SOUTHERN CALIFORNIA
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A. Edward Scherer
Manager of
Nuclear Regulatory Affairs

November 29, 1999

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

Gentlemen:

Subject: **Docket Nos. 50-361 and 50-362**
Additional Information to Support Amendment Application Numbers 185 and 171, Change to Technical Specification 3.7.6 "Condensate Storage Tank (CST-T-121 and T-120)"
San Onofre Nuclear Generating Station Units 2 and 3

Reference: Letter from Dwight E. Nunn, Southern California Edison (SCE) to the Document Control Desk, Nuclear Regulatory Commission (NRC), dated January 11, 1999, Subject: Docket Nos. 50-361 and 50-362, Condensate Storage Tank Volume Amendment Application Numbers 185 and 171, Change to Technical Specification 3.7.6 "Condensate Storage Tank (CST-T-121 and T-120),"
San Onofre Nuclear Generating Station, Units 2 and 3

This letter provides the enclosed additional information in support of Amendment Application Nos. 185 and 171 (Referenced). These amendment applications consist of a request to revise Technical Specification (TS) 3.7.6, "Condensate Storage Tank (CST T-121 and T-120)" and the associated Bases to increase the minimum required volume of water in T-120 from 280,000 to 360,000 gallons.

If you have any questions or would like additional information, please feel free to call me or Mr. Jack Rainsberry at (949) 368-7420 .

Sincerely,

Enclosures

A001

cc: E. W. Merschoff, Regional Administrator, NRC Region IV
J. A. Sloan, NRC Senior Resident Inspector, San Onofre Units 2 & 3
L. Raghavan NRC Project Manager, San Onofre Units 2 and 3
S. Y. Hsu, Radiologic Health Branch, State Department of Health Services

P. O. Box 128
San Clemente, CA 92674-0128
949-368-7501
Fax 949-368-7575

The Southern California Edison Company (SCE)
Amendment Applications 185 and 171
Condensate Storage Tank Volume

ENCLOSURE 1

Additional Information in Support of Amendment Applications 185 and 171: Condensate Storage Tank Volume

Additional Information in Support of Amendment Applications 185 and 171:
Condensate Storage Tank Volume

ITEM 1:

SCE assumes a 30 minute operator action time for S2(3)1414MU092, MT-120/MT-121 Makeup Header Isolation and a 90 minute operator action time for 2(3)HV-5715, Condensate Transfer Pump MP-049 Suction from MT-120. Following are the bases for these times:

> On page 24 of 24 of ICCN N-3 (Enclosure 2), provided as Attachment G of the referenced January 11, 1999, Amendment Applications, the statement is made that:
>
> > "During an evaluation of Post OBE actions in SO23-13-3 Rev 5, Operations has determined that the required 30 minute closure time for S2(3)1414MU092, MT-120/MT-121 Makeup Header Isolation, AND 2(3)HV-5715, Condensate Transfer Pump MP-049 Suction from MT-120, needs to be adjusted based on the capabilities of the Operating crews. Closure of MU092 needs to be within 30 minutes and closure of HV-5715 needs to be within 90 minutes."

The manual operator actions associated with isolation of the Condensate storage tanks were walked down and verified. The operator performing the walkdown used the Appendix R safe shutdown routes. They were dispatched from the control room and took their time. The operator signed on to a radiation exposure report form and obtained an oxygen monitor as part of the walkdown. The 30 minute actions were completed within 20 minutes, and the 90 minute actions were completed within one hour.

The actions did not assume any other accident other than loss of off site power concurrent with the OBE.

Also, the 90 minutes is the assumed time it would take to close 2HV-5715, which is inside the refueling water storage tank vault. Therefore, assuming 90 minutes to close 3HV-5715 is conservative because 3HV-5715 is located outside the refueling water storage tank vault.

The current Abnormal Operating Instruction SO23-13-3, "Earthquake" (Temporary Change Notice 5-2) is provided as Enclosure 3 for your information. This procedure instructs the operators to close these valves on pages 4 and 8.

ITEM 2:

In the 1996 and 1998 LERs discussed in the referenced January 11, 1999, Amendment Applications, SCE considered the event with a core damage frequency (CDF) of 2E-6.

The total CDF associated with the two seismic and High Energy Line Break events in the turbine building is estimated to be 2E-6/yr.
(See Enclosure 4, the Results section - Total CDF of the June 9, 1998, Probabilistic Risk Assessment Report for LER 2-96-013-1.

The consideration of the operator actions to close S2(3)1414MU092 and 2(3)HV-5715 would lower the CDF. (See Enclosure 4, Assumption 7 and the Results section - Total CDF of the June 9, 1998, Probabilistic Risk Assessment Report for LER 2-96-013-1 and Enclosure 5, Assumption 7 and the Results section - Total CDF of the May 6, 1998 Probabilistic Risk Assessment Report for LER 2-96-012.)

ENCLOSURE 2

Page 24 of 24 of ICCN N-3 (Attached) of Attachment G of the referenced January 11, 1999, Amendment Applications

EC&FS DEPARTMENT

CALCULATION SHEET

ICCN NO./ PRELIM. CCN NO. N-3	PAGE 24 OF 24
CCN CONVERSION: CCN NO. 3	

Project or DCP/FCN N/A Calc. No. M-0050-017

Subject MISCELLANEOUS INPUTS ... APPENDIX G Sheet No. 5

REV	ORIGINATOR	DATE	IRE	DATE	REV	ORIGINATOR	DATE	IRE	DATE	REV
1	Paul Biba	10-30-98	D. Brahms		1					1
0					0					

EC&FS DEPARTMENT

CALCULATION SHEET

ICCN NO./ PRELIM. CCN NO. N-2	PAGE 17 OF
CCN CONVERSION: CCN NO. 2	

Project or DCP/FCN N/A Calc. No. M-0050-017

Subject MISCELLANEOUS INPUTS ... APPENDIX G Sheet No. 5

REV	ORIGINATOR	DATE	IRE	DATE	REV	ORIGINATOR	DATE	IRE	DATE	REV
1	Paul Biba	7-15-98	D. Brahms		1					1
0					0					

[32] From: LAURA BARTZ at WEST3 7/13/98 3:36PM (482 bytes: 1 ln)
To: PAUL BIBA at MESA2
cc: MICHAEL JONES at WESTS
Subject: Isolation of T-120 for OBE
---------- Message Contents ----------

Paul,

I walked down closure of MU092 and HV5715. It is realistic to take credit for closing both valves within 45 minutes of an OBE event.

Laura Bartz
87162

Replace with ↓

[47] From: DAVID KAUPPINEN at SOUTH 10/29/98 3:11PM (899 bytes: 1 ln)
To: PAUL BIBA at MESA2
cc: MEHRDAD HOJATI at G48, DAVID KAUPPINEN, MICHAEL JONES at WESTS
Subject: Post OBE T-120 Actions
---------- Message Contents ----------

Paul,

During an evaluation of Post OBE actions in SC23-13-3 Rev5, Operations has determined that the required 30 minute closure time for S2(3)1414MU092, MT-120/MT-121 Makeup Header Isolation, AND 2(3)HV-5715, Condensate Transfer Pump MP-049 Suction from MT-120, needs to be adjusted based on capabilities of the Operating crews.

Closure of MU092 needs to be within 30 minutes and closure of HV-5715 needs to be within 90 minutes.

David Kauppinen
OPG Supervisor

ENCLOSURE 3

Abnormal Operating Instruction SO23-13-3, "Earthquake"

REFERENCE: SO123-VI-1.0.1

TEMPORARY CHANGE NOTICE
(PERMANENT WHEN FINAL APPROVED)

NOTES: 1) If the Document is QA Program Affecting, then a Technical Specification/Licensee Controlled Specification Violation will occur if CFDM final approval is not obtained within 14 days from TCN date of issuance.
2) If only Editorial Corrections are required, then form PF(123) 111 should be used (refer to SO123-VI-1.0.1).

Part A — *For CDM Use Only*
Issuance Date MAR 19 1999 Single Use TCN Cancels On _____ TCN No. 5-2

Part B
1. Document No. SO23-13-3 Revision No. 5 Single Use TCN: Yes ☐ No ■
Document Title EARTHQUAKE

Document Author/Originator Dawn Darnall (PRINT OR TYPE NAME) | 87371 (PAX) | 3-5-99 (DATE) | OPG2/3 (ORGANIZATION)

2. TCN Deviation Approval (Req'd for TCN numbers over 5): APPROVED BY: N/A (CFDM (or designee)SIGNATURE / IF BY TELECON, PRINT NAME AND SO STATE) (DATE/TIME)

3. Check appropriate box: ■ Entire Document Attached ☐ Affected Page(s) Attached
Superseded/Incorporated TCN(s)/EC(s) 5-1 (NUMBER (IF NONE, SO STATE)) RECEIVED CDM (Applicable for Single Use TCNs) RECEIVED CDM

4. This change cannot wait until the next revision of the Document and is required:
a. ■ To implement facility design change (DCP, FCN, TFM, etc.)
Facility design change identifier FCN (INDICATE DCP, NCR, FCN, DCN, TFM, ETC.) MAR 19 1999 /F78673 SITE FILE COPY MAR 23 1999 (IDENTIFIER) SITE FILE COPY
Implementation of the facility design change has been determined. Yes ■ No ☐
(If No, then a TCN cannot be approved until the facility design change has been implemented.)
b. ■ Other (e.g., CAR, NRC Commitments) Specific Reason: Operational Necessity

Description of Change(s) *Use Reverse Side If Required* Per FCN, deleted all reference to 2VA8030, Peak Shock Annunciator, and changed ref. of Steam Generator OBE (light) to Containment Operating Level OBE (light) (DES-227.2). Editorial changes, inc. per AOI-600.

5. Could implementation of this change:
a. Pose adverse environmental effects of any type directly or indirectly? (Operating License, Appendix B) Yes ☐ No ■
b. Potentially impact the Topical Report/Security Plans/Emergency Plan? [10 CFR 50.54 (a)(p)(q)] Yes ☐ No ■
(If Yes, then a TCN is not authorized until a review from appropriate area(s) is obtained. Refer to SO123-VI-1.)
6. Review requested from other organizations/disciplines? (If Yes, then attach PF(123) 110A, or equivalent documentation.) Yes ■ No ☐
7. Is training required? Yes ☐ No ■
If Yes, then initiate AR and print name of contact for training coordination: N/A PAX N/A

Part C
1. Is the document being TCN'd QA Program Affecting or Level 1 QA Program Affecting? Yes ■ No ☐
Answer No *only* if document is classified as Not QA Program Affecting. This is indicated on the Table of Contents page of the document.
If Yes, complete this section; then proceed to Part D. If No, then proceed to Part E. (See [1] & [2] below for initial approval. If time permits, then obtain initial and final approvals.)
a. Is the document to be changed an Emergency Operating Instruction? Yes ☐ No ■
(If the answer to 1.a above is Yes, then a TCN is not authorized. A revision is required; see SO123-VI-0.9 and SO123-VI-1.)

Part D
1. **10 CFR 50.59 Consideration:**
Has the proposed change already been evaluated for 50.59 consideration or a full Safety Evaluation prepared using an approved process? (Examples of approved processes are: DCP/FCN/TFM/NCR, Tech Spec Amendment implementation, LCS change, associated procedure Safety Evaluation [7 questions], etc.)
NOTE: Both YES and NO may be checked, if applicable.
Yes ■ Enter identifier and associated no. No ■ Attach PF(123) 109-1 (Refer to SO123-VI-1.3.)
NOTE: If YES, then the proposed change must be addressed in the 50.59 documentation already generated.
FCN F78673 (INDICATE DCP, FCN, MMP, TFM, NCR, LCS, TECH SPEC, PROCEDURE AND NO.)
2. Is the intent of the original document altered? (Check Yes if Part II of PF(123) 109-1 is checked "YES" - full 50.59 Safety Evaluation completed - and/or objective of procedure changed.) Yes* ☐ No ■
* **If Yes, then obtain CFDM final approval prior to implementing procedure change (Tech Spec D6.8.2 & LCS 6.0.103.1.2).**

Part E — *INITIAL APPROVAL—REVIEWED and APPROVED BY:* [2]
1. N/A (PLANT MANAGEMENT STAFF—UNIT 1) DATE TIME
Could this TCN affect or does it represent a change to a plant operation in progress? Yes[3] ☐ No ☐
2. _____ (PLANT MANAGEMENT STAFF—UNITS 2&3) 3/18/99 (DATE) 09:40 SR (TIME)
Could this TCN affect or does it represent a change to a plant operation in progress? Yes[3] ☐ No ☒
3. N/A (CFH—UNIT 1) DATE TIME
4. _____ (SRO—UNITS 2&3) 3/18/99 (DATE) 1000 (TIME)

[1] If Level 1 QA Program Affecting or Not QA Program Affecting, then obtain approval from the Cognizant Supervisor(s) on the affected Unit(s) [signs Plant Management Staff line(s)] and enter N/A on SRO/CFH lines prior to submittal to CDM. Nuclear Oversight approval may be required for Level 1 QA Program Affecting TCNs.
[2] If QA Program Affecting, then approval shall be by one member of the Plant Management Staff, and one SRO/CFH Licensed on the unit or units affected. (For TCN approval, members of the Plant Management Staff are defined as the supervisor in charge of the shift, or as designated in writing by the CFDM, exercising responsibility in the specific area and unit(s) addressed by the change.)
[3] If Yes, then the Shift Superintendent/Shift Supervisor shall provide the required SRO/CFH approval.

Part F — *FINAL APPROVAL—REVIEWED and APPROVED BY:*
1. _____ (COGNIZANT FUNCTIONAL DIVISION MANAGER (CFDM)) 3/19/99 (DATE)
2. N/A (NUCLEAR OVERSIGHT) DATE

Part G — *For NPG Use Only:*
1. Is Nuclear Oversight Review/Approval Required? NOTE: Use the NDMS or Nuclear Oversight Review Required List to respond. Yes ☐ No* ☒
* If No, then enter N/A on the Nuclear Oversight Review/Approval line in Part F.
2. Has a 50.59 Safety Evaluation (7 questions) been attached? Yes* ☐ No ☒
* If Yes, forward a copy of the PF(123) 109-1 and 50.59 Safety Evaluation to Nuclear Licensing, as applicable (refer to SO123-VI-1.3).

PERFORMED BY: _____ RPG 3-22-99
(NUCLEAR PROCEDURES GROUP (NPG)) (DATE)

Site File Copy

Reference: SO123-VI-1

DOCUMENT REVIEW SHEET

1. Document Number: 5023-13-3 Rev/TCN 5-1
2. Return Completed Reviews to: Felicia Swayne Location: K-40 PAX: 87-784
3. Date Routed: 3-5-99 Review Due: 3-11-99
4. No comments - Initial and enter "none" or "C" below
   "A" Comments (Informational) - Initial and enter "A" below. Complete Form CC(123) 261 or mark up attached document.
   "B" Comments (Technical) - Initial and enter "B" below. Complete Form CC(123) 261 or mark up attached document.

REVIEWED/APPROVED BY:

✓	Position/Org.	Name	Initials	Comments Type	Resolution Appv'd By Date	✓	Position/Org.	Name	Initials	Comment Type	Resolution Appv'd By Date
	ANII						Support Servs				
	B&FS						Environmental				
	Chemistry						Site Tech Serv				
	EP						Technical				
	Fire Protection						Nucl Sys Eng				
	Health Physics						Elec Sys Eng				
	Maintenance						Power Gen				
✓	NEDO	Raj Rao	RR 3/10/99	C			Tech Support				
	Nucl Constr						OPG Author				
	Nucl Fuel										
	NOD										
	NDE Level III										
	NSG										
	NRA										
	HP&E										
	Compliance										
	Plant Licensing										
	NTD										
	Occupational Safety										
	Operations										
	OPG										
	Plant Supt U-1										
	Plant Supt U-2/3										
	Equip Control										
	Primary Supv										
	Secondary Supv										
	Security										

NOTE: Items 5 through 7 apply to Revision Ø documents and subsequent changes to Document Classification/Review Required List determination. Check N/A for items 5 and/or 6, when appropriate (see below).

5. If document is a Revision Ø or a change to the document's classification is required, then check appropriate classification. If document is a Revision 1 (or higher) and NO change to classification is needed, then check N/A.
   QA PROGRAM AFFECTING ☐
   LEVEL 1 QA PROGRAM AFFECTING ☐
   NOT QA PROGRAM AFFECTING ☐
   N/A ■

6. Will document be on the NOD Review Required List?
   (If document is a Revision Ø or a change to the NOD Review Required List is needed, then NOD checks YES or NO as applicable. If document is a Revision 1 (or higher) and NO change to NOD Review Required List is needed, then Author/NPG Writer checks N/A.)
   YES ☐ NO ☐ N/A ■

If items 5 and 6 are checked N/A, then enter N/A on item 7 or leave blank.

7. Items 5 and/or 6 **APPROVED BY:** N/A _____ DATE
   NUCLEAR OVERSIGHT

UNREVIEWED SAFETY QUESTION (10 CFR 50.59) SCREENING CRITERIA

DOCUMENT NO. S023-13-3 REV. NO. 5 TCN. NO. 5-2 (if applicable)

PART I) *10 CFR 50.59 REVIEW* (Refer to S0123-VI-1.3)

Does this new procedure/procedure change:	YES	NO
1. *Alter structure/system/component function or the method of performing the function, or the design configuration of a system important-to-safety?*	☐	☒
2. *Alter the setpoint data or acceptance criteria of a component or system important-to-safety?*	☐	☒
3. *Alter the required actions as a result of not meeting the acceptance criteria of a system important-to-safety?*	☐	☒
4. *Reduce the required level of approval for a plant activity?*	☐	☒
5. *Alter processes for handling, processing, monitoring, or releasing licensed radioactive material not contained in plant systems?*	☐	☒
6. *Conflict with Technical Specification (TS)/Licensee Controlled Specification (LCS)/Offsite Dose Calculation Manual (ODCM) numerical data or TS/LCS/ODCM provisions? If YES, then redraft procedure/contact Licensing/contact Chemistry.*	☐	☒
Question 7 may be answered by Technical Division for another division, upon request (e.g., Maintenance). When Technical Division responds, then Technical Division completes Q7 Signature Block.		
7. *Make information in the Unit 1 DSAR or Units 2/3 UFSAR untrue or inaccurate? If YES, then enter sections potentially impacted:*	☐	☒
Question 8 may be answered by Emergency Preparedness (EP) Division for another division, upon request. When EP responds, then EP completes Q8 Signature Block.		
8. *Have the potential to affect the Updated Fire Hazards Analysis (UFHA)?* **(For Unit 1 procedures only:** *Look at Fire Protection Program section of Unit 1 DSAR and check YES if potential impact is noted; otherwise check NO.)*	☐	☒

Remarks: For changes not related to FCN F7867J.
(If required, attach additional sheets.)

PREPARED BY: R. Darnell DATE: 3-3-99
Cognizant Individual

APPROVED BY: David Sampson DATE: 3-8-99
Cognizant Supervisor/Cognizant Engr Supervisor

When Q7/Q8 signature block(s) are NOT used, then leave blank or enter N/A.

Q7 Signature Block: For Technical Division use only.

PREPARED BY: _____ DATE: _____
Cognizant Individual

APPROVED BY: _____ DATE: _____
Cognizant Engineering Supervisor or Designee

Q8 Signature Block: For Emergency Preparedness Division use only.

PREPARED BY: _____ DATE: _____
Cognizant Individual

APPROVED BY: _____ DATE: _____
Supervisor, Fire Protection Engineering or Designee

IF *YES* IS CHECKED IN PART I, THEN ATTACH AND COMPLETE PART II, CONTINUATION SHEET.

EARTHQUAKE

TABLE OF CONTENTS

EARTHQUAKE

PURPOSE

Specify actions which mitigate the effects of an earthquake.

NOTE

This Abnormal Operating Instruction is performed separately and concurrently on both units.

ENTRY CONDITIONS

This event may be indicated by any of the following abnormal conditions: R

1. Seismic Recording System Activation.
2. Ground motion that is readily felt and may cause observable effects to plant processes, structures and operating equipment.

This event may be identified by one or more of the following alarms or indications:

1. 2UA61C21, SEISMIC RECORDING SYSTEM ACTIVATION.
2. 2UA61C22, OPERATING BASIS EARTHQUAKE (OBE) ACCELERATION. R

As a result of seismic activity, any of the following may occur:

1. Reactor trip.
2. Turbine trip.

EXIT CONDITIONS

1. Completion of all post-earthquake requirements.

EARTHQUAKE

OPERATOR ACTIONS

NOTES

1. If an aftershock occurs, then this AOI must be re-initiated for the aftershock along with the completion of the current usage of this AOI.
2. Seismic Panels of Units 2/3 alarm at g rating ≥ 0.019.

ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
1 **PERFORM Seismic Event actions:**	
a. VERIFY the following occurred: Valid activation of any of the following Seismic Instrument Panel indications: • Strong Motion Acceleration System Activation (light indication on 2UA-8020) • Event 2ZLH-8020G (light indication on 2XY-8020) **AND** Ground motion that is readily felt by a consensus of Control Room personnel.	• IF Control Room personnel detected ground motion with no valid seismic alarm, THEN Initiate Attachment 2 and GO TO Step 2. • IF Control Room personnel detected a ground motion with Units 2/3 Seismic Panels inoperable, THEN Initiate Attachment 3 and Continue to Step 1.c AER. • IF a seismic alarm is not valid with no ground motion detected, THEN Perform Attachment 4 And Exit the procedure

EARTHQUAKE

OPERATOR ACTIONS

CAUTION

Systems shall not be placed in Manual unless misoperation in Automatic is apparent. Systems placed in Manual must be checked frequently to ensure proper operation.

ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED
1 **PERFORM Seismic Event actions:** (Continued)	
b. VERIFY Operating Basis Earthquake occured: • 2UA61C22, Operating Basis Earthquake Acceleration alarm - illuminated, AND • OBE alarms (both white lamps: Containment Base OBE AND Containment Operating Level OBE) on Seismic Instrumentation Panel - illuminated. 1) INITIATE Attachment 1. 2) IF 60B12, TGIS-A Actuation alarm - illuminated, OR 60B20, TGIS-B Actuation alarm - illuminated, THEN Licensed Operators immediately don SCBAs.	b. GO TO 1c.
c. INITIATE Attachment 4.	
d. INITIATE Attachment 2.	
e. Shift Superintendent notify Plant Superintendent (or designee) and STA.	

EARTHQUAKE

OPERATOR ACTIONS

ACTION/EXPECTED RESPONSE	RESPONSE NOT OBTAINED

1 **PERFORM Seismic Event actions:**
(Continued)

f. Based on plant conditions, determine event classification and reporting requirements per S0123-VIII-1 and S0123-0-14.

g. Notify Unit 1 of the Seismic Panel Activation.

2 **VERIFY exit conditions:**

a. ENSURE all initiated attachments - completed.

CAUTION

IF an Operating Basis Earthquake occurred, THEN the Unit shall remain out-of-service until an evaluation has been completed by the On-site Review Committee.

b. VERIFY the completion of all post-earthquake requirements.

c. RECORD time and date this instruction terminated in Control Operator's Log.

END

1.0 REFERENCES

1.1 NRC Commitments

1.1.1 Technical Specifications

1.1.2 Licensee Controlled Specification

1.1.3 Updated Final Safety Analysis Report (UFSAR)

1.2 Procedures

1.2.1 SO123-VIII-1, Recognition and Classification of Emergencies

1.2.2 SO123-XIII-60, Seismic Fire Truck Operations

1.2.3 SO23-II-1.1.1, Surveillance Requirement, Reactor Plant Protection System, Channel A, Channel Functional Test

1.2.4 SO23-II-1.1.2, Surveillance Requirement, Reactor Plant Protection System, Channel B, Channel Functional Test

1.2.5 SO23-II-1.1.3, Surveillance Requirement, Reactor Plant Protection System, Channel C, Channel Functional Test

1.2.6 SO23-II-1.1.4, Surveillance Requirement, Reactor Plant Protection System, Channel D, Channel Functional Test

1.2.7 SO23-II-5.5, Surveillance Requirement NI Safety Channel A Drawer Test Linear Power Subchannel Gains Channel Functional Test and Channel Calibration

1.2.8 SO23-II-5.6, Surveillance Requirement NI Safety Channel B Drawer Test Linear Power Subchannel Gains Channel Functional Test and Channel Calibration

1.2.9 SO23-II-5.7, Surveillance Requirement NI Safety Channel C Test Linear Power Subchannel Gains Channel Functional Test and Channel Calibration

1.2.10 SO23-II-5.8, Surveillance Requirement NI Safety Channel D Test Linear Power Subchannel Gains Channel Functional Test and Channel Calibration

1.2.11 SO23-V-3.20, Post Earthquake Engineering Analysis

1.2.12 SO23-XIII-99, Units 2 and 3 Post Earthquake Fire Detection System Operability Assessment

1.3 Operating Instructions

1.3.1 SO123-O-14, Notification and Reporting of Significant Events

1.3.2 SO123-O-42, Cumulative Equipment Inoperability and Design Cycles

1.3.3 SO23-O-46, Conduct of Operations

1.0 REFERENCES (Continued)

1.3 Operating Instructions (Continued)

1.3.4 S023-3-2.20, Computer Operations

1.3.5 S023-3-3.5, CEA/Reactor Trip Circuit Breaker Operability Testing

1.3.6 S023-3-3.16, Auxiliary Feedwater System Monthly Tests

1.3.7 S023-3-3.23, Diesel Generator Monthly Test

1.3.8 S023-3-3.25, Once A Shift Surveillance (Modes 1-4)

1.3.9 S023-3-3.27, Once A Week Surveillances (Modes 1-4)

1.3.10 S023-3-3.27.2, Weekly Electrical Bus Surveillance

1.3.11 S023-3-3.37, Reactor Coolant System Water Inventory Balance

1.3.12 S023-3-3.51, Containment Penetration Leak Rate Testing

1.3.13 S023-5-1.5, Plant Shutdown from Hot Standby to Cold Shutdown

1.3.14 S023-7-7, Testing of Atmospheres

1.3.15 S023-12-1, Standard Post Trip Actions

1.3.16 S02(3)-15-63.B, Annunciator Panel 63B, Train "A" Switchgear

1.4 Other

1.4.1 Safety Evaluation by the Office of Nuclear Reactor Regulation, Related to Amendment No. 87 to Facility Operating License No. NPF-10 and Amendment No. 77 to Facility Operating License No. NPF-15. San Onofre Nuclear Generating Station, Units 2 and 3. Dated May 1, 1990 (MISC-112)

1.4.2 American National Standard Guidelines for Retrieval, Review, Processing and Evaluation of Records Obtained from Seismic Instrumentation, ANSI/ANS-2.10-1979.

1.4.3 Comparison of Measured and Predicted Responses, Section 3.7.4.4 to UFSAR rev. 8.

1.4.4 AR #971101215, dated Nov. 19, 1997; Subject: Seismic Panel 2/3L-167 2XY8020 Unit, replaced with a new model per FCN F6271J/F6272J. The new model has a RESET pushbutton for 2ZLH-8020G, Event Indicator. IR

2.0 RECORDS

2.1 File completed Attachments per S023-0-46.

POST OPERATING BASIS EARTHQUAKE INSPECTIONS

UNIT _____ MODE _____ DATE _____ TIME _____

1.0 PREREQUISITES

PERF. BY INITIALS

1.1 This attachment has been directed by the OPERATOR ACTIONS. _____

2.0 PROCEDURE

NOTES

1. Steps in this attachment should be performed concurrently.
2. An OBE is 50% of the Design Basis Earthquake.

2.1 If in Mode 1 or 2, then initiate plant shutdown. (Mark N/A if already in Mode 3, 4, 5 or 6.) _____

2.2 When in Mode 3 or 4, then initiate plant cooldown to Mode 5 per S023-5-1.5. (Mark N/A if already in Mode 5 or 6.) _____

2.3 ENSURE T-120 required inventory for plant cooldown:

2.3.1 SECURE 2(3)MP-049, Condensate Transfer Pump. _____

NOTE

An REP is normally required for entry into the RWST vault, but for expediency in closing S2(3)1414MU092 it may be necessary to notify HP and proceed directly to the vault. The RWST Vaults are also Confined Spaces, so an O_2 monitor will be required for entry.

2.3.2 ***WITHIN 30 MINUTES***: CLOSE S2(3)1414MU092, MT-120 and MT-121 Makeup Header Isolation. (T-005 RWST Vault Under Platform.) _____

NOTE

3T-121 Room is a Confined Space with a history of O_2 deficiency, it is recommended that an SCBA be donned in the Control Room prior to proceeding to 3HV-5715.

2.3.3 ***WITHIN 90 MINUTES***: CLOSE 2(3)HV-5715, Condensate Transfer Pump MP-049 Suction from MT-120. (2HV-5715 located South of BPS Sluice Pump P-431, 3HV-5715 located in 3T-121 Room.) _____

2.0 PROCEDURE (Continued)

PERF. BY INITIALS

2.4 Request the I & C Department to perform the following RX Protection System and NI Safety Channel surveillances:

S023-II-1.1.1
S023-II-1.1.2
S023-II-1.1.3
S023-II-1.1.4
S023-II-5.5
S023-II-5.6
S023-II-5.7
S023-II-5.8

Person Notified _____ (Name) _____ (Time) _____

2.5 Commence leak rate testing on all Containment Penetrations per S023-3-3.51, except those required to place the Unit in Cold Shutdown. _____

2.6 Request the Chemistry Department to sample the RCS for Total Activity.

Person Notified _____ (Name) _____ (Time) _____

2.7 Request Station Technical to perform a thorough inspection of the RCS, including CEA Housings, Steam Generators, RCPs, Pressurizer, and all associated piping.

Person Notified _____ (Name) _____ (Time) _____

2.7.1 Document any observed damage to the plant in the Control Operator's Log and Shift Superintendent's (Shift Manager's) Log for future evaluation. _____

2.8 Request Station Technical to perform a walkdown of the Spent Fuel Pool to check the adequacy of rack location. (Reference 1.4.1)

Person Notified _____ (Name) _____ (Time) _____

2.0 PROCEDURE (Continued)

PERF. BY INITIALS

2.9 Record the seismic event per S0123-0-42, Attachment for RCS Seismic Stress Cycles - Units 2 and 3. _____

2.10 Ensure the Unit remains out-of-service until a post-Operating Basis Earthquake evaluation has been completed by the On-site Review Committee.

COMMENTS: _____

_____

_____

_____

_____

_____

_____

_____

REVIEWED BY: _____ DATE/TIME: _____
SRO Ops. Supv.

FILE DISPOSITION: File per S023-0-46.

POST SEISMIC EVENT INSPECTIONS

UNIT _____ MODE _____ DATE _____ TIME _____

1.0 PREREQUISITES

PERF. BY INITIALS

1.1 This attachment has been directed by the OPERATOR ACTIONS. _____

☐ From mainbody AER Step 1.d, Perform all steps.

☐ From mainbody RNO Step 1.a, Perform step 2.11 only.

2.0 PROCEDURE

NOTES

1. This attachment applies to all seismic events.
2. Steps in this attachment should be performed concurrently.

2.1 Call up CFMS RCS leakage monitoring inputs RT-7804C, CNTMT Airborne Radiation Monitor (page 352), and LT58532, CNTMT Sump Level (page 122).

2.1.1 Verify readings indicate normal instrument operation.

NORMAL/ABNORMAL/NOT VERIFIED (Circle One) _____

.1 If RCS leakage monitoring inputs are NOT showing normal operation, or are not verified within one hour, then refer to S02(3)-15-63.B window 63B12 for Compensatory Actions.

2.2 Perform S023-3-3.25, Attachment for Power Distribution and Burnup Log. _____

2.2.1 Verify the acceptance criteria is met.

2.2.2 Review for any unexplained changes from the last Shiftly results.

2.3 Generate Incore Flux Reports from both PMS and COLSS Backup Computer per S023-3-2.20, Attachment for Specific Computer Operations. _____

2.3.1 Request the STA to review the reports and Step 2.2 results with Reactor Engineering. _____

2.0 PROCEDURE (Continued)

PERF. BY INITIALS

2.4 Request Station Technical to perform S023-V-3.20, to determine exact magnitude of the earthquake.

Person Notified _____ _____ _____
Name Time

2.4.1 Provide a completed copy of Attachment 4 to Station Technical. _____

2.4.2 Record magnitude of the seismic event as determined by Station Technical: _____ g _____

2.5 If Station Technical determines the seismic event magnitude to be ≥ 0.05g, then notify the I & C Department to reset the local Seismic Recording and Indicating Instrumentation: (Mark N/A if seismic event magnitude < 0.05g.) [LCS SR 3.3.104.5, SR 3.3.104.6]

Seismic Instrumentation	Required Action
Accessible during Power Operations	Reset within 24 hours of actuation and calibrate the instrumentation within 5 days
Not accessible during Power Operations	Reset and calibrate at next Mode 3 entry

Person Notified _____ _____ _____
Name Time

2.6 Select the range as determined by seismic magnitude in Step 2.4.2:

_____
SRO Ops. Supv.

✓	Seismic Magnitude	Required Actions
	g < 0.05	Perform Section 2.11 Mark N/A Sections 2.7 through 2.10
	0.05 ≤ g < 0.15	Perform Section 2.10 & 2.11 Mark N/A Sections 2.7 through 2.9
	0.15 ≤ g < 0.25	Perform Sections 2.9 through 2.11. Mark N/A Sections 2.7 through 2.8
	0.25 ≤ g < 0.33	Perform Sections 2.8 through 2.11 Mark N/A Section 2.7
	g > 0.33 (OBE)	Perform the entire attachment

2.0 PROCEDURE (Continued)

PERF. BY INITIALS

2.7 Requirements for Seismic Events ≥ 0.33g [OBE]

2.7.1 Ensure Attachment 1 is being performed. _____

2.8 Requirements for Seismic Events ≥ 0.25g

2.8.1 Notify Unit 1 that a seismic event ≥ 0.25g has occurred.

Person Notified _____ _____ _____
Name Time

2.9 Requirements for Seismic Events ≥ 0.15g

2.9.1 Request the Maintenance Dept. to have Civil Engineering inspect the Probable Maximum Flood Berm.

Person Notified _____ _____ _____
Name Time

2.9.2 Request the Operations Test Group to perform In Service Testing on the following pumps:

- HPSI Pumps
- LPSI Pumps
- Charging Pumps
- Containment Spray Pumps
- Saltwater Cooling Pumps
- Component Cooling Water Pumps
- Auxiliary Feedwater Pumps

Person Notified _____ _____ _____
Name Time

2.9.3 Request the Chemistry Dept. to inspect the Post Accident Sampling System (PASS) and ensure piping integrity prior to any use of PASS.

Person Notified _____ _____ _____
Name Time

2.9.4 Request Station Maintenance I&C Planning Supervisor to initiate accuracy calibration checks for I&C devices defined in the Instrument Index (drawing 90010A). This verification activity should be completed within 30 days of the seismic event.

Person Notified _____ _____ _____
Name Time

2.0 PROCEDURE (Continued)

PERF. BY INITIALS

2.9.5 Perform the following surveillance testing:

.1 SO23-3-3.37, Attachment for RCS Leak Rate Calculation. _____

.2 SO23-3-3.25, Section for Reactor Coolant System - RCS Operational Leakage (CNTMT Sump flow). _____

.3 SO23-3-3.5, Attachment for CEA Quarterly Operability Test. _____

.4 SO23-3-3.5, Attachment for Reactor Trip Circuit Breaker Monthly Test- Modes 1 and 2. _____

.5 SO23-3-3.16, Attachment for Auxiliary Feedwater System Monthly Surveillance. _____

.6 SO23-3-3.23, Attachment for Diesel Generator Operation, for both G-002 and G-003:

☐ ≤ 0.33g: Verify Diesel Generator starts. _____

☐ > 0.33g: Perform Monthly Surveillance. _____

.7 SO23-3-3.27.2, Attachment for Weekly Electrical Bus Surveillance - Both Units in Modes 1 thru 4, or Attachment for Weekly Electrical Bus Surveillance - At Least One Unit in Modes 5 or 6. _____

.8 Perform SO23-7-7, Attachment for Hydrogen Gas System Leakage Check. _____

2.10 Requirements for Seismic Events ≥ 0.05g

2.10.1 Initiate Fire Zone inspections per Attachment 3. _____

2.10.2 Request the ESO Shift Captain to perform an engineering evaluation within 72 hours of the event to verify OPERABILITY of the Fire Detection System per LCS SR 3.3.106.6.

Person Notified _____ _____ _____
Name Time

.1 If the Seismic Event renders any Fire Detection Instrumentation inoperable, then station a Fire Watch within one hour. (LCS 3.3.106)

2.0 PROCEDURE (Continued)

PERF. BY INITIALS

2.10.3 Perform an inspection of the Station Fire Main and Fire Fighting Systems. _____

.1 If the Fire System is ruptured, then request Emergency Preparedness to relocate Seismic Tankers to Seismic Standpipes and connect to Fire Main per S0123-XIII-60. (Mark N/A if the Fire System is intact.) _____

2.10.4 Perform a thorough inspection of the plant to identify visible structural damage, snubbers or seismic restraints damaged or bottomed out, electrical conduit integrity loss, dangling electrical conductors, excessive leakage from valve packing, hydrogen, nitrogen, or compressed air leakage, chemical storage tank leakage, etc. Pay particular attention to the following systems and areas:

.1 Safety Injection System. _____

.2 Containment Spray System. _____

.3 RWSTs - leakage. _____

.4 Condensate Tanks T-120 & T-121 - leakage. _____

.5 Radwaste Systems, including the portions of CVCS located within the Radwaste Area. _____

.6 Component Cooling Water System including the N_2 Backup to CCW Surge Tanks. _____

.6.1 If any nitrogen bottle is less than 4550 psig, then Perform S023-3-3.27, Section on CCW Surge Tank Backup Nitrogen Supply System. [Tech. Spec. LCO 3.7.7] (Mark N/A if all bottles are ≥ 4550 psig.) _____

.7 Boric Acid Makeup Tanks and associated piping. _____

.8 Containment electrical and piping penetrations. _____

.9 Atmospheric Steam Dump System, including air supply and back-up nitrogen supply to both ADVs. _____

2.0 PROCEDURE (Continued)

PERF. BY INITIALS

NOTE

In order to inspect for Fuel Transfer Tube (FTT) leakage, an REP and special approval by the Health Physics Manager is required. The leakage inspection involves entering the FTT access room (15' el.) and looking for water entering the floor drain.

2.10.4.10 Fuel Transfer Tube - leakage. (Mark N/A if level in the Fuel Transfer Pool and Refueling Cavity is below the FTT elevation.) _____

2.10.5 Document any observed damage to the plant in the Control Operator's Log and Shift Superintendent's Log for future evaluation. _____

2.10.6 Request Electrical Maintenance to inspect for damaged electrical equipment in the following areas:

- ESF Switchgear Rooms (50' Control Building)
- 1E 125VDC Battery Rooms
- Non-1E D5 125VDC Battery Rooms
- Main and Unit Auxiliary Transformers
- Reserve Auxiliary Transformers
- Non-1E 30' Turbine Building Switchgear Rooms
- Non-1E 85' Control Building Switchgear Rooms
- Non-1E D6 250VDC Battery Rooms
- Cable Riser Rooms

Person Notified _____ (Name) _____ (Time) _____

2.0 PROCEDURE (Continued)

PERF. BY INITIALS

2.10.7 Request Electrical Test to inspect for damaged electrical equipment in the following areas:

- 1E 120V Inverter Rooms (50' Control Building)
- Remote Shutdown Panel (50' Control Building)
- Switchyard Relay House
- L-073 (9' Control Building)
- L-034 and L-035 (30' Control Room)
- Non-1E UPS Inverters Cages
- CEDM Control Rooms (37' Radwaste)

Person Notified _____ _____ _____
Name Time

2.10.8 Request the Villa Park Switching Center or the GCC to dispatch the Grid Operations Maintenance (GOM) Personnel to inspect 220 KV Switchyard for damaged equipment.

Person Notified _____ _____ _____
Name Time

2.10.9 Inspect the Secondary Plant for signs of damaged equipment as following:

- Water and Steam leaks
- Oil leaks
- Vacuum leaks
- Unusual Noises
- Structural damage such as, concrete cracks, bent hangers, bent I-beams, and displaced components.

2.0 PROCEDURE (Continued)

PERF. BY INITIALS

2.11 Requirements for all Seismic Events

NOTE

Increased backflushing of MF-016, Spent Fuel Pool Filter can be expected from any ground motion due to a possible crud burst from the Spent Fuel.

2.11.1 Perform a walk-down of all watchstation areas. Pay particular attention for the following new type of changes:

- Dust redistribution
- Shiny or rust marks by pipe supports which could indicate possible system damage

.1 Inspect the Spent Fuel Pool for any splashing/contamination which may have occurred, proper water level and liner leakage (obtain HP support for Inspection and Clean-up). _____

2.11.2 Document any observed damage to the plant in the Control Operator's Log and Shift Superintendent's Log for future evaluation. _____

COMMENTS: _____

_____

_____

_____

_____

_____

REVIEWED BY: _____ DATE/TIME: _____
SRO Ops. Supv.

FILE DISPOSITION: File per S023-0-46.

FIRE ZONE INSPECTION

DATE _____ TIME OF SEISMIC EVENT: _____

1.0 PREREQUISITES

PERF. BY INITIALS

1.1 An Earthquake has occurred of ≥ 0.019g or of a magnitude that has yet to be determined by Station Technical. _____

1.2 Contact the ESO Shift Captain and determine if he is available to perform LCS Table 3.3.106-1 fire area inspection per S023-XIII-99, Attachment for Surveillance Data Record - Area Inspection Data, within two hours of the seismic event time. (LCS SR 3.3.106.5) _____

1.3 Determine performance requirements of this Attachment. _____

SRO Ops. Supv.

☐ ESO Shift Captain is available to perform fire area inspections. Perform Section 2.1; leave blank Section 2.2.

☐ ESO Shift Captain is not available to perform fire area inspections. Perform Section 2.2; mark N/A for Section 2.1.

2.0 PROCEDURE

NOTE

1. This inspection should be initiated for an Earthquake of ≥0.019g or of a magnitude that has yet to be determined by Station Technical. This inspection is mandatory at ≥0.05g. (Ref. LCS SR 3.3.106.5)
2. This inspection should be performed on both Units concurrently. Common Areas have been divided between the Units and have sign-offs for only the assigned Unit.

2.1 Fire Zone Inspection by the ESO Captain

2.1.1 Attach completed copy of S023-XIII-99, Attachment for Surveillance Data Record - Area Inspection Data to this attachment. _____

2.0 PROCEDURE (Continued)

2.2 Fire Zone Inspection by Plant Operators

2.2.1 Complete LCS Table 3.3.106-1 fire area inspection, within two hours of the seismic event time (LCS SR 3.3.106.5). Ensure each fire area/zone listed below is free of fire, has no conditions which could cause a fire, and has no evidence that a fire has occurred:

.1 If Seismic Engineering evaluation of the magnitude is < 0.05g, then the inspection can be terminated.

ZONE	INSTRUMENT LOCATION	PERFORMED BY INITIALS UNIT 2	UNIT 3
	Containment		
1D	Operating Floor Elev. 63'3"	_____	_____
1C	CNTMT Recirculation Filter (A-353) Elev. 45'	_____	_____
1C	Cable Tray Areas Elev. 45'	_____	_____
1C	Cable Tray Areas Elev. 30'	_____	_____
1A	Steam Generator E-088 Room	_____	_____
1A	Reactor Coolant Pumps P-003 and P-004 areas	_____	_____
1B	Steam Generator E-089 Room	_____	_____
1B	Reactor Coolant Pumps P-001 and P-002 areas	_____	_____
	Combustible Oil Area	_____	_____
	Elevator Machinery Room	_____	_____
	Fuel Handling Building/Penetration Building		
123	New Fuel Storage Area	_____	_____
123	Spent Fuel Pool Area	_____	_____
3B	Penetration Area Elev. 63'	_____	_____
130	FHB PACU Unit E-370 Room 309 Elev. 45'	_____	_____
132	FHB PACU Unit E-371 Room 302 Elev. 45'	_____	_____
3A	Penetration Area Elev. 45'	_____	_____

2.0 PROCEDURE (Continued)

ZONE	INSTRUMENT LOCATION	PERFORMED BY INITIALS UNIT 2	UNIT 3
	Fuel Handling Building/Penetration Building (Cont.)		
2C & 2D	Penetration Area Elev. 30'	_____	_____
2A & 2B	Penetration Area Elev. 9' and 15'	_____	_____
122	SFP Pump Room Elev. 17'	_____	_____
126	SFP HX Room 209 Elev. 30'	_____	_____
	Safety Equipment Building Elev. 8'		
135A	CCW HX and Piping Rooms 022-025	_____	_____
141	CCW Surge Tank Room 021	_____	_____
140A	CCW Surge Tank Room 020	_____	_____
140B	Chemical Storage Tank Room 019	_____	_____
139	Shutdown Cooling HX Room 018	_____	_____
138	Shutdown Cooling HX Room 016	_____	_____
136	HVAC Room 017	_____	_____
	Safety Equipment Bldg Elev. -15' and -5'3"		
137C	Safety Related Pump Room 005	_____	_____
137A	Safety Related Pump Room 001	_____	_____
137A	Safety Related Pump Room 002	_____	_____
137B	Safety Related Pump Room 015	_____	_____
135A	Salt Water Cooling Piping Room 010	_____	_____
135B	Train B CCW Pump Room 006	_____	_____
135C	Spare CCW Pump Room 007	_____	_____
135D	Train A CCW Pump Room 008	_____	_____

2.0 PROCEDURE (Continued)

ZONE	INSTRUMENT LOCATION	PERFORMED BY INITIALS UNIT 2	UNIT 3
	Safety Equipment Building Elev. 70' to 30'		
142A	Electrical Chase Elev. 70'	_____	_____
142A	Electrical Chase Elev. 50'	_____	_____
	Radwaste Building Elev. 63'6"		
116	Chemical Storage Area Room 503		_____
116	Radwaste Control Panel Room 513		_____
116	Storage Area Room 523		_____
116	Hot Machine Shop Room 510		_____
120	Duct Shaft Room 527A		_____
119	Electric Cable Tray Gallery Room 506A		_____
117	Duct Shaft Room 527B		_____
118	Electric Cable Tray Gallery Room 506B		_____
121	Waste Gas Decay Tank Rooms		_____
	Radwaste Building Elev. 50'		
111A	Volume Control Valve Rooms 410A and B		_____
111A	Corridors		_____
111B	Electrical Equipment/Receiving Areas Rooms 405A & B		_____
	Radwaste Building Elev. 37'		
102A	CEDM Control/MG Set Rooms 308A-D, 309A-C		_____
102A	Corridors		_____
	Radwaste Building Elev. 24'		
102B	Equipment Room 215		_____
98	Boric Acid Makeup Tank Room 205A		_____
96	Boric Acid Makeup Tank Room 205B		_____
99	Duct Shaft Room 222A		_____
95	Duct Shaft Room 222B		_____

2.0 PROCEDURE (Continued)

ZONE	INSTRUMENT LOCATION	PERFORMED BY INITIALS UNIT 2	UNIT 3
	Radwaste Building Elev. 24' (Continued)		
94	Valve Rooms and Corridors		_____
100	Letdown HX Room 209A		_____
101	Letdown HX Room 209B		_____
	Radwaste Building Elev. 9'		
76	Corridors		_____
87	Charging Pump Room 106A		_____
88	Charging Pump Room 106B		_____
89	Charging Pump Room 106C		_____
91	Charging Pump Room 106D		_____
92	Charging Pump Room 106E		_____
93	Charging Pump Room 106F		_____
84	Boric Acid Makeup Tank Pump Rooms 105A and B		_____
78	Boric Acid Makeup Tank Pump Rooms 105C and D		_____
	Control Building Elev. 70'		
63	Cable Riser Gallery Room 423	_____	
65	Cable Riser Gallery Room 449	_____	
64	Radiation Chemical Lab Rooms 420 and 421	_____	
64	Radiation Chemical Instrument Lab Room 410	_____	
64	Radiation Chemical Count Room 411	_____	
64	Corridor 416 (Along Chemistry Lab)	_____	
64	HP Storage Room 448	_____	
64	Red Badge Area Entry Room 459	_____	
64	Corridor 401 (Along Multi-Purpose Room)	_____	
64	HP Office Room 406	_____	

2.0 PROCEDURE (Continued)

ZONE	INSTRUMENT LOCATION	PERFORMED BY INITIALS UNIT 2	UNIT 3
	Control Building Elev. 70' (Continued)		
64	Chemistry Office Room 448	_____	
64	Operations Support Center Room 403	_____	
64	Above the Suspended Ceiling (All of 70' elev.)	_____	
	Control Building Elev. 50'		
29	Lobby and Corridors	_____	
43	Remote Shutdown Panel Room 311	_____	
36 & 37	Cable Riser Gallery Rooms 305 East and West	_____	
38 & 39	Emergency HVAC Unit Rooms 309A and B	_____	
29	Motor Control Center Room 312	_____	
30 & 31	Emergency HVAC Unit Rooms 309C and D	_____	
32 & 33	Cable Riser Gallery Rooms 315 East and West	_____	
34	ESF Switchgear Room 302B	_____	
62	Distribution Room 307B	_____	
61	Battery Room 306K	_____	
60	ESF Switchgear Room 308B	_____	
40	ESF Switchgear Room 308A	_____	
41	Distribution Room 307A	_____	
42	Battery Room 306A	_____	
35	ESF Switchgear Room 302A	_____	
44-47	Vital Power Distribution Rooms 310A-D	_____	
56-59	Vital Power Distribution Rooms 310E-H	_____	
48-51	Battery Rooms 306B-E	_____	
52-55	Battery Rooms 306F-J	_____	

2.0 PROCEDURE (Continued)

ZONE	INSTRUMENT LOCATION	PERFORMED BY INITIALS UNIT 2	UNIT 3
	Control Building Elev. 30'		
20D	Technical Support Center	_____	
20C	Unit 2 Computer Room	_____	
26	CR HVAC Room 233	_____	
28	Cable Riser Gallery Room 236	_____	
21	Cable Riser Gallery Room 224	_____	
20B	Unit 3 Computer Room	_____	
23	CR HVAC Room 219	_____	
20A	Control Room and Cabinet Area	_____	
20A	Turbine Lab Room 230	_____	
20A	Shift Superintendents Office Room 226	_____	
20A	Operations Lunchroom Area	_____	
20A	NOAs Office Area	_____	
20A	Special Agent Room 202	_____	
20E	Control Room Lobby Room 201	_____	
20A	51 Area Rooms 231, 245	_____	
	Control Building Elev. 9'		
5	Cable Spreading Room 111A	_____	
6	Cable Spreading Room 111B	_____	
14	Cable Riser Gallery Room 110	_____	
7	Cable Riser Gallery Room 112	_____	
9	Emergency Chiller Room 115	_____	
11	Emergency Chiller Room 117	_____	
16	Corridor Room 105	_____	
13	Lighting Switchgear Room 108	_____	
8	Lighting Switchgear Room 114	_____	
17	Relay Room 106	_____	

2.0 PROCEDURE (Continued)

ZONE	INSTRUMENT LOCATION	PERFORMED BY INITIALS UNIT 2	UNIT 3
	Turbine Building		
148A	Elev. 56'	_____	_____
148A	Elev. 30'	_____	_____
148A	Elev. 7'	_____	_____
148F	SWC Pump Room T2-106	_____	
148F	SWC Pump Room T3-106		_____
148E	SWC Cooling Pipe Tunnel Elev. -9'	_____	
	Electrical Cable Tunnel		
142B	Elev. 30'6"	_____	_____
142B	Elev. 11'6"	_____	_____
142B	Elev. 9'6"	_____	_____
142B	Elev. -2'6"	_____	_____
142C	Cable Riser Shaft Room 104 Elev. 16'	_____	_____
	Diesel Generator Building		
158	Train A Room 103	_____	_____
155	Train B Room 107	_____	_____
	Auxiliary Feedwater Pump Room		
161A	AFW Pumps P-140 and 504	_____	_____
	Main Steam Isolation Valve Area		
145A	North MSIV Area	_____	_____
145A	South MSIV Area	_____	_____

3.0 ACCEPTANCE CRITERIA

PERF. BY INITIALS

3.1 Fire Area Inspection has been completed as documented by Section 2.1 or 2.2 within two hours of the seismic event.

YES / NO _____

3.1.1 If NO, then refer to LCS 3.3.106. Indicate EDMR/LCOAR number in the Comments section.

COMMENTS: _____

REVIEWED BY: _____ DATE/TIME: _____
SRO Ops. Supv.

FILE DISPOSITION: File per S023-0-46.

SEISMIC ANNUNCIATOR DATA COLLECTION

UNITS 2/3 DATE _____ TIME _____

1.0 PREREQUISITES

PERF. BY INITIALS

1.1 This attachment has been directed by the OPERATOR ACTIONS. _____

2.0 PROCEDURE

2.1 Record the status of the following Control Room Seismic Annunciators on panel 61C (Unit 2 ONLY): _____

		Illuminated	Extinguished
2.1.1	61C21 - Seismic Recording System Activation	☐	☐
2.1.2	61C22 - Operating Basis Earthquake Acceleration	☐	☐

2.2 Record the status of the following Seismic Panel lamps on panel 2/3L167: _____

		Illuminated	Extinguished
2.2.1	Strong Motion Acceleration System Activation (0.019g) (2UA-8020)	☐	☐
2.2.2	Event Indicator (2ZLH-8020G) (0.019g)	☐	☐
2.2.3	Containment Base OBE (0.33g)	☐	☐
2.2.4	Containment Operating Level OBE (0.33g)	☐	☐

R

2.3 If any of the indicating lamps in Step 2.2 illuminated as a result of an Earthquake, then initiate Attachment 3. (Mark N/A if the indicating lamps remained extinguished or ground motion was not felt.) _____

2.0 PROCEDURE (Continued)

PERF. BY INITIALS

2.4 When the Seismic Annunciator data collection has been completed, then test and reset the annunciators: |D

2.4.1 At 2UA-8020 Seismic Alarm Annunciator, depress the TEST toggle switch and observe the following annunciator lamps are illuminated: _____

- Strong Motion Acceleration System Activation
- Containment Base OBE
- Containment Operating Level OBE |R

.1 If any annunciator lamp is not illuminated, then record the lamp in the Comments section. (Mark N/A if all lamps are illuminated.) _____

2.4.2 If 2ZLH-8020G, Event Indicator, is illuminated, then depress 2HS-8020B, RESET Pushbutton AND observe 2ZLH-8020G is extinguished. (Mark N/A if not illuminated.) _____

2.4.3 At 2UA-8020 Seismic Alarm Annunciator, depress the RESET toggle switch and observe the following annunciator lamps are extinguished: _____

- Strong Motion Acceleration System Activation
- Containment Base OBE
- Containment Operating Level OBE |R D

2.4.4 Reset Control Room Seismic Annunciators 61C21 and 61C22 (Unit 2 ONLY). _____

END OF SECTION 2.4

2.0 PROCEDURE (Continued)

PERF. BY INITIALS

2.5 Request the I & C Department to reset the local Seismic Recording and Indicating Instrumentation: (Mark N/A if alarm was not valid.)

SEISMIC INSTRUMENTATION	REQUIRED ACTION FOR VALID ALARMS
Accessible during Power Operations	Reset within 24 hours of actuation and calibrate the instrumentation within 5 days (LCS SR 3.3.104.5)
Not accessible during Power Operations	Reset and calibrate at next Mode 3 entry (LCS SR 3.3.104.6)

Person Notified _____ _____ _____
Name Time

COMMENTS: _____

_____

_____

_____

_____

_____

_____

REVIEWED BY: _____ DATE/TIME: _____
SRO Ops. Supv.

FILE DISPOSITION:
- File per S023-0-46.
- Forward copy to Station Technical.

ENCLOSURE 4

June 9,1998, Probabilistic Risk Assessment Report for LER 2-96-013-1