each step as written, except when the procedure or approved processes specifically allow deviation. Refer to the procedure at least once and as often as required to complete the task according to the procedure requirements. Review the document at the completion of the task to verify that all appropriate steps are performed and documented. 	Sections 6.3 – 6.7 Attachment 6
Continuous Use	<ul style="list-style-type: none"> Have a copy of the written instruction or applicable pages in performer's presence or within view, or be in direct communication with someone who has the written instruction in hand (refer to SO123-XV-HU-3). Review and understand the written instruction before performing any steps. Read and understand each step before performing the step. Perform the steps as written in the sequence specified, except when the written instruction or approved process specifically allows deviation. Use a place keeping method (refer to SO123-XV-HU-3) Review the written instruction at the completion of the task to verify all appropriate steps are performed and recorded. 	ALL (Except Sections 6.3 – 6.7 Attachment 6)

QA Program Affecting

50.59 DNA / 72.48 DNA

Procedure Owner

Steve Giannell

EMERGENCY COORDINATOR DUTIES

TABLE OF CONTENTS

<u>Section</u>	<u>Page</u>
1.0 PURPOSE.....	3
2.0 SCOPE.....	3
3.0 RESPONSIBILITIES.....	3
4.0 PRECAUTIONS / LIMITATIONS.....	3
5.0 PREREQUISITES / INITIAL CONDITIONS.....	4
6.0 PROCEDURE.....	5
6.1 Initial Actions.....	5
6.2 Initial EC Actions.....	6
6.3 Repetitive Evaluations.....	7
6.4 Verbal Notification Considerations.....	8
6.5 Event Notification and Radiological Release Considerations.....	13
6.6 Radiation Exposure Limits.....	19
6.7 Deviations from License Conditions.....	21
7.0 ACCEPTANCE / FUNCTIONAL.....	24
8.0 RETENTION / RECORDS.....	24
9.0 DEFINITIONS.....	24
10.0 REFERENCES / COMMITMENTS.....	24

ATTACHMENT

1	Unusual Event.....	25
2	Alert.....	30
3	Site Area Emergency.....	37
4	General Emergency.....	44
5	Security Event Actions and EC Post Security Event Checklist.....	51
6	Event Closeout.....	56
7	Alternate Emergency Response Facility Status Checklist.....	58
8	Emergency Coordinator Duties Turnover.....	59
9	Emergency Coordinator Turnover Status.....	60
10	Event Reclassification/PAR Upgrade/Start or Stop of Radiological Release.....	61
11	Summary of Changes.....	63

CONTINUOUS USE

EMERGENCY COORDINATOR DUTIES

1.0 **PURPOSE**

- 1.1 Provide guidance to the Shift Manager (SM)/Emergency Coordinator (EC) for directing emergency response activities from the Control Room until relieved by the Station Emergency Director (SED).
- 1.2 To provide documentation of time and actions taken to act as a supplement to the Emergency Response Log. The Emergency Response Log should be used to document the decisions and actions outside of the procedure. The combination of this procedure and the Emergency Response Log serve as the entire EC log.

2.0 **SCOPE**

- 2.1 None

3.0 **RESPONSIBILITIES**

- 3.1 The Shift Manager will, upon declaration of an emergency event, assume the responsibilities of the Emergency Coordinator. Until such time as additional personnel can be recalled to staff the ERO, the Shift Manager will assign members of the shift organization to carry out prioritized actions as described in the Emergency Plan Implementing Procedures (EPIPs), Emergency Operating Instructions (EOIs) and Abnormal Operating Instructions (AOIs). The Shift Manager will turn over responsibilities as Emergency Coordinator to the Station Emergency Director, and ultimately to the Corporate Emergency Director.

In case the Shift Manager is unavailable or becomes incapacitated for any reason, the Control Room Supervisor has the authority to assume the position of Emergency Coordinator until properly relieved.

4.0 **PRECAUTIONS / LIMITATIONS**

4.1 **Precautions**

- 4.1.1 EC duties are normally performed by the Units 2/3 SM prior to turnover of the EC title to the SED, and ultimately to the Corporate Emergency Director (CED).
- 4.1.1.1 SM/EC may be relieved by other qualified ECs prior to TSC activation.
- 4.1.1.2 Prior to turnover of the EC title to the CED, only the EC (SM or SED) may authorize:
 - Emergency Event Declaration/Classification
 - Site Assembly and Site Evacuation
 - Exceeding 10CFR20 Exposure Limits
 - Notification to Offsite Agencies
 - Offsite Protective Action Recommendations (PARs)

CONTINUOUS USE

4.1.1.3 When the EC title is turned over to the CED the EC duties are split between the SED and the CED. Following turnover of the EC title to the CED,

4.1.1.3.1 The SED retains the authority for :

- Emergency Event Declaration/Classification
- Site Assembly
- Exceeding 10 CFR 20 Exposure Limits

4.1.1.3.2 The CED assumes the authority for:

- Notification to Offsite Agencies
- Offsite Protective Action Recommendations (PARs)
- Site Evacuation

4.1.1.4 The SM/EC should request the HP Leader to assess the need to ingest KI for the Control Room and TSC personnel if:

4.1.1.4.1 The Control Room Boundary is considered to be inoperable. This would include any condition that caused unfiltered in-leakage greater than allowed by the Control Room envelop Habitability Program.

-AND-

4.1.1.4.2 A radiological release is in progress.

4.2 Limitations

4.2.1 None

5.0 PREREQUISITES / INITIAL CONDITIONS

5.1 Prerequisites

5.1.1 Emergency Planning is responsible for ensuring that the current copy of this document is in the emergency notebook for use during declared emergencies and drills.

5.1.2 Personnel are responsible for ensuring they use the current copy of this document when not in a declared emergency or drill by checking the electronic document management system or by use of one or the methods described in SO123-XV-109 and SO123-XV-HU-3.

5.1.3 Verify level of use requirements on the first page of this document.

5.2 Initial Conditions

5.2.1 None

CONTINUOUS USE

6.0 **PROCEDURE**

6.1 **Initial Actions**

- 6.1.1 Review SO123-VIII-1 to determine if conditions warrant an emergency classification.

NOTE

The following Step may be performed out of sequence or concurrently.

- 6.1.2 Request NOA report to the Control Room and assume the Shift Communicator (SC) duties per SO123-VIII-30.7.
- 6.1.3 Direct STA or available SRO to independently verify event classification.
- IF** conditions meet the criteria to declare an event,
THEN assume the duties of Emergency Coordinator (EC), otherwise Exit this procedure.

NOTES

1. Event Declaration time starts the 15 minute time limit for verbal notifications to Local and State emergency facilities.
2. An attempt should be made to understand T=0 for an emergency classification so the EC is cognizant of all available time to correctly classify an event. T=0 means when the available plant parameters reach an EAL.

- 6.1.4 Identify the Control Room time as the Event Declaration Time.
- 6.1.4.1 Record Event Declaration Time: _____
- 6.1.4.2 Identify Event Classification: _____

NOTE

Action in this EPIP documents the activities of the event.

- 6.1.4.3 Establish and maintain a log of all decisions that lead to any of the actions taken in this EPIP. Make an initial Log entry in the EC Log indicating Log started.

6.2 Initial EC Actions

NOTE

Steps in this Section may be performed out of sequence or concurrently.

- 6.2.1 Initiate the applicable attachment(s) to complete further actions based on event classification

NOTE

Attachment 5 may be performed concurrently with Attachments 1, 2, 3, or 4.

✓	EVENT CLASSIFICATION	PERFORM
	Unusual Event	Attachment 1
	Alert Event	Attachment 2
	Site Area Emergency	Attachment 3
	General Emergency	Attachment 4
	Security-Related Emergency	Attachment 5

REFERENCE USE

6.3 Repetitive Evaluations

- 6.3.1 Consider the need for Local Area Evacuations.
- 6.3.2 Monitor for radiological exposure risk. (Section 6.6)
- 6.3.3 Monitor plant conditions for changes requiring reclassification, upgrade in the PAR or start/stop of a radiological release and take actions in accordance with Attachment 10 as required.
- 6.3.4 Initiate a new set of notifications if any of the following occurs:
 - Upgrade in the classification
 - Initiation of a PAR or Upgrade in the PAR
 - Start or Stop of a Radiological Release
- 6.3.5 Provide periodic Control Room briefings.
- 6.3.6 Direct site assembly or assembly and evacuation as necessary.
- 6.3.7 Monitor for deviations from License Conditions. (Section 6.7)
- 6.3.8 Be prepared to turnover EC duties. (Attachment 8)
- 6.3.9 Check event closeout criteria. (Attachment 6)
- 6.3.10 Evaluate for declared alcohol consumption.
- 6.3.11 Review this procedure periodically.

6.4 **Verbal Notification Considerations**

6.4.1 **Verbal Notification Actions**

- 6.4.1.1 Provide Information for Verbal Notification Form [EP(123) 11] completion to the Shift Communicator. (Refer to 6.4.4, Verbal Notification Form Key Points).
- Notify or recall the Emergency Response Organization.
 - For I-5 Security-related events or closure, TSC/OSC/EOF recalled personnel should be directed to use North/South staging areas until escorted by law enforcement.
 - **IF** entry to an emergency response facility (TSC, OSC, EOF) presents a significant personnel hazard (e.g., fire, smoke, toxic gas, radiation), **THEN** direct Response Organization (ERO) per SO123-VIII-30.7, Attachment 2, Section C, of safe approach route or the need to report to an alternate facility.
- 6.4.1.2 Direct STA or available SRO to independently verify Verbal Notification Form accuracy and initial.
- 6.4.1.3 Approve the Verbal Notification Form.
- 6.4.1.4 Direct Shift Communicator to notify or recall the Emergency Response Organization per SO123-VIII-30.7, Section for Emergency Recall Activation.
- 6.4.1.5 Direct Shift Communicator to perform the Verbal Notifications.

6.4.2 If the Shift Communicator has not started to read the verbal message and any of the following occurs:

- Increase in classification
- Upgrade in PAR
- Start of radiological release
- Stop of radiological release

-AND-

- **IF** reading of updated verbal message can start within 15 minutes of initial event, **THEN** provide notification for the update condition only. Include the previous classification, PARs, or time when radiological release started/stopped on the 30-minute ENF.

6.4.3 **IF** the Shift Communicator has started to read the verbal message and any of the following occurs:

- Increase in classification
- Upgrade in PAR
- Start of radiological release
- Stop or radiological release,

THEN direct the Shift Communicator to complete the Notification, skipping the roll call portion of the Verbal Notification Form, and then report back to the Control Room to start a new set of notifications. Include the time when the radiological release started/stopped on the 30-minute ENF.

SECTION 6.4 CONTINUED ON NEXT PAGE

REF: SO123-VIII-30.7

(1)

(2)

Independently
Verified by:

(3)

(4)

Message #

Prepared by:

EC Approved by:

1.0 Log Notifications:

1. ☐ Notify ERO **OR** ☐ Recall ERO
(Enter Time or "N/A" if Recall Completed) (5)
(Enter Time or N/A)

2. Initiate offsite Verbal Message
(Cal EMA Blue Phone or Alt Number (916) 845-8911)
(YPS 91 all call or YPS Computer Terminal) (6)
(Enter Start Time)

2.0 Read for ALL Messages:

(7) "This is ☐ a Drill ☐ an Emergency"
"This is San Onofre Nuclear Generating Station."

A(n) ☐ Unusual Event **(8)** ☐ has been declared at
☐ Alert ☐ is in progress since
☐ Site Area Emergency ☐ has been closed out at:
☐ General Emergency (9)
(Enter Declare Time)

3.0 Read for Classification/PAR/Release Status Change:

"Consult Event Code (10) in your Manual
of Emergency Events. (Enter EAL Tab)

(11) "The wind is from: Degrees at: MPH."
(Use 10m Met Data if available)

(12) "The Protective Action Recommendation (PAR)
☐ is as follows: ☐ was upgraded at to:
(Enter Time)

(EAN: Review SO123-VIII-10.3 for PARs. Multiple choices are allowed.)

☐ None Required
☐ Evacuate State Beach
☐ Shelter PAZ(s) ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
☐ Evacuate PAZ(s) ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5
☐ Ingest KI PAZ(s) ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5

"There ☐ has not been ☐ is a radioactive release associated
(13) ☐ with this event"
☐ was
☐ "SONGS ☐ is activating the ☐ EOF."
(14) ☐ has activated ☐ Alt EOF."

4.0 Read only on YPS for Class/PAR/Release Status Changes:
"When I announce your station number and agency name,
please respond with your first initial and last name."

(Log time (15) then, document contact →)
(Enter YPS Done Time)

5.0 Read for ALL Messages: (16)

"Prepare to receive printed message #
in a few minutes". Acknowledge printed message receipt by
pressing the Report Acknowledge Button.

(17) ☐ "Printed message # will not be transmitted.

"This message is complete, San Onofre is Clear."

6.0 FAX Printed Message to: (18)
Cal EMA: (916) 845-8910 and
State Parks Dispatch: (951) 657-8496
(Enter Start Time)

[M] 27 O/C COMM CTR

Contacted: ☐ Yes ☐ No

[U] 28 O/C EOC

Contacted: ☐ Yes ☐ No

[D] 26 San Juan Cap.

Contacted: ☐ Yes ☐ No

[U] 57 San Juan EOC

Contacted: ☐ Yes ☐ No

[D] 34 Dana Pt EOC

Contacted: ☐ Yes ☐ No

[D] 25 San Clemente EOC

Contacted: ☐ Yes ☐ No

[M] 46 SD COUNTY EOC

Contacted: ☐ Yes ☐ No

**[M] 23 USMC CMD CTR/
911 DISPTACH BLDG 1164**

Contacted: ☐ Yes ☐ No

[U] 22 USMC BLDG 1160

Contacted: ☐ Yes ☐ No

[M] 32 SAN DIEGO CHP

Contacted: ☐ Yes ☐ No

[M] 29 State Parks Dispatch

Contacted: ☐ Yes ☐ No

[D] 24 St Parks EOC

Contacted: ☐ Yes ☐ No

[M] 42 EDISON GEN OPS

Contacted: ☐ Yes ☐ No

REFERENCE USE

6.4.4 Verbal Notification Form and Key Points (Continued)

NOTE

Items identified with an asterisk (*) are used to determine the accuracy of the notification.

VERBAL NOTIFICATION AUTHORIZATION:

- (1) Initial Verbal Notification for a given event is Message No. 1. Each subsequent notification is sequentially numbered until event close-out. Sequence numbers on VNF and associated ENF (Attachment 3) shall be the same.
- (2) Preparer shall initial "Prepared by" box to document who entered message content.
- (3) VNF shall be given an independent verification by an individual who is trained in classification process (e.g., Control Room Supervisor, Shift Technical Advisor, Emergency Advisor Operations, Emergency Advisor Offsite, SRO Briefer). This individual shall not be the EC or involved in the notification process. Reviewer shall initial "Independently Verified By" box to acknowledge agreement the message content is correct.
- (4) Acting EC shall initial "EC Approved By" box when peer review is completed to authorize Verbal Notification transmission.

ACTIONS REQUIRED IN 15 MINUTES:

- (5) SC shall enter time Recall System is initiated or enter N/A if no pager message is to be sent with this notification.
- (6) * Communicators shall enter time they start to read verbal message. The interval between this time and declaration time (item 9 below) must be 15 minutes or less. Blue Phone notification should be completed first, as notification of this single agency is typically faster than notification of multiple agencies via the Yellow Phone. If difficulties are encountered with the Blue Phone, immediately begin notification process on Yellow Phone to meet 15-minute requirement.

KEY PERFORMANCE INDICATOR DATA:

- (7) * The box for a Drill or an Emergency shall be checked.
- (8) * The box for current classification level shall be checked. The second column of boxes should be checked as follows:
 - "has been declared at" for each new or changed classification;
 - "is in progress since" each time a Verbal Notification is initiated but the classification remains the same;
 - "has been closed out" any time the emergency is being closed out in accordance with SO123-VIII-1 or SO123-VIII-10.5. This would be the last Verbal Notification given to state and local agencies.
- (9) * The time EC declares emergency or reclassifies event.

REFERENCE USE

6.4.4 Verbal Notification Form and Key Points (Continued)

KEY PERFORMANCE INDICATOR DATA: (Continued)

- (10) * Enter Event Code that consists of the Event Category (A, B, C, D, E, F, or G) and Emergency Class (1= UE, 2=Alert, 3=SAE and 4=GE), and the Emergency Action Level (1, 2, 3, etc.).
- (11) * Enter wind direction in degrees from (use 10 meter Met Data if available) and the wind speed in mph. The wind direction from is used to determine affected PAZ(s).
- (12) * Check box labeled:
- "is as follows:" if PAR is being made at the same time event classification is being declared, if there is no change in PAR in this notification, or if there is no PAR required;
 - "was upgraded at" and enter time PAR upgrade was made on the following line when there is an upgrade in PAR but classification has not changed;

AND

- select appropriate boxes to indicate the PAR.
- (13) * Check the following radioactive release box as appropriate:
- "There **has not been** a radioactive release associated with this event" if there **is not** an increase in measurable quantities of radioactive material related to event which are in a pathway to the environment, or already in the environment (as measured by field monitoring);
 - "There **is** a radioactive release associated with this event" if there **is** an increase in measurable quantities of radioactive material related to event which are in a pathway to the environment, or already in the environment (as measured by field monitoring);
 - "There **was** a radioactive release associated with this event" if there **was** an increase in measurable quantities of radioactive material related to the event which were in a pathway to the environment, or already in the environment (as measured by field monitoring), **but** this release was stopped.
- (14) If event requires EOF activation, check "is activating" or "has activated" as appropriate. Then check "EOF" if normal EOF is accessible, or check "Alt EOF" if normal EOF access is impaired for any reason. Leave everything blank if the event does not require EOF activation.
- (15) Communicator should enter time when verbal message was completed (before roll call is initiated).

PRINTED MESSAGE ITEMS:

- (16) Record number of current printed message as indicated at the top of associated verbal message form.
- (17) Read this line in verbal message only if previous printed message is superseded by a PAR change, reclassification of event or start/stop of a radiological release. Enter the number of voided printed message.
- (18) Enter time Yellow Phone printed message is faxed to Cal EMA and State Parks Dispatch (29). Enter "N/A" if ENF was superseded by a new verbal message.

6.5 Event Notification and Radiological Release Considerations

- 6.5.1 **IF** there was a planned radioactive release in progress at the time of the event,
THEN either secure the release,
OR report this information to the offsite agencies via the ENF Current Plant Conditions section.
- 6.5.2 **IF** an increase in classification, an upgrade in PAR, or start or stop of a radiological release associated with the event occurred within 15 minutes of previous classification or PAR,
AND there was not a verbal notification of the first condition,
THEN provide this information in the ENF Current Plant Conditions section.
- 6.5.3 **IF** there is a radioactive release associated with the event,
THEN report this information to the offsite agencies via the ENF section on Release Information. (Include the time the release started or stopped in the ENF Current Plant Conditions section.)
- 6.5.4 **IF** there is a significant change of a radioactive release associated with the event,
THEN report this information to the offsite agencies via the ENF Current Plant Conditions section.
- 6.5.5 **IF** there was a radioactive release associated with the event identified on the Verbal Notification Form,
AND it changed significantly afterwards,
THEN report this information to the Offsite agencies via the ENF Current Plant Conditions section.
- 6.5.6 Event Notification Actions
- 6.5.6.1 Prepare an Event Notification Form [EP(123) 10] while Verbal Notifications are being performed. (Refer to 6.5.7, Event Notification Form Key Points).
- 6.5.6.2 Direct the Shift Communicator to input information on the ENF into the Yellow Phone computer and print a draft copy for review.
- 6.5.6.3 Verify the printed ENF copy matches the original.
- 6.5.6.4 Initial the printed copy and direct the SC to transmit the Form to Local agencies via the Yellow Phone computer, and Cal EMA via FAX.
- 6.5.6.5 **WHEN** the Event Notification process has been completed,
THEN record the completion time.
- 6.5.6.6 Provide follow-up Event Notification Forms [EP(123) 10] to local agencies at 90 minutes after Event Declaration, every 60 minutes thereafter and as conditions warrant (i.e., significant changes in plant conditions or changes in event code within the same emergency class).

6.5.7 Event Notification Form and Key Points

REFERENCE: SO123-VIII-30.7 SAN ONOFRE NUCLEAR GENERATING STATION

EVENT NOTIFICATION FORM

This is ☐ a Drill ☐ an Emergency.

Date _____

Message No. _____

Emergency Classification:

- (1) ☐ An Unusual Event
☐ An Alert
☐ A Site Area Emergency
☐ A General Emergency
- (2) ☐ has been declared
☐ is in progress
☐ has been closed out

Time: (3) _____ Unit(s): (4) _____ Event Code: (5) _____
 (Declaration/Reclassification/Close-out)

Meteorological Data:

(6) Wind Direction (From): _____ Degrees at _____ mph ... (Use CFMS page 256 or Raddose-V)

Protective Action Recommendations:

There (7) ☐ is a need for protective action beyond the Exclusion Area Boundary (EAB).
☐ is not a need for protective action beyond the EAB.

Recommended Action: ... (Multiple choice allowed.) (Reference SO123-VIII-10.3)

- (8) ☐ None
☐ Evacuate State Beach
☐ Shelter PAZ(s) [] 1 [] 3 [] 4 [] 5
☐ Evacuate PAZ(s) [] 1 [] 2 [] 3 [] 4 [] 5
☐ Ingest KI PAZ(s) [] 1 [] 2 [] 3 [] 4 [] 5

Release Information: (9)

☐ There has not been a radioactive release to the environment associated with this event.
(Planned radioactive releases per an approved Liquid or Gaseous Release Permit remain within Federally approved operating limits.)

☐ There was an event-related release that has been stopped.

☐ There is an ongoing event-related radioactive release to the environment.

The release is ☐ above
☐ below Federally approved operating limits.

The event-related radiation dose ☐ is
☐ is not measurable at the Exclusion Area Boundary.

The release ☐ is to the ☐ land.
☐ was ☐ atmosphere. (Multiple choice allowed)
☐ ocean.

FACSIMILE

REFERENCE USE

6.5.7 Event Notification Form and Key Points (Continued)

EVENT NOTIFICATION FORM (Continued)

This is ☐ a Drill ☐ an Emergency. Message No. _____

Dose Rate Projections/Measurements: ... (Use when information is available and EOF ODAC is not staffed.)					
Expected Release Duration: <u> (10) </u> (hrs)	Projected Dose (Mrem)	Calculated Plume Arrival Time	Field Measured Dose Rate		
Calculation Time: _____			(m/hr)	at time	
Exclusion Area Boundary	TEDE				
	Thyroid CDE				
1 Mile	TEDE				
	Thyroid CDE				
2 Miles	TEDE				
	Thyroid CDE				
5 Miles	TEDE				
	Thyroid CDE				
10 Miles	TEDE				
	Thyroid CDE				

TEDE: Total Effective Dose Equivalent
CDE: Committed Dose Equivalent

Current Plant Conditions: (11) <hr/> <hr/> <hr/> <hr/> <hr/>
Prognosis of Emergency: (12) <hr/> <hr/> <hr/> <hr/> <hr/>
Emergency Response Actions Underway Onsite: (13) <hr/> <hr/> <hr/> <hr/> <hr/>
Request for Offsite Support: (14) <hr/> <hr/> <hr/> <hr/> <hr/>

PREPARED BY: (15) APPROVED BY: (16)

FACSIMILE

REFERENCE USE

6.5.7 Event Notification Form and Key Points (Continued)

EMERGENCY CLASSIFICATION INFORMATION: (matched to the verbal information)

- (1) **Emergency Action Level:** Enter appropriate emergency class.
- (2) **Status of Emergency:** Check appropriate block.
- (3) **Time:** Enter time event was actually declared, reclassified, or closed out.
- (4) **Unit:** Enter affected unit(s) based on the following criteria:
 - "1" if there is an uncontrolled release of radioactivity from Unit 1 - Tab A, or a Miscellaneous event which is limited to Unit 1 - Tab G.
 - "2" if there is an uncontrolled Release of Radioactivity - Tab A, Loss of RCS Inventory - Tab B, Core Degradation or Overheating - Tab C, Loss of Safety Equipment - Tab D at Unit 2, or a Miscellaneous event limited to Unit 2 - Tab G.
 - "3" if there is an Uncontrolled Release of Radioactivity - Tab A, Loss of RCS Inventory - Tab B, Core Degradation or Overheating - Tab C, Loss of Safety Equipment - Tab D at Unit 3, or a Miscellaneous event limited to Unit 3 - Tab G.
 - "1, 2, 3" if there is a Disaster - Tab E, Security Safeguards Contingency - Tab F, or Miscellaneous event - Tab G that is site-wide or common to all three units.
- (5) **Event Code:** Write as shown in SO123-VIII-1 (e.g., B2-1).

METEOROLOGICAL DATA:

- (6) **Wind:** Enter the "from" wind direction in degrees and the speed in miles per hour (use 10 meter Met Data if available).

PROTECTIVE ACTION RECOMMENDATIONS: (matched to the verbal information)

- (7) **Protective Action Recommendations:** (Check appropriate box)
 - (a) Enter "is" for PAR necessary beyond the site boundary. Remember, this is for Edison-recommended offsite PARs only.
 - (b) If no PAR, then enter "is not" and skip directly to Release Information Section (9) on the bottom of ENF.
- (8) **Recommended Action:** (Can be multiple choice) Enter appropriate PAR, and if applicable, affected PAZ(s) based on SO123-VIII-10.3, Protective Action Recommendations.

6.5.7 Event Notification Form and Key Points (Continued)

(9) **Release Information:**

Release Definition: There is an increase in measurable quantities of radioactive material related to event which are in a pathway to the environment, or already in the environment (as measured by field monitoring).

Measurable at the Exclusion Area Boundary (EAB) Definition: Dose above background measured either by field monitoring teams at the EAB or by the Pressurized Ion Chambers surrounding the site (ask HP Leader).

Federally Approved Operating Limits

- a. If the following Gaseous Effluent Radiation Monitors are reading:

$$2(3)RE7870 \geq 3.5E5 \mu\text{Ci/sec}$$

OR

$$\text{Sum of } 2RE7865 \text{ and } 3RE7865 \geq 3.5E5 \mu\text{Ci/sec}$$

OR

$2(3)RE7874A1$ or $2(3)RE7874B1$ = Valid reading above background with a release to atmosphere from an affected Steam Generator.

Then check the box "above" Federally Approved Operating Limits.

- b. If an Unmonitored release is detectable at the EAB, then check the box, "above" Federally Approved Operating Limits.

- c. If an Unusual Event is declared in accordance with SO123-VIII-1, Tab A1-2, then check the box, "above" Federally Approved Operating Limits.

- d. If there is no information confirming an unmonitored release, then check the box, "below" Federally Approved Operating Limits as specified in the Offsite Dose Calculation Manual (ODCM).

If there is no event-related radioactive release in progress, then check the first box. ("There has not been")

If an event-related radioactive release did occur but was stopped, then check the second box. ("There was")

If an event-related radioactive release is ongoing, then check the third box. ("There is")

If release is gaseous, then check Atmosphere box.

If release is liquid, then check Land or Ocean box, as applicable.

6.5.7 Event Notification Form and Key Points (Continued)

(10) **DOSE RATE PROJECTIONS/MEASUREMENTS:**

This information should be completed when the information is available and ODAC is not staffed. Otherwise, dose rate information should be provided to the ODAC Leader who will disseminate it to the agencies.

NARRATIVE INFORMATION:

(11) **Current Plant Conditions:**

Describe briefly current plant conditions that form the basis for the emergency classification and or PAR. If an increase in classification, an upgrade in PAR, a start or stop of radiological release occurred within 15 minutes of the previous classification or PAR, and verbal notification was only provided for the second condition, include information about previous classification, PARs, or radiological release. Include time when radiological release started/stopped on this section. Also, if there are other significant plant updates for any Unit and it is not related to the current Emergency, it should be described in this section.

(12) **Prognosis of Emergency:**

Describe briefly trends in current plant conditions.

(13) **Emergency Response Actions Underway Onsite:**

Describe briefly current mitigating activities such as activation of emergency response facilities, repair or surveillance team activities.

(14) **Request for Offsite Support:**

Describe briefly request for support required from Offsite Agencies or enter none.

(15) **Prepared By:** Initialed by the EAN or leave blank if completed by Shift Manager.

(16) **Approved By:** Initialed by the EC as authorization to send the message.

6.6 Radiation Exposure Limits

- 6.6.1 **IF** it is necessary to exceed 10CFR20 radiation exposure limits in order to mitigate an event or perform rescues,
THEN ensure persons performing planned actions/rescues are familiar with the health consequences of anticipated exposures of this magnitude.
- 6.6.2 Minimize TEDE exposures by use of respiratory protective equipment and/or potassium iodide (KI), as appropriate; control skin contamination through the use of protective clothing.
- 6.6.3 Limit personnel exposures that are approaching a significant fraction of these limits to once in a lifetime.
- 6.6.4 Ensure persons receiving a significant fraction of the limits listed below under lifesaving actions are informed that they should avoid procreation for a period of several months following the exposure.

CAUTION

An inoperable Control Room Boundary includes any condition that caused unfiltered in-leakage greater than allowed by the Control Room Envelope Habitability Program, and a radiological release is in progress.

- 6.6.5 Direct the Health Physics Leader to assess the need for the Control Room and TSC personnel to ingest KI and/or don SCBAs if:
 - 6.6.5.1 The Control Room Boundary is considered to be inoperable AND:
 - 6.6.5.2 A radiological release is in progress.
- 6.6.6 Direct the HP Leader to evaluate the following actions to minimize personnel overexposure from potential airborne radiological hazards:
 - 6.6.6.1 The use of KI tablets and respirators
 - 6.6.6.2 ERF evacuation to the alternate location (e.g., Evacuation Room 311/Evacuation Shutdown Panel)
 - 6.6.6.3 Special recall considerations
 - 6.6.6.4 Evacuation of individuals who do not have respirators

- 6.6.7 Review and authorize proposed radiation exposure in excess of 10CFR20 limits in accordance with the following criteria, and consistent with ALARA principles.

DOSE LIMIT TEDE	EMERGENCY EXPOSURE CRITERIA ACTIVITY
5 < TEDE ≤ 10 Rem Responder should be a volunteer, per company policy	Protecting valuable property. [1]
10 < TEDE ≤ 25 Rem Responder should be a volunteer, per company policy	Life saving or protection of large populations. [2]
TEDE > 25.001 Rem Responder <u>must</u> be a volunteer, by regulation	Life saving or protection of large populations. [2]

[1] Entry into hazardous areas to protect facilities, eliminate further escape of effluents, or to control fires.

[2] Entry into hazardous areas for search and removal of injured persons or to prevent conditions that would probably injure numbers of people.

- 6.6.7.1 Authorize exposure in advance of the entry into the hazardous area.
- 6.6.7.2 IF delay of documentation is necessary to expedite dispatch of personnel, THEN complete authorization documentation as soon as possible thereafter.
- 6.6.7.3 Direct the Operations Leader to brief the volunteers before dispatch using SO23-VIII-30.
- 6.6.7.4 Document authorization on the Emergency Exposure Authorization Form EP(123) 3.

6.7 Deviations from License Conditions

NOTES

1. Deviations from Units 2/3 license conditions or Technical Specifications to protect public health and safety requires a 10CFR50.54(x) declaration and approval per 10CFR50.54(y) by a SRO (preferably the SM).
2. Deviations from license conditions for the ISFSI per 10CFR72.32(d) requires approval by a SRO (preferably the SM).
3. Temporary suspension of security measures at Units 2/3 or ISFSI during imminent severe weather, or other hazardous conditions, when immediately needed to protect the personal health and safety of SONGS personnel, and no other immediately apparent action consistent with the SONGS license conditions and technical specifications can provide adequate or equivalent protection, is authorized by the SM with input from the Security Shift Commander or Security Manager. Suspended security measures **SHALL** be restored as soon as practical.

6.7.1 Evaluate and approve actions which will intentionally deviate from license conditions when all of the following conditions have been met:

- Immediate intentional action is necessary to avert adverse consequences to public health and safety.
- No adequate or equivalent protective action that is consistent with the license is apparent.
- The action is reasonable (an unreasonable action would be one which exposes personnel or equipment to greater peril than the adverse consequences which the action is intended to avert).
- The deviation from license is only to the extent necessary to meet the emergency.
- There is no time for an amendment of the license to be approved by the NRC.
- The deviation is approved by a Unit 2/3 SRO (preferably SM), or the SM when specifically required.

6.7.2 **WHAT**

- 10CFR50.54(x) states: "A licensee may take reasonable action that departs from a license condition or a technical specification (contained in a license issued under this part) in an emergency when this action is immediately needed to protect the public health and safety and no action consistent with license conditions and technical specifications that can provide adequate or equivalent protection is immediately apparent."
- 10CFR50.54(y) states: "Licensee action permitted by paragraph (x) of this section shall be approved, as a minimum by a licensed senior operator prior to taking the action."

6.7.3 **WHEN**

Declaration of a 50.54(x) and 50.54(y) is required when a procedure does not provide steps that in the judgment of the Shift Manager are immediately needed to protect the public health and safety and no action consistent with license conditions and technical specifications can provide adequate or equivalent protection is immediately apparent.

6.7.4 **ACTIONS**

Shift Manager perform the following:

- 6.7.4.1 **Formally declare entry into 10CFR50.54(x) or (y) to the Control Room Team.**
- 6.7.4.2 **State the specific action being taken.**
For example, if an Emergency Operating Instruction does not include a specific step(s) which the SM determines are necessary to protect the public health and safety, then the specific action necessary must be clearly stated.
- 6.7.4.3 **State the specific license condition.**
For example, deviation from an approved procedure, or the Technical Specification that will not be followed.
- 6.7.4.4 **Clearly state the reason(s) for the departure.**
For example, Operators will align the Containment Spray Pump to inject into the RCS and spray into Containment in parallel. This action is not specifically stated in the EOIs and is needed to prevent over-pressurizing the Containment, which has a known breach to the atmosphere
- 6.7.4.5 **Determine, to the extent possible, when the license condition or Technical Specification will be restored.**

- 6.7.4.6 **WHEN** APPLICABLE,
THEN communicate all of the above to the SED (Station Emergency Director)
- 6.7.4.7 Log the above items.
- 6.7.4.8 Direct the Operations Leader to inform emergency response facilities that the approved actions may be implemented.
- 6.7.5 For deviations from the Physical Security Plan, advise the Security Leader to suspend safeguards measures which impede timely emergency response.
- 6.7.5.1 Direct the Security Leader to restore those measures as soon as possible.
- 6.7.6 Direct a Licensed Operator to notify the NRC Headquarters Operations Officer (HOO) via the Red Phone of the action taken. Ensure notification is completed as soon as possible but no later than within one hour of taking the action. Notify NRC Region IV Office as soon as practical and in all cases within one hour of the occurrence.
- 6.7.6.1 **WHEN** affected Security measures are restored,
THEN notify the NRC Headquarters Operations Officer and NRC Region IV Office as soon as practical.

CONTINUOUS USE

7.0 ACCEPTANCE / FUNCTIONAL

7.1 None

8.0 RETENTION / RECORDS

8.1 Collect all paperwork generated in response to the emergency event (e.g., logs, procedures, attachments, completed forms and checklists) and deliver to Emergency Planning Coordinator in the TSC.

9.0 DEFINITIONS

9.1 None

10.0 REFERENCES / COMMITMENTS

10.1 Procedures

- 10.1.1 SO123-VIII-1, Recognition and Classification of Emergencies
- 10.1.2 SO123-VIII-30.7, Emergency Notification
- 10.1.3 SO23-VIII-30, Unit 2/3 Operations Leader Duties
- 10.1.4 SO123-VIII-10.3, Protective Action Recommendations
- 10.1.5 SO123-VIII-10.6, Emergency Response Actions for a Declared Security Event
- 10.1.6 SO123-VIII-60.1, OSC Security Coordinator Duties
- 10.1.7 SO123-XV-7, Fitness for Duty Program Requirements for Protected Area Access and Assignment to Emergency Operations Facility Duties
- 10.1.8 SO23-13-1, Local Area Evacuation
- 10.1.9 SO23-13-25, Operator Actions During Security Events

10.2 Other

- 10.2.1 Form EP(123) 3, Emergency Exposure Authorization
- 10.2.2 Form EP(123) 10, Event Notification Form
- 10.2.3 Form EP(123) 11, Verbal Notification Form
- 10.2.4 NRC Form 361, Reactor Plant Event Notification Worksheet

CONTINUOUS USE

UNUSUAL EVENT

GUIDELINES

1. **WHEN** conditions change,
THEN Attachment 10 for Event Reclassification/PAR Upgrade/Start or Stop of a Radiological Release and Main Body Section 6.3 for Repetitive Evaluations should be reviewed and actions performed as needed.
2. Verbal Notifications are required **within 15 minutes each time** there is a change in event classification or PAR, or there is a start or stop of a radioactive release. For more information, review Main Body Section 6.4 for Verbal Notification Considerations.

TIME LIMITS		Declaration Time: _____
TIME LIMIT	ACTION	RESPONSIBILITY
Emergency Declaration Time + 15 minutes Time Due: _____ Time Performed: _____	Verbal to State and Local	Shift Communicator
As soon as possible but within 1 hour of Emergency Declaration Time Time Due: _____ Time Performed: _____	Verbal to NRC Headquarters Operations Officer	Any Licensed Operator
Emergency Declaration Time + 30 minutes Time Due: _____ Time Performed: _____	ENF to State and Local	Shift Communicator
Emergency Declaration Time + 90 minutes Time Due: _____ Time Performed: _____	ENF follow-up	Shift Communicator
Every 60 minutes thereafter Time Due: _____ Time Performed: _____	ENF follow-up	Shift Communicator

UNUSUAL EVENT

NOTE

Steps in this Attachment may be performed out of sequence or concurrently.

1.0 INITIAL ACTIONS

- 1.1. Determine if there has been a release of radioactive material. ☐
- 1.2. Determine the appropriate Offsite Protective Action Recommendations below:
(Refer to SO123-VIII-10.3). ☐
- ☐ None Required
- 1.3. Perform Verbal Notification Actions. (To be completed **within 15 minutes of Event Declaration**). (Refer to main body section 6.4). ☐
- 1.3.1 Record completion time in Time Limits Table. ☐

NOTE

NRC Form 361 may be used as a guide to report events to NRC Headquarters.

- 1.4. Direct a Licensed Operator to notify the NRC Headquarters Operations Officer via the Red Phone. (**As soon as possible but within 1 hour of Emergency Declaration Time**). ☐
- 1.4.1 Record completion time in Time Limits Table. ☐

UNUSUAL EVENT

- 1.5. Announce the following to Control Room as soon as practical but not to interfere with Standard Post Trip Actions:

- ☐ Your Name
- ☐ Your assumption of EC Duties
- ☐ Emergency Class and Event Code _____
- ☐ Event Declaration Time _____
- ☐ Status of Onsite Protective Actions (check all that apply) (Refer to section 2.0)
 - ☐ None
 - ☐ Local Area Evacuation
 - ☐ Site Assembly
 - ☐ Site Evacuation
 - ☐ No eating or drinking
- ☐ Offsite Protective Action Recommendation (PAR)
 - ☐ None Required
- ☐ Security Code Color
 - ☐ Red
 - ☐ Blue
- ☐ Radiological Release, if applicable
- ☐ Upgrade Criteria (include vital parameters to be monitored)



- 1.6. Perform Event Notification Actions. (To be completed **within 30 minutes of Event Declaration**). (Refer to main body section 6.5). ☐

- 1.6.1 Record completion time in Time Limits Table. ☐



- 1.7. Perform Follow-up Event Notification Actions. (To be completed **at a minimum within 90 minutes of Event Declaration and every 60 minutes thereafter or as conditions warrant** (i.e., significant changes in plant conditions or changes in event code within the same emergency class). (Refer to main body Section 6.5). ☐

- 1.7.1 Record completion times in Time Limits Table. ☐

UNUSUAL EVENT

2.0 DETERMINE THE ONSITE PROTECTIVE ACTIONS

2.1. **IF** any of the following hazards exist,
THEN initiate actions for a local area evacuation per SO23-13-1, as appropriate: ☐

- High radiation alarms or unexpected high levels on Area Radiation Monitors (ARMs), building or containment ventilation monitors, portable radiation monitors, or continuous air monitors.
- Spills of radioactive material which may result in excessive personnel exposure.
- Fire Protection System Actuation.
- Toxic / flammable gases reported.
- Chemical hazards to personnel.
- High pressure steam or water leaks.
- Security hazards which threaten personnel or equipment safety.
- Local report of fire or smoke.
- Any other condition which may present a hazard to plant personnel.

2.2. **IF** a Radiological Release occurs,
THEN do the following:

2.2.1 **IF** release information was not included in the initial Verbal Notification of step 1.3,
THEN initiate Attachment 10. ☐

2.2.2 Direct the HP Supervisor, to report to the Control Room, assume HP Leader duties and perform a dose assessment. (Refer to Emergency Response Telephone Directory for PAX numbers). ☐

2.2.3 Direct no eating or drinking in the Control Room. ☐

2.2.4 Ensure Site PA made directing no eating or drinking. ☐

END OF SECTION 2.0

UNUSUAL EVENT

3.0 OTHER CONSIDERATIONS

- 3.1. IF notified of personnel who have declared alcohol consumption within five hours and are waiting for Protected Area entry, THEN evaluate the individual per SO123-XV-7 requirements to determine whether they should:

- Be allowed entry into the Protected Area, OR
- Report to the Administration Warehouse & Supply/Shop (AWS) Building Multipurpose Room and continue to wait, OR
- Be provided a ride home.

- 3.2. Perform the following Attachments as needed:

<u>ATTACHMENT</u>	<u>PAGE</u>
6 Event Closeout	56
7 Alternate Emergency Response Facility Status Checklist	58
8 Emergency Coordinator Duties Turnover	59
9 Emergency Coordinator Turnover Status	60
10 Event Reclassification/PAR Upgrade/Start or Stop of Radiological Release	61

END OF ATTACHMENT 1

ALERT

GUIDELINES

1. **WHEN** conditions change,
THEN Attachment 10 for Event Reclassification/PAR Upgrade/Start or Stop of a Radiological Release, Main Body Section 6.3 for Repetitive Evaluations should be reviewed and actions performed as needed.
2. Verbal Notifications are required **within 15 minutes each time** there is a change in event classification or PAR, or there is a start or stop of a radioactive release. For more information, review Main Body Section 6.4, Verbal Notification Considerations.

TIME LIMITS		Declaration Time: _____
TIME LIMIT	ACTION	RESPONSIBILITY
Emergency Declaration Time + 15 minutes Time Due: _____ Time Performed: _____	Verbal to State and Local	Shift Communicator
Emergency Declaration Time + 15 minutes Time Due: _____ Time Performed: _____	Initial Site PA/Siren Activation	OPS Leader
As soon as possible but within 1 hour of Emergency Declaration Time Time Due: _____ Time Performed: _____	Verbal to NRC Headquarters Operations Officer	Any Licensed Operator
Emergency Declaration Time + 30 minutes Time Due: _____ Time Performed: _____	ENF to State and Local	Shift Communicator
30 minutes after Site PA for Site Assembly (if ordered) Time Due: _____ Time Performed: _____	Review initial PA/ISFSI Accountability Reports	EC/Security Leader
Emergency Declaration Time + 90 minutes Time Due: _____ Time Performed: _____	ENF follow-up	Shift Communicator
Every 60 minutes thereafter Time Due: _____ Time Performed: _____	ENF follow-up	Shift Communicator

ALERT

NOTE

Steps in this Attachment may be performed out of sequence or concurrently.

1.0 INITIAL ACTIONS

1.1. Determine if there has been a release of radioactive material. ☐

1.2. Determine the appropriate Offsite Protective Action Recommendations below:
(Refer to SO123-VIII-10.3) ☐

☐ Evacuate the State Beach (Security Event or Event Related Radiological Release)

☐ None Required



1.3. Perform Verbal Notification Actions. (To be completed **within 15 minutes of Event Declaration**) (Refer to main body section 6.4). ☐

1.3.1 Record completion time in Time Limits Table. ☐



1.4. Direct a qualified Licensed Operator to assume the Operations Leader Duties per SO23-VIII-30 and perform Attachment for PA/Siren Activation. (To be completed **within 15 minutes of Event Declaration**). ☐

1.4.1 Record completion time in Time Limits Table. ☐

NOTE

NRC Form 361 may be used as a guide to report events to NRC Headquarters.



1.5. Direct a Licensed Operator to notify the NRC Headquarters Operations Officer via the Red Phone. (**As soon as possible but within 1 hour of Emergency Declaration Time**). ☐

1.5.1 Record completion time in Time Limits Table. ☐

ALERT

- 1.6. Announce the following to Control Room as soon as practical but not to interfere with Standard Post Trip Actions: ☐

- ☐ Your Name
- ☐ Your assumption of EC Duties (first announcement only)
- ☐ Emergency Class and Event Code _____
- ☐ Event Declaration Time _____
- ☐ Status of Onsite Protective Actions (check all that apply) (Refer to section 2.0)
 - ☐ None
 - ☐ Local Area Evacuation
 - ☐ Site Assembly
 - ☐ Site Evacuation
 - ☐ No eating or drinking
- ☐ Offsite Protective Action Recommendation (PAR) (Refer to step 1.2)
- ☐ Security Code Color
 - ☐ Red
 - ☐ Blue
- ☐ Radiological Release, if applicable
- ☐ Upgrade Criteria (Include vital parameters to be monitored)



- 1.7. Perform Event Notification Actions. (To be completed **within 30 minutes of Event Declaration.**) (Refer to main body Section 6.5). ☐

- 1.7.1 Record completion time in Time Limits Table. ☐

- 1.8. Perform Follow-up Event Notification Actions. (To be completed **at a minimum within 90 minutes of Event Declaration and every 60 minutes thereafter or as conditions warrant** [i.e., significant changes in plant conditions or changes in event code within the same emergency class]). ☐

- 1.8.1 Record completion time in Time Limits Table. ☐

END OF SECTION 1.0

ALERT

2.0 DETERMINE THE ONSITE PROTECTIVE ACTIONS

- 2.1. **IF** any of the following hazards exist,
THEN initiate actions for a local area evacuation per SO23-13-1, as appropriate: ☐
- High radiation alarms or unexpected high levels on Area Radiation Monitors (ARMs), building or containment ventilation monitors, portable radiation monitors, or continuous air monitors.
 - Spills of radioactive material which may result in excessive personnel exposure.
 - Fire Protection System Actuation.
 - Toxic / flammable gases reported.
 - Chemical hazards to personnel.
 - High pressure steam or water leaks.
 - Security hazards which threaten personnel or equipment safety.
 - Local report of fire or smoke.
 - Any other condition which may present a hazard to plant personnel.
- 2.2. **IF** not already performed,
THEN direct the HP Supervisor to report to the Control Room and assume the HP Leader duties. (Refer to Emergency Response Telephone Directory for PAX numbers): ☐
- 2.3. **IF** a Radiological Release occurs,
THEN do the following:
- ☐ **IF** release has been initiated after initial PAR determination of step 1.2,
THEN initiate Attachment 10.
 - ☐ Direct the HP Leader to perform a dose assessment.
 - ☐ Direct no eating or drinking in the Control Room.
 - ☐ Ensure Site PA made directing no eating or drinking.
- 2.4. Direct the Fire Department or Security, as available, to perform a sweep of Camp Mesa to verbally inform, using portable PA system or door-to-door, residents of an emergency declaration requiring them to report to the Mesa Cafeteria assembly area, unless otherwise directed. (Refer to Emergency Response Telephone Directory for PAX numbers). ☐
- 2.5. Direct the Security Leader to start personnel accountability per SO123-VIII-60. (Refer to Emergency Response Telephone Directory for PAX numbers). ☐
- 2.6. **IF** there are any hazards affecting major portions of the Protected Area, Owner Controlled Area (OCA) or Mesa area,
THEN determine the need to perform Section for Site Assembly or Section for Site Evacuation. ☐

ALERT

3.0 SITE ASSEMBLY

NOTE

Site Assembly is not mandatory at the Alert level.
IF it is determined that Site Assembly is necessary,
THEN perform this section, otherwise leave blank if not used.

- 3.1. Ensure the Operations Leader performs PA/Siren coordination for Site Assembly per SO23-VIII-30. ☐
- 3.2. Direct the Security Leader to perform the following: (refer to Emergency Response Telephone Directory for PAX numbers)
- ☐ Provide the initial personnel accountability report within 30 minutes of the PA announcement for site assembly.
 - ☐ Prepare for possible site evacuation (designate which evacuation routes will be used).
- 3.3. Review the Protected Area/Independent Spent Fuel Storage Installation (ISFSI) accountability reports with the Security Leader **within 30 minutes** of the PA announcement for a Site Assembly. ☐
- 3.4. Periodically consult with the HP Leader to determine if personnel should remain at assembly areas or evacuate the site. ☐
- 3.5. Direct the Operations Leader to periodically perform the following:
- ☐ Provide Assembly Area Coordinators plant information appropriate to the event. (Refer to emergency Response Telephone Directory for PAX numbers).
 - ☐ Make PA announcements to update all site personnel on plant status.

END OF SECTION 3.0

ALERT

4.0 SITE EVACUATION

NOTES

1. Site Evacuation is not mandatory at the Alert level.
IF it is determined that Site Evacuation is necessary,
THEN perform this section, otherwise leave blank if not used.
2. Evacuation of vehicles through the South Gate will require removal of the bollards at the south end of Parking Lot #2, which is estimated to take 1.5 hours. (See SO123-VIII-60.1, Attachment for Site Evacuations.)
3. For short-term releases, consideration should be given to on-site sheltering.

- 4.1. Consult with the HP Leader to determine the likelihood of contamination of evacuees or vehicles and perform the following as appropriate.

- ☐ **IF** there is likelihood of contamination of evacuees or vehicles,
THEN direct evacuating personnel to proceed to a Reception Center.
- ☐ **IF** there is **no** likelihood of contamination of evacuees or vehicles,
THEN direct evacuating personnel to proceed directly home.

- 4.2. Inform the Security Leader that a site evacuation is being directed. ☐

- 4.3. Direct the Operations Leader to perform PA/Siren coordination for Site Evacuation per SO23-VIII-30. ☐

END OF SECTION 4.0

ALERT

5.0 OTHER CONSIDERATIONS

5.1. IF notified of personnel who have declared alcohol consumption within five hours and are waiting for Protected Area entry, THEN evaluate the individual per SO123-XV-7 requirements to determine whether they should:

- Be allowed entry into the Protected Area, OR
- Report to the Administration Warehouse & Supply/Shop (AWS) Building Multipurpose Room and continue to wait, OR
- Be provided a ride home.

5.2. Perform the following Attachments as needed:

<u>ATTACHMENT</u>	<u>PAGE</u>
6 Event Closeout	56
7 Alternate Emergency Response Facility Status Checklist	58
8 Emergency Coordinator Duties Turnover	59
9 Emergency Coordinator Turnover Status	60
10 Event Reclassification/PAR Upgrade/Start or Stop of Radiological Release	61

END OF ATTACHMENT 2

SITE AREA EMERGENCY

GUIDELINES

1. **WHEN** conditions change,
THEN Attachment 10 for Event Reclassification/PAR Upgrade/Start or Stop of a Radiological Release, and Main Body Section 6.3 for Repetitive Evaluations should be reviewed and actions performed as needed.
2. Verbal Notifications are required **within 15 minutes each time** there is a change in event classification or PAR, or there is a start or stop of a radioactive release. For more information, review Main Body Section 6.4 for Verbal Notification Considerations.


TIME LIMITS		Declaration Time: _____
TIME LIMIT	ACTION	RESPONSIBILITY
Emergency Declaration Time + 15 minutes Time Due: _____ Time Performed: _____	Verbal to State and Local	Shift Communicator
Emergency Declaration Time + 15 minutes Time Due: _____ Time Performed: _____	Initial Site PA/Siren Activation	OPS Leader
As soon as possible but within 1 hour of Emergency Declaration Time Time Due: _____ Time Performed: _____	Verbal to NRC Headquarters Operations Officer	Any Licensed Operator
Emergency Declaration Time + 30 minutes Time Due: _____ Time Performed: _____	ENF to State and Local	Shift Communicator
Emergency Declaration Time + 30 minutes Time Due: _____ Time Performed: _____	Review initial PA/ISFSI Accountability Reports	EC/Security Leader
Emergency Declaration Time + 90 minutes Time Due: _____ Time Performed: _____	ENF follow-up	Shift Communicator
Every 60 minutes thereafter Time Due: _____ Time Performed: _____	ENF follow-up	Shift Communicator

SITE AREA EMERGENCY

NOTE



Steps in this Attachment may be performed out of sequence or concurrently.

1.0 INITIAL ACTIONS

- 1.1. Determine if there has been a release of radioactive material. ☐
- 1.2. Determine the appropriate Offsite Protective Action Recommendations below:
(Refer to SO123-VIII-10.3) ☐
- ☐ Evacuate the State Beach
-  1.3. Perform Verbal Notification Actions. (To be completed **within 15 minutes of Event Declaration**) (Refer to main body section 6.4). ☐
- 1.3.1 Record completion time in Time Limits Table. ☐
- 1.4. Ensure a qualified Licensed Operator has assumed the Operations Leader Duties. ☐

NOTE

NRC Form 361 may be used as a guide to report events to NRC Headquarters.

-  1.5. Direct a Licensed Operator to notify the NRC Headquarters Operations Officer via the Red Phone. (**As soon as possible but within 1 hour of Emergency Declaration Time**). ☐
- 1.5.1 Record completion time in Time Limits Table. ☐
-  1.6. **IF** not already performed,
THEN direct the Operations Leader to perform PA/Siren Activation directing a Site Assembly. (To be completed **within 15 minutes of Event Declaration**). ☐
- 1.6.1 Record completion time in Time Limits Table. ☐

SITE AREA EMERGENCY

- 1.7. Announce the following to Control Room as soon as practical but not to interfere with Standard Post Trip Actions:

- ☐ Your Name
- ☐ Your assumption of EC Duties (first announcement only)
- ☐ Emergency Class and Event Code _____
- ☐ Event Declaration Time _____
- ☐ Status of Onsite Protective Actions (check all that apply) (Refer to section 2.0)
 - ☐ None
 - ☐ Local Area Evacuation
 - ☐ Site Assembly
 - ☐ Site Evacuation
 - ☐ No eating or drinking
- ☐ Offsite Protective Action Recommendation (PAR) (Refer to step 1.2)
- ☐ Security Code Color
 - ☐ Red
 - ☐ Blue
- ☐ Radiological Release, if applicable
- ☐ Upgrade Criteria (Include vital parameters to be monitored)

- 1.8. Perform Event Notification Actions. (To be completed **within 30 minutes of Event Declaration**). (Refer to main body Section 6.5) ☐

- 1.8.1 Record completion time in Time Limits Table. ☐

- 1.9. Perform Follow-up Event Notification Actions. (To be completed at a minimum **within 90 minutes of Event Declaration and every 60 minutes thereafter or as conditions warrant** [i.e., significant changes in plant condition or changes in event code within the same emergency class]). (Refer to main body Section 6.5).

- 1.9.1 Record completion time in Time Limits Table. ☐

END OF SECTION 1.0

SITE AREA EMERGENCY

2.0 DETERMINE THE ONSITE PROTECTIVE ACTIONS

- 2.1. **IF** any of the following hazards exist,
THEN initiate actions for a local area evacuation per SO23-13-1, as appropriate: ☐
- High radiation alarms or unexpected high levels on Area Radiation Monitors (ARMs), building or containment ventilation monitors, portable radiation monitors, or continuous air monitors.
 - Spills of radioactive material which may result in excessive personnel exposure.
 - Fire Protection System Actuation.
 - Toxic / flammable gases reported.
 - Chemical hazards to personnel.
 - High pressure steam or water leaks.
 - Security hazards which threaten personnel or equipment safety.
 - Local report of fire or smoke.
 - Any other condition which may present a hazard to plant personnel.
- 2.2. **IF** not already performed,
THEN direct the HP Supervisor to report to the Control Room and assume the HP Leader duties. (Refer to Emergency Response Telephone Director for PAX numbers): ☐
- 2.3. **IF** a Radiological Release occurs,
THEN do the following:
- ☐ **IF** release has been initiated after initial PAR determination of step 1.2,
THEN initiate Attachment 10.
 - ☐ Direct the HP Leader to perform a dose assessment.
 - ☐ Direct no eating or drinking in the Control Room.
 - ☐ Ensure Site PA made directing no eating or drinking.
- 2.4. **IF** not already performed,
THEN direct the Fire Department or Security, as available, to perform a sweep of Camp Mesa to verbally inform, using portable PA system or door-to-door, residents of an emergency declaration requiring them to report to the Mesa Cafeteria assembly area, unless otherwise directed. (Refer to Emergency Response Telephone Directory for PAX numbers). ☐

SITE AREA EMERGENCY

- 2.5. Direct the evacuation of Camp Mesa, unless evacuation exposes personnel to a greater hazard.
- 2.6. Direct the Security Leader to perform the following: (Refer to Emergency Response Telephone Directory for PAX numbers).
- ☐ Start personnel accountability per SO123-VIII-60.
 - ☐ Provide the initial Protected Area/Independent Spent Fuel Storage Installation (ISFSI) accountability reports **within 30 minutes of declaration of Site Area Emergency.**
 - ☐ Prepare for a site evacuation (designate which evacuation routes will be used).

NOTES

1. Site Assembly followed by a Site Evacuation is mandatory at the Site Area Emergency level for all non-emergency response personnel unless assembly or evacuation exposes personnel to greater hazard.
2. Evacuation of vehicles through the South Gate will require removal of the bollards at the south end Parking Lot #2, which is estimated to take 1.5 hours.
3. For short-term releases, consideration should be given to on-site sheltering.

- 2.7. **IF** not already performed,
THEN perform a Site Assembly in accordance with Section 3.0. ☐
- 2.8. **IF** not already performed,
THEN perform a Site Evacuation in accordance with Section 4.0. ☐

END OF SECTION 2.0

SITE AREA EMERGENCY

3.0 SITE ASSEMBLY

- 3.1. Ensure the Operations Leader performs PA/Siren coordination for Site Assembly per SO23-VIII-30. ☐



- 3.2. Review the Protected Area/Independent Spent Fuel Storage Installation (ISFSI) accountability reports with the Security Leader **within 30 minutes of declaration of Site Area Emergency.** ☐

- 3.3. Direct the Operations Leader to periodically perform the following:

- ☐ Provide Assembly Area Coordinators plant information appropriate to the event. (Refer to Emergency Response Telephone Directory for PAX numbers).
- ☐ Make a PA announcement to update all site personnel on plant status.

END OF SECTION 3.0

SITE AREA EMERGENCY

4.0 SITE EVACUATION

- 4.1. Consult with the HP Leader to determine the likelihood of contamination of evacuees or vehicles and perform the following as appropriate:

- ☐ **IF** there is likelihood of contamination of evacuees or vehicles, **THEN** direct evacuating personnel to proceed to a Reception Center.
- ☐ **IF** there is **no** likelihood of contamination of evacuees or vehicles, **THEN** direct evacuating personnel to proceed directly home.

- 4.2. Inform the Security Leader that a site evacuation is being directed. ☐
- 4.3. Direct the Operations Leader to perform PA/Siren coordination for a Site Evacuation per SO23-VIII-30. ☐

5.0 OTHER CONSIDERATIONS

- 5.1. **IF** notified of personnel who have declared alcohol consumption within five hours and are waiting for Protected Area entry, **THEN** evaluate the individual per SO123-XV-7 requirements to determine whether they should:

- Be allowed entry into the Protected Area, **OR**
- Report to the Administration Warehouse & Supply/Shop (AWS) Building Multipurpose Room and continue to wait, **OR**
- Be provided a ride home.

- 5.2. Perform the following Attachments as needed:

<u>ATTACHMENT</u>		<u>PAGE</u>
6	Event Closeout	56
7	Alternate Emergency Response Facility Status Checklist	58
8	Emergency Coordinator Duties Turnover	59
9	Emergency Coordinator Turnover Status	60
10	Event Reclassification/PAR Upgrade/Start or Stop of Radiological Release	61

END OF ATTACHMENT 3

GENERAL EMERGENCY

GUIDELINES

1. **WHEN** conditions change,
THEN Attachment 10 for Event Reclassification/PAR Upgrade/Start or Stop of a Radiological Release, and Main Body Section 6.3 for Repetitive Evaluations should be reviewed and actions performed as needed.
2. Verbal Notifications are required **within 15 minutes each time** there is a change in event classification or PAR, or there is a start or stop of a radioactive release. For more information, review Main Body Section 6.4 for Verbal Notification Considerations.


TIME LIMITS		Declaration Time: _____
TIME LIMIT	ACTION	RESPONSIBILITY
Emergency Declaration Time + 15 minutes Time Due: _____ Time Performed: _____	Verbal to State and Local	Shift Communicator
Emergency Declaration Time + 15 minutes Time Due: _____ Time Performed: _____	Initial Site/PA Siren Activation	OPS Leader
As soon as possible but within 1 hour of Emergency Declaration Time Time Due: _____ Time Performed: _____	Verbal to NRC Headquarters Operations Officer	Any Licensed Operator
Emergency Declaration Time + 30 minutes Time Due: _____ Time Performed: _____	ENF to State and Local	Shift Communicator
Emergency Declaration Time + 30 minutes Time Due: _____ Time Performed: _____	Review initial PA/ISFSI Accountability Reports	EC/Security Leader
Emergency Declaration Time + 90 minutes Time Due: _____ Time Performed: _____	ENF Follow-up	Shift Communicator
Every 60 minutes thereafter Time Due: _____ Time Performed: _____	ENF Follow-up	Shift Communicator

GENERAL EMERGENCY

NOTE



Steps in this Attachment may be performed out of sequence or concurrently.

1.0 INITIAL ACTIONS

- 1.1. Determine if there has been a release of radioactive material. ☐
- 1.2. Determine the appropriate Offsite Protective Action Recommendations. (Refer to SO123-VIII-10.3) ☐
-  1.3. Perform Verbal Notification Actions. (To be completed **within 15 minutes of Event Declaration**). (Refer to main body section 6.4). ☐
- 1.3.1 Record completion time in Time Limits Table. ☐
- 1.4. Ensure a qualified Licensed Operator has assumed the Operations Leader Duties. ☐

NOTE

NRC Form 361 may be used as a guide to report events to NRC Headquarters.

-  1.5. Direct a Licensed Operator to notify the NRC Headquarters Operations Officer via the Red Phone. (**As soon as possible but within 1 hour of Emergency Declaration Time**). ☐
- 1.5.1 Record completion time in Time Limits Table. ☐
-  1.6. **IF** not already performed, **THEN** direct the Operations Leader to perform PA/Siren Activation directing a Site Assembly. (To be completed **within 15 minutes of Event Declaration**.) ☐
- 1.6.1 Record completion time in Time Limits Table. ☐

GENERAL EMERGENCY

- 1.7. Announce the following to Control Room as soon as practical but not to interfere with Standard Post Trip Actions:

- ☐ Your Name
- ☐ Your assumption of EC Duties (first announcement only)
- ☐ Emergency Class and Event Code _____
- ☐ Event Declaration Time _____
- ☐ Status of Onsite Protective Actions (check all that apply) (Refer to section 2.0)
 - ☐ None
 - ☐ Local Area Evacuation
 - ☐ Site Assembly
 - ☐ Site Evacuation
 - ☐ No eating or drinking
- ☐ Offsite Protective Action Recommendation (PAR)
(Refer to step 1.2)
- ☐ Security Code Color
 - ☐ Red
 - ☐ Blue
- ☐ Radiological Release, if applicable
- ☐ Upgrade Criteria (Include vital parameters to be monitored)

- 1.8. Perform event Notification Actions. (To be completed **within 30 minutes of Event Declaration**). (Refer to main body Section 6.5) ☐

- 1.8.1 Record completion time in Time Limits Table. ☐

- 1.9. Perform Follow-up Event Notification Actions. (To be completed **at a minimum within 90 minutes of Event Declaration and every 60 minutes thereafter or as conditions warrant** [i.e., significant changes in plant condition or changes in event code within the same emergency class]). (Refer to main body Section 6.5). ☐

- 1.9.1 Record completion time in Time Limits Table. ☐

END OF SECTION 1.0

GENERAL EMERGENCY

2.0 DETERMINE THE ONSITE PROTECTIVE ACTIONS

- 2.1. **IF** any of the following hazards exist,
THEN initiate actions for a local area evacuation per SO23-13-1, as appropriate: ☐
- High radiation alarms or unexpected high levels on Area Radiation Monitors (ARMs), building or containment ventilation monitors, portable radiation monitors, or continuous air monitors.
 - Spills of radioactive material which may result in excessive personnel exposure.
 - Fire Protection System Actuation.
 - Toxic / flammable gases reported.
 - Chemical hazards to personnel.
 - High pressure steam or water leaks.
 - Security hazards which threaten personnel or equipment safety.
 - Local report of fire or smoke.
 - Any other condition which may present a hazard to plant personnel.
- 2.2. **IF** not already performed,
THEN direct the HP Supervisor to report to the Control Room and assume the HP Leader duties. (Refer to Emergency Response Telephone Directory for PAX numbers): ☐
- 2.3. **IF** a Radiological Release occurs,
THEN do the following:
- ☐ **IF** release has been initiated after initial PAR determination of step 1.2,
THEN initiate Attachment 10.
 - ☐ Direct the HP Leader to perform a dose assessment.
 - ☐ Direct no eating or drinking in the Control Room.
 - ☐ Ensure Site PA made directing no eating or drinking.
- 2.4. **IF** not already performed,
THEN direct the Fire Department or Security, as available, to perform a sweep of Camp Mesa to verbally inform, using portable PA system or door-to-door, residents of an emergency declaration requiring them to report to the Mesa Cafeteria assembly area, unless otherwise directed. (Refer to Emergency Response Telephone Directory for PAX numbers). ☐

GENERAL EMERGENCY

- 2.5. **IF** not already performed,
THEN direct the evacuation of Camp Mesa unless evacuation exposes personnel to a greater hazard.
- 2.6. **IF** not already performed,
THEN direct the Security leader to perform the following: (Refer to Emergency Response Telephone Directory for PAX numbers)
- ☐ Start personnel accountability per SO123-VIII-60.
 - ☐ Provide the initial Protected Area/Independent Spent Fuel Storage Installation (ISFSI) accountability reports **within 30 minutes of declaration of General Emergency.**
 - ☐ Prepare for a site evacuation (designate which evacuation routes will be used).

NOTES

1. Site Assembly followed by a Site Evacuation is mandatory at the Site Area Emergency level or above for all non-emergency response personnel unless assembly or evacuation exposes personnel to greater hazard.
2. Evacuation of vehicles through the South Gate will require removal of the bollards at the south end Parking Lot #2, which is estimated to take 1.5 hours.
3. For short-term releases, consideration should be given to on-site sheltering.

- 2.7. **IF** not already performed,
THEN perform a Site Assembly in accordance with Section 3.0. ☐
- 2.8. **IF** not already performed,
THEN perform a Site Evacuation in accordance with Section 4.0. ☐

END OF SECTION 2.0

GENERAL EMERGENCY

3.0 SITE ASSEMBLY

- 3.1. Ensure the Operations Leader performs PA/Siren coordination for Site Assembly per SO23-VIII-30. ☐



- 3.2. Review the Protected Area/Independent Spent Fuel Storage Installation (ISFSI) accountability reports with the Security Leader **within 30 minutes of declaration of General Emergency.** ☐

- 3.3. Direct the Operations Leader to periodically perform the following:

- ☐ Provide Assembly Area Coordinators plant information appropriate to the event. (Refer to Emergency Response Telephone Directory for PAX numbers).
- ☐ Make a PA announcement to update all site personnel on plant status.

END OF SECTION 3.0

GENERAL EMERGENCY

4.0 SITE EVACUATION

4.1. Consult with the HP Leader to determine the likelihood of contamination of evacuees or vehicles and perform the following as appropriate.

- ☐ **IF** there is likelihood of contamination of evacuees or vehicles, **THEN** direct evacuating personnel to proceed to a Reception Center.
- ☐ **IF** there is **no** likelihood of contamination of evacuees or vehicles, **THEN** direct evacuating personnel to proceed directly home.

4.2. Inform the Security Leader that a site evacuation is being directed. ☐

4.3. Direct the Operations Leader to perform PA/Siren coordination for a Site Evacuation per SO23-VIII-30. ☐

5.0 OTHER CONSIDERATIONS

5.1. **IF** notified of personnel who have declared alcohol consumption within five hours and are waiting for Protected Area entry, **THEN** evaluate the individual per SO123-XV-7 requirements to determine whether they should:

- Be allowed entry into the Protected Area, **OR**
- Report to the Administration Warehouse & Supply/Shop (AWS) Building Multipurpose Room and continue to wait, **OR**
- Be provided a ride home.

5.2. Perform the following Attachments as needed:

<u>ATTACHMENT</u>	<u>PAGE</u>
6 Event Closeout	56
7 Alternate Emergency Response Facility Status Checklist	58
8 Emergency Coordinator Duties Turnover	59
9 Emergency Coordinator Turnover Status	60
10 Event Reclassification/PAR Upgrade/Start or Stop of Radiological Release	61

END OF ATTACHMENT 4

SECURITY EVENT ACTIONS AND EC POST SECURITY EVENT CHECKLIST

GUIDELINE

Actions of this attachment should be performed concurrently with actions of the applicable Event Attachment (Attachment 1, 2, 3, or 4)

NOTE

Steps in this Attachment may be performed out of sequence or concurrently.

1.0 INITIAL ACTIONS

- 1.1. Initiate SO23-13-25, Operator Actions for applicable protective actions.
 - 1.1.1 Record the Control Room time: _____
- 1.2. Direct the following to report to the Control Room to coordinate response activities:
 - ☐ Security Shift Commander
 - ☐ Fire Department Shift Captain
 - ☐ HP Supervisor
 - ☐ Maintenance Shift Rotating General Foreman (during an outage, contact the OCC for name of Maintenance Foreman)
- 1.3. Refer to SO123-VIII-10.6 for guidance on declared Security-related events.

2.0 SECURITY-RELATED UNUSUAL EVENT (UE) F1-1

- 2.1. Direct a qualified, licensed Operator to assume the duties of Operations Leader and immediately perform the actions of SO23-VIII-30 (no siren activation required).
- 2.2. Review the Onsite Protective Actions listed in the table below and consider/verify their implementation as appropriate.
- 2.3. Direct Shift Communicator to perform emergency recall of ERO personnel reporting to a staging area.

SECURITY EVENT ACTIONS AND EC POST SECURITY EVENT CHECKLIST

3.0 ALERT, SITE AREA EMERGENCY, GENERAL EMERGENCY

- 3.1. **IF** not already performed at Security-Related Unusual Event F1-1, **THEN** direct a qualified, licensed Operator to assume the Operations Leader duties and implement SO23-VIII-30.
- 3.2. **IF** not already performed at Security-Related Unusual Event F1-1, **THEN** direct the NOA to assume the Shift Communicator duties and perform emergency recall of ERO personnel reporting to a staging area.
- 3.3. Review the Onsite Protective Actions listed in the table below and consider/verify their implementation as appropriate.

SUMMARY OF ONSITE PROTECTIVE ACTIONS	
EMERGENCY CLASS	ONSITE ACTIONS
Security-Related Unusual Event F1-1	<ol style="list-style-type: none"> a. PA Announcement b. Emergency Recall c. Accountability Started
Alert	<ol style="list-style-type: none"> a. PA Announcement b. Siren Activation c. Emergency Recall d. Assemble Camp Mesa, if occupied e. Accountability Started
Site Area Emergency	<ol style="list-style-type: none"> a. PA Announcement b. Siren Activation c. Emergency Recall d. Accountability Due e. Assemble and Evacuate Camp Mesa, if occupied [1] f. Site Assembly and Evacuation [1] g. No Eating or Drinking
General Emergency	<ol style="list-style-type: none"> a. PA Announcement b. Siren Activation c. Emergency Recall d. Accountability Due e. Assemble and Evacuate Camp Mesa, if occupied [1] f. Site Assembly and Evacuation [1] g. No Eating or Drinking

- [1] Site and Camp Mesa Assembly followed by Site and Camp Mesa Evacuation is mandatory for all non-emergency response personnel at a Site Area Emergency or higher classification unless assembly or evacuation exposes personnel to a greater hazard.

SECURITY EVENT ACTIONS AND EC POST SECURITY EVENT CHECKLIST

4.0 CLOSE OUT

- 4.1. Confer with the Security Shift Commander to determine the appropriate time to address Section for EC Post-Security Event Checklist.

SECURITY EVENT ACTIONS AND EC POST SECURITY EVENT CHECKLIST

NOTE

Steps in this Attachment may be performed out of sequence or concurrently.

The following actions are to be considered immediately after the Security Shift Commander determines the event has been terminated.

- 1.0 Assess Plant Staffing Capabilities – This includes Operators, Security, Health Physics, Maintenance and other Emergency Response Personnel. Obtain additional resources as required. ☐
- 2.0 Online Protective Actions have been considered and adjusted according to the current plant conditions. Consider the following options: ☐
 - 2.1. Have personnel remain at their location until directed – Ensure personnel hazards are identified prior to directing personnel movement. ☐
 - 2.2. Gather personnel within the Protected Area – Coordinate with Security to determine a safe area adequate to assemble the amount of personnel in the area and not compromise any law enforcement investigation. ☐
 - 2.3. Assembly and Personnel Accountability – consider implementing Site Assembly. ☐
 - 2.4. Evacuation of non-emergency response personnel from the Owner Controlled Area Provide direction regarding exit routes from the OCA. ☐
 - 2.5. Draft and then make appropriate PA announcements regarding the event, protective actions and areas to remain clear of while moving about the site. Include information that areas of the activity are to be considered crime scenes and are to be preserved for law enforcement investigation. ☐
- 3.0 Medical and Fire Support – Assess and address the need for medical and fire response. Ensure adequate support has been requested and provided by onsite and/or offsite responders. ☐
 - 3.1. Direct the SONGS Fire Department to respond to the most critical locations. ☐
 - 3.2. Request the Security Shift Commander to contact the Offsite Incident Commander (IC) to provide additional responders as needed. ☐
 - 3.3. IF escorts are needed,
THEN assign available ERO personnel. ☐
- 4.0 Emergency Classification – Ensure the highest classification attained during the event has been declared. ☐
IF Alert or higher has been declared,
THEN do not downgrade the emergency classification until the ERFs are activated. ☐

SECURITY EVENT ACTIONS AND EC POST SECURITY EVENT CHECKLIST

- 5.0 Notifications – Provide current status of onsite conditions and other required information contained in the notifications to:
- 5.1. Offsite Authorities ☐
 - 5.2. NRC ☐
 - 5.3. ERO ☐
- 6.0 Protective Action Recommendations (PARs) – Ensure PARs have been issued that are consistent with current plant conditions and/or radiological release criteria per SO123-VIII-10.3. Ensure the PARs have been successfully communicated to the offsite officials per SO123-VIII-30.7. ☐
- 7.0 Law Enforcement – Ensure that Security has contacted the FBI and Law Enforcement Agencies and they are apprised of the status of the event.
- 7.1. The Security Shift Commander should identify locations that would be considered crime scenes. ☐
 - 7.2. Stand-by to provide access to the Protected Area by law enforcement, fire and medical support personnel. ☐
 - 7.3. IF escorts are needed,
THEN assign available ERO personnel. ☐
- 8.0 Personnel Dose Assessment – Take necessary actions to ensure that personnel that may have been exposed to a radiological release during the event are identified and assessed by Health Physics. Security response personnel in fixed positions should be of particular concern. ☐
- 9.0 Deviations from License Conditions-50.54(x) – Assess the status of the license conditions (equipment and security) and ensure that appropriate actions are underway in accordance with Section 6.7 of this procedure. ☐
- 10.0 Turnover and Interface with responding ERO – Prepare for contact with the SED and/or the CED and the turnover of command and control of the emergency. ☐
- 10.1. Provide plant and event status using Attachment 9. ☐
 - 10.2. Request needed support personnel (Operations, Health Physics, Maintenance, Security, Fire, Medical, etc.). ☐
 - 10.3. Provide destination and route for Emergency Response Personnel. ☐
 - 10.4. Consider the need to relocate Emergency Response Personnel from the Alternate TSC and Alternate OSC to the Protected Area for repair and mitigation activity. Coordinate movement of personnel into the OCA or Protected Area with the Security Shift Commander. ☐

EVENT CLOSEOUT

1.0 An emergency may be closed out when the criteria for classification described in SO123-VIII-1 no longer applies as indicated by the following conditions.

1.1. **IF** the event resulted in a radiological release,
THEN:

- The release is controlled or within design limits.
- Radiation levels within the plant are decreasing or at least stable.
- Containment personnel who were injured have received appropriate medical treatment.

1.2. **IF** the event was the result of a natural or manmade disaster,
THEN fire, flooding, or other onsite conditions are controlled.

1.3. **IF** the event required response from offsite agencies,
THEN the need for offsite response is significantly reduced.

OR

2.0 **Units 2/3 only** For an Unusual Event declared for a Technical Specification shutdown (C1-2, D1-1, G1-2), the event may be closed out when one of the following three conditions are met:

- Controlled power reduction has been initiated (reactor power is below level at which emergency declaration was made).
- Boration for RCS cooldown has been initiated.
- RCS cooldown has been initiated (RCS temperature is below level at which event declaration was made).

OR

3.0 For an Alert declared for loss of control of radioactive material (A2-3), the event may be closed out when both of the following conditions are met:

- Appropriate personnel access controls have been established to control radiation exposure, and
- The radioactive material is contained within the access controlled area.

EVENT CLOSEOUT

4.0 Optional at UE:

- 4.1. Direct the Operations Leader to verify with other Emergency Response Facilities that no additional considerations need to be addressed prior to closeout.
- 4.2. Direct the Units 2/3 Operations Leader to make PA announcements for closeout.
- 4.3. Direct the Units 2/3 Operations Leader to notify all emergency response facilities of the event closeout.

5.0 IF the EOF and TSC are not activated, THEN direct notification of event closeout as follows:

- 5.1. Draft a verbal message using SO123-VIII-30.7, Attachment for Verbal Notification Form and Key Points and direct the Shift Communicator to notify the offsite agencies using the Yellow Phone.
- 5.2. Draft an ENF for closeout and direct the Shift Communicator to transmit it to offsite agencies.
- 5.3. Direct the Red Phone Talker to notify the NRC Headquarters Operations Officer of event closeout.

Time: _____

6.0 Announce to the Control Room that the event is closed out.

Time: _____

ALTERNATE EMERGENCY RESPONSE FACILITY STATUS CHECKLIST

NOTE

Steps in this Attachment may be performed out of sequence or concurrently.

1.0 Emergency Response Facilities (ERFs):

Accessible:

CR	<input type="checkbox"/> Yes	<input type="checkbox"/> No
TSC	<input type="checkbox"/> Yes	<input type="checkbox"/> No
OSC	<input type="checkbox"/> Yes	<input type="checkbox"/> No
EOF	<input type="checkbox"/> Yes	<input type="checkbox"/> No
ENC	<input type="checkbox"/> Yes	<input type="checkbox"/> No

Activated:

CR	<input type="checkbox"/> Yes/Time: _____	<input type="checkbox"/> No
TSC	<input type="checkbox"/> Yes/Time: _____	<input type="checkbox"/> No
OSC	<input type="checkbox"/> Yes/Time: _____	<input type="checkbox"/> No
EOF	<input type="checkbox"/> Yes/Time: _____	<input type="checkbox"/> No
ENC	<input type="checkbox"/> Yes/Time: _____	<input type="checkbox"/> No

2.0 Alternate Facilities In Use: ☐ Yes ☐ No

Describe: _____

3.0 Command and Control:

Event Classification	<input type="checkbox"/> SM	<input type="checkbox"/> SED	
PAR Decision-Making	<input type="checkbox"/> SM	<input type="checkbox"/> SED	<input type="checkbox"/> CED
State/Local Notification	<input type="checkbox"/> SM	<input type="checkbox"/> SED	<input type="checkbox"/> CED
NRC Notification	<input type="checkbox"/> SM	<input type="checkbox"/> SED	<input type="checkbox"/> CED
Exposure Control	<input type="checkbox"/> SM	<input type="checkbox"/> SED	
Overall Command & Control	<input type="checkbox"/> SM	<input type="checkbox"/> SED	<input type="checkbox"/> CED

4.0 Key ERO Functions:

Dose Assessment	<input type="checkbox"/> CR	<input type="checkbox"/> TSC	<input type="checkbox"/> EOF	<input type="checkbox"/> Alt. EOF
Accident Assessment	<input type="checkbox"/> CR	<input type="checkbox"/> TSC	<input type="checkbox"/> EOF	<input type="checkbox"/> Alt. EOF
NRC ENS Phone	<input type="checkbox"/> CR	<input type="checkbox"/> TSC	<input type="checkbox"/> EOF	<input type="checkbox"/> Alt. EOF
Accountability	<input type="checkbox"/> TSC	<input type="checkbox"/> Other: _____		
Offsite Interface	<input type="checkbox"/> EOF	<input type="checkbox"/> Alt. EOF		
LEA Interface	<input type="checkbox"/> EOF	<input type="checkbox"/> Alt. EOF	<input type="checkbox"/> Other: _____	
Accident Mitigation	<input type="checkbox"/> CR	<input type="checkbox"/> TSC	<input type="checkbox"/> EOF	
Repair Team Coordinator	<input type="checkbox"/> CR	<input type="checkbox"/> OSC	<input type="checkbox"/> EOF	
Field Team Dispatch	<input type="checkbox"/> OSC	<input type="checkbox"/> EOF	<input type="checkbox"/> Other: _____	
Media Briefings	<input type="checkbox"/> ENC	<input type="checkbox"/> Other: _____		

5.0 Alternate ERF Locations for Security Events:

Alternate TSC = Bldg. E-50, Classroom 11
Alternate OSC = Bldg. E-50, Learning Center

EMERGENCY COORDINATOR DUTIES TURNOVER

NOTES

1. Turnover **SHALL NOT** prevent timely completion of the primary EC responsibilities of classification, notification and PAR.
2. Steps in this Attachment may be performed out of sequence or concurrently.

CAUTION

Turnover of the EC duties during transient conditions or with uncompleted verbal notifications in progress may result in failure to meet regulatory requirements for timely and accurate classification, notification and PAR.

- 1.0 Conduct an assessment of notifications in progress prior to turnover of the EC duties.

NOTE

The EC **SHALL** be relieved as EC only by a qualified SEC or relief EC.

- 2.0 **WHEN** a relief SED/EC arrives at the Control Room (a relief EC will continue with this procedure),

THEN:

- 2.1. Complete EC Turnover Status (Attachment 9) and discuss with the relief EC.
- 2.2. **IF** any Alternate Emergency Response Facilities have been activated, **THEN** complete Attachment 7, and discuss with the relief EC.
- 2.3. **WHEN** relieved of all EC duties, **THEN** direct the Operations Leader to notify all Emergency Response Facilities of the turnover via the Ivory Phone.
- 2.4. Direct the Control Room Red Phone Talker to turnover phone talker duties to the TSC Red Phone Talker, **WHEN** the TSC Red Phone Talker comes on the line.
- 2.5. EC Duties Turnover Completed.
Time: _____
- 2.6. Discontinue use of this procedure

EMERGENCY COORDINATOR TURNOVER STATUS

DATE: ____/____/____

TIME: ____:____ AM / PM

TURNOVER FROM _____ TO _____

AFFECTED FACILITY: ☐ Unit 1 ☐ Unit 2 ☐ Unit 3 or ☐ ISFSI MODE ____ EVENT CODE ____

BASES FOR EVENT CODE _____

SECURITY EVENT IN PROGRESS? YES / NO IF YES: CODE RED CODE BLUE

RELEASE IN PROGRESS? YES / NO / IMMINENT (IF YES, THEN COMPLETE ITEMS A THROUGH C, BELOW)

A. WIND DIRECTION _____

B. SOURCES OF RELEASE _____

C. SOURCE TERM/EAB DOSE RATE (IF KNOWN) _____

ONSITE PROTECTIVE ACTIONS IN PROGRESS _____

OFFSITE PROTECTIVE ACTION RECOMMENDATIONS BASED ON:

EVENT CODE ____ PENDING PLANT CONDITIONS ____ OFFSITE DOSE PROJECTIONS ____
OTHER (SPECIFY) _____

NOTIFICATIONS IN PROGRESS (TO BE COMPLETED BY OFF-GOING EMERGENCY COORDINATOR)

NOTIFICATIONS PENDING (TO BE COMPLETED BY ONCOMING EMERGENCY COORDINATOR)

SAFETY FUNCTIONS SATISFIED? YES / NO MOST AFFECTED SAFETY FUNCTIONS ____

MITIGATION ACTION IN PROGRESS:

IN-PLANT _____

CONTROL ROOM _____

AREA OF NEEDED SUPPORT _____

OTHER COMMENTS _____

EVENT RECLASSIFICATION/PAR UPGRADE/START OR STOP OF RADIOLOGICAL RELEASE

NOTES

1. Reclassification, upgrade in PAR including additional PAZ(s), start or stop of a radiological release requires a new set of Notifications.
2. Event Declaration time starts the 15 minute time limit for verbal notifications to Local and State emergency facilities.
3. This Attachment may be used as many times as necessary.

- 1.0 **IF** a General Emergency has previously been declared and there is a need to Upgrade the PAR,
THEN determine the upgraded PAR in accordance with SO123-VIII-10.3, and make notifications in accordance with SO123-VIII-30.7, otherwise, mark N/A.

Initials Initials Initials

- 1.1. Record PAR: _____

Initials Initials Initials

- 2.0 **IF** conditions indicate the start or stop of a radiological release i,
THEN refer to Main Body Section 6.5,
AND begin a new set of verbal and printed notifications, in accordance with, SO123-VIII-30.7. Otherwise, mark N/A.

Initials Initials Initials

- 3.0 **IF** the Emergency Classification should be Upgraded per SO123-VIII-1,
THEN perform the following, otherwise, MARK N/A.

Initials Initials Initials

- 3.1. Identify Event Classification:

Initials Initials Initials

- 3.2. Obtain STA or available SRO independent verification of event classification.

Initials Initials Initials

- 3.3. Record Event Declaration Time:

Initials Initials Initials

- 3.4. Announce the changes in classification to the Control Room.

Initials Initials Initials

EVENT RECLASSIFICATION/PAR UPGRADE/START OR STOP OF RADIOLOGICAL RELEASE

- 4.0 **WHEN** conditions indicate the need for a possible reclassification,
THEN review all applicable event categories,
AND ensure the event is reclassified to the highest applicable emergency class.

Initials Initials Initials

- 4.1. **IF** reclassifying from a UE to an Alert,
AND the ERO was not recalled,
THEN direct the Shift Communicator to ensure emergency recall of the entire ERO is completed by stopping any running scenario and starting a new scenario using the new Scenario ID.

- 5.0 **WHEN** conditions indicate the need for an upgrade in PAR,
THEN determine the new PAR using SO123-VIII-10.3,
AND begin a new set of verbal and printed notifications.

Initials Initials Initials

- 6.0 **IF** the PAR calls for a state beach evacuation,
THEN direct the Operations Leader to make a Perimeter PA announcement per SO123-VIII-30.

Initials Initials Initials

- 7.0 **IF** a new event classification has been declared
THEN, initiate the applicable attachment(s) to complete further actions based on event classification, otherwise mark N/A.

Initials Initials Initials

NOTE

Attachment 5 may be performed concurrently with Attachments 1, 2, 3 or 4.

✓	EVENT CLASSIFICATION	PERFORM
	Unusual Event	Attachment 1
	Alert Event	Attachment 2
	Site Area Emergency	Attachment 3
	General Emergency	Attachment 4
	Security-Related Emergency	Attachment 5

SUMMARY OF CHANGES

Author: Steve Giannell PAX: 89843 Location: D1N

NN, Order, or Other Action	Description of Change	Reviewer(s)	50.59	Step, Section, Attachment or Page
Order 800524691 NN 200885850	Complete reformat of procedure to incorporate place keeping upgrade using Continuous Use sections/attachments.	See below	DNA	Entire Procedure
NN 200784429	Replaced Form EP(123) 9 with NRC Form 361		DNA	Attachments 1 through 4
NN 200925203	Updated references		DNA	References/Commitments
N/A	Added Verbal Notification Form Keypoints			Section 6.4
N/A	Added Event Notification Form Keypoints			Section 6.5
N/A	Added details related to 10CFR50.54(x) & (y) for deviations from license conditions		DNA	Section 6.7

Reviewer or Designee	Organization
Jeff Allen	Training
John Dahl	Operations
Barbara Culverhouse	Offsite Emergency Planning
Ray Reece	Emergency Planning
Steve Giannell	Emergency Planning
Kelli Gallion	Emergency Planning – Cog Sup
Marc Goettel	SEP - CFDM

Attachment 2

SONGS EMERGENCY PLAN IMPLEMENTING PROCEDURES (EPIPs) INDEX

<u>DOCUMENT</u>	<u>REV. #</u>	<u>TCN/EC</u>	<u>TITLE</u>
SO123-VIII-0.100	13		MAINTENANCE AND CONTROL OF EMERGENCY PLANNING DOCUMENTS
SO123-VIII-0.200	11		EMERGENCY PLAN DRILLS AND EXERCISES
SO123-VIII-0.201	19		EMERGENCY PLAN EQUIPMENT SURVEILLANCE PROGRAM (EPESP)
SO123-VIII-0.202	10		ASSIGNMENT OF EMERGENCY RESPONSE PERSONNEL
SO123-VIII-0.301	14		EMERGENCY TELECOMMUNICATIONS TESTING
SO123-VIII-0.302	5		ONSITE EMERGENCY SIREN SYSTEM TEST
SO123-VIII-0.303	3		PERIMETER PUBLIC ADDRESS SYSTEM (PPAS) ROUTINE TEST
SO123-VIII-1	31		RECOGNITION AND CLASSIFICATION OF EMERGENCIES
SO123-VIII-10	27		EMERGENCY COORDINATOR DUTIES
SO123-VIII-10.1	19		STATION EMERGENCY DIRECTOR DUTIES
SO123-VIII-10.2	16	16-1	CORPORATE EMERGENCY DIRECTOR DUTIES
SO123-VIII-10.3	12		PROTECTIVE ACTION RECOMMENDATIONS
SO123-VIII-10.4 ISS2	2		TECHNICAL SUPPORT CENTER (TSC) MANAGER DUTIES
SO123-VIII-10.5	4		EVENT CLOSE OUT AND RECOVERY
SO123-VIII-10.6	3		EMERGENCY RESPONSE ACTIONS FOR A DECLARED SECURITY EVENT
SO23-VIII-30	16		UNITS 2/3 OPERATIONS LEADER DUTIES
SO123-VIII-30.1	26		EMERGENCY PLANNING COORDINATOR DUTIES

Attachment 2

SONGS EMERGENCY PLAN IMPLEMENTING PROCEDURES (EIPs) INDEX

<u>DOCUMENT</u>	<u>REV. #</u>	<u>TCN/EC</u>	<u>TITLE</u>
SO123-VIII-30.3	6		OSC OPERATIONS COORDINATOR DUTIES
SO123-VIII-30.4	10		EMERGENCY SERVICES COORDINATOR DUTIES
SO123-VIII-30.7	12	12-3	EMERGENCY NOTIFICATIONS
SO123-VIII-40	24	24-1	TSC HEALTH PHYSICS LEADER DUTIES
SO123-VIII-40.1	27		OSC HEALTH PHYSICS COORDINATOR DUTIES
SO123-VIII-40.3	15		EOF HEALTH PHYSICS (HP) LEADER DUTIES
SO123-VIII-40.100	14		DOSE ASSESSMENT
SO123-VIII-40.200	2		RADDOSE-V DOSE ASSESSMENT
SO123-VIII-40.300	1		OFFSITE FIELD MONITORING TEAM DUTIES
SO123-VIII-50	16		TSC TECHNICAL LEADER DUTIES
SO123-VIII-50.1	7		CHEMISTRY COORDINATOR DUTIES
SO123-VIII-50.2	7		EOF TECHNICAL LEADER DUTIES
SO23-VIII-50.3	9		CORE DAMAGE ASSESSMENT
SO123-VIII-60	22		SECURITY LEADER DUTIES
SO123-VIII-60.1	19		OSC SECURITY COORDINATOR DUTIES
SO123-VIII-60.2	11		EOF SECURITY LIAISON DUTIES
SO123-VIII-60.4	2		SECURITY DIRECTOR DUTIES
SO123-VIII-70	20		ADMINISTRATIVE LEADER DUTIES
SO123-VIII-70.2	7		EOF ADMINISTRATIVE COORDINATOR DUTIES

Attachment 2

SONGS EMERGENCY PLAN IMPLEMENTING PROCEDURES (EPIPs) INDEX

<u>DOCUMENT</u>	<u>REV. #</u>	<u>TCN/EC</u>	<u>TITLE</u>
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SO123-VIII-80	15		EMERGENCY GROUP LEADER DUTIES
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Attachment 3

SONGS EMERGENCY PLAN REFERENCED ORDERS AND TRAINING PROCEDURES

<u>DOCUMENT</u>	<u>REV. #</u>	<u>TCN/EC</u>	<u>TITLE</u>
SO123-EP-1	8		SONGS EMERGENCY PLAN IMPLEMENTATION
SO123-NP-1	8		OFFSITE EMERGENCY PLANNING (OEP) RESPONSIBILITIES AND OFFSITE INTERFACES
SO123-XXI-1.11.3	22		EMERGENCY PLAN TRAINING PROGRAM DESCRIPTION