

SAN ONOFRE NUCLEAR GENERATING STATION

UNITS 2/3

EMERGENCY PROCEDURES

1981

8112180554 811210
PDR ADOCK 05000361
PDR

SAN ONOFRE NUCLEAR GENERATING STATION
UNITS 2/3

EMERGENCY PROCEDURES

S023-VIII-11	RECOGNITION AND CLASSIFICATION OF EMERGENCIES
S023-VIII-12	UNUSUAL EVENT
S023-VIII-13	ALERT
S023-VIII-14	SITE EMERGENCY
S023-VIII-15	GENERAL EMERGENCY
S023-VIII-16	NOTIFICATIONS
S023-VIII-17	ACTIVATION AND OPERATION OF EMERGENCY CENTERS AND ORGANIZATIONS
S023-VIII-18	NOTIFICATION OF ADDITIONAL EMERGENCY SUPPORT PERSONNEL
S023-VIII-19	NOT USED
S023-VIII-20	NOT USED
S023-VIII-21	NOT USED
S023-VIII-22	SOURCE TERM DETERMINATION
S023-VIII-23	DOSE ASSESSMENT
S023-VIII-24	DIRECTION OF ONSITE EMERGENCY MONITORING
S023-VIII-25	DIRECTION OF OFFSITE EMERGENCY MONITORING
S023-VIII-26	RECOMMENDATION FOR OFFSITE PROTECTIVE MEASURES
S023-VIII-27	EMERGENCY ENVIRONMENTAL MONITORING
S023-VIII-28	NOT USED
S023-VIII-29	NOT USED
S023-VIII-30	NOT USED
S023-VIII-31	EMERGENCY EXPOSURE CONTROL

S023-VIII-32	LOCAL EVACUATION AND ACCOUNTABILITY	
S023-VIII-33	PLANT EVACUATION AND ACCOUNTABILITY	
S023-VIII-34	SITE EVACUATION AND ACCOUNTABILITY	
S023-VIII-35	TRAFFIC AND ACCESS CONTROL	
S023-VIII-36	THYROID PROPHYLAXIS	
S023-VIII-37	FIRE FIGHTING	
S023-VIII-38	CONTAMINATED INJURY	
S023-VIII-39	RESCUE	
S023-VIII-40	NOT USED	
S023-VIII-41	ONSITE MONITORING	
S023-VIII-42	OFFSITE MONITORING AND SAMPLING	
S02	S023-VIII-43	SAMPLE COORDINATION DURING AN EMERGENCY
S023-VIII-44	EMERGENCY CONTAMINATION CONTROL	
S023-VIII-45	PERSONNEL AND VEHICLE MONITORING	
S023-VIII-46	ONSITE SAMPLING	
S023-VIII-47	NOT USED	
S023-VIII-48	NOT USED	
S023-VIII-49	NOT USED	
S023-VIII-50	NOT USED	
S023-VIII-51	RECORD KEEPING	
S023-VIII-52	NOT USED	
S023-VIII-53	NOT USED	
S023-VIII-54	NOT USED	
S023-VIII-55	NOT USED	

S023-VIII-56	NOT USED
S023-VIII-57	NOT USED
S023-VIII-58	NOT USED
S023-VIII-59	NOT USED
S023-VIII-60	NOT USED
S023-VIII-61	RE-ENTRY
S023-VIII-62	ACTIVATION OF THE RECOVERY ORGANIZATION
S023-VIII-63	NOT USED
S023-VIII-64	NOT USED
S023-VIII-65	NOT USED
S023-VIII-66	NOT USED
S023-VIII-67	NOT USED
S023-VIII-68	NOT USED
S023-VIII-69	NOT USED
S023-VIII-70	NOT USED
S023-VIII-71	EMERGENCY DRILLS
S023-VIII-72	EMERGENCY KIT INVENTORY
S023-VIII-73	EMERGENCY PLAN MAINTENANCE
S023-VIII-74	EMERGENCY PLAN TRAINING

OCT 22 1981

SITE FILE COPY

RECOGNITION AND CLASSIFICATION OF EMERGENCIES

1.0 OBJECTIVE AND RESPONSIBILITY

- 1.1 This procedure describes the immediate actions to be taken to recognize and classify the four emergency classifications; Unusual Event, Alert, Site Emergency and General Emergency.
- 1.2 The Emergency Coordinator (Watch Engineer, until properly relieved) is responsible for implementation of the actions prescribed in this procedure. He may delegate responsibility for performance of the prescribed tasks except where specifically forbidden in this procedure.

2.0 REFERENCES

RECEIVED

- 2.1 SONGS-2 & 3 Emergency Plan.
- 2.2 SONGS-2 & 3 Operating Procedures.
- 2.3 Title 10, Code of Federal Regulations Part 50, Appendix E.
- 2.4 NUREG-0654/FEMA-REP-1, Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants.
- 2.5 SONGS-2 & 3 Health Physics Procedures.
- 2.6 SONGS-2 & 3 Emergency Procedures S023-VIII-12, -13, -14, -15.
- 2.7 SONGS-2 & 3 Tech Specs.

OCT 22 1981

CDM SITE

3.0 PREREQUISITES

- 3.1 An off-normal event corresponding to one of the initiating events described in Attachment 8.1, "Action Level Criteria for the Classification of Emergency Conditions", has occurred and has been verified by using redundant instruments or by comparison to other related plant parameters, physical observations, and field measurements, as applicable.

**NOT FOR COPY
FOR STICKER APPLICATION
CHECK APPROPRIATE INFORMATION
FOR CURRENT INFORMATION**

4.0 PRECAUTIONS

- 4.1 Continued surveillance and assessment of plant conditions is necessary to ensure that the emergency classification is appropriately revised as conditions change, or as more definitive information is obtained.

4.2 This emergency procedure does not replace any plant operating procedures. During an emergency condition, continue to use the appropriate plant procedures in parallel to this procedure.

4.3 The Emergency Event Numbers that are in Attachment 8.2 in parenthesis to the right of the Emergency Classification, do not necessarily correspond to the TAB numbers.

Example: TAB 8 UNUSUAL EVENT (UE7)

5.0 CHECKLISTS

5.1 Attachment 8.3, "Emergency Coordinator's Emergency Classification Guidance and Checklist".

5.2 Attachment 8.4, "Criteria for Emergency Closeout Checklist".

6.0 PROCEDURE

NOTE: The Emergency Coordinator shall declare the appropriate emergency condition within 15 minutes of the verified off-normal event, as per step 6.5.

6.1 The Watch Engineer shall review Attachment 8.1, "Action Level Criteria for Classification of Emergency Conditions", when he has been made aware of an off-normal event.

6.2 If the off-normal condition is not listed in Attachment 8.1, and the condition is being corrected using the plant operating procedures, the Watch Engineer shall make the decision that the off-normal event is not a condition covered by the emergency procedures.

6.3 If the off-normal condition is listed in Attachment 8.1, go to the Tab Number indicated. The Tab Numbers are the locator numbers for Attachment 8.2, "TAB Descriptions for Classification of Emergency Conditions".

6.4 Match the off-normal information to one of the four Emergency Conditions listed under the applicable Tab of Attachment 8.2. The effects of combinations of initiating events that individually constitute a lower classification condition should be considered as a possibly higher Emergency Condition.

6.5 Declare the appropriate Emergency Condition from the above information.

NOTE: The Emergency Coordinator is the only individual authorized to declare an Emergency Condition.

6.0 PROCEDURE (Continued)

6.6 Using Attachment 8.3, "Emergency Coordinator's Emergency Procedure Implementation Checklist", record the following information when applicable:

- a. The procedures that have been activated.
- b. The time and date that the procedure was activated.
- c. To whom the procedure was assigned.

6.7 Assessment actions shall be continued, and if necessary, the emergency classification escalated (or downgraded) as more definitive information becomes available or if the plant conditions change significantly. Go to the appropriate Emergency procedure as based on the above information.

S023-VIII-12, Unusual Event
S023-VIII-13, Alert
S023-VIII-14, Site Emergency
S023-VIII-15, General Emergency

6.8 When the Emergency Coordinator has made the decision to terminate the Emergency Condition, Attachment 8.4, "Criteria for Emergency Close Out Checklist", shall be completed to verify that all necessary conditions exist to terminate the emergency condition.

7.0 RECORDS

7.1 Attachment 8.3, "Emergency Coordinator Emergency Classification Guidance and Checklist".

7.2 Attachment 8.4, "Criteria for Emergency Close Out Checklist".

8.0 ATTACHMENTS

8.1 Attachment 8.1, "Action Level Criteria for Classification of Emergency Conditions".

8.2 Attachment 8.2, "TAB Descriptions for Classification of Emergency Conditions".

8.0 ATTACHMENTS (Continued)

8.3 Attachment 8.3, "Emergency Coordinator's Emergency Procedure Implementation and Checklist".

8.4 Attachment 8.4, "Criteria for Emergency Close Out Checklist".



K. P. BARR
HEALTH PHYSICS MANAGER

ACTION LEVEL CRITERIA FOR CLASSIFICATION OF EMERGENCY CONDITIONS

- 1.0 General description of the four Emergency Classifications:
- 1.1 Unusual Event - Off-normal Event(s) that could indicate a potential degradation of the Safety level of the plant.
 - 1.2 Alert - Off-normal Event(s) that indicate an actual degradation of the Safety level of the plant.
 - 1.3 Site Emergency - Off-normal Event(s) that involve actual or imminent major failures of plant functions needed for the protection of the public.
 - 1.4 General Emergency - Off-normal Event(s) that involve actual or imminent substantial fuel degradation with the potential loss of boundry integrity.
- 2.0 Specific descriptions of Initiating Condition:
- 2.1 Radioactive Effluent (Applicable to any release point(s) and resulting from any initiating Event) TAB 1
 - 2.2 Release of loss of control of radioactive material within the plant TAB 2
 - 2.3 Reactor Coolant System (RCS) Temperature High or Low TAB 3
 - 2.4 RCS Pressurizer Pressure High or Low TAB 4
 - 2.5 RCS Leak TAB 5
 - 2.6 RCS to secondary Leak TAB 6
 - 2.7 Main Steam Line Break TAB 7
 - 2.8 RCS Activity Indicating Fuel Cladding degradation TAB 8
 - 2.9 RCS Safety Valve Failure TAB 9
 - 2.10 Initiation of SIS TAB 10
 - 2.11 Loss of Containment Integrity TAB 11

- 2.0 Specific descriptions of Initiating Condition (Continued)
- 2.12 Loss of Engineered or Fire Protection Features TAB 12
 - 2.13 Failure of reactor protection system to initiate or complete a trip TAB 13
 - 2.14 Loss of Plant Control TAB 14
 - 2.15 Loss of Indicators, Annunciators, or Alarms TAB 15
 - 2.16 Control Room Evacuation TAB 16
 - 2.17 Toxic or Flammable Gas TAB 17
 - 2.18 Security Compromise TAB 18
 - 2.19 Loss of AC Power Supplies TAB 19
 - 2.20 Loss of All Onsite Vital DC Power TAB 20
 - 2.21 Tornado TAB 21
 - 2.22 Hurricane TAB 22
 - 2.23 Earthquake TAB 23
 - 2.24 Fire TAB 24
 - 2.25 Explosion TAB 25
 - 2.26 Aircraft TAB 26
 - 2.27 Flood or Tsunami TAB 27
 - 2.28 Contaminated Injury TAB 28

TAB 1

RADIOACTIVE EFFLUENT

UNUSUAL EVENT (UE1, liquid; UE2 gaseous)

1. Monitored Release Exceeds Hi Alarm Set Point.

A radioactivity release in excess of MPC limits for an isotopic mix in a liquid release; or in excess of the technical specifications for a gaseous release.

NOTE: The specific MPC limit for a given batch release (liquid or gaseous) is based on prior sampling results which are documented on the Radioactive Waste Release Permit (RWRP). The Hi alarm will be set at the appropriate calculated limit. If a Hi alarm occurs on one of the instruments listed below, a sample should be taken of the affected effluent path (tank or monitor sample, as applicable) and the results compared to the pre-discharge sample results. If the sample results differ significantly, (i.e. 20%) a new RWRP shall be calculated. If the calculated release flow alarm, (or if sum of the individual MPC fractions exceed 1.0), the release exceeded technical specifications. Similar assessment can be performed for continuous release pathways using the last periodic sample results.

<u>Unit Instrument</u>	<u>Monitor Description</u>	<u>Alarm</u>	<u>Unit Location</u>
___ RI-7804A1	Contm't Airborne Iodine Monitor	HI-Level	___ L-103
___ RI-7804B1	Contm't Airborne Particulate Monitor	HI-Level	___ L-103
___ RI-7804C1	Contm't Airborne Gas Monitor	HI-Level	___ L-103
___ RI-7807A2	Contm't Airborne Iodine Monitor	HI-Level	___ L-103
___ RI-7807B2	Contm't Airborne Particulate Monitor	HI-Level	___ L-103
___ RI-7807C2	Contm't Airborne Gas Monitor	HI-Level	___ L-103

TAB 1 (Continued)

UNUSUAL EVENT (Continued)

1. Monitored Release Exceeds Hi Alarm Set Point (Continued)

<u>Unit Instrument</u>	<u>Monitor Description</u>	<u>Alarm</u>	<u>Unit Location</u>
2/3R1-7808A	Plant Vent Stack Airborne Iodine Monitor	HI-Level	2/3L-104
2/3R1-7808B	Plant Vent Stack Airborne Particulate Monitor	HI-Level	2/3L-104
2/3R1-7808C	Plant Vent Stack Gas Monitor	HI-Level	2/3L-104
___R1-7818A	Cond. Air Ejector Gas Monitor	HI-Level	___L-103
___R1-7818B	Cond. Air Ejector Gas Monitor	HI-Level	___L-103
___R1-7804C1	Contm't Airborne Gas Monitor	HI-Level	___L-103
2/3R1-7809A	Radwaste Disposal Area Vent Particulate/Iodine Monitor	HI-Level	2/3L-104
2/3R1-7809B	Radwaste Disposal Area Vent Gas Monitor	HI-Level	2/3L-104
2/3R1-7813	Radwaste Discharge Line Monitor	HI-Level	2/3L-104
2/3R1-7814A	Waste Gas Header Monitor	HI-Level	2/3L-104
2/3R1-7814B	Waste Gas Header Monitor	HI-Level	2/3L-104
2/3R1-7812	Radwaste Condensate Return Monitor	HI-Level	2/3L-104
___R1-7817	Neutralization Sump/line DCGH. Monitor	HI-Level	___L-103
___R1-7821	Turbine Plant Area Sump Monitor	HI-Level	___L-103

TAB 1 (Continued)

UNUSUAL EVENT (Continued)

1. Monitored Release Exceeds Hi Alarm Setpoint (Continued)

<u>Unit Instrument</u>	<u>Monitor Description</u>	<u>Alarm</u>	<u>Unit Location</u>
___ R1-7822A1	Fuel Handling Area Vent Particulate/Iodine Monitor	HI-Level	___ L-103
___ R1-7822B1	Fuel Handling Area Vent Gas Monitor	HI-Level	___ L-103
___ R1-7822A2	Fuel Handling Area Vent Particulate/Iodine Monitor	HI-Level	___ L-103
___ R1-7822B2	Fuel Handling Area Vent Gas Monitor	HI-Level	___ L-103

2. Unplanned or Unmonitored Release:

Any liquid or gaseous radioactivity release via an unmonitored path; or an unplanned release via a monitored path; either of which is estimated or suspected to exceed technical specifications limits following dilution.

ALERT (Al liquid; Al gaseous)

1. Liquid

A liquid release which is monitored and exceeds 10 times the Hi Alarm Setpoint, or an unmonitored gaseous release which is suspected to have exceeded 10 times Technical Specification limits as determined by field sampling and radioanalysis, or an unmonitored liquid release which is suspected to have exceeded 10 times MPC as determined by sampling and radioanalysis.

2. Gaseous

A gaseous release which is monitored and exceeds 10 times the Hi Alarm Setpoint.

SITE EMERGENCY (SEL)

An airborne release corresponding to greater than 50 mr/hr whole-body for 1/2 hour or 500 mr/hr wholebody for 2 minutes for adverse meteorology at the site boundary as indicated by:

TAB 1 (Continued)

SITE EMERGENCY (Continued)

<u>Unit</u>	<u>Instrument</u>	<u>Description</u>
___	RI-7865-1	Containment purge & Plant Stack Wide Range Gas
___	RI-7870-1	Steam Jet Air Ejector Wide Range Gas
___	RI-7874- Al&-Bl	Main Steamline
___	RI-7875- Al& -Bl	Main Steamline

GENERAL EMERGENCY (GEL)

Airborne Release Corresponds to:

- a. Offsite dose due to the event is projected to exceed 0.5 rem to the whole body, or 25 rem to the child thyroid as determined by dose calculation, or
- b. The above dose is projected based on radioactivity released to containment as indicated by:

<u>Unit</u>	<u>Instrument</u>	<u>Description</u>
___	RI-7820-1	In Containment High Range
___	RI-78720-2	In Containment High Range
___	RI-7858-1	Emergency Radiation Monitoring System
___	RI-7859-2	Emergency Radiation Monitoring System
___	RI-7860-3	Emergency Radiation Monitoring System

IN-PLANT RADIATION LEVELS

UNUSUAL EVENT

Not Applicable

ALERT (A3)

Unexpected Increase in In-Plant Radioactivity Levels or a Fuel Handling Accident or another verified uncontrolled event that increases radiation levels by a factor of 1000 or higher; as indicated by:

Unit	Instrument	Monitor Description	Emergency Action Level	Location
	(All Instruments Listed in TAB 1)		1000 X Normal	(TAB 1)
2/3	RISH-7842	Auxiliary Building Area El. 9 Feet	1000 X Normal	L-90
2/3	RISH-7843	Auxiliary Building Area El. 37 Feet	1000 X Normal	L-90
2/3	RISH-7841	Auxiliary Building Area El. 63 Feet	1000 X Normal	L-90
2/3	RISH-7854	Local Sample Lab	1000 X Normal	L-90
2/3	RISH-7844	High Radiation Storage Area	1000 X Normal	L-90
2/3	RISH-7852	Radiochem. Lab Area	1000 X Normal	L-90
2/3	RISH-7851	Control Room (Auxiliary Bldg)	1000 X Normal	L-90
2/3	RISH-7853	Hot Machine Shop	1000 X Normal	L-90
2/3	RISH-7845	Containment Access Hatch	1000 X Normal	L-90
2/3	RISH-7848	Containment General Area	1000 X Normal	L-90
2/3	RISH-7847	Safety Equipment Bldg. General Area	1000 X Normal	L-90
2/3	RISH-7850	Spent Fuel Cask Loading Area	1000 X Normal	L-90
N/A		Field Measurements with Portable Survey Instruments	1000 X Normal	N/A

SITE EMERGENCY (SE3)

1. Spent Fuel Damage:

Major damage to spent fuel due to fuel handling accident;

<u>Instrument and Description</u>	<u>Alarm</u>	<u>EAL</u>
Area and Ventilation monitors identified above (Alert)	N/A	N/A
Field Measurements with portable survey instruments	N/A	50 mrem/hr*

* At Site Boundary. (Must Continue for at least 1/2 hour)

2. Spent Fuel Pool Level Decrease:

Uncontrolled decrease in fuel pool water to below level of fuel.

<u>Alarm</u>	<u>Description</u>	<u>Alarm</u>
61-C #3	Spent Fuel Pool Hi/Low Level	Low
Visual Observation	Spent Fuel Pool Linear Leak Detection	

GENERAL EMERGENCY

Loss of 2 of 3 Fission Product Barriers

RCS TEMPERATURE HI OR LOW

UNUSUAL EVENT (UE4)

1. RCS T_{ave} Less than 520°F while critical (Modes 1 and 2)

<u>Instrument</u>	<u>Description</u>
TR0111 A/B	T _{ave}
TR0121 A/B	T _{ave}
TR0100 A/B	T _{ave}

2. RCS T_{ave} Greater than 588.05°F (Mode 1)

<u>Instrument</u>	<u>Description</u>
(Same as above)	T _{ave}

3. RCS (Pressure/Temperature) Less than 50°F Subcooled

<u>Instrument</u>
RCS Subcooling Margin Monitor

ALERT (A6)

RCS Temperature Greater than 588.05°F (T_{ave}) and
RCS I-131 Activity greater than 300 uCi/ml Determined
by Letdown Radiation Monitor and/or Isotopic Analysis

SITE EMERGENCY (SE6)

Degraded core with possible loss of coolable geometry, evidence
of uneven core temperature distribution from incore thermocouples,
Increasing High RCS Temperature RCS Flow Decrease with RCS I-131
Activity greater than 300 uCi/ml and increasing.

GENERAL EMERGENCY (GE2)

Loss of 2 of 3 Fission Product Barriers (Clad, RCS, Containment)
with a potential loss of the third barrier.

RCS PRESSURS HI OR LOW

UNUSUAL EVENT (UE5)

1. RCS Pressure Exceeds Safety Limit (2750 PSIA)

<u>Instrument</u>	<u>Description</u>
PR 0100 A/B	Pressurizer Pressure
P 1100 X or Y	Pressurizer Pressure

2. DNBR Low Pressure Trip has occurred (variable pressure, minimum 1806 PSIA) indicated by RPS Trip Bistables, concurrent with RCS (Pressure/Temperature) less than 50°F subcooled indicated by RCS subcooling margin monitor.

ALERT (A6)

1. RCS Pressure High (at or above safety valve setpoint of 2500 PSIA) concurrent with increasing RCS temperature from TR0111 A/B or TR0121 A/B (T_{ave}).
2. RCS Pressure Low with SIAS initiated (1806 PSIA) and RCS I-131 activity greater than 300 uCi/ml determined by letdown radiation monitor and/or isotopic analysis.

SITE EMERGENCY (SE6)

Degraded core with possible loss of coolable geometry, evidence of uneven core temperature distribution from incore thermocouples, Increasing/High RCS Temperature RCS Flow Decrease with RCS I-131 Activity greater than 300 uCi/ml and increasing.

GENERAL EMERGENCY (GE2)

Loss of 2 of 3 Fission Product Barriers (Clad, RCS, Containment) with a potential loss of the third barrier.

RCS LEAKAGE

NOTE: There are no instruments which directly measure RCS leakage. RCS leakage is determined by a leak rate surveillance procedure. The instruments listed below may be indicators that a significant leak exists.

<u>Instrument</u>	<u>Description</u>
R7819	Component Cooling Water Monitor
T1107	PZR E087 Relief Line Temperature
T1108	PZR E087 Relief Line Temperature
LI116	Quench Tank Level
PI116	Quench Tank Pressure
TI116	Quench Tank Temperature
	Pressurizer E087 Level Recorder
PI-351-1	Containment Pressure
PI-351-2	Containment Pressure
PI-351-3	Containment Pressure
PI-351-4	Containment Pressure
PI-352-1	Containment Pressure
PI-352-2	Containment Pressure
PI-352-3	Containment Pressure
PI-352-4	Containment Pressure
PI-353-1	Containment Wide/Wide Range Pressure
LI-5853-1	Containment Normal Sump Level
FR-5805	Containment Sump Inlet Flow Narrow Range
FR-5802	Containment Sump Inlet Flow
RT-6759	Steam Generator Blowdown Radiation Monitor

<u>Unit</u>	<u>Instrument</u>	<u>Monitor Description</u>	<u>Unit Location</u>
	R1-7804A1	Contm't Airborne Monitor	L-103
	R1-7804B1	Contm't Airborne Particulate Monitor	L-103
	R1-7804C1	Contm't Airborne Gas Monitor	L-103
	R1-7807A2	Contm't Airborne Iodine Monitor	L-103
	R1-7807B2	Contm't Airborne Particulate Monitor	L-103
	R1-7807C2	Contm't Airborne Gas Monitor	L-103

<u>Unit</u>	<u>Instrument</u>	<u>Monitor Description</u>	<u>Unit Location</u>
___	R1-7858-1	ERMS	___ L-103
___	R1-7859-2	ERMS	___ L-103
___	R1-7860-3	ERMS	___ L-103

Annunciators

Pressurizer Safety Valve Outlet Temp Hi 50A31
Containment Pressure High 56A35
Pressurizer Level Lo-Lo 50A3
Reactor Vessel Seal Leak Detection 50A35
Containment Sump Hi and Hi - Hi Level 56A56 and 56A55

UNUSUAL EVENT (UE6a)

1. Unidentified Leakage Greater than 1 gpm
2. Identified Leakage Greater than 10 gpm
3. RCS to Secondary Leakage Exceeds 0.5 gpm (720 gal/day) Through Any One S/G
4. Steam Generator activity Exceeds 0.10 uCi/ml Dose Equiv. I-131

ALERT (A4a)

Leakage Exceeds 50 gpm

SITE EMERGENCY (SE4a)

Leakage Exceeds Make-up Capacity (LOCA)

GENERAL EMERGENCY (GE4)

1. Loss of Coolant Accident with failure of SIS.
2. Loss of Coolant Accident with subsequent failure of the heat removal system and the likely failure of containment.
3. Loss of Coolant Accident with fuel failure and probable imminent failure of containment.

RCS TO SECONDARY LEAKAGE

NOTE: There are no instruments which directly measure RCS to Secondary Leakage. RCS to Secondary Leakage is determined by a leak rate surveillance procedure. The instruments listed below are indicators that a significant leak exists.

<u>Instrument</u>	<u>Description</u>
R7818	Main Condenser Air Ejector Gas Monitor
R6759	Steam Generator Blowdown Radiation
R6753	
LR-0110A&B	Pressurizer Level Recorder

UNUSUAL EVENT (UE6b)

1. RCS to Secondary Leakage Exceeds 0.5 gpm through any one Steam Generator
2. Steam Generator Activity Exceeds 0.10 uCi/gram Dose Equivalent I-131

ALERT (A4b)

RCS to Secondary Leakage Exceeds 50 gpm.

SITE EMERGENCY (SE4b)

1. RCS to Secondary Leakage Exceeds RCS Make-Up Capacity With Loss of Offsite Power
2. RCS to Secondary Leakage Exceeds 50 gpm Concurrent with Main Steam Line Break and Indication of Fuel Failure.

GENERAL EMERGENCY

1. Loss of Coolant Accident with a failure of the SIS.
2. Loss of Coolant Accident with subsequent failure of heat removal systems; likely failure of containment integrity.
3. Loss of Coolant Accident with fuel failure and probable imminent failure of containment integrity.

MAIN STEAM LINE BREAK

UNUSUAL EVENT

Steam break causing rapid depressurization of secondary steam pressure and associated primary cooldown.

ALERT (A5)

Main Steam Line Break determined by MSIS actuation at less than or equal to 729 PSIA Steam Generator pressure concurrent with 10 gpm RCS to Secondary Leakage determined by RCS Leak Rate Surveillance.

<u>Instrument</u>	<u>Description</u>
PI-1023 A1,A2,A3,A4	Steam Generator Pressure
PI-1012 A1,A2,A3,A4	Steam Generator Pressure

SITE EMERGENCY (SE5)

Main Steam Line Break Concurrent with 50 gpm RCS to Secondary Leakage concurrent with RCS I-131 activity greater than 300 uCi/ml determined by isotopic analysis.

GENERAL EMERGENCY (GE4)

Loss of Plant Control

FUEL CLADDING DEGRADATION

UNUSUAL EVENT (UE7)

1. I-131 Dose Equivalent Exceeds LOO (100/E uCi/ml) Tech Spec Limit,

<u>Instrument</u>	<u>Description</u>
Grab Sample	Radiochemistry analysis

2. Specific Activity Exceeds LOO (100/ \bar{E} uCi/ml) Steady State,
Tech Spec Limit

Analyses as above.

ALERT (A6)

RCS I-131 Dose Equivalent Exceeds 300 uCi/ml.

Analyses as above.

SITE EMERGENCY (SE6)

Degraded Core with Possible Loss of Coolable Geometry:

Evidence of uneven core temperature distribution (thermocouples)
or RCS Temperature Hi, RCS flow decrease; in addition to RCS I-131
Dose Equivalent Activity Exceeding 300 uCi/ml.

GENERAL EMERGENCY (GE2)

Loss of 2 of 3 Fission Product Barriers:

Fuel cladding failure with LOCA and with potential loss of
containment integrity.

SAFETY RELIEF VALVE

UNUSUAL EVENT (UE8)

Safety relief valve fails to close (leakage exceeds primary leakage LOO 10 gpm). Indications of leakage are:

<u>Instrument</u>	<u>Description</u>
_TI-107	PZR-2E087 Relief Line Temperature
_TI-108	PZR-2E087 Relief Line Temperature
_LI-105	Quench Tank _T011
_TI-116	Quench Tank _T011
_PI-116	Quench Tank _T011
	Acoustic Flow Monitor

ALERT (A4a)

Leakage exceeds 50 gpm.

SITE EMERGENCY (SE4a)

Leakage exceeds the make-up capacity to the RCS, Loss of Coolant Accident (LOCA)

GENERAL EMERGENCY (GE4)

1. Loss of Coolant Accident with failure of the SIS.
2. Loss of Coolant Accident with subsequent failure of heat removal systems; likely failure of containment integrity.
3. Loss of Coolant Accident with fuel failure and probable imminent failure of containment integrity.

SIS INITIATION

UNUSUAL EVENT (UE 11)

Initiation of SIS:

Valid safety circuit trip(s) or necessary manual initiation.
The following instruments are indications that SIS has initiated:

<u>Instrument</u>	<u>Description</u>
PI-0308	HPSI Pump_P017 Dish Pressure
PI-0309	HPSI Pump_P019 Dish Pressure
FI-0311-2	Safety Injection Flow to Cold Legs
FI-0321-1	HPSI Flow to Cold Legs
FI-0331-1	HPSI Flow to Cold Legs
FI-0341-1	HPSI Flow to Cold Legs
HS-9391-2	HPSI Pump_P016(N)
HS-9391-1	HPSI Pump_P015(E)
HS-9395-1	Containment Spray Pump
HS-9396-2	Containment Spray Pump

Annunciators

SIAS Actuation Train B 57B01

SIAS Actuation Train A 57A01

*Trips

Low Pressurizer Pressure 1806 PSIA, minimum (variable trip point)

Containment Pressure Hi (2.95 PSIG)

ALERT

Not Applicable

SITE EMERGENCY

Not Applicable

GENERAL EMERGENCY (GE4)

Loss of Control of the Plant

LOSS OF CONTAINMENT INTEGRITY

UNUSUAL EVENT (UE12)

Containment leak rate exceeds surveillance standard 4.6, as discovered during surveillance test; or inability to maintain containment pressure.

<u>Instrument</u>	<u>Description</u>
PI-351-1	Containment Pressure
PI-351-2	Containment Pressure
PI-351-3	Containment Pressure
PI-351-4	Containment Pressure
PI-352-1	Containment Pressure
PI-352-2	Containment Pressure
PI-352-3	Containment Pressure
PI-352-4	Containment Pressure
PI-353-1	Containment Pressure

Containment Pressure High (2.9 PSIG) - 56A35

ALERT

Not Applicable

SITE EMERGENCY

Not Applicable

GENERAL EMERGENCY (GE3)

Failure of containment is imminent concurrent with LOCA and fuel cladding damage

LOSS OF ESF's

UNUSUAL EVENT (UE13, Loss of ESF; UE14, Loss of Fire Systems)

Loss of Engineered Safety Features (ESF), or fire protection equipment, requiring shutdown by LCO. (Reference 2.7, SONGS-2 & 3 Tech Specs.)

ALERT

Not Applicable

SITE EMERGENCY

Not Applicable

GENERAL EMERGENCY (GE3)

Loss of Plant Control

PROTECTIVE SYSTEM FAILURES

UNUSUAL EVENT

Not Applicable

ALERT (A7)

Reactor Not Subcritical After Valid Trip Signal(s)

<u>Instrument</u>	<u>Description</u>
	Reactor Trip
MIMIC	CEA Reed Switch Position Indicating Rods Not fully inserted
Panel CEA bottom lights	
J1007&8	Reactor power level indicators not downscale

SITE EMERGENCY

Any transient requiring operation of shutdown systems with a failure to trip (continued power operation with no core damage immediately evident).

GENERAL EMERGENCY (GE4)

Reactor Protection System fails to initiate or complete a trip, followed by a loss of core cooling and make-up systems, which results in fuel degradation as determined by Post Accident Sampling System Activity Determination.

LOSS OF PLANT CONTROL

UNUSUAL EVENT

1. Any plant condition that warrants increased awareness on the part of the plant operating staff or State and Local offsite authorities or both.
2. Any plant condition that requires plant shutdown under technical specification requirements or involve other than normal controlled shutdown.

ALERT (A8)

Loss of Capability to Achieve Cold Shutdown

SITE EMERGENCY (SE7)

Loss of Capability to Achieve Hot Shutdown

GENERAL EMERGENCY (GE4)

Loss of Physical Control of Plant

LOSS OF INSTRUMENTATION

UNUSUAL EVENT (UE15)

Loss of Vital Indicators, Annunciators, or Alarms in Excess of LOO:

1. Loss of vital indicators, annunciators on effluent parameters during release.
2. Inoperable ESF Activation System Instrumentation per Table 3.3-3 of SONGS-2 Technical Specifications.

ALERT (A9)

Loss of Control Room Alarms (Annunciators) Sustained for greater than 5 minutes.

SITE EMERGENCY (SE8)

Uncontrolled Transient Occurs While All Alarms are Lost

GENERAL EMERGENCY (GE4)

Loss of Control of Plant

CONTROL ROOM EVACUATION

UNUSUAL EVENT

Not Applicable

ALERT (A10)

Control Room Evacuation Required or Anticipated—Control at Local Stations:

Evacuation of the Control Room is required or anticipated and control of shutdown systems has been established at local control stations.

<u>Instrument</u>	<u>Indication</u>
Visual/Local Alarm	Fire in Control Room
Visual	Heavy Smoke in Control Room
Toxic Gases Analyzer	Other Toxic Gases Observed
2/3RISH-7851	High Radiation, Control Room
<u>Annunciators</u>	
60B19 TGIS TR A Hi Toxic gas/trouble	
60B20 TGIS TR B Hi Toxic gas/trouble	

SITE EMERGENCY (SE9)

Evacuation of the Control Room is required and control of shutdown systems has not been established at local control stations within 15 minutes.

GENERAL EMERGENCY (GE4)

Loss of Control of Plant

SAN ONOFRE NUCLEAR GENERATING STATION
UNITS 2 AND 3

EMERGENCY PROCEDURE S023-VIII-11
REVISION 1 ATTACHMENTS 8.2
PAGE 22 OF 33

TAB 17

TOXIC/FLAMMABLE GASES

UNUSUAL EVENT (UE16)

Uncontrolled Nearby or Onsite Release

Indication

Observation by irritation, noticeable odor, samples,
verbal reports of authenticated accidents resulting
in release.

ALERT (A11)

Gas enters the facility and causes Habitability Problems

SITE EMERGENCY (SE10)

Gas Enters Vital Areas and Restricts Access Necessary
for Safe Shutdown

GENERAL EMERGENCY (GE4)

Loss of Control of Plant

SAN ONOFRE NUCLEAR GENERATING STATION
UNITS 2 AND 3

EMERGENCY PROCEDURE S023-VIII-11
REVISION 1 ATTACHMENT 8.2
PAGE 23 OF 33

TAB 18

SECURITY COMPROMISE

UNUSUAL EVENT (UE28)

Not Applicable. Action per SONGS Security Plan.

ALERT (A12)

Not Applicable. Action per SONGS Security Plan.

SITE EMERGENCY (SE11)

Imminent Loss of Physical Control of Plant

GENERAL EMERGENCY (GE4)

Loss of Physical Control of Plant

LOSS OF AC POWER

UNUSUAL EVENT (UE17)

1. Loss of All On-Site AC Power Capability, Diesel Generators Inoperative.

Annunciators

ESF Bus A04 Low Voltage - 63B39
ESF Bus A06 Low Voltage - 63A33
480V ESF Bus _B06 Loss of Voltage
480V ESF Bus _B06 Loss of Voltage

2. Loss of Offsite Power
Offsite power inoperative

ALERT (A13)

Temporary Loss of Both Onsite and Offsite AC Power
(Diesels Unavailable)

SITE EMERGENCY (SE12)

Loss of Both Onsite (Diesels Unavailable) and Offsite Power
for Longer Than 15 minutes

GENERAL EMERGENCY (GE4)

Loss of Control of Plant

LOSS OF DC POWER

UNUSUAL EVENT

Not Applicable

ALERT (A13)

Loss of All Onsite DC Power

Annunciators

63C31	Unit _125VDC_D1-Bus Trouble
63C52	Unit _125VDC_D2-Charger Trouble
63C55	Unit _125VDC_D-3-Bus Trouble
63C58	Unit _125VDC_D4-Charger Trouble
63C48	Unit _125VDC_D5-Charger Trouble
63C11	Unit _125VDC_D6-Charger Trouble

SITE EMERGENCY (SE12)

Loss of Vital DC Power Sustained for Longer than 15 Minutes

GENERAL EMERGENCY (GE4)

Loss of Control of Plant

TORNADO

UNUSUAL EVENT (UE19)

Tornado Sighted Onsite With a Probable Effect on Station:

<u>Instrument</u>	<u>Description</u>
Met. System	Wind Speed Indicator 10'
Met. System	Wind Speed Indicator 20'
Met. System	Wind Speed Indicator 40'
Weather Bureau Advisories	
Personnel Sighting	

ALERT (A15)

Tornado Strikes Vital Plant Structures

SITE EMERGENCY (SE14)

Tornado with Winds in Excess of Design Speed (100 mph)

GENERAL EMERGENCY (GE4)

Loss of Control of Plant

HURRICANE

UNUSUAL EVENT (UE20)

Hurricane With Probable Impact on Station

<u>Instrument</u>	<u>Description</u>
Met. System	Wind Speed Indicator 10'
Met. System	Wind Speed Indicator 20'
Met. System	Wind Speed Indicator 40'
Weather Bureau Advisories	

ALERT (A16)

Hurricane with Winds up to Design Speed (100 mph)

SITE EMERGENCY (SE14)

Hurricane Winds in Excess of Design Speed (100 mph)

GENERAL EMERGENCY (GE4)

Loss of Control of Plant

EARTHQUAKE

UNUSUAL EVENT (UE21)

Earthquake Detected by Site Seismic Instrumentation

The accelerograph alarm initiates upon detection of a seismic event resulting in 0.01 g acceleration. Seismic Accelerograph Operation annunciator indicates start of system.

ALERT (A17)

1. Earthquake Greater than 0.25 g, Operating Base Earthquake, (OBE) Occurs.
2. Earthquake Causes Known Damage to facility Affecting Operation

SITE EMERGENCY (SE15)

1. Earthquake Greater than 0.5 g, Safe Shutdown Earthquake, (SSE) Occurs
2. Earthquake Causes Severe Damage to Safe Shutdown Equipment

GENERAL EMERGENCY (GE4)

Loss of Control of Plant

FIRE

UNUSUAL EVENT (UE26)

Fire within plant which is not brought under control
within 10 minutes from start of firefighting efforts.

ALERT (A18)

Fire Which Potentially Affects Safety Systems

SITE EMERGENCY (SE16)

Fire within the Plant Which Effects the Safe Shutdown of the Plant.

GENERAL EMERGENCY (GE4)

Loss of Control of Plant

EXPLOSION

UNUSUAL EVENT (UE22)

Within Security Protected Area with No Significant Effect:

Observation of the Event

ALERT (A19)

Explosion with Known Damage to Facility, Affection Operation

SITE EMERGENCY (SE17)

Explosion Causes Severe Damage to Effect Safe Shutdown Equipment

GENERAL EMERGENCY (GE4)

Loss of Plant Control Occurs

SAN ONOFRE NUCLEAR GENERATING STATION
UNITS 2 AND 3

EMERGENCY PROCEDURE S023-VIII-11
REVISION 1 ATTACHMENTS 8.2
PAGE 31 OF 33

TAB 26

AIRCRAFT

UNUSUAL EVENT (UE25)

Aircraft Crashes Onsite--But Outside Protected Area

ALERT (A20)

Aircraft or Missile Strikes a Station Structure Inside Protected Area

SITE EMERGENCY (SE18)

Aircraft or Missile Crash Affects Vital Structure by Impact or Fire

GENERAL EMERGENCY (GE4)

Loss of Plant Control Occurs

SAN ONOFRE NUCLEAR GENERATING STATION
UNITS 2 AND 3

EMERGENCY PROCEDURE S023-VIII-11
REVISION 1 ATTACHMENTS 8.2
PAGE 32 OF 33

TAB 27

FLOOD/TSUNAMI

UNUSUAL EVENT (UE24)

Flood/Tsunami Warning--Probable Affect on Operations
By Observation/Report by Weather Bureau.

ALERT (A21a)

Flood/Tsunami Causes Known Damage Affecting Operation

SITE EMERGENCY (SE19a)

Flood/Tsunami Causes Severe Damage to Safe Shutdown Equipment

GENERAL EMERGENCY (GE4)

Loss of Control of Plant

CONTAMINATED INJURY

UNUSUAL EVENT (UE27)

Personnel injury occurs which results in the transportation of contaminated and injured personnel to an offsite hospital.

ALERT

Not Applicable

SITE EMERGENCY

Not Applicable

GENERAL EMERGENCY

Not Applicable

EMERGENCY COORDINATOR'S EMERGENCY CLASSIFICATION
GUIDANCE AND CHECKLIST

1. Initiating Condition (Initial Indication) _____
Date _____ Time _____ TAB # _____
Classification of Emergency _____

From the above information, check off the procedures that are activated directly by this procedure or by other Emergency Procedures and fill in the appropriate blanks.

Activated
(check)

- _____ 1. S023-VIII-12 Unusual Event: Time Activated _____
Date: _____ Assigned to: _____
Comments: _____
- _____ 2. S023-VIII-13 Alert: Time Activated _____
Date: _____ Assigned to: _____
Comments: _____
- _____ 3. S023-VIII-14 Site Emergency: Time Activated _____
Date: _____ Assigned to: _____
Comments: _____
- _____ 4. S023-VIII-15 General Emergency: Time Activated _____
Date: _____ Assigned to: _____
Comments: _____
- _____ 5. S023-VIII-16 Notification: Time Activated _____
Date: _____ Assigned to: _____
Comments: _____
- _____ 6. S023-VIII-17 Activation and Operation of Emergency Centers and
Organizations: Time Activated _____
Date: _____ Assigned to: _____
Comments: _____
- _____ 7. S023-VIII-18 Notification of Additional Emergency Support Personnel:
Time Activated: _____
Date: _____ Assigned to: _____
Comments: _____

8. S023-VIII-22 Source Term Determination: Time Activated _____
Date: _____ Assigned to: _____
Comments: _____
9. S023-VIII-23 Dose Assessment: Time Activated _____
Date: _____ Assigned to: _____
Comments: _____
10. S023-VIII-24 Direction of Onsite Emergency Monitoring:
Time Activated: _____
Date: _____ Assigned to: _____
Comments: _____
11. S023-VIII-25 Direction of Offsite Emergency Monitoring:
Time Activated _____
Date: _____ Assigned to: _____
Comments: _____
12. S023-VIII-26 Recommendation for Offsite Protective Measures:
Time Activated _____
Date: _____ Assigned to: _____
Comments: _____
13. S023-VIII-27 Emergency Environment Monitoring:
Time Activated _____
Date: _____ Assigned to: _____
Comments: _____
14. S023-VIII-31 Emergency Exposure Control: Time Activated _____
Date: _____ Assigned to: _____
Comments: _____
15. S023-VIII-32 Local Evacuation and Accountability:
Time Activated: _____
Date: _____ Assigned to: _____
Comments: _____
16. S023-VIII-33 Plant Evacuation and Accountability:
Time Activated _____
Date: _____ Assigned to: _____
Comments: _____

- 17. S023-VIII-34 Site Evacuation and Accountability:
Time Activated _____
Date: _____ Assigned to: _____
Comments: _____

- 18. S023-VIII-35 Traffic and Access Control: Time Activated _____
Date: _____ Assigned to: _____
Comments: _____

- 19. S023-VIII-36 Thyroid Prophylaxis: Time Activated _____
Date: _____ Assigned to: _____
Comments: _____

- 20. S023-VIII-37 Firefighting: Time Activated: _____
Date: _____ Assigned to: _____
Comments: _____

- 21. S023-VIII-38 Contaminated Injury: Time Activated _____
Date: _____ Assigned to: _____
Comments: _____

- 22. S023-VIII-39 Rescue: Time Activated _____
Date: _____ Assigned to: _____
Comments: _____

- 23. S023-VIII-41 Onsite Monitoring: Time Activated _____
Date: _____ Assigned to: _____
Comments: _____

- 24. S023-VIII-42 Offsite Monitoring and Sampling:
Time Activated: _____
Date: _____ Assigned to: _____
Comments: _____

- 25. S023-VIII-43 Sample Coordination During an Emergency:
Time Activated _____
Date: _____ Assigned to: _____
Comments: _____

- _____ 26. S023-VIII-44 Emergency Contamination Control:
Time Activated _____
Date: _____ Assigned to: _____
Comments: _____

- _____ 27. S023-VIII-45 Personnel and Vehicle Monitoring:
Time Activated _____
Date: _____ Assigned to: _____
Comments: _____

- _____ 28. S023-VIII-46 Onsite Sampling: Time Activated _____
Date: _____ Assigned to: _____
Comments: _____

- _____ 29. S023-VIII-51 Record Keeping: Time Activated: _____
Date: _____ Assigned to: _____
Comments: _____

- _____ 30. S023-VIII-61 Re-entry: Time Activated _____
Date: _____ Assigned to: _____
Comments: _____

- _____ 31. S023-VIII-62 Activation of the Recovery Organizations:
Time Activated _____
Date: _____ Assigned to: _____
Comments: _____

NOTE After this checklist is completed and is not required for immediate use, forward it to the Station Services Manager (Administrative Leader if Emergency Organization is activated).

CRITERIA FOR EMERGENCY CLOSE OUT CHECKLIST

To be used by the Emergency Coordinator to evaluate a decision to terminate an existing emergency. All the criteria shall be met.

Emergency Coordinator: _____

Existing Emergency: _____ No. _____ - _____

CRITERIA

CRITERIA MET

- | | | |
|----|--|-------|
| 1. | Initiating Condition is: | _____ |
| | a) Known and, | |
| | b) Under control (stabilized) or | |
| | c) Corrected or | |
| | d) No longer at an EAL | |
| 2. | Reactor Core is: | _____ |
| | a) Operating Normally, or | |
| | b) Is in Hot-Standby, or | |
| | c) Is in Cold-Shutdown, or | |
| | d) Cold-Shutdown Underway
and anticipated within 12 hours. | |
| 3. | All Technical Specifications LCO's
Are Met. | _____ |
| 4. | Radiation levels and Airborne
Concentrations in all areas are
determined to be stable or decreasing. | _____ |
| 5. | Uncontrolled radiological releases
from the site are terminated. | _____ |
| 6. | Fires are extinguished, flooding
conditions are under control and/or
any site damage is under control. | _____ |
| 7. | Injured personnel have been transported
to the hospital or have received medical
treatment. | _____ |

8. Other
(Specify): _____

9. Approval to terminate emergency No. _____ - _____
_____ Date _____ Time _____
Emergency Coordinator
10. Notifications made to offsite agencies listed on Table 1 of Emergency
Procedure S023-VIII-16.
Date _____ Time _____

NOTE After this checklist is completed and is not required
for immediate use, forward it to the Station Services
Manager (Administrative Leader if Emergency Organization
is activated).

OCT 9 1981

UNUSUAL EVENT

1.0 OBJECTIVE

- 1.1 This procedure describes the action to be taken in the event that an Unusual Event has been declared at the San Onofre Nuclear Generating Station Unit 2 and 3. This procedure also designates necessary pre-planned response actions and references applicable procedures that prescribe the necessary supplementary actions.
- 1.2 The Emergency Coordinator (Watch Engineer, until properly relieved by a designated alternate) is responsible for the completion of the prescribed actions in this procedure. The Emergency Coordinator may delegate responsibility for performance of the prescribed tasks to available qualified SCE personnel, except where otherwise specified in this procedure.

NOI FOR
CHECK OFF
STICK FILE FOR
CURRENT CONTROLLED INFORMATION

2.0 REFERENCES

- 2.1 San Onofre Nuclear Generating Station Unit 2 and 3 Emergency Plan
- 2.2 SONGS-2 and 3 Operating Procedures
- 2.3 SONGS-2 and 3 Health Physics Procedures
- 2.4 Title 10 Code of Federal Regulations Part 50, Appendix E
- 2.5 NUREG-0654/FEMA-REP-1 "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness In Support of Nuclear Power Plants".

SITE FILE COPY
RECEIVED
OCT 14 1981
CDM SITE

3.0 PREREQUISITES

- 3.1 An Unusual Event has been declared based on the occurrence of off normal events which could indicate a potential degradation of the level of safety of the plant. Events characterized as Unusual Events are described in Section 4 of the SONGS-2 and 3 Emergency Plan, and in Emergency Procedure SO23-VIII-11, "RECOGNITION AND CLASSIFICATION OF EMERGENCIES".
- 3.2 No releases of radioactive material requiring off-site response or monitoring are expected unless further degradation of the situation occurs.

4.0 PRECAUTIONS

- 4.1 Continued surveillance and assessment of plant conditions are necessary to ensure that the emergency classification is appropriately revised as conditions change, or more definitive information is obtained.

4.0 PRECAUTIONS (continued)

4.2 Emergency Coordinator responsibilities that may not be delegated include:

- 4.2.1 Decision to notify offsite emergency management agencies.
- 4.2.2 Making protective action recommendation as necessary to offsite emergency management agencies.
- 4.2.3 Classification of emergency event.
- 4.2.4 Determining the necessity for evacuation of personnel onsite.
- 4.2.5 Authorization for emergency workers to exceed 10 CFR 20 radiation exposure limits.

5.0 CHECKOFF-LISTS

5.1 Attachment 8.1 Unusual Event Checklist

6.0 PROCEDURE

6.1 Announce to Control Room personnel that _____ has assumed the duties of Emergency Coordinator.
(name)

6.2 Announce or have announced the following message over the public address system:

"ATTENTION ALL PERSONNEL, ATTENTION ALL PERSONNEL: AN UNUSUAL EVENT HAS BEEN DECLARED IN UNIT _____. MEMBERS OF THE

2/3

ON-SHIFT EMERGENCY ORGANIZATION REPORT TO YOUR EMERGENCY DUTY STATIONS AS REQUIRED. ALL OTHER PERSONNEL SHOULD CONTINUE WITH THEIR NORMAL DUTIES UNLESS FURTHER INSTRUCTIONS ARE GIVEN."

(Give a brief description of the event, if appropriate, and repeat the announcement)

NOTE: Notify the other Unit(s) watch Engineer of the Emergency.

- 6.3 Depending on the initiating emergency action level, ensure that the appropriate Emergency Operating Instructions have been implemented
- 6.4 Contact the Plant Superintendent and discuss plant status and which individuals maybe required to augment the onsite Emergency Organization.
- 6.5 Within 90 minutes compose the Initial Notification Message per procedure S023-VIII-16, "NOTIFICATIONS," for an Unusual Event.

6.0 PROCEDURE (continued)

- 6.6 Within 2 hours direct the Shift Communicator to make the initial offsite agency notifications required for an Unusual Event per procedure S023-VIII-16 "NOTIFICATIONS".
- 6.7 If local offsite support (fire, ambulance, police, etc.) is required, direct the Shift Communicator to request such assistance in accordance with S023-VIII-37, "FIREFIGHTING"; S023-VIII-38, "CONTAMINATED INJURY" or the SONGS Security Plan as appropriate for the event.
- 6.8 Consider if augmentation of on-shift personnel is necessary or desirable. If so, direct the AWS switchboard operator (PAX 56291) to contact the specific individuals by implementing S023-VIII-18, "NOTIFICATION OF ADDITIONAL EMERGENCY SUPPORT PERSONEL"
- NOTE: Emergency Centers Staffing Lists are available in Attachment 8.1 of S023-VIII-18.
- 6.9 Assess plant conditions and respond appropriately.
- 6.10 As soon as sufficient information becomes available, compose a Follow-up Notification Message per procedure S023-VIII-16, "NOTIFICATIONS." for an Unusual Event.
- 6.11 Direct the Shift Communicator to transmit the Follow-up Notification Message to the same agencies who received initial notification.
- 6.12 Periodically, as additional information becomes available, and/or as conditions change, compose updated Follow-up Notification Messages and have them transmitted.
- 6.13 If the Interagency Network System or dedicated phone is not used, after 30 minutes, confirm that offsite agency verification has been made. If no verification, direct the Shift Communicator to repeat notification.
- 6.14 Based upon continuous assessment of plant conditions, either:
- 6.14.1 Escalate to higher class of emergency, or
 - 6.14.2 When appropriate, close out the Unusual Event per procedure S023-VIII-11, "RECOGNITION AND CLASSIFICATION OF EMERGENCIES".
- 6.15 Should reclassification of the emergency become necessary, initiate the appropriate emergency procedure (S023-VIII-13, 14, or 15)
- 6.16 In the event of close out, compose a brief summary of the event and direct the Shift Communicator to transmit notification of close out to offsite agencies previously notified.

6.0 PROCEDURE (continued)

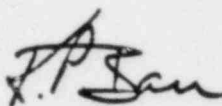
NOTE: Summary briefing of offsite authorities
to follow within 24 hours of termination
or reduction.

7.0 RECORDS

7.1 Attachment 8.1

8.0 ATTACHMENTS

8.1 Unusual Event Checklist.



K. P. BARR
HEALTH PHYSICS MANAGER

KPB:0087F/sss

UNUSUAL EVENT CHECKLIST

(for use with Procedure S023-VIII-12)

1. Assumed Emergency Coordinator duties, announced Unusual Event over public address system, and implemented "NOTIFICATION" procedure.

NOTE: Offsite notification must commence within 2 hours of Accident Classification.

E. C. Signature Time Date

2. Type of offsite support requested (if applicable.): _____

E. C. Initial Time Date

3. Plant Superintendent Notified.

E. C. Initial Time Date

4. Offsite agency verification completed.

E. C. Initial Time Date

5. Closed out/Escalated to _____
(alert, site, general emergency)
based upon procedure S023-VIII-11 "RECOGNITION AND CLASSIFICATION OF EMERGENCIES".

E. C. Initial Time Date

NOTE After this checklist is completed and is not required for immediate use, forward it to the Station Services Manager (Administrative Leader if Emergency Organization is activated.)

OCT 9 1981

ALERT

SITE FILE COPY

**FOR START-UP CONSTRUCTION USE ONLY
CHECK ARTICLES FOR CURRENT INFORMATION
STICK FILE FOR CURRENT INFORMATION**

1.0 OBJECTIVE

- 1.1 This procedure describes the actions to be taken when an Alert has been declared at the San Onofre Nuclear Generating Station Unit 2 and 3. This procedure describes the necessary pre-planned response actions and references procedures that prescribe the necessary supplementary actions.
- 1.2 The Emergency Coordinator (Watch Engineer, until properly relieved by a designated alternate) is responsible for the completion of the prescribed actions in this procedure. The Emergency Coordinator may delegate responsibility for performance of the prescribed tasks to available qualified SCE personnel, except where otherwise specified in this procedure.

2.0 REFERENCES

- 2.1 San Onofre Nuclear Generating Station Unit 2 and 3 Emergency Plan **RECEIVED**
- 2.2 SONGS-2 and 3 Operating Procedures **OCT 14 1981**
- 2.3 SONGS-2 and 3 Health Physics Procedures **CDM SITE**
- 2.4 Title 10 Code of Federal Regulations Part 50, Appendix E
- 2.5 NUREG-0654/FEMA-REP-1 "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants".

3.0 PREREQUISITES

- 3.1 An Alert has been declared based on the occurrence of events which indicate an actual or potential degradation of the level of safety of the plant. Events classified as Alerts are described in Section 4 of the SONGS-2 and 3 Emergency Plan, and in Emergency Procedure SO23-VIII-11, "RECOGNITION AND CLASSIFICATION OF EMERGENCIES".

-or-

- 3.2 An Unusual Event had been declared and emergency measures are being performed; and on the basis of subsequent information or upon a deterioration in plant conditions, the condition has been reclassified as an Alert.

4.0 PRECAUTIONS

- 4.1 Continued surveillance and assessment of plant conditions are necessary to ensure that the emergency classification is appropriately revised as conditions change, or more definitive information is obtained.
- 4.2 Emergency Coordinator responsibilities that may not be delegated include:
- 4.2.1 Decision to notify offsite emergency management agencies.
 - 4.2.2 Making protective action recommendations as necessary to offsite emergency management agencies.
 - 4.2.3 Classification of emergency event.
 - 4.2.4 Determining the necessity for evacuation of personnel onsite.
 - 4.2.5 Authorization for emergency workers to exceed 10 CFR 20 radiation exposure limits.

5.0 CHECK-OFF LISTS

- 5.1 Attachment 8.1 Alert Checklist.

6.0 PROCEDURE

- 6.1 Announce to Control Room personnel that _____ has assumed the duties of Emergency Coordinator.
(name)
- 6.2 Announce or have announced the following message over the public address system:
- "ATTENTION ALL PERSONNEL, ATTENTION ALL PERSONNEL: AN ALERT HAS BEEN DECLARED IN UNIT 2/3. ALL MEMBERS OF THE ON-SHIFT AND ONSITE EMERGENCY ORGANIZATION REPORT TO YOUR EMERGENCY DUTY STATIONS. ALL OTHER PERSONNEL STANDBY FOR FURTHER INSTRUCTIONS."
(Give a brief description of the event, if appropriate, and repeat the announcement.)
- NOTE: Notify the other Unit(s) Watch Engineer of the Emergency
- 6.3 Depending on the initiating emergency action level, ensure that the appropriate Emergency Operating Instructions have been implemented.
- 6.4 Compose the Initial Notification Message per Procedure S023-VIII-16, "NOTIFICATIONS", for an Alert.
- 6.5 Direct the Shift Communicator to make the initial offsite agency notifications required for an Alert per Procedure S023-VIII-16 "NOTIFICATIONS".

6.0 PROCEDURE (continued)

- 6.6 If local off-site support (fire, ambulance, police, etc.) is required, direct the Shift Communicator to request assistance in accordance with SO23-VIII-37, "FIREFIGHTING"; SO23-VIII-38, "CONTAMINATED INJURY" or the SONGS Security Plan as appropriate for the event.
- 6.7 Instruct the AWS switchboard operator (PAX 56291) to augment the on-shift staff and activate the emergency response centers by implementing procedure SO23-VIII-18, "NOTIFICATION OF ADDITIONAL EMERGENCY SUPPORT PERSONEL". The personnel notified will implement procedure SO23-VIII-17, "ACTIVATION AND OPERATION OF EMERGENCY CENTERS AND ORGANIZATIONS."

NOTE: Emergency Centers Staffing Lists are available in Attachment 8.1 of SO23-VIII-18.

- 6.8 If additional personnel having specific skills are required, direct the AWS switchboard operator to contact the individuals.
- 6.9 Assess plant conditions and respond appropriately.
- 6.10 As soon as sufficient information becomes available, compose a Follow-Up Notification Message per Procedure SO23-VIII-16, "NOTIFICATION", for an Alert.
- 6.11 Direct the Shift Communicator to provide offsite agencies with the following:
- 6.11.1 Periodic plant status updates (at least every hour) while conditions are changing.
 - 6.11.2 Periodic meteorological assessments (if any releases are occurring, include dose estimates).

NOTE: Use the follow-up Notification Form.

- 6.12 Verify that communications and documentation are maintained per Procedures SO23-VIII-16, "NOTIFICATION" SO23-VIII-18, "NOTIFICATION OF ADDITIONAL EMERGENCY SUPPORT PERSONNEL" and SO23-VIII-51, "RECORD KEEPING".
- 6.13 If applicable, direct the Emergency Group Leader to dispatch emergency team(s) to investigate identified problem areas.
- 6.14 If the Interagency Network system or dedicated phone is not used, after 30 minutes, confirm that offsite agency verification has been made. If no verification, direct the Shift Communicator to repeat notification.
- 6.15 Based upon continuing assessment of plant conditions, either:
- 6.15.1 Escalate to a higher class of emergency, or

6.0 PROCEDURE (continued)

6.15 (continued)

6.15.2 Reduce classification to an Unusual Event, or

6.15.3 When appropriate, close out the Alert, per procedure S023-VIII-11, "RECOGNITION AND CLASSIFICATION OF EMERGENCIES.

6.16 Should reclassification of the emergency become necessary, initiate the appropriate procedure (S023-VIII-12, 14 or 15).

6.17 In the event of close out or reduction in classification, compose a brief summary of the event and direct the Shift Communicator to transmit notification of close out or reduction to offsite agencies previously notified.

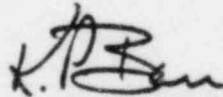
NOTE: Summary briefing of offsite authorities to follow within 8 hours of close out or reduction.

7.0 RECORDS

7.1 Attachment 8.1

8.0 ATTACHMENTS

8.1 Alert Checklist



K. P. BARR
HEALTH PHYSICS MANAGER

ALERT CHECKLIST

(FOR USE WITH PROCEDURE S023-VIII-13)

1. Assumed Emergency Coordinator duties, announced Alert over public address system, and implemented S023-VIII-16, "NOTIFICATIONS" procedure.

NOTE: Offsite notification must commence within 15 minutes of accident classification

EC Signature Time Date

2. Type of offsite support requested (if applicable): _____

E.C. Initial Time Date

3. Offsite agency verification completed.

E.C. Initial Time Date

4. Closed out/escalated to _____ /
(site, general emergency)
reduced to Unusual Event) based upon procedure S023-VIII-11,
"RECOGNITION AND CLASSIFICATION OF EMERGENCIES".

E.C. Initial Time Date

NOTE: After this checklist is completed and is not required for immediate use, forward it to the Administrative Leader.

SITE EMERGENCY

RECEIVED
OCT 14 1981

1.0 OBJECTIVE

- 1.1 This procedure describes the actions that a Site Emergency has been declared at San Onofre Nuclear Generating Station Unit 2 and 3. This procedure describes the necessary pre-planned response actions and references the procedures that prescribe the necessary supplemental actions.
- 1.2 The Emergency Coordinator (Watch Engineer, until properly relieved by a designated alternate) is responsible for the completion of the prescribed actions in this procedure. The Emergency Coordinator may delegate responsibility for performance of the prescribed tasks to available qualified SCE personnel, except where otherwise specified in this procedure.

NOT FOR CONSTRUCTION
FOR START-UP
CHECK APPLICABLE
STICK FILE FOR CURRENT INFORMATION
CDM SITE
NUCLEAR
ONLY
CONTROLLED
INFORMATION

SITE FILE COPY

2.0 REFERENCES

- 2.1 San Onofre Nuclear Generating Station Units 2 and 3 Emergency Plan
- 2.2 SONGS-2 and 3 Operating Procedures
- 2.3 SONGS-2 and Health Physics Procedures
- 2.4 Title 10 Code of Federal Regulations Part 50, Appendix E
- 2.5 NUREG-0654/FEMA-REP-1 "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness In Support of Nuclear Power Plants".

3.0 PREREQUISITES

- 3.1 A Site Emergency has been declared based on the occurrence of events which involve actual or likely failures of plant functions needed for the protection of the public. Events classified as Site Emergencies are described in Section 4 of the SONGS-2 and 3 Emergency Plan, and in Emergency Procedure SO23-VIII-11, "RECOGNITION AND CLASSIFICATION OF EMERGENCIES".

-or-

- 3.2 An Unusual Event or Alert had been declared, emergency measures are being performed, and on the basis of subsequent information or upon a deterioration in plant conditions, the condition has been reclassified as a Site Emergency.

4.0 PRECAUTIONS

4.1 Continued surveillance and assessment of plant conditions are necessary to ensure that the emergency classification is appropriately revised as conditions change, or more definitive information is obtained.

4.2 The Site Emergency is the lowest emergency classification in which offsite protective actions for airborne release may be warranted. In consideration of the lead time necessary to implement offsite protective actions, notifications to offsite authorities must be made as soon as possible following the initiating event and immediately after declaration of a Site Emergency.

4.3 EMERGENCY COORDINATOR RESPONSIBILITIES THAT MAY NOT BE DELEGATED INCLUDE:

- 4.3.1 Decision to notify offsite emergency management agencies.
- 4.3.2 Making protective action recommendations as necessary to offsite emergency management agencies.
- 4.3.3 Classification of emergency event.
- 4.3.4 Determining the necessity for evacuation of personnel onsite.
- 4.3.5 Authorization for emergency workers to exceed 10 CFR 20 radiation exposure limits.

5.0 CHECKOFF-LISTS

5.1 Attachment 8.2 Site Emergency Checklist.

6.0 PROCEDURE

6.1 Announce to Control Room personnel that _____
(name)
has assumed the duties of Emergency Coordinator.

6.2 Announce or have announced the following message over the public address system, slowly:

"ATTENTION ALL PERSONNEL, ATTENTION ALL PERSONNEL: A SITE
EMERGENCY HAS BEEN DECLARED IN UNIT _____. ALL MEMBERS OF
2/3

THE ON-SHIFT AND ONSITE EMERGENCY ORGANIZATION REPORT TO YOUR
EMERGENCY DUTY STATIONS. ALL OTHER PERSONNEL REPORT TO YOUR
DESIGNATED ASSEMBLY POINT. THERE WILL BE NO EATING, DRINKING OR
SMOKING UNTIL FURTHER NOTICE." (Repeat)

NOTE: Notify the other Unit(s) Watch Engineer of the
Emergency

6.0 PROCEDURE (continued)

- 6.3 Depending on the initiating emergency action level, ensure that the appropriate Emergency Operating Instructions have been implemented.
- 6.4 Compose the Initial Notification Message per procedure S023-VIII-16, "NOTIFICATIONS" for a Site Emergency.
- 6.5 Direct the Shift Communicator to make the initial offsite agency notifications required, for Site Emergency per procedure S023-VIII-16, "NOTIFICATIONS".
- 6.6 If local offsite support (fire, ambulance, police, etc.) is required, direct the Shift Communicator to request such assistance in accordance with S023-VIII-37, "FIREFIGHTING"; S023-VIII-38, "CONTAMINATED INJURY" or the SONGS Security Plan as appropriate for the event.
- 6.7 Instruct the AWS switchboard operator (PAX 56291) to augment the on-shift staff and activate the Emergency Response Center by implementing procedure S023-VIII-18 "NOTIFICATION OF ADDITIONAL EMERGENCY SUPPORT PERSONNEL". The personnel notified will implement procedure S023-VIII-17, "ACTIVATION AND OPERATION OF EMERGENCY CENTERS AND ORGANIZATIONS".

NOTE: Emergency Centers Staffing Lists are available in Attachment 8.1 of S023-VIII-18.

NOTE: Parallel activation of the Emergency Operations Facility (EOF) will be underway by the corporate emergency organization.

- 6.8 If additional personnel having specific skills are required, direct the AWS switchboard operator to contact the individuals.
- 6.9 Implement procedure S023-VIII-33, "PLANT EVACUATION AND ACCOUNTABILITY"
- 6.10 Direct that the Radiological Emergency Siren (Thunderbolt) be sounded.
- 6.11 Direct the Administrative leader to implement evacuation of the beach per Attachment 8.1
- 6.12 If changes in onsite or offsite radiation levels are expected, direct the Health Physics Leader to:
 - 6.12.1 Dispatch onsite and/or offsite monitoring teams per procedures S023-VIII-24, "DIRECTION OF ONSITE EMERGENCY MONITORING" and S023-VIII-25, "DIRECTION OF OFFSITE EMERGENCY MONITORING".

6.0 PROCEDURE (continued)

- 6.12.2 Dispatch a Health Physics Technician to the Assembly Point(s).
- 6.12.3 Initiate offsite dose projections per procedures S023-VIII 22, "SOURCE TERM DETERMINATION," and S023-VIII-23, "DOSE ASSESSMENTS."
- 6.13 If the emergency involves inplant radiation protection problems, direct the Health Physics Leader to:
 - 6.13.1 Implement procedures S023-VIII-31, "EMERGENCY EXPOSURE CONTROL", and S023-VIII-44, "EMERGENCY CONTAMINATION CONTROL".
 - 6.13.2 If appropriate, implement procedures S023-VIII-27, "EMERGENCY ENVIRONMENTAL MONITORING", S023-VIII-45, "PERSONNEL AND VEHICLE MONITORING", and/or S023-VIII-36, "THYROID PROPHYLAXIS".
- 6.14 As soon as sufficient information becomes available, compose a Follow-up Notification Message per procedure S023-VIII-16, "NOTIFICATIONS" for a Site Emergency.
- 6.15 Direct the Shift Communicator to provide offsite agencies with the following:
 - 6.15.1 Periodic plant status updates (at least every hour) while conditions are changing.
 - 6.15.2 Periodic meteorological assessments and dose estimates.
 - 6.15.3 Release and dose projections based on available plant condition information and foreseeable contingencies

NOTE: Use the Follow-up Notification Form.

NOTE: Senior technical and management personnel should be made available for consultation with NRC and State representatives on a periodic basis.
- 6.16 Verify that communications and documentantion are maintained per procedures S023-VIII-16, "NOTIFICATION," S023-VIII-18, "NOTIFICATION OF ADDITIONAL EMERGENCY SUPPORT PERSONNEL" and S023-VIII-51, "RECORD KEEPING".
- 6.17 If applicable, direct the Emergency Group Leader to dispatch emergency team(s) to invesitgate identified problem areas.
- 6.18 If the Interagency Network System or dedicated line is not used, after 30 minutes confirm that offsite agency verification has been made. If no verification, direct the Shift Communicator to repeat notification.

6.0 PROCEDURE (continued)

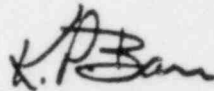
- 6.19 Ensure that ongoing dose estimates are provided to offsite agencies if an actual release is in progress.
- 6.20 If a report of personnel accountability has not been received within 30 minutes of the time it was ordered, direct the Security Leader to obtain a status report.
- 6.21 If personnel are unaccounted for, initiate search and rescue operation per procedures S023-VIII-39, "RESCUE" and S023-VIII-61, "RE-ENTRY", as applicable.
- 6.22 If site evacuation of non-essential personnel is deemed necessary, implement procedure S023-VIII-34, "SITE EVACUATION AND ACCOUNTABILITY".
- 6.23 Evaluate dose projections and estimates. If necessary, recommend protective actions for the offsite public in accordance with procedure S023-VIII-26, "RECOMMENDATIONS FOR OFFSITE PROTECTIVE MEASURES".
- 6.24 Based upon continuing assessment of plant conditions, either:
- 6.24.1 Escalate to a General Emergency, or
 - 6.24.2 Reduce classification to a lower class, or
 - 6.24.3 When appropriate close out the Site Emergency per procedure S023-VIII-11, "RECOGNITION AND CLASSIFICATION OF EMERGENCIES".
- 6.25 Should reclassification of the emergency become necessary, initiate the appropriate procedure (S023-VIII-12, 13, or 15)
- 6.26 In the event of close out or reduction of classification, compose a brief summary of the event and direct the Shift Communicator to transmit notification of close out or reduction to offsite agencies previously notified.
- NOTE: Summary briefing of offsite authorities to follow within 8 hours of close out or reduction.
- 6.27 If applicable, implement procedure S023-VIII-62, "ACTIVATION OF THE RECOVERY ORGANIZATION".

7.0 RECORDS

- 7.1 Attachment 8.2

8.0 ATTACHMENTS

- 8.1 Evacuation of Public Beach
- 8.2 Site Emergency Checklist.



K. P. BARR
HEALTH PHYSICS MANAGER

DM:0084F:sss

EVACUATION OF PUBLIC BEACH

(For use with procedure S023-VIII-14)

1. Ensure that the Radiological Emergency Siren (Thunderbolt) has completed its signal cycle.
2. Activate the public address system for the public beach areas adjacent to SONGS.
3. Make the following announcement:

"ATTENTION PLEASE; ATTENTION PLEASE; A STATE OF EMERGENCY EXISTS AT SAN ONOFRE NUCLEAR GENERATING STATION. A PRECAUTIONARY EVACUATION OF THIS BEACH HAS BEEN ORDERED. PLEASE LEAVE THE BEACH IN AN ORDERLY MANNER, AND PROCEED TO YOUR VEHICLE. UPON ARRIVAL AT YOUR VEHICLE, PLEASE DRIVE SAFELY OUT OF THE AREA"

4. Repeat the message two additional times.
5. Activate beach sirens, SP1 thru 5 per procedure (later).

Signature Time Date

SITE EMERGENCY CHECKLIST

(For use with procedure S023-VIII-14)

1. Assumed Emergency Coordinator duties, announced Site Emergency over public address system, and implemented S023-VIII-16, "NOTIFICATION" procedure. Sounded siren (YES / NO)

NOTE: Offsite notification must commence within 15 minutes of accident classification

E. C. Signature Time Date

2. S023-VIII-33, "PLANT EVACUATION AND ACCOUNTABILITY" Procedure implemented.

E. C. Initials Time Date

3. Beach Evacuation implemented.

E. C. Initials Time Date

4. Type of offsite support requested (if applicable.): _____

E. C. Initials Time Date

5. Emergency centers and assembly areas activated.

E. C. Initials Time Date

6. Initiated onsite monitoring (YES / NO) Initiated offsite monitoring (YES / NO). Initiated dose projections (YES / NO)

E. C. Initials Time Date

7. Directed Health Physics Leader to implement appropriate radiological controls.

E. C. Initials Time Date

SITE EMERGENCY CHECKLIST
(Continued)
(For use with procedure S023-VIII-14)

8. Offsite agency verification completed.

E. C. Initials Time Date

9. Accountability completed.

E. C. Initials Time Date

10. Evacuated non-essential personnel from site (if applicable) (YES / NO).

E. C. Initials Time Date

11. Recommended the following offsite protective actions: (if applicable):

E. C. Initials Time Date

12. Closed out/Escalated to General Emergency/reduced to _____
(UNUSUAL EVENT/ALERT)
based upon procedure S023-VIII-11.

E. C. Initials Time Date

NOTE: After this checklist is completed and is not required for immediate use, forward it to the Administrative Leader.

GENERAL EMERGENCY

1.0 OBJECTIVE

1.1 This procedure describes the actions to be taken in the event that a General Emergency has been declared at the San Onofre Nuclear Generating Station Units 2 and 3. This procedure also designates necessary pre-planned response actions and applicable procedures that prescribe the necessary response actions.

1.2 The Emergency Coordinator (Watch Engineer, until properly relieved by a designated alternate) is responsible for the completion of the prescribed actions in this procedure. The Emergency Coordinator may delegate responsibility for performance of the prescribed tasks to available qualified SCE personnel, except where otherwise specified in this procedure.

2.0 REFERENCES

- 2.1 San Onofre Nuclear Generating Station Unit 2 and 3 Emergency Plan
- 2.2 SONGS-2 and 3 Operating Procedures
- 2.3 SONGS-2 and 3 Health Physics Procedures
- 2.4 Title 10 Code of Federal Regulations Part 50, Appendix E
- 2.5 NUREG-0654/FEMA-REP-1 "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness In Support of Nuclear Power Plants".

3.0 PREREQUISITES

3.1 A General Emergency has been declared based on the occurrence of events which involve actual or imminent substantial core degradation or melting with potential for loss of containment integrity. Events classified as General Emergencies are described in Section 4 of the SONGS-2 and 3 Emergency Plan, and in Emergency Procedure S023-VIII-11, "RECOGNITION AND CLASSIFICATION OF EMERGENCIES".

-or-

3.2 A lesser emergency had been declared, emergency measures are being performed, and on the basis of subsequent information or upon a deterioration in plant conditions, the condition has been reclassified as a General Emergency.

RECEIVED
OCT 14 1981
CHECK FOR START INFORMATION
APPLICABLE USE ONLY
STICKER FILL FOR CURRENT INFORMATION

SITE FILE COPY

4.0 PRECAUTIONS

- 4.1 Continued surveillance and assessment of plant conditions are necessary to ensure that the emergency classification is appropriately revised as conditions change, or more definitive information is obtained.
- 4.2 The General Emergency classification includes actual or imminent events for which offsite protective actions will be needed. In consideration of the lead time necessary to implement offsite protective actions, notifications, to offsite authorities must be made as soon as possible following the initiating event and immediately after declaration of a General Emergency.
- 4.3 EMERGENCY COORDINATOR responsibilities that may not be delegated include:
- 4.3.1 Decision to notify offsite emergency management agencies.
 - 4.3.2 Making protective action recommendations as necessary to offsite emergency management agencies.
 - 4.3.3 Classification of emergency event.
 - 4.3.4 Determining the necessity for evacuation of personnel onsite.
 - 4.3.5 Authorization for emergency workers to exceed 10 CFR 20 radiation exposure limits.

5.0 CHECKOFF-LISTS

- 5.1 Attachment 8.2 General Emergency Checklist

6.0 PROCEDURE

- 6.1 Announce to Control Room personnel that _____
(name)
has assumed the duties of Emergency Coordinator. (if not done in earlier emergency condition)
- 6.2 Depending on the initiating emergency action level, ensure that the appropriate Emergency Operating Instructions have been implemented.
- 6.3 Announce or have announced the following message over the public address system, slowly:

"ATTENTION ALL PERSONNEL, ATTENTION ALL PERSONNEL: A GENERAL EMERGENCY HAS BEEN DECLARED IN UNIT 2/3. ALL MEMBERS OF THE

ON-SHIFT AND ONSITE EMERGENCY ORGANIZATION REPORT TO YOUR EMERGENCY DUTY STATIONS. ALL OTHER PERSONNEL REPORT TO YOUR DESIGNATED ASSEMBLY POINT. THERE WILL BE NO EATING, DRINKING, OR SMOKING UNTIL FURTHER NOTICE."

6.0 PROCEDURE (continued)

NOTE: Notify the other Unit(s) Watch Engineer of the
Emergency

- 6.4 Compose the Initial Notification Message per procedure S023-VIII-16, "NOTIFICATIONS" for a General Emergency.
- 6.5 Direct the Shift Communicator to make the initial offsite agency notifications required, for General Emergency per procedure S023-VIII-16, "NOTIFICATION".
- 6.6 If local offsite support (fire, ambulance, police, etc.) is required, direct the Shift Communicator to request such assistance in accordance with S023-VIII-37, "FIREFIGHTING"; S023-VIII-38, "CONTAMINATED INJURY" or the SONGS Security Plan as appropriate for the event.
- 6.7 Direct the AWS switchboard operator (PAX 56291) to augment the on-shift staff and activate the Emergency Response Centers by implementing procedure S023-VIII-18 "NOTIFICATION OF ADDITIONAL EMERGENCY SUPPORT PERSONNEL". The personnel notified will implement procedure S023-VIII-17, "ACTIVATION AND OPERATION OF EMERGENCY CENTERS AND ORGANIZATIONS."

NOTE: Emergency Centers Staffing Lists are available in Attachment 8.1 of S023-VIII-18.

NOTE: Parallel activation of the Emergency Operations Facility (EOF) will be underway by the corporate emergency organization.
- 6.8 If additional personnel having specific skills are required, direct the AWS switchboard operator to contact the individuals.
- 6.9 Determine if site evacuees are to be sent home or to one of the Offsite Assembly Areas, if so, use current meteorological data, to determine which Evacuation Route and Offsite Assembly Area (North or South) is furthest from the plume.
- 6.10 Implement procedure S023-VIII-34, "SITE EVACUATION AND ACCOUNTABILITY"
- 6.11 Direct that the Radiological Emergency Siren (Thunderbolt) be sounded.
- 6.12 Direct the Administrative Leader to implement evacuation of the beach per Attachment 8.1

6.0 PROCEDURE (continued)

- 6.13 If changes in onsite or offsite radiation levels are expected, direct the Health Physics Leader to:
- 6.13.1 Dispatch onsite and/or offsite monitoring teams per procedures S023-VIII-24, "DIRECTION OF ONSITE EMERGENCY MONITORING" and S023-VIII-25, "DIRECTION OF OFFSITE EMERGENCY MONITORING".
 - 6.13.2 Dispatch a Health Physics Technician to the Offsite Assembly Point(s).
 - 6.13.3 Initiate offsite dose projections per procedures S023-VIII-22, "SOURCE TERM DETERMINATION," and S023-VIII-23, "DOSE ASSESSMENT."
- 6.14 If the emergency involves inplant radiation protection problems, direct the Health Physics Leader to:
- 6.14.1 Implement procedures S023-VIII-31, "EMERGENCY EXPOSURE CONTROL", and S023-VIII-44, "EMERGENCY CONTAMINATION CONTROL".
 - 6.14.2 If appropriate, implement procedures S023-VIII-27, "EMERGENCY ENVIRONMENTAL MONITORING", S023-VIII-45, "PERSONNEL AND VEHICLE MONITORING", and/or S023-VIII-36, "THYROID PROPHYLAXIS".
- 6.15 As soon as sufficient information becomes available, compose a follow-up Notification Message per procedure S023-VIII-16, "NOTIFICATIONS" for a Site Emergency.
- 6.16 Direct the Shift Communicator to provide offsite agencies with the following:
- 6.16.1 Periodic plant status updates (at least every hour) while conditions are changing.
 - 6.16.2 Periodic meteorological assessments and dose estimates.
 - 6.16.3 Release and dose projections based on available plant condition information and foreseeable contingencies

NOTE: Use the Follow-up Notification Form.

NOTE: Senior technical and management personnel should be made available for consultation with NRC and State representatives on a periodic basis.

6.0 PROCEDURE (continued)

- 6.17 Verify that communications and documentation are maintained per procedures S023-VIII-16, "NOTIFICATIONS" S023-VIII-18; "NOTIFICATION OF ADDITIONAL EMERGENCY SUPPORT PERSONNEL" and S023-VIII-51, "RECORD KEEPING" .
- 6.18 If applicable, direct the Emergency Group Leader to dispatch emergency team(s) to investigate identified problem areas.
- 6.19 If the Interagency Network System or dedicated line is not used, after 30 minutes confirm that offsite agency verification has been made. If no verification, direct the Shift Communicator to repeat notification.
- 6.20 Ensure that ongoing dose estimates are provided to offsite agencies if an actual release is in progress.
- 6.21 If a report of personnel accountability has not been received within 30 minutes of the time it was ordered, direct the Security Leader to obtain a status report.
- 6.22 If personnel are unaccounted for, initiate search and rescue operations per procedures S023-VIII-39, "RESCUE" and S023-VIII-61, "RE-ENTRY", as applicable.
- 6.23 Evaluate dose projections and estimates. If necessary, recommend protective actions for the offsite public in accordance with procedure S023-VIII-26, "RECOMMENDATIONS FOR OFFSITE PROTECTIVE MEASURES".
- 6.24 Based upon continuing assessment of plant conditions, either:
- 6.24.1 Reduce classification to a lower class, or
 - 6.24.2 When appropriate close out the General Emergency per procedure S023-VIII-11, "RECOGNITION AND CLASSIFICATION OF EMERGENCIES".
- 6.25 Should reclassification of the emergency become necessary, initiate the appropriate procedure (S023-VIII-12,13 or 14)
- 6.26 In the event of close out or reduction of classification, compose a brief summary of the event and direct the Shift Communicator to transmit notification of close out or reduction to offsite agencies previously notified.
- NOTE: Summary briefing of offsite authorities to follow within 8 hours of close out or reduction.
- 6.27 If applicable, implement procedure S023-VIII-62, "ACTIVATION OF THE RECOVERY ORGANIZATION".

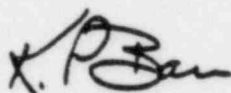
7.0 RECORDS

7.1 Attachment 8.2

8.0 ATTACHMENTS

8.1 Evacuation of Public Beach

8.2 General Emergency Checklist.



K. P. BARR
HEALTH PHYSICS MANAGER

DM:0086F:sss

EVACUATION OF PUBLIC BEACH

(For use with procedure S023-VIII-15)

1. Ensure that the Radiological Emergency Siren (Thunderbolt) has completed its signal cycle.
2. Activate the public address system for the public beach areas adjacent to SONGS.
3. Make the following announcement:

"ATTENTION PLEASE; ATTENTION PLEASE; A STATE OF EMERGENCY EXISTS AT SAN ONOFRE NUCLEAR GENERATING STATION. A PRECAUTIONARY EVACUATION OF THIS BEACH HAS BEEN ORDERED. PLEASE LEAVE THE BEACH IN AN ORDERLY MANNER, AND PROCEED TO YOUR VEHICLE. UPON ARRIVAL AT YOUR VEHICLE, PLEASE DRIVE SAFELY OUT OF THE AREA"

4. Repeat the message two additional times.
5. Activate beach sirens, SP1 thru 5 per procedure (later).

Signature

Time

Date

GENERAL EMERGENCY CHECKLIST

(For use with procedure S023-VIII-15)

1. Assumed Emergency Coordinator duties, announced General Emergency over public address system, and implemented S023-VIII-16, "NOTIFICATION" procedure. Sounded siren (YES / NO)

NOTE: Offsite notification must commence within 15 minutes of accident classification.

E. C. Signature Time Date

2. S023-VIII-34, "SITE EVACUATION AND ACCOUNTABILITY" Procedure implemented.

E. C. Initials Time Date

3. Beach Evacuation implemented.

E. C. Initials Time Date

4. Type of offsite support requested (if applicable.): _____

E. C. Initials Time Date

5. Emergency centers and assembly areas activated.

E. C. Initials Time Date

6. Initiated onsite monitoring (YES / NO) Initiated offsite monitoring (YES / NO). Initiated dose projections (YES / NO)

E. C. Initials Time Date

7. Directed Health Physics Leader to implement appropriate radiological controls.

E. C. Initials Time Date

GENERAL EMERGENCY CHECKLIST
(Continued)
(For use with procedure S023-VIII-15)

7. Offsite agency verification completed.

E. C. Initials Time Date

8. Accountability completed.

E. C. Initials Time Date

9. Recommended the following offsite protective actions: (if applicable):

E. C. Initials Time Date

10. Closed out/reduced to unusual event/alert/site emergency
based upon procedure S023-VIII-11, "RECOGNITION AND CLASSIFICATION OF
EMERGENCIES".

E. C. Initials Time Date

NOTE: After this checklist is completed and is not required
for immediate use, forward it to the Administrative
Leaders.

NOTIFICATION

SITE FILE COPY

NOT FOR COA OFFSITE
FOR OFFSITE USE ONLY
CHECK APPROVAL USE ONLY
STACK FILE FOR CONTROLLED
INFORMATION

1.0 OBJECTIVE

- 1.1 This procedure provides instructions for notification of offsite authorities and emergency response organizations in emergency situations. Notification of SCE personnel is required for Emergency Procedure S023-VIII-18, "NOTIFICATION OF OFFSITE EMERGENCY SUPPORT PERSONNEL". Notification of offsite organizations is required for any of the four emergency classifications.
- 1.2 The Emergency Coordinator is responsible for implementation of the actions described in this procedure. The Shift Communicator is designated to provide notification to Offsite agencies.

2.0 REFERENCES

- 2.1 San Onofre Nuclear Generating Station Unit 2 and 3 Emergency Plan.
- 2.2 NUREG-0654/FEMA-REP1: "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants."
- 2.3 Emergency Procedure S023-VIII-12 "UNUSUAL EVENT".
- 2.4 Emergency Procedure S023-VIII-13 "ALERT".
- 2.5 Emergency Procedure S023-VIII-14 "SITE EMERGENCY".
- 2.6 Emergency Procedure S023-VIII-15 "GENERAL EMERGENCY".

3.0 PREREQUISITES

- 3.1 An emergency condition has been declared at SONGS-2 or 3 as provided in the SONGS-2 and 3 Emergency Preparedness Plan and Emergency Procedure S023-VIII-11 "RECOGNITION AND CLASSIFICATION OF EMERGENCIES"
- 3.2 An existing emergency condition has been reclassified to a higher emergency category, and/or, a significant deterioration in conditions has occurred.
- 3.3 The emergency situation has been corrected and the emergency terminated.

4.0 PRECAUTIONS

- 4.1 No press releases on the incident shall be made prior to completion of all notifications, and will be made only by Southern California Edison public information personnel.

5.0 CHECK-OFF LIST

- 5.1 Check-off List #1 Emergency Notification Call List (Attachment 8.1)
- 5.2 Check-off List #2 Initial Notification Form - Unusual Event (Attachment 8.2)
- 5.3 Check-off List #3 Initial Notification Form - Alert (Attachment 8.3)
- 5.4 Check-off List #4 Initial Notification Form - Site Emergency (Attachment 8.4)
- 5.5 Check-off List #5 Initial Notification Form - General Emergency (Attachment 8.5)
- 5.6 Check-off List #6 Follow-up Notification Form (Attachment 8.6)

6.0 PROCEDURE

- 6.1 Upon receipt of the Initial Notification Form from the Emergency Coordinator, proceed as follows:
- 6.1.1 Using attachment 8.1 Table 1 "EMERGENCY NOTIFICATION CALL LIST" Contact each organization or individual on the Interagency Network System by dialing the individual number listed. If the telephones are inoperative, utilize the specified alternate.
- NOTE: For example San Clemente can be reached by dialing * then 25
- 6.1.2 When the party answers note the name of the individual contacted and the time of the contact on Attachment 8.1
- 6.1.3 Read the introduction paragraph on the notification form and pause to allow the individual to obtain his copy of the form, or blank paper on which to record the notification.
- 6.1.4 Read the text of the notification, emphasizing the variable information .
- 6.1.5 Have the message read back, and if necessary, correct any errors. Check for accuracy during the readback.

6.0 PROCEDURE (Continued)

6.1 (Continued)

- 6.1.6 Direct the party contacted to notify the appropriate individuals in their organizations in accordance with the organization's emergency plans. Remind the party contacted that a call-back is required from the designated individual if the dedicated emergency Interagency Network System line (yellow phone) is not used.
- 6.1.7 Proceed to the next party on the call-list.
- 6.1.8 If a party cannot be contacted in a reasonable period of time, bypass that party and proceed down the list. After the other notifications are complete, re-attempt to contact any bypassed parties. If a party still cannot be reached notify the Emergency Coordinator.
- 6.1.9 Develop a completed "Follow Up Notification Form " Attachment 8.6 by consulting with the Emergency Coordinator and other key emergency leaders. (See NOTE 6.1.10)
- 6.1.10 When any parties call back for further information, note the time and the name of the individuals on the call-list. Provide the information available from the current Follow-up Notification Form. If the party requests information not on the form, make reasonable efforts to obtain and relay the information, if consistent with completing notifications. Maintain a log of all lines of communications.
- NOTE: For follow up notification all agencies may be reached at one time by dialing * then 99.
- 6.1.11 If a party not specified on the call-list requests information, refer the party to either the SCE Public Relations staff, or to the local emergency services organization in his/her community.
- 6.1.12 Keep a "Log of Events" per procedure S01-VIII-51 "Recordkeeping". Obtain assistance from other available TSC Personnel during times of heavy communication.
- 6.1.13 Refer to Attachment 8.7 if additional offsite emergency response assistance is needed.

6.0 PROCEDURE (Continued)

6.2 Check-List Numbering

6.2.1 The Communicator shall number all check-lists by filling in two blanks provided as given in the following example:

6.2.2 The first emergency event of the Year 1981 was an earthquake, classified as an Unusual Event. Therefore, it would be numbered as follows:

UE - 1 - 81

6.2.3 If on that same day more earthquakes occurred with ground accelerations > 0.25 g, the event would be classified as an Alert (in accordance with S023-VIII-11) and numbered as follows:

ALERT - 2 - 81

6.2.4 As shown above, each emergency condition, regardless of the level of classification, are numbered sequentially from January 1 through December 31 of each year.

NOTE: This number is not to be confused with the event classification number used on line number 2 of each initial notification form. This number is used to track the number of emergency events and for a file number in CDM.

7.0 RECORDS

7.1 After completion of checklists and when they are no longer required for immediate use, forward to the Administrative Leader (Station Services Manager if Emergency Organization is not activated.)

8.0 ATTACHMENTS

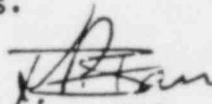
8.1 Emergency Notification Call-List (Table 1)

8.2 Unusual Event - Initial Notification Form

8.3 Alert - Initial Notification Form

8.0 ATTACHMENTS (continued)

- 8.4 Site Emergency - Initial Notification Form
- 8.5 General Emergency - Initial Notification Form
- 8.6 Follow-up Notification Form
- 8.7 Offsite Assistance Telephone Numbers.


K. F. BARR
HEALTH PHYSICS MANAGER

JLR:0106F:jhm

EMERGENCY EVENT: _____ - _____ - _____
(NOTE 1)

TABLE 1
EMERGENCY NOTIFICATION CALL-LIST

DATE: _____

TIME: _____

<u>ORGANIZATION/INDIVIDUAL</u>	<u>PRIMARY</u>	<u>ALTERNATE</u>	<u>NAME OF CONTACT</u>	<u>TIME/INIT.</u>	<u>CALL-BACK TIME</u> (Only if not notified by Dedicated Emergency Phone)
Pendleton Coast Area Office - California Dept. of Parks and Recreation	(NOTE 2) *24		_____	_____	_____
City of San Clemente	*25		_____	_____	_____
Camp Pendleton - U.S. Marine Corps Base	*23		_____	_____	_____
Orange County Control One	*27 (28)		_____	_____	_____
San Diego County Office of Disaster Preparedness - Station	*29		_____	_____	_____
City of San Juan Capistrano	*26		_____	_____	_____
California Highway Patrol - San Diego	*32		_____	_____	_____
California Highway Patrol - Santa Ana	*30		_____	_____	_____
SCE Dispatcher for Edison Personnel Notification (Request offsite agency notification, if necessary) (Note 4)	Direct Line		_____	_____	_____

TABLE 1
EMERGENCY NOTIFICATION CALL-LIST (continued)
PAGE #2

<u>ORGANIZATION/INDIVIDUAL</u>	<u>PRIMARY</u>	<u>ALTERNATE</u>	<u>NAME OF CONTACT</u>	<u>TIME/INIT.</u>	<u>CALL-BACK TIME</u> (Only if not notified by Dedicated Emergency Phone)
U.S. Nuclear Regulatory Commission Incident Response Center - Bethesda	(NOTE 2) Direct Line		_____	_____	_____
(NOTE 3)					
American Nuclear Insurers (NOTE 5)	Direct Line		_____	_____	_____
California Office of Emergency Services	(See Note 4)		_____	_____	_____

NOTE 1: See 6.2.3 for instructions, Example: ALERT - 2 - 81

NOTE 2: All dedicated Emergency Phones can be simultaneously contacted by dialing *99 call 86181 for Yellow Phone
Phone problems (circuit 5929)

NOTE 3: Request that the Bethesda NRC Center patch your call into the Region V Office.

NOTE 4: Have the SCE Dispatcher contact the California Office of Emergency Services (COES). This should be verified.

NOTE 5: Required at Site and General Emergency only.

NOTE: Notification required within 2 hours of declaration of an Unusual Event.

Time: _____ AM
PM

Date: _____

UNUSUAL EVENT - INITIAL NOTIFICATION FORM

UE NO. ____ - ____

"This is the San Onofre Nuclear Generating Station Unit 2/3 _____ calling.
(Name)
The following is a notification of an Unusual Event. Record the information to follow on your form."

1. There has been an Unusual Event at the San Onofre Nuclear Generating Station, Unit 1 declared at _____ (Time)
2. Event no: _____ listed on the back of the page describes the nature of the occurrence.
3. There _____ been a release of radioactivity to the _____.
HAS/HAS NOT/NA
The release _____ been stopped. There _____ a potential
HAS/HAS NOT/NA IS/IS NOT/NA
for an additional release.
4. There is no need for protective action beyond the site boundary. Stand by until further notification is received.
5. Implement your Standard Operating Procedures for an Unusual Event (UE).
6. Call _____ to verify this message. (NA if Intragency Network System is used.)
7. San Clemente, please read back this message. All other jurisdictions, check for accuracy.

SIMPLIFIED DESCRIPTION - UNUSUAL EVENT

EVENT
NO.

1. Minor release of radioactive liquid exceeding Instantaneous Technical Specification Limit
2. Minor release to gaseous radioactivity exceeding Instantaneous Technical Specification Limit
3. Minor loss of control over radioactive material - confined to a single room or facility
4. Reactor coolant system temperature low - shutdown of plant required by procedures
5. Reactor coolant system pressure high - shutdown of plant required by procedures
- 6a. Reactor coolant system leak exceeding operating limit - plant shutdown required by procedures
- 6b. Steam Generator tube leak exceeding operating limit - plant shutdown required by procedure
7. Radioactivity in reactor coolant system above limit - plant shutdown required by procedure
8. Reactor coolant system safety or relief valve failure to close
9. Temperature of reactor coolant system high - plant shutdown required by procedures
10. Reactor coolant system pressure low - procedures require plant shutdown
11. Safety Injection System started to provide auxiliary core cooling
12. Minor loss of containment integrity requiring plant shutdown
13. Loss of engineered safety feature requiring plant shutdown
14. Loss of fire protection feature requiring plant shutdown
15. Loss of control room indicators, annunciators, or alarms
16. Toxic or flammable gases released onsite or nearby environs
17. Loss of onsite backup AC power generation capacity
18. Loss of all offsite AC power
19. Onsite Tornado. Probable impact on station

SIMPLIFIED DESCRIPTION - UNUSUAL EVENT (Continued)

EVENT
NO.

20. Hurricane with probable affect on station
21. Earthquake detected on plant seismic instruments
22. Explosion within security protected area - no significant damage to station
23. Not assigned
24. Floor or tsunami warning - probable affect on operations
25. Aircraft crash onsite - outside of protected area
26. Fire requiring activation of plant fire brigade - not under control within 10 minutes
27. Contaminated/injured person transported by ambulance to local hospital for treatment
28. Security compromise
29. Other

NOTE: Notification to begin as soon as possible but no later than 15 minutes after Accident Classification.

Time: _____ AM
PM

Date: _____

ALERT - INITIAL NOTIFICATION FORM

ALERT NO. ____ - ____

"This is the San Onofre Nuclear Generating Station Unit 2/3 _____
(Name)
calling. The following is a notification of an Alert. Record the
information to follow on your form."

1. There has been an incident classified as an Alert at the San Onofre Nuclear Generating Station, Unit 2/3 declared at _____
(Time)
2. Event no: _____ listed on the back of the page describes the nature of the occurrence.
3. There _____ been a release of radioactivity to the _____.
HAS/HAS NOT
The release _____ been stopped. There _____ a potential
HAS/HAS NOT/NA IS/IS NOT/NA
for an additional release.
4. There is no need for protective action beyond the site boundary. Maintain Alert status until further notification.
5. Implement your Standard Operating Procedures for an Alert Event.
6. Call _____ to verify this message. (NA if Interagency Network System is used.)
7. San Clemente, please read back this message. All other jurisdictions, check for accuracy.

SIMPLIFIED DESCRIPTION - ALERT

EVENT
NO.

1. Release of radioactive liquid exceeds 10 times the Instantaneous Technical Specification Limit
2. Release of gaseous radioactivity exceeds 10 times the Instantaneous Technical Specification Limit
3. Accident resulting in unexpected inplant radiation levels greater than 1000 times normal
- 4a. Reactor coolant system leak greater than 50 gallons per minutes but less than 250 gallons per minute
- 4b. Steam generator tube leak greater than 50 gallons per minute bus less than 250 gallons per minute
5. Main steam line break - concurrent with steam generator tube leak greater than 10 gallons per minute
6. High radioactivity in reactor coolant system - possible fuel failure
7. Reactor not shutdown after valid shutdown signal(s)
8. Capability to place reactor in cold shutdown condition lost
9. Loss of all control room alarms (annunciators) - for more than 5 minutes
10. Control room evacuation anticipated or required - shutdown system control established at remote locations
11. Toxic or flammable gases present inside facility - access to certain locations impaired
12. Security compromise
13. Temporary loss of offsite power and onsite backup AC power generation capability
14. Loss of onsite vital DC power
15. Tornado impact on vital plant structures
16. Hurricane winds onsite up to near design speed (100 mph)
17. Earthquake greater than operational basis with known damage to facility affecting operation

SIMPLIFIED DESCRIPTION - ALERT

EVENT
NO.

- 18. Fire onsite with significant potential for affecting safety systems
- 19. Explosion onsite damaging facility and affecting operation
- 20. Aircraft or missile strikes a plant structure inside protected area
- 21a. Flood or Tsunami causes known damage to facility affecting operation
- 21b. Other - Specify: _____

NOTE: Notification to begin as soon as possible but no later than 15 minutes after Accident Classification.

Time: _____ AM
PM

Date: _____

SITE EMERGENCY - INITIAL NOTIFICATION FORM

SITE EMER NO. ____ - ____

"This is the San Onofre Nuclear Generating Station Unit 2/3 _____ (Name) calling. The following is a notification of a Site Emergency. Record the information to follow on your form."

1. There has been an incident classified as a Site Emergency at the San Onofre Nuclear Generating Station, Unit 2 / 3 declared at _____ (Time).
 2. Event no: _____ listed on the back of the page describes the nature of the occurrence.
 3. There _____ HAS/HAS NOT been a release of radioactivity to the _____. The release _____ HAS/HAS NOT/ been stopped. There _____ IS/IS NOT/ a potential for an additional release.
 4. There _____ IS/IS NOT a need for protective actions beyond the site boundary. Affected areas include sectors _____, _____, _____. The recommended protective action is _____.
- _____ Maintain Site Emergency status until further notification.
5. Implement your Standard Operating Procedures for a Site Emergency.
 6. Call _____ to verify this message. (NA if Interagency Network system phone is used).
 7. San Clemente, please read back this message. All other jurisdictions, check for accuracy.

SIMPLIFIED DESCRIPTION - SITE EMERGENCY

EVENT
NO.

1. Airborne release corresponds to > 50mr/hr wholebody (or 250 mr/hr thyroid) for 1/2 hour or 500 mr/hr whole body (or 2500mr/hr thyroid) for 2 minutes at the site boundary for adverse meteorology.
2. Major damage to spent fuel due to fuel handling accident.
3. Uncontrolled decrease in fuel pool water level exposes fuel.
- 4a. Leak in reactor coolant system greater than capacity of makeup pump.
- 4b. Steam generator tube leak greater than 250 gallons per minute with loss of offsite power.
5. Main steam line break - concurrent with 50 gallons per minute steam generator tube leak and indication of fuel failure.
6. Degraded reactor core. Possible loss of coolable core geometry.
7. Loss of capability to achieve hot standby status.
8. Loss of all Control Room alarms and uncontrolled plan transient occurs.
9. Evacuation of Control Room required - control of plant using local stations not established within 15 minutes.
10. Toxic or flammable gases in vital plant areas restricting necessary access.
11. Security compromised - imminent loss of physical control of plant to outside persons.
12. Loss of all offsite power and all onsite AC power for more than 15 minutes.
13. Loss of vital DC power for more than 15 minutes.
14. Winds in excess of design level site instrumentation

SIMPLIFIED DESCRIPTION - SITE EMERGENCY

EVENT
NO.

- 15. Earthquake greater than safe shutdown level - severe damage to safe shutdown equipment.
- 16. Fire affecting safe shutdown of the plant.
- 17. Explosion causing severe damage to safe shutdown equipment
- 18. Aircraft crash onsite affecting vital structures and/or safety systems by impact or fire
- 19a. Flood or Tsunamic causes severe damage to safe shutdown equipment.
- 19b. Other (Explain) _____

NOTE: Notification to begin as soon as possible but no later than 15 minutes after Accident Classification.

Time: _____ AM
PM

Date: _____

GENERAL EMERGENCY - INITIAL NOTIFICATION FORM

GEN EMER NO. _____ - _____

"This is the San Onofre Nuclear Generating Station Unit 2/3 _____
(Name)
calling. The following is a notification of a General Emergency. Record
the information to follow on your form."

1. There has been an incident classified as a General Emergency at the San Onofre Nuclear Generating Station, Unit 2/3.
2. Event No: _____ listed on the back of the page describes the nature of the occurrence.
3. There _____ been a release of radioactivity to the _____.
HAS/HAS NOT
The release _____ been stopped. There _____ a potential
HAS/HAS NOT/ IS/IS NOT/
for an additional release.
4. There _____ a need for protective actions beyond the site boundary.
IS/IS NOT
Affected areas include sectors _____. The recommended protective action is _____.
Maintain General Emergency status until further notification.
5. Implement your Standard Operating Procedures for a General Emergency. This notification takes precedence over other pending communications.
6. Call _____ to verify this message. (NA if Interagency Network System Phone is used.)
7. San Clemente, please read back this message. All other jurisdictions, check for accuracy.

SIMPLIFIED DESCRIPTION - GENERAL EMERGENCY

EVENT
NO.

1. Release of airborne radioactive materials corresponds to a projected exposure to people offsite of greater than 500 mrem to the whole body or 25 rem to a child thyroid at the site boundary.
2. Loss of 2 of the 3 barriers between the fuel in the reactor and the environment and high potential for loss of final barrier (clad, reactor coolant system boundary, containment sphere).
3. Control of the plant lost to outside party.
4. Condition of the plant is such that releases of large amounts of radioactive material within a short time are possible.

E NO. ____ - ____

SITE EMER NO. ____ - ____

ALERT NO. ____ - ____

GEN EMER NO. ____ - ____

FOLLOW-UP NOTIFICATION FORM

Prepare to copy a _____ follow up notification message:
UNUSUAL EVENT/ALERT/SITE/GENERAL EMERGENCY

Time: _____ on _____ 198 . By: _____

Name: _____ . Return phone number (714) _____ .

1. Affected Facility: San Onofre Nuclear Generating Station, Unit 2/3.

2. _____ Emergency Declared at: _____ am/pm on _____ .
(Class) (Time) (Date)

3. Current Plant Conditions: _____

4. Prognosis for Worsening or Termination of Emergency: _____

5. Emergency Response Actions Underway: _____

6. Request for Support: _____

Recommended Protective Actions (Emergency Coordinator Only): _____

8. Others: _____

9. Dose Projections/Measurements at Site Boundary:

	<u>Measured</u>	<u>Projected</u>
Whole Body Dose Rate _____ mRem/hr		_____
mRem/hr		
2-Hour Whole Body Dose _____		_____ mRem
Annual Whole Body Dose _____		_____ mRem
Thyroid Dose Rate _____ mRem/hr		_____
mRem/hr		
2-Hour Thyroid Dose _____		_____ mRem
Annual Thyroid Dose _____		_____ mRem

10. Dose Projection/Measurements Offsite

	2 miles	5 miles	10 miles
Whole Body Dose Rate, mRem/hr	_____	_____	_____
2-Hour Whole Body Dose, mRem	_____	_____	_____
Annual Whole Body Dose, mRem	_____	_____	_____
Thyroid Dose Rate, mRem/hr	_____	_____	_____
2-Hour Thyroid Dose, mRem	_____	_____	_____
Annual Thyroid Dose, mRem	_____	_____	_____
Direction from Plant (Sector)	_____	_____	_____

1. Meteorology Data:

Wind Direction (To and From) _____
Wind Speed _____ mile/hour
Wind Direction Persistence (Sigma) _____
Stability Class (Delta T) _____
Precipitation _____

12. Airborne Release:

	<u>Actual</u>	<u>Projected</u>
Time of Release Start	_____	_____
Release Duration	_____ hrs.	_____ hrs.
Release Rate	_____ cc/sec	_____ cc/sec
Noble Gas Release Rate	_____ Ci/sec	_____ Ci/sec
Radio-iodine Release Rate	_____ Ci/sec	_____ Ci/sec
Release Height	Ground level _____	Ground level _____

13. Liquid Release:

Time of Release Start	_____	_____
Release Duration	_____ hrs.	_____ hrs.
Release Volume	_____ gal.	_____ gal.
Total Activity	_____ Ci	_____ Ci
Radionuclide(s) in Release	_____	_____
	_____	_____
	_____	_____

4. Air/Water Sampled:

Time/Date of Sample _____

Location of Sample _____

Measured Activity _____ uCi/cc

Radionuclide(s) Present _____

0 OFFSITE ASSISTANCE TELEPHONE NUMBERS

- 1.1 The following telephone numbers provide an up-to-date list for agencies and persons that may be required to give assistance to SONGS in an emergency.
- 1.2 The Emergency Planning Administrator shall ensure on a quarterly basis that the telephone numbers listed are reviewed and updated.

NOTE: Known changes should be brought to the attention of the Emergency Planning Administrator as soon as practicable and updates made.

For problems with the telephones make emergency call:

Special Services Management Bureau (Bell System) \
Edison Pax Service Pax \

LIST ATTACHED

- A. MEDICAL EMERGENCY RESPONSE AGENCIES
- B. OFFSITE RADIOLOGICAL EMERGENCY RESPONSE AGENCIES
- C. OFFSITE SECURITY EMERGENCY RESPONSE AGENCIES
- D. SCE, SDG&E EMERGENCY RESPONSE
- E. FIRE, FLOOD, PUBLIC HEALTH, RESCUE EMERGENCY RESPONSE AGENCIES
- F. COMBUSTION ENGINEERING NUCLEAR EMERGENCY RESPONSE

MEDICAL EMERGENCY RESPONSE AGENCIES

** Names with two asterisks (**) are authorized for CONTAMINATED accidents.
Always advise if the victim is contaminated.

AMBULANCE

** Scudders Ambulance Service	23011 Moulton Pkwy Laguna Hills 92653	
Superior Ambulance Service	Escondido, 92025	
Marine Base - Camp Pendleton	Fire Dept./Ambulance	or
** Bechtel Emergency Vehicle	Units 2&3 Paramedic or Nurse	EXT-

DOCTORS

** Bundy, B. L., M.D.
* Chard, J.P., M.D.
** Ross, J.F., M.D.

HOSPITALS

Mission Community	27802 Puerta Real Hwy Mission Viejo, CA	
Tri-City West	1100 - 5th Street Oceanside, CA	
San Clemente General	654 Camino de Los Mares San Clemente	
** South Coast Community	31872 Coast Hwy So. Laguna CA	CONTAMINATED: EXT.
** Tri-City	4002 W. Vista Way Oceanside, CA	

OFFSITE RADIOLOGICAL EMERGENCY RESPONSE AGENCIES

<u>AGENCY</u>	<u>DEPARTMENT</u>	<u>TELEPHONE</u>
<u>RADIOLOGICAL RESPONSE:</u>		
City of San Clemente	Headquarters	
San Diego Office of Disaster Preparedness	DAY: Manager of ODP via Secretary NIGHT: Staff Duty Officer via answering service	
State Dept. of Parks & Recreation	Duty Officer SCE (System Operating Supervisor will contact if no answer)	
Orange County Office of Emergency Services	Comm. Control I, Duty Officer	
U. S. Marine Base Camp Pendleton	Base Duty Officer	RED PHONE
U. S. Nuclear Regulatory Commission Region V	Duty Officer	NRC RED PHONE

RADIOLOGICAL ASSISTANCE:

State of California

Highway Patrol Vista, CA. DAY:
San Diego Dispatcher NIGHT:

Dept. of Health, Bureau of Rad. Health Sacramento Avail: 24 hrs

Office of Emergency Services Sacramento Avail: 24 hrs

San Diego County

Dept. of Public Health San Diego

Orange County

Health Dept. Santa Ana

Offsite Radiological Emergency Response Agencies (continued)

Others

General Atomic Company	Frank Bold, San Diego	Alternate	
Radiation Emergency Assistance Center/Training Site (REAC/TS)	Oak Ridge, Tennessee	DAY: NIGHT:	(Hospital)
U. S. Dept. of Energy Interagency Radiological Assistance Team	IRAP		
Institute for Nuclear Power Operations (INPO)	INPO	DAY: NIGHT:	

OFFSITE SECURITY EMERGENCY RESPONSE AGENCIES

<u>AGENCY</u>	<u>DEPARTMENT</u>	<u>TELEPHONE</u>
<u>Orange County</u>		
Marine Base Camp Pendleton	Provost Marshall	(indirect) (direct)
	ALTERNATE:	
Orange County	Base Duty Officer Sheriff	
San Diego County	Sheriff	
Highway Patrol	Vista	
Dept. Parks and Recreation	Pendleton Coast Area	
United States Coast Guard	11th District Rescue Control	
	National Response Center Duty Officer	
U.S. - F. B. I.	Vista	
U. S. - NRC Region V	Duty Officer	
U. S. - Marshall	San Diego	

SAN ONOFRE NUCLEAR GENERATING STATION
UNITS 2 AND 3

EMERGENCY PROCEDURE S023-VIII-16
REVISION 1 Page 6 of 10
Attachment 8.7

SCE, SDG&E AGENCIES

SOUTHERN CALIFORNIA EDISON

Energy Control Center

Senior System Operations
Supervisor (Dispatcher)

ALTERNATE

ALTERNATE
ALTERNATE

San Onofre Units 2&3

Control Room

San Onofre Units 2&3

Construction Site
Superintendent, R. Hart

SAN DIEGO GAS & ELECTRIC

Dispatcher

Visitor's Center

Old Highway 101

San Clemente
Commercial Office

101 W. El Portal, San Clemente
General Information
** Public Relations

FIRE, FLOOD, PUBLIC HEALTH, AND RESCUE EMERGENCY RESPONSE AGENCIES

<u>AGENCY</u>	<u>TITLE</u>	<u>TELEPHONE</u>
Marine Base Camp Pendleton	Fire Dept./Rescue	RED PHONE ALTERNATE:
CHEMTREC	Toxic Chemical Info. Service	
Environmental Protection Agency	Sacramento	
U. S. Coast Guard	11th District (Oil Spills)	
<u>ORANGE COUNTY</u>		
Health Department	Santa Ana	
<u>SAN DIEGO COUNTY</u>		
Dept. of Public Health	Div. of Environmental Health	
<u>STATE OF CALIFORNIA</u>		
Dept. of Health	Sacramento	
Regional Water Quality Control Board	San Diego (Mr. Coe)	DAY: NIGHT:
Highway Patrol	Santa Ana	

F. COMBUSTION ENGINEERING

NUCLEAR EMERGENCY RESPONSE ORGANIZATION

To activate the Combustion Engineering Nuclear Emergency Response Organization, the following instructions should be followed:

1. Read all instructions before taking further action in order to assure that all initially required information is available. Initial contact with the C-E Emergency Response Organization can always be made through the C-E Security Force (phone number below). The Security Force Supervisor will have no knowledge of nuclear plants, but is required to obtain certain information to assure proper and rapid C-E response.
2. The attached EMERGENCY INFORMATION form lists the information that the C-E Security Supervisor is required to obtain. If he fails to ask for this information, you should provide it and assure that he records it.

Activate the C-E Nuclear Emergency Response Plan by calling the following dedicated telephone number at any time:

The number will be answered by the C-E Security Force and is held in confidence at C-E. It is reserved strictly for utility activation of the Nuclear Emergency Response Plan.

F. COMBUSTION ENGINEERING

NUCLEAR EMERGENCY RESPONSE ORGANIZATION

(continued)

4. When your initial contact answers, give him all information indicated on the attached EMERGENCY INFORMATION form. He will be recording the information on a similar form. Be sure to indicate EMERGENCY or DRILL.
5. In the improbable event that the emergency number in Step. 3 is inoperable and you have not been able to reach C. E., you may alternately contact one of the individuals on the Back-up Call List (below). These people are familiar with the Emergency Response Organization and its implementation and will effectively activate the Plan. Again, be sure to indicate EMERGENCY or DRILL.

BACK-UP CALL LIST

NOTE: If busy, have operator break in on call.

EMERGENCY or DRILL? (Circle one)

1-(203) 688-1911

<u>NAME</u>	<u>C-E WORK EXTENSION</u>	<u>HOME PHONE</u>
John Conant		
Ray Mills		
Jonas Strimaitis		
Reid Wolf		
Tom Goetz		
Fred Stern		

F. COMBUSTION ENGINEERING
NUCLEAR EMERGENCY RESPONSE ORGANIZATION

INITIAL NOTIFICATION

EMERGENCY INFORMATION

I. CALLER _____ TITLE _____

II. PLANT _____ LOCATION _____

III. CALL BACK NUMBERS () _____
(Give two) () _____

IV. Is this call for an EMERGENCY or a DRILL ? (Circle one)

V. What is the NOTIFICATION LEVEL ? (Check one or more)

- | | | | |
|----------------|-----|-------------------|-----|
| PHONE EXERCISE | () | ALERT | () |
| PRACTICE | () | SITE EMERGENCY | () |
| NOTIFICATION | () | GENERAL EMERGENCY | () |

VI. What is the C-E RESPONSE to be? (Check one)

- | | | | |
|-------|-----|-------------------|-----|
| NONE | () | CENTER ACTIVATION | () |
| ALERT | () | FULL RESPONSE | () |

VII. Is there additional EVENT DESCRIPTION? (Include dates and times)
You should give no more than one sentence this time.

VII. READ THIS FORM BACK TO RECEIVER FOR VERIFICATION.

OCT 9 1981

ACTIVATION AND OPERATION OF
EMERGENCY CENTERS AND ORGANIZATIONS

SITE

**NOT FOR CONSTRUCTION
FOR START-UP USE ONLY
CHECK APPLICABLE CONTROLLED
STICK FILL FOR CURRENT INFORMATION**

1.0 OBJECTIVE

- 1.1 This procedure provides instructions for the activation of operation, and organization of the Operations Support Center (OSC), and Technical Support Center (TSC).
- 1.2 The Corporate Emergency Support Organization shall be activated by notification through the Energy Control Center System Operating Supervisor.
- 1.3 The Emergency Coordinator is responsible for implementation of the actions prescribed by this procedure.

2.0 REFERENCES

- 2.1 NUREG-0654/FEMA-REP-1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants".
- 2.2 San Onofre Nuclear Generating Station Units 2 and 3 Emergency Plan
- 2.3 "SONGS" Corporate Emergency Support Organization Procedures Manual.
- 2.4 Health Physics Procedure S023-VII-5.3.7 "Iodine Air Monitor Operation"
- 2.5 Emergency Procedure S023-VIII-18 "NOTIFICATION OF ADDITIONAL EMERGENCY SUPPORT PERSONNEL."

3.0 PREREQUISITES

- 3.1 DECLARATION OF AN UNUSUAL EVENT: The Emergency Coordinator position is activated. The balance of the Onsite Emergency Organization is activated only upon the decision of the Emergency Coordinator to do so.
- 3.2 DECLARATION OF AN ALERT, SITE EMERGENCY, OR GENERAL EMERGENCY: Mandatory activation of the onsite emergency organization.

4.0 PRECAUTIONS

- 4.1 No individual occupying an Emergency Response position described in this procedure may be relieved by another qualified individual until total conditions and the state of emergency response are known.

5.0 CHECK-OFF LISTS

5.1 TSC Activation Checklist

5.2 DSC Activation Checklist

6.0 PROCEDURE

6.1 Watch Engineer/Emergency Coordinator (EC)

Upon declaration of an emergency condition (Unusual Event, Alert, Site Emergency, or General Emergency), the Watch Engineer shall assume the position of Emergency Coordinator. He shall maintain the position of EC until properly relieved by the Station Manager or other qualified alternate or until close out of any and all existing emergency conditions. Upon assuming the position, the EC shall:

- 6.1.1 Report to the Control Room for briefing by the Watch Engineer. Upon completion of briefing, assume the duties of Emergency Coordinator. At the earliest convenient time, transfer to the Technical Support Center (TSC), and control the emergency response effort from there.
- 6.1.2 THE FOLLOWING RESPONSIBILITIES OF THE EMERGENCY COORDINATOR MAY NOT BE DELEGATED:
- .1 Classification of emergency event.
 - .2 Decision to notify offsite Emergency Management Agencies.
 - .3 Authorization for emergency workers to exceed 10 CFR 20 radiation exposure limits.
 - .4 Determining the necessity for evacuation of personnel onsite.
 - .5 Making protective action recommendations as necessary to offsite Emergency Management Agencies.
- 6.1.3 Other functional responsibilities of the Emergency Coordinator includes:
- .1 Coordinating the response of the station emergency organization.
 - .2 Assuming overall control of TSC personnel and activities.

6.0 PROCEDURE

6.1.3 (continued)

- .3 Ensuring 24 hour coverage of key positions in the station emergency organizations.
- .4 Provide direction and support to the Watch Engineer.
- .5 Establish and maintain communications with offsite Emergency Management Agencies, regulatory agencies, and emergency centers; and ensure that appropriate notifications, liason, and information flow is maintained.
- .6 Complete the TSC Activation Checklist. (Attachment 8. 1).

6.2 Emergency Organization

Upon declaration of an Alert, Site Emergency, or General Emergency; or as otherwise determined by the Emergency Coordinator, designated individuals (as provided in Emergency Procedure S023-VIII-18) shall assume the following positions and responsibilities:

6.2.1 Health Physics Leader

- .1 Report to the TSC and assume control of the Health Physics emergency response effort.
- .2 Activate the Iodine Air Monitor BAM-3A(I) per H.P. procedure S023-VII-5.3.7.
- .3 Perform source term determinations and dose projections as necessary.
- .4 Assign qualified personnel to onsite/offsite monitoring teams and direct monitoring team activities.
- .5 Provide Health Physics support for onsite emergency response activities.
- .6 Keep the Emergency Coordinator advised of any possible need to make offsite protective action recommendations.
- .7 Implement appropriate radiological controls.
- .8 At the Alert level and personnel availability permitting, assign a Health Physics Engineer to the EOF to coordinate offsite monitoring activities with State and Local agencies.

6.0 PROCEDURE

6.2.1 (continued)

- .9 If additional assistance is deemed necessary, refer to the West Coast Utilities Radiological Emergency Mutual Assistance Agreement and/or INPO Resources Manual.

6.2.2 Emergency Group Leader

- .1 Report to the Operations Support Center (OSC) and assume control of the OSC emergency response effort.
- .2 Assign personnel to emergency teams and coordinate emergency team activities such as first aid, rescue, fire fighting, damage control, and repair.
- .3 Provide information and support to the TSC staff for plant operational functions, and provide for personnel for various tasks upon the request of the Emergency Coordinator or designee.
- .4 Maintain accountability of OSC and emergency team personnel.
- .5 Complete the OSC Activation Checklist (Attachment 8.2).
- .6 Maintain the OSC Log.

NOTE: IN THE EVENT THE OSC BECOMES UNINHABITABLE, TRANSFER ALL ACTIVITIES AND PERSONNEL TO THE UNIT 1 OSC (Unit 1 Control and Administrative Building Conference Room).

6.2.3 Operations Leader

- .1 Report to the TSC and coordinate all activities relating to plant operations.
- .2 Determine if the Control Room or the TSC is the most appropriate duty station.
- .3 Advise the EC with respect to plant operations activities.
- .4 Maintain the Operations Emergency Log.

6.0 PROCEDURE (continued)

6.2.4 Technical Support Leader

- .1 Report to the TSC.
- .2 Provide engineering and technical support to the EC as requested.
- .3 Activate the AE and NSSS emergency organizations as required.
- .4 Maintain the Technical Support Emergency Log.

NOTE: The Institute of Nuclear Power Operations (INPO) maintains a teletype technical information exchange with other nuclear plant operators. INPO also acts as a coordinator for providing the affected plant with additional specialized emergency response personnel and equipment.

6.2.5 Administrative Leader

- .1 Report to the TSC.
- .2 Request an engineer from the Technical Support Leader to act as a communicator and assist/relieve the Shift Communicator.
- .3 Coordinate provisions for food, transportation, and other logistical support for the emergency response effort.
- .4 Act as liason with offsite support groups in providing additional resources such as manpower, equipment, supplies, and transportation.
- .5 Obtain personnel work schedules from appropriate emergency organization supervisors for relief of emergency personnel. If the emergency condition is projected to last greater than 12 hours, direct the Shift Communicator/AWS Operator to contact designated relief personnel. Provide a copy of the Watch Bill to the Security Leader for transmittal to the Security Officer supervising site ingress.
- .6 Coordinate communications and maintain records. Ensure that all checklists, data sheets, forms, etc. are appropriately filed.
- .7 Maintain the Administrative Emergency Log.

6.0 PROCEDURE (continued)

- 6.2.5.8 Brief the Shift Communicator on the status of Emergency Staff Augmentation.
- .9 Forward completed checklists, logs, calculations, and other emergency records to CDM for storage.
- 6.2.6 Chemistry Leader
 - .1 Report to the TSC.
 - .2 Advise the EC with respect to chemistry aspects of the RCS and other plant systems.
 - .3 Coordinate plant sampling in support of the emergency response effort.
 - .4 Maintain the Chemistry Emergency Log.
- 6.2.7 Security Leader
 - .1 Report to the TSC and coordinate station security activities with the emergency response effort.
 - .2 Maintain the integrity of station security.
 - .3 Coordinate with the Health Physics Leader in establishing or changing access control requirements as dictated by conditions.
 - .4 Coordinate personnel accountability as required.
 - .5 In the event of evacuation, dispatch an officer(s) to act as Assembly Area Coordinator(s) and coordinate any necessary traffic control measures.
 - .6 In the event of Site Evacuation dispatch security personnel to perform an area by area search to assure that all personnel have evacuated.
 - .7 Maintain the Security Emergency Log.
- 6.2.8 Emergency Advisor
 - .1 Report to the TSC.
 - .2 If required, fill in for any missing key TSC personnel.
 - .3 Advise the EC with respect to corrective actions.
 - .4 Maintain the Emergency Advisors Log.

6.0 PROCEDURE (continued)

6.2.9 Emergency Planning Coordinator

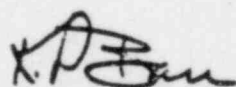
- .1 Report to the TSC.
- .2 Provide the EC with any assistance required concerning the emergency organization, emergency plan, implementing procedures, etc.
- .3 Maintain the Emergency Planning Log.

7.0 RECORDS

- 7.1 Forward all completed checklists and records to the Administrative Leader for ultimate distribution.

8.0 ATTACHMENTS

- 8.1 Technical Support Center Activation Checklist.
- 8.2 Operations Support Center Activation Checklist.
- 8.3 Current Personnel Assignment List - Technical Support Center.
- 8.4 Current Personnel Assignment List - Operations Support Center.
- 8.5 Current Personnel Assignment List - Unit 1 Control Room.



K. P. BARR
HEALTH PHYSICS MANAGER

DATE _____

TECHNICAL SUPPORT CENTER ACTIVATION CHECKLIST

1. Plant Manager / designated alternate assumes EC position:

2. Notification of Emergency Response personnel by the AWS Switchboard operator complete.
3. TSC fully staffed and activated.
4. OSC fully activated.
5. EOF (ESC-PEOC) notified that TSC and OSC are activated.
6. Health Physics Engineer assigned to EOF
7. Initiate (and update) the Current Personnel Assignment List - Technical Support Center, Attachment 8.3.
8. Initiate (and update) the Current Personnel Assignment List - Unit 1 Control Room, Attachment 8.4.

(Time/Init.)

(Time/Init.)

(Time/Init.)

(Time/Init.)

(Time /Date)

(Time/ Date)

(Time/ Date)

(Time/ Date)

(Time/Date)

(Time/ Date)

DATE _____

OPERATIONS SUPPORT CENTER CHECKLIST

(To be completed by the Emergency Group Leader)

1. Designate an individual to act as a communicator and record keeper for the OSC. He shall perform a-c below.

(name)

- a. Test Telephone Extentions (Time/Init.)
- b. Test Walkie Talkies (Time/Init.)
- c. Inventory Equipment and Supplies - See S01-VIII-72. "Emergency Equipment Checklist and Maintenance. (Done only if seals on equipment lockers have been broken) Time / Init.
2. Perform accountability of personnel present and notify the Emergency Coordinator, via the TSC Security Leader. (Time/Init.)
- NOTE: A log of events will be maintained by the communicator.
3. Designate personnel for Emergency Teams to be ready for action as requested by the Emergency Coordinator. (Use Attachment 8.4 to maintain a current list). (Time/Init.)
4. Initiate (and update) the Current personnel Assignment List - Operations Support Center, (Attachment 8.4). (Time/Init.)

ATTACHMENT 8.3 DATE _____

CURRENT PERSONNEL ASSIGNMENT LIST - TECHNICAL SUPPORT CENTER (TSC)

NOTE: This Checklist is to be used for the initial Activation of the TSC. If the TSC is to be manned for a long term period, the Administrative Leader shall develop a Watchbill designating who shall man Emergency Organization positions during designated times. Forward this Checklist to the Administrative Leader upon completion. Promptly update as appropriate.

TITLE OR FUNCTION	CURRENT INDIVIDUAL As of Date _____ Time _____	RESPONSIBILITY ACKNOWLEDGED (check)	REPLACED BY Date/Time	REPLACED BY Date/Time	REPLACED BY Date/Time
Emergency Coordinator					
Emergency Advisor					
Technical Support Leader					
Operations Leader					
Administrative Leader					
Health Physics Leader					

DATE _____

ATTACHMENT 8.3

CURRENT PERSONNEL ASSIGNMENT LIST - TECHNICAL SUPPORT CENTER (TSC)

TITLE OR FUNCTION	CURRENT INDIVIDUAL As of Date Time	RESPONSIBILITY ACKNOWLEDGED (check)	REPLACED BY Date/Time	REPLACED BY Date/Time
Chemistry Leader				
Security Leader				
Emergency Planning Coordinator				
Emergency Group Leader (OSC)				
Other (specify)				
USNRC				
Communications Aid				
Record Keeping Aid				

CONTINUED: Yes/No (circle)

DATE _____

ATTACHMENT 8.4

CURRENT PERSONNEL ASSIGNMENT LIST - OPERATIONAL SUPPORT CENTER (OSC)

To be completed by the Emergency Group Leader/Designee in OSC.

Promptly update as appropriate. Post a copy and updates in OSC.
Use additional sheets as required. Forward to Administrative Leader upon completion.

TITLE OR FUNCTION	INDIVIDUAL ASSIGNED DATE/TIME	RESPONSIBILITY ACKNOWLEDGED (check)	ASSIGNMENT COMPLETED OR REPLACED BY DATE/TIME	REPLACED BY DATE/TIME
Emergency Group Leader				
Communicator				
Others (specify)				

CONTINUED: Yes/No (circle)

SAN ONOFRE NUCLEAR GENERATING STATION
UNIT 2 AND 3

EMERGENCY PROCEDURE S023-VIII-17
REVISION 1 Page 2 of 2
ATTACHMENT 8.4

DATE _____

ATTACHMENT 8.4

CURRENT PERSONNEL ASSIGNMENT LIST - OPERATIONS SUPPORT CENTER (OSC)

CONTINUATION # _____

TITLE OR FUNCTION	INDIVIDUAL ASSIGNED DATE/TIME	RESPONSIBILITY ACKNOWLEDGED (check)	ASSIGNMENT COMPLETED OR REPLACED BY DATE/TIME	REPLACED BY DATE/TIME
Emergency Teams (specify function and members)				

DATE _____

ATTACHMENT 8.5

CURRENT PERSONNEL ASSIGNMENT LIST - CONTROL ROOM

TITLE OR FUNCTION	CURRENT INDIVIDUAL As of Date Time	RESPONSIBILITY ACKNOWLEDGED (check)	REPLACED BY Date/Time	REPLACED BY Date/Time
Watch Engineer				
STA				
Operating Foreman				
Control Operator				
Control Operator				
Asst. Control Operator				
Asst. Control Operator				
Others (specify)				

CONTINUED: Yes/No (Circle)

NOTIFICATION OF ADDITIONAL
EMERGENCY SUPPORT PERSONNEL

RECEIVED
OCT 14 1981

1.0 OBJECTIVE

CDM SITE

- 1.1 During an emergency condition at SONGS TWO AND THREE prompt notification of additional emergency support personnel to augment the on shift personnel as required by reference is to be made. During the normal working hours these personnel are notified via the site public address system. This procedure provides instructions to the duty AWS Switchboard operator on whom to contact and the emergency support personnel also provides direction for screening of incoming calls concerning emergency conditions. Implementation of this procedure is the responsibility of the duty AWS Switchboard Operator.

NO FOR CONSTRUCTION
FOR STARTUP USE ONLY
CHECK APPLICABLE CONTROLLED
STICK FILE FOR CURRENT INFORMATION

SITE FILE COPY

2.0 REFERENCES

- 2.1 "Criteria for Preparation and Evaluation of Radiological Emergency Response Plant and Preparedness in Support of Nuclear Power Plants" NUREG 0654, Table B-1, "Minimum Staffing Requirements for NRC Licensees for Nuclear Power Plant Emergencies".
- 2.2 San Onofre Nuclear Generating Station Unit 2 and 3 Emergency Plan
- 2.3 EMERGENCY PROCEDURE S023-VIII-17 "ACTIVATION AND OPERATION OF EMERGENCY CENTERS AND ORGANIZATIONS."

3.0 PREREQUISITES

- 3.1 Unusual Event - Option of Watch Engineer
- 3.2 Alert - Mandatory Activation
- 3.3 Site Emergency - Mandatory Activation
- 3.4 General Emergency - Mandatory Activation

4.0 PRECAUTIONS

- 4.1 The Shift Communicator (PAX _____), must receive frequent reports on status of Emergency Staff Augmentation.

5.0 CHECK-OFF LISTS

- 5.1 None

6.0 PROCEDURE

6.1 Upon notification by the Watch Engineer or Shift Communicator of the declaration of an emergency condition proceed as follows:

6.1.1 Contact the Edison Operator (PAX 821212 or 822222) and have them activate the beepers of all primary *Emergency Personnel in Attachment 8-1. Inform the operator of the class of emergency and instruct him to request all emergency team members to respond to the site. Have the operator advise you of any contacts he has made.

6.1.2 Contact primary (or alternative as necessary) Emergency Management Personnel (Attachment 8.1) and additional emergency support personnel (Attachment 8.2). For Attachment 8.2 use the "Station Emergency Personnel Recall List". As each person is contacted read the standard message as follows:

"THIS IS THE SWITCH BOARD OPERATOR AT SAN ONOFRE NUCLEAR GENERATING STATION, IS _____ HOME?"
(name)

When the person desired is on the phone proceed as follows:

"AN _____ HAS BEEN DECLARED AT SAN ONOFRE
Type of Emergency
NUCLEAR GENERATING STATION. EMERGENCY CONTROL CENTERS ARE BEING ACTIVATED AND YOU ARE NEEDED TO RESPOND TO YOUR DESIGNATED DUTY STATION.

"AT WHAT TIME CAN WE EXPECT YOU TO BE AT THE STATION?"

_____ TIME

6.1.3 Log on Attachment 8.1 and 8.2 the names of responding personnel

NOTE: NAMES ARE LISTED IN ORDER OF THEIR PROXIMITY TO THE PLANT, FOR THIS REASON ALWAYS START AT THE TOP OF THE LIST.

6.2 When all positions in TABLES A & B of Attachment 8.1 and 8.2 have been completed, inform the Shift Communicator in the Control Room (56201) and the Administrative Leader in the TSC (56140).

NOTE Control room # for _____, TSC# for _____

6.0 PROCEDURE (continued)

6.3 Incoming Calls

6.3.1 Do not allow incoming calls to interfere with personnel call up. If during the process of contacting emergency support personnel an incoming call for a non-emergency reason is received, politely explain to them that the person they wish to contact will be unavailable for an unknown period of time and ask them to call later.

6.3.2 Refer all incoming calls concerning the emergency to SCE Public Relations, unless a call is received from one of the following offsite agencies:

- .1 City of San Clemente or San Juan Capistrano
- .2 Office of Emergency Services - State office at Sacramento, Orange County or San Diego County
- .3 U.S. Nuclear Regulatory Commission or Department of Energy
- .4 U.S. Marine Corps Base - Camp Pendleton
- .5 Pendleton Coast Area Office State Parks and Recreation
- .6 California Highway Patrol
- .7 Plant Vendors: Westinghouse or Bechtel


6.3.3 If the call is from one of the above agencies, take their message and tell them you will relay it to the proper person and they will return the call.

7.0 RECORDS

7.1 Completed attachments shall be forwarded to the Administrative Leader and CDM.

8.0 ATTACHMENTS

- 8.1 Technical and Operations Support Center Staffing Resource List
- 8.2 30 Minute and 60 Minute Response personnel Table A&B.


K. P. BARR
HEALTH PHYSICS MANAGER

DATE _____

ATTACHMENT 8.1
TECHNICAL AND OPERATIONS SUPPORT CENTER STAFFING RESOURCE LIST.

POSITION	TITLE/NAME/TELEPHONE NUMBERS	CONTACTED YES / NO/ TIME	TSC/OSC/ PHONE. NO
*EMERGENCY COORDINATOR-	Station Manager H .B. Ray Beeper: Work: Home:		
1st Alternate	Asst. Station Mgr., Operations H. E. Morgan Beeper: Work: Home:		
2nd Alternate	Superintendent, Unit 1 J. TATE Beeper: Work: Home:		
3rd Alternate	Supervisor Plant Coordination V. FISHER Beeper: Work: Home:		
*EMERGENCY ADVISOR	Asst. Station Mgr., Operations H. E. Morgan Beeper: Work: Home:		

NOTE:

If the primary person for a position leaves the Southern California area he shall pass the beeper to the next alternate.

DATE _____

ATTACHMENT 8.1
TECHNICAL AND OPERATIONS SUPPORT CENTER STAFFING RESOURCE LIST.

POSITION	TITLE/NAME/TELEPHONE NUMBERS	CONTACTED YES / NO/ TIME	TSC/OSC/ PHONE. NO
*TECHNICAL SUPPORT LEADER	Asst. Station Mgr., Technical Brian Katz Beeper: Work: Home:		
1st Alternate	Supervising Engineer, NSSS Group P. H. Penseyres Beeper: Work: Home:		
2nd Alternate	Supervising Engineer, NSSS Support Group. Mike Wharton Beeper: Work: Home:		
*OPERATIONS LEADER	Superintendent of Units 2 and 3 J. TATE Beeper: Work: Home:		

NOTE: If the primary person for a position leaves the Southern California area he shall pass the beeper to the next alternate.

DATE _____

ATTACHMENT 8.1
TECHNICAL AND OPERATIONS SUPPORT CENTER STAFFING RESOURCE LIST.
(continued)

POSITION	TITLE/NAME/TELEPHONE NUMBERS	CONTACTED YES / NO/ TIME	TSC/OSC/ PHONE. NO
OPERATION Alternates (continued)			
1st Alternate	Supervisor of Plant Coordination V. FISHER Beeper: Work: Home:		
Alternates-	Off Duty Watch Engineer Don Lokker Work: Home: Tom James Work: Home: Kieth Eckman Work: Home: Robert Brown Work: Home: Mike Lisitza Work: Home:		

NOTE: If the primary person for a position leaves the Southern California area he shall pass the beeper to the next alternate.

DATE _____

ATTACHMENT 8.1
TECHNICAL AND OPERATIONS SUPPORT CENTER STAFFING RESOURCE LIST.
(continued)

POSITION	TITLE/NAME/TELEPHONE NUMBERS	CONTACTED YES / NO/ TIME	TSC/OSC/ PHONE. NO
*HEALTH PHYSICS LEADER	Health Physics Manager K. P. Barr Beeper: Work: Home:		
1st Alternate	Health Physics Supervisor Unit 1 Scott Medling Beeper: Work: Home:		
2nd Alternate	Health Physics Supervisor Units 2 & 3 John Albers Beeper: Work: Home:		
*SECURITY LEADER	Security Supervisor K. N. Hadley Beeper: Work: Home:		
Alternate	Shift Supervising Security Officer Work:		

NOTE: If the primary person for a position leaves the Southern California area he shall pass the beeper to the next alternate.

DATE _____

ATTACHMENT 8.1
TECHNICAL AND OPERATIONS SUPPORT CENTER STAFFING RESOURCE LIST.
(continued)

POSITION	TITLE/NAME/TELEPHONE NUMBERS	CONTACTED YES / NO/ TIME	TSC/OSC/ PHONE. NO
*EMERGENCY GROUP LEADER	Asst. Station Mgr., Maintenance R. Santosuosso Beeper: Work: Home:		
1st Alternate	Supervisor of Plant Maintenance Unit 1 J. BANKOVICH Beeper: Work: Home:		
2nd Alternate	Maintenance Foreman Gene Harker Beeper: Work: Home:		

*ADMINISTRATIVE LEADER	Station Services Manager William J. Mattar Beeper: Work: Home:		
---------------------------	--	--	--

NOTE: If the primary person for a position leaves the Southern California area he shall pass the beeper to the next alternate.

DATE _____

ATTACHMENT 8.1
TECHNICAL AND OPERATIONS SUPPORT CENTER STAFFING RESOURCE LIST.
(continued)

*ADMINISTRATIVE LEADER
(continued)

POSITION	TITLE/NAME/TELEPHONE NUMBERS	CONTACTED YES / NO/ TIME	TSC/OSC/ PHONE. NO
1st Alternate	Accounting & Clerical Supervisor Patricia J. Rankin Beeper: Work: Home:		
2nd Alternate	Warehouse Supervisor Ernest Rinard Beeper: Work: Home:		

*CHEMISTRY LEADER	Chemistry Supervisor Marvin Sullivan Beeper: Work: Home:		
1st Alternate	Supervisor of Unit 2/3 Chemistry Al Prosser Beeper: Work: Home:		

NOTE: If the primary person for a position leaves the Southern California area he shall pass the beeper to the next alternate.

DATE _____

ATTACHMENT 8.1
TECHNICAL AND OPERATIONS SUPPORT CENTER STAFFING RESOURCE LIST.
(continued)

POSITION	TITLE/NAME/TELEPHONE NUMBERS	CONTACTED YES / NO/ TIME	TSC/OSC/ PHONE. NO
----------	------------------------------	-----------------------------	-----------------------

*ADMINISTRATIVE LEADER
(continued)

2nd Alternate	Chemical Engineer Jane Young Beeper: Work: Home:		
---------------	--	--	--

*EMERGENCY PLANNING COORDINATOR	Emergency Planning Coordinator Dennis McCloskey Beeper: Work: Home:		
---------------------------------------	--	--	--

1st Alternate	Nuclear Engineer Donald Bennette Beeper: Work: Home:		
---------------	--	--	--

NOTE: If the primary person for a position leaves the Southern California area he shall pass the beeper to the next alternate.

ATTACHMENT 8.2

TABLE A: 30 MINUTE RESPONSE TIME PERSONNEL

POSITION OR EXPERTISE	NAME	TIME CONTACTED	EXPECTED RESPONSE TIME
<u>HEALTH PHYSICS SUPPORT:</u>			
Health Physics Engineer (1 required)	(1) _____	_____ AM/PM	_____ AM/PM
Health Physics Technician (6 required)	(1) _____	_____ AM/PM	_____ AM/PM
	(2) _____	_____ AM/PM	_____ AM/PM
	(3) _____	_____ AM/PM	_____ AM/PM
	(4) _____	_____ AM/PM	_____ AM/PM
	(5) _____	_____ AM/PM	_____ AM/PM
	(6) _____	_____ AM/PM	_____ AM/PM
<u>TECHNICAL SUPPORT:</u>			
Core/Thermal Hydraulics Engineer (1 required)	(1) _____	_____ AM/PM	_____ AM/PM
I & C Technician (1 required)	(1) _____	_____ AM/PM	_____ AM/PM
Communicator (1 required)	(1) _____	_____ AM/PM	_____ AM/PM
<u>MAINTENANCE SUPPORT:</u>			
Electrician (1 required)	(1) _____	_____ AM/PM	_____ AM/PM

ATTACHMENT 8.2

TABLE B: 60 MINUTE RESPONSE TIME PERSONNEL

NOTE: CONTINUE TO CONTACT PERSONNEL ON THE 30 MINUTE RESPONSE TIME LIST (FOR THE POSITIONS BELOW) UNTIL IT IS EXHAUSTED, THEN USE THE 60 MINUTE RESPONSE TIME LISTS.

POSITION OR EXPERTISE	NAME	TIME CONTACTED	EXPECTED RESPONSE TIME
<u>HEALTH PHYSICS SUPPORT:</u>			
Health Physics Engineer (2 required)	(1) _____	_____ AM/PM	_____ AM/PM
	(2) _____	_____ AM/PM	_____ AM/PM
Health Physics Technician (6 required)	(1) _____	_____ AM/PM	_____ AM/PM
	(2) _____	_____ AM/PM	_____ AM/PM
	(3) _____	_____ AM/PM	_____ AM/PM
	(4) _____	_____ AM/PM	_____ AM/PM
	(5) _____	_____ AM/PM	_____ AM/PM
	(6) _____	_____ AM/PM	_____ AM/PM
<u>TECHNICAL SUPPORT:</u>			
Electrical Engineer (1 required)	(1) _____	_____ AM/PM	_____ AM/PM
Mechanical Engineer (1 required)	(1) _____	_____ AM/PM	_____ AM/PM
Nuclear Chemistry Technician (1 required)	(1) _____	_____ AM/PM	_____ AM/PM
Communicator (2 required)	(1) _____	_____ AM/PM	_____ AM/PM
	(2) _____	_____ AM/PM	_____ AM/PM

ATTACHMENT 8.2

TABLE B: 60 MINUTE RESPONSE TIME PERSONNEL

(CONTINUED)

<u>POSITION OR EXPERTISE</u>	<u>NAME</u>	<u>TIME CONTACTED</u>	<u>EXPECTED RESPONSE TIME</u>
<u>MANTENANCE SUPPORT:</u>			
Electrician (1 required)	(1) _____	_____ AM/PM	_____ AM/PM
<u>MANTENANCE SUPPORT:</u> (Continued)			
Mechanical Technician (1 required)	(1) _____	_____ AM/PM	_____ AM/PM
<u>OPERATIONS SUPPORT:</u>			
RAD WASTE OPERATOR (1 required)	(1) _____	_____ AM/PM	_____ AM/PM

cc: CDM
EPIPS in Control Room, TSC, OSC, PBX Switchboard
Emergency Planning Coordinator
Assistant Plant Managers

SOURCE TERM DETERMINATION

RECEIVED
OCT 14 1981

1.0 OBJECTIVE

This procedure provides the information for methods for determining the amount of radioactive material available for release from the containment during an emergency, and the release rate of that material.

The Health Physics Leader shall be responsible for the implementation of this procedure.

NOT FOR CONSTRUCTION CDM SITE
CHECK FOR RELEASE UP TO STATION ONLY
STICKY FILL FOR CURRENT INFORMATION
SITE FILE COPY

2.0 REFERENCES

- 2.1 NUREG-0654, Rev. 1, Criteria For Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants
- 2.2 San Onofre Nuclear Generating Station, Units 2 & 3, Final Safety Analysis Report, Section 15
- 2.3 San Onofre Nuclear Generating Station, Units 2 & 3, Emergency Plan
- 2.4 San Onofre Nuclear Generating Station, Units 2 & 3, Bechtel Job No. 10079, Letter to H. L. Richter (SCE) from R. L. Rogers (Bechtel)

3.0 PREREQUISITES

- 3.1 An emergency has been declared at San Onofre Units 2 & 3.
- 3.2 The Emergency Coordinator has requested a source term determination from the affected reactor containment.
- 3.3 If dose rate measurements from portable survey instruments are required, personnel shall be briefed by the Health Physics Leader prior to being dispatched.

4.0 PRECAUTIONS

- 4.1 Source term determination is an estimate of the rate of release of radioactive material from containment.
- 4.2 Dose rate measurements from portable survey instruments are only necessary if the ERMS and In-Containment Monitors are inoperative.

5.0 CHECK-OFF LISTS

- 5.1 Reactor Containment Activity Using ERMS Monitors Worksheet and Check-Off List (Attachment 8.1).
- 5.2 Reactor Containment Activity Using In-Containment Monitors Worksheet and Check-Off List (Attachment 8.2).
- 5.3 Reactor Containment Activity Using Portable Instrumentation Worksheet and Check-Off List (Attachment 8.3).
- 5.4 Reactor Containment Activity Using Effluent Sampling or the Post Accident Sampling System (PASS) Checklist (Attachment 8.4).
- 5.5 Source Term Calculation Using Containment Leakage Checklist (Attachment 8.5).
- 5.6 Source Term Calculation Using Effluent Monitors Checklist (Attachment 8.6).
- 5.7 Source Term Calculation Using Effluent Sampling or Post-Accident Sampling System (PASS) Checklist (Attachment 8.7).

6.0 PROCEDURE

In an accident situation, containment should be isolated. The radioactivity inside containment can be estimated with four possible sets of instrumentation; the In-Containment monitors, the ERMS monitors, portable instrumentation, or via a gas sampling and analysis method. The Ci content of containment should be calculated with all of the available methods and the highest result used. Portable instrumentation should be used as a back-up method only.

- 6.1 Reactor Containment Activity Using ERMS Monitors (use Attachment 8.1).
 - 6.1.1 Log the ERMS readings from RE 7858-1, RE 7859-2 and RE 7860-3 taken from panel ZL 154/165 (outside Control Room) on Attachment 8.1, Step 1.0. Perform multiplication to get total curies available for release.
 - 6.1.2 Log the date and time the readings were taken and initials.
 - 6.1.3 Enter the highest Ci total into Steps 2.1 and 2.2. Calculate the I-131 and Xe-133 activity available for release from containment.

6.1 (continued)

6.1.4 Notify the Emergency Coordinator of the results.

6.2 Reactor Containment Activity Using the High Range In-Containment Monitors (use Attachment 8.2).

6.2.1 Enter the mR/hr readings from RI-7820-1 and RI-7820-2 into Attachment 8.2 Steps 1.1 and 1.2, respectively. Perform the multiplication to determine the total curies available for release, as determined by each of the detectors.

6.2.2 Select the higher value and enter this value in Step 2.1 and 2.2. Perform the multiplication to determine the I-131 and Xe-133 available for release.

6.2.3 Notify the Emergency Coordinator of the results.

6.3 Reactor Containment Activity Using Portable Instrumentation (use Attachment 8.3).

NOTE: These locations may be inaccessible due to high radiation levels.

6.3.1 Brief survey team on the location(s) to be surveyed. Complete Step 1.0 of Attachment 8.3. The locations selected should be as close as is practical to the ERMS detector.

6.3.2 Dispatch survey team in accordance with Emergency Procedure S023-VIII-24, "Direction of Onsite Emergency Monitoring".

6.3.3 Log the survey team results for locations surveyed on Attachment 8.3, Steps 2.1, 2.2, and/or 2.3.

6.3.4 If more than one of the ERMS detector locations were surveyed, determine the highest reading (mR/hr) and perform the multiplication only for the highest survey reading in Steps 2.1 ~~2.2~~ or 2.3 to determine the total curies available for release.

- 6.3.5 Enter the highest value obtained in 2.1, 2.2 or 2.3 in Steps 3.1 and 3.2. Perform the multiplication to determine the I-131 and Xe-133 activity available for release from containment.
- 6.3.6 Notify the Emergency Coordinator of the results.
- 6.4 Reactor Containment Activity Using Effluent Sampling or Post Accident Sampling System (PASS) (Attachment 8.4).
 - 6.4.1 From effluent sampling analyses, record the concentrations of I-131 and Xe-133 in Step 1.0 of Attachment 8.4.
 - 6.4.2 In Step 2.0, multiply by the conversion factors to obtain the total Ci of I-131 and Xe-133 available for release from containment.
 - 6.4.3 From the PASS analyses, record the concentrations of I-131 and Xe-133 in Step 3.0 of Attachment 8.4.
 - 6.4.4 In Step 4.0, enter the I-131 and Xe-133 concentrations and multiply by the conversion factor to obtain the total Ci of I-131 and Xe-133 available for release from containment.

6.5 Source Term Calculation

At this point, we have estimated the amount of radioactivity in containment. The source term, i.e., radioactivity release rates, are calculated from releases occurring either from containment leakage or from the plant stack.

- 6.5.1 Source Term From Containment Leakage (Attachment 8.5).
 - .1 Determine the amount of I-131 (Ci) and Xe-133 (Ci) available for release from containment. This was done in procedures 6.1 through 6.4 above. Select the highest values, and enter in Steps 1.1 and 1.2 of Attachment 8.5.
 - .2 The release rate from containment when it is isolated is assumed to be 1.6 CFM. This indicates a 0.1% leakage rate per day. If better information is available, modify this assumption. Otherwise, enter the assumed containment release rate in Step 2 of Attachment 8.5.

- .3 Enter the I-131 and Xe-133 Curie totals into Steps 3.1 and 3.2 respectively. Perform the multiplication to obtain the release rates (Ci/sec) of I-131 and Xe-133.
- 6.5.2 Source Term From Effluent Monitors (Attachment 8.6).
- .1 Log the reading from the Plant Stack Effluent Monitor (2RI-7865-1) in Step 1.0 of Attachment 8.6.
 - .2 Enter this value in Steps 1.1 and 1.2. Perform the multiplication in Steps 1.1 and 1.2 to determine the concentration ($\mu\text{Ci/cc}$) for I-131 and Xe-133 in the plant stack.
 - .3 The stack release rate is assumed to be 166,000 CFM. This indicates that two fans are running. If better information is available, modify this assumption. Otherwise, enter the assumed release rate in Step 2.0.
 - .4 Enter the concentrations of I-131 and Xe-133 into Steps 3.1 and 3.2 respectively. Enter the stack release rate from Step 2.0 into Steps 3.1 and 3.2. Perform the multiplication to determine the I-131 (Ci/sec) and Xe-133 (Ci/sec) release rates.
- 6.5.3 Source Term from Effluent Sampling or Post Accident Sampling System (PASS) (Attachment 8.7).
- NOTE: This methodology can only be used if stack effluent sampling or the PASS methods and analyses have been performed.
- .1 Obtain the I-131 and Xe-133 concentrations from Attachment 8.4. Select either effluent sampling or PASS results, depending on which is available. Log the I-131 ($\mu\text{Ci/cc}$) and Xe-133 ($\mu\text{Ci/cc}$) concentrations in Attachment 8.7, Steps 1.1 and 1.2 respectively (as determined in Attachment 8.4).
 - .2 The stack release rate is assumed to be 166,000 CFM. This indicates two (2) fans are running. If better information is available, modify the assumption. Otherwise, enter the assumed release rate in Step 2.0.

- .3 Enter the concentrations of I-131 and Xe-133 into Steps 3.1 and 3.2, respectively. Enter the stack release rate into Steps 3.1 and 3.2. Perform the multiplication to determine the I-131 (Ci/sec) and Xe-133 (Ci/sec) release rates.

7.0 RECORDS

Forward all records to the Administrative Leader upon completion.

8.0 ATTACHMENTS

- 8.1 Reactor Containment Source Term Using ERMs Channels Worksheet and Check-Off List.
- 8.2 Reactor Containment Source Term Using In-Contamination Monitors Worksheet and Check-Off List.
- 8.3 Reactor Containment Source Term Using Portable Instrumentation Worksheet and Check-Off List.



K. P. BARR
HEALTH PHYSICS MANAGER

REACTOR CONTAINMENT ACTIVITY USING ERMS MONITORS
WORKSHEET AND CHECK-OFF LIST

STEP 1.0 ERMS - RE 7858-1 = _____ mR/hr X 3.6E5 = _____ Ci Total
ERMS - RE 7859-2 = _____ mR/hr X 3.6E5 = _____ Ci Total
ERMS - RE 7860-3 = _____ mR/hr X 3.6E5 = _____ Ci Total

_____ Date _____ Time HPL Initials

STEP 2.0 Select highest Ci total (above). Enter value below and multiply to get Ci I-131 and Xe-133 available for release.

STEP 2.1 (_____ Ci Total) x (.031) = _____ Ci (I-131)

STEP 2.2 (_____ Ci Total) x (.136) = _____ Ci (Xe-133)

_____ Date _____ Time HPL Initials

3.0 Emergency Coordinator notified of results.

_____ Date _____ Time HPL Initials

REACTOR CONTAINMENT ACTIVITY USING IN-CONTAINMENT
MONITORS WORKSHEET AND CHECK-OFF LIST

STEP 1.0 In-Containment Montors:

Step 1.1 Detector RI-7820-1 _____ mR/hr x (.644) = _____ Ci
(Total Ci Available for Release)

Step 1.2 Detector RI-7820-2 _____ mR/hr x (.644) = _____ Ci
(Total Ci Available for Release)

STEP 2.0 Using the higher value from Step 1.0,
enter value in Step 2.1 and 2.2.

STEP 2.1 (_____ Ci Total) X (.031) = _____ Ci (I-131)

STEP 2.2 (_____ Ci Total) X (.136) = _____ Ci (Xe-133)

STEP 3.0 Emergency Coordinator notified of results.

_____ Date

_____ Time

_____ HPL Initials

REACTOR CONTAINMENT ACTIVITY USING PORTABLE
INSTRUMENTATION WORKSHEET AND CHECK-OFF LIST

STEP 1.0 Survey Team Briefed - Emergency Procedure S023-VIII-24,
initiated.

_____ Date _____ Time _____ HPL Initials

STEP 2.0 Survey Team Results: (Using Portable Instrumentation)

	<u>Location</u>	<u>Dose Rate (mR/hr)</u>	<u>Factor</u>	<u>Total Ci Available For Release</u>
STEP 2.1	RE 7858-1	(_____)	x (3.6E5) =	_____
STEP 2.2	RE 7859-2	(_____)	x (3.6E5) =	_____
STEP 2.3	RE 7860-3	(_____)	x (3.6E5) =	_____

_____ Date _____ Time _____ HPL Initials

STEP 3.0 Enter highest value below.

STEP 3.1 (_____ Ci Total) X (.031) = _____ Ci (I-131)

STEP 3.2 (_____ Ci Total) X (.136) = _____ Ci (Xe-133)

_____ Date _____ Time _____ HPL Initials

STEP 4.0 Emergency Coordinator notified of results.

_____ Date _____ Time _____ HPL Initials

REACTOR CONTAINMENT ACTIVITY USING EFFLUENT SAMPLING OR PASS CHECKLIST

STEP 1.0 I-131 Effluent Sampling Concentration _____ $\mu\text{Ci/cc}$
Xe-133 Effluent Sampling Concentration _____ $\mu\text{Ci/cc}$

STEP 2.0 _____ $\frac{\mu\text{Ci}}{\text{cc}}$ x 6.51 E4 = _____ Ci (I-131)

_____ $\frac{\mu\text{Ci}}{\text{cc}}$ x 6.51 E4 = _____ Ci (Xe-133)

STEP 3.0 I-131 PASS Concentration _____ $\mu\text{Ci/cc}$
Xe-133 PASS Concentration _____ $\mu\text{Ci/cc}$

STEP 4.0 _____ $\frac{\mu\text{Ci}}{\text{cc}}$ x 6.51E4 = _____ Ci (I-131)

_____ $\frac{\mu\text{Ci}}{\text{cc}}$ x 6.51E4 = _____ Ci (Xe-133)

SOURCE TERM CALCULATION USING CONTAINMENT LEAKAGE CHECKLIST

Step 1.0 NOTE: Use highest values obtained for Containment Activity from Attachments 8.1, 8.2, 8.3, or 8.4.

1.1 I-131 Total Curies Available For Release _____ Ci

1.2 Xe-133 Total Curies Available For Release _____ Ci

Step 2.0 Containment Release Rate _____ CFM

Step 3.0 Radioactivity Release Rate Calculation

3.1 _____ Ci (I-131) x (7.25 E-9) x _____ CFM = _____ Ci/sec

3.2 _____ Ci (Xe-133) x (7.25 E-9) x _____ CFM = _____ Ci/sec

SOURCE TERM CALCULATION USING EFFLUENT MONITORS CHECKLIST

STEP 1.0 Stack Effluent Monitor: _____ $\mu\text{Ci/cc}$

$$1.1 \frac{\text{_____ } \mu\text{Ci/cc}}{\text{Stack Effluent Monitor Reading}} \times .031 = \frac{\text{_____ } \mu\text{Ci/cc}}{\text{I-131 Concentration}}$$

$$1.2 \frac{\text{_____ } \mu\text{Ci/cc}}{\text{Stack Effluent Monitor Reading}} \times .136 = \frac{\text{_____ } \mu\text{Ci/cc}}{\text{Xe-133 Concentration}}$$

STEP 2.0 Stack Release Rate: _____ CFM

STEP 3.0 Radioactivity Release Rate Calculation

$$3.1 \frac{\text{_____ } \mu\text{Ci/cc}}{\text{I-131 Stack Concentration}} \times \frac{\text{_____ CFM}}{\text{Stack Release Rate}} \times 4.72 \times 10^{-4} = \frac{\text{_____ Ci/sec}}{\text{I-131 Release Rate}}$$

$$3.2 \frac{\text{_____ } \mu\text{Ci/cc}}{\text{Xe-133 Stack Concentration}} \times \frac{\text{_____ CFM}}{\text{Stack Release Rate}} \times 4.72 \times 10^{-4} = \frac{\text{_____ Ci/sec}}{\text{Xe-133 Release Rate}}$$

SOURCE TERM CALCULATION USING EFFLUENT SAMPLING OR PASS
ANALYSES CHECKLIST

STEP 1.0 Effluent Sampling Concentrations or PASS Concentrations

1.1 I-131 Concentration _____ $\mu\text{Ci/cc}$

1.2 Xe-133 Concentration _____ $\mu\text{Ci/cc}$

STEP 2.0 Stack Release Rate: _____ CFM

STEP 3.0 Radioactivity Release Rate Calculation

$$3.1 \frac{\text{I-131 Stack Concentration } \mu\text{Ci/cc}}{\text{I-131 Stack Concentration}} \times \frac{\text{CFM} \times 4.72 \times 10^{-4}}{\text{Stack Release Rate}} = \frac{\text{I-131 Release Rate Ci/sec}}{\text{I-131 Release Rate}}$$

$$3.2 \frac{\text{Xe-133 Stack Concentration } \mu\text{Ci/cc}}{\text{Xe-133 Stack Concentration}} \times \frac{\text{CFM} \times 4.72 \times 10^{-4}}{\text{Stack Release Rate}} = \frac{\text{Xe-133 Release Rate Ci/sec}}{\text{Xe-133 Release Rate}}$$

DOSE ASSESSMENTS OCT 9 1981

1.0 OBJECTIVE

This procedure provides the dose calculation methodology for gaseous releases, during an emergency.

The Health Physics Leader shall be responsible for the implementation of this procedure, or, in his absence, the Emergency Coordinator.

2.0 REFERENCES

- 2.1 U.S. Nuclear Regulatory Commission, Regulatory Guide 1.145, "Onsite Meteorological Programs"
- 2.2 U.S. Nuclear Regulatory Commission, Regulatory Guide 1.145, "Atmospheric Dispersion Models for Potential Accident Consequence Assessments at Nuclear Power Plants"
- 2.3 NUREG-0654, Rev. 1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants"
- 2.4 U.S. Environmental Protection Agency, EPA-520/1-75-001, "Manual of Protective Action Guides and Protective Actions for Nuclear Incidents"
- 2.5 San Onofre Nuclear Generating Station, Unit 2 and 3 Final Safety Analysis Report, Section 15
- 2.6 San Onofre Nuclear Generating Station, Units 2 & 3, Emergency Plan
- 2.7 Emergency Procedure S023-VIII-22, "SOURCE TERM DETERMINATION"
- 2.8 Emergency Procedure S023-VIII-41, "ONSITE MONITORING"
- 2.9 Emergency Procedure S023-VIII-42, "OFFSITE MONITORING AND SAMPLING"
- 2.10 Emergency Procedure S023-VIII-27, "EMERGENCY ENVIRONMENTAL MONITORING"

3.0 PREREQUISITES

- 3.1 An emergency has been declared at San Onofre Nuclear Generating Station, Unit 2 and 3.
- 3.2 A gaseous release of radioactive material is in progress, or is projected to occur, or radioactive material has been released into containment.

NOI FOR THE IMPLEMENTATION OF THE EMERGENCY COORDINATION PLAN RECEIVED
FOR EMERGENCY COORDINATION
CHECK APPLICABLE UPDATES ONLY 4 1981
STICK FILL FOR CURRENT INFORMATION

4.0 PRECAUTIONS

- 4.1 Calculated doses are only estimates of the actual doses in the plant environs.
- 4.2 Dose calculation estimates should be verified by actual field measurements. This is done by implementation of Emergency Procedures SO23- VIII-41, "ONSITE MONITORING"; SO23-VIII-42, "OFFSITE MONITORING AND SAMPLING; and SO23-VIII-27, "EMERGENCY ENVIRONMENTAL MONITORING".

5.0 CHECK-OFF LISTS

- 5.1 Attachment 8.1 - Determination of Atmospheric Dispersion Factors Checklists
- 5.2 Attachment 8.2 - Dose Calculations Checklist

6.0 PROCEDURE

- 6.1 Determination of Atmospheric Dispersion Factors (Use Attachment 8.1).

NOTE: In the determination of Atmospheric Dispersion Factors, meteorologic data from the SONGS Met Tower is desirable.

If this data is unavailable in the Control Room, an individual may be dispatched to the Met Tower to read the local instrumentation indicators and report back to the Control Room.

If SONGS Met Tower data is unavailable, obtain met data, (wind direction and windspeed) from San Diego Lindberg Field, _____ (Identify yourself as SCE staff). Assume stability class F when using San Diego meteorology.

- 6.1.1 Utilizing the best meteorological information available, determine the windspeed and log it in Step 1.0 of Attachment 8.1. Windspeed is indicated in MPH. Perform the multiplication to convert MPH to m/sec (or knots to m/sec if using San Diego data).
 - .1 Record the wind direction in degrees in Step 1.0. Using Table I, determine the affected sector designation. Log this in Step 1.0 of Attachment 8.1.

6.0 PROCEDURE (Cont'd)

- 6.1.2 Obtain the vertical temperature gradient (ΔT) from Met Tower data and log it in Step 2.0.
- 6.1.3 Compare the ΔT observed above with the ΔT column of Table II in Attachment 8.1 to determine the Stability Class (A through G). If Met data is unavailable, assume Class F. Log the Stability Class in Step 3.0.
- 6.1.4 Using the stability class from above, look up the ADF X U values from Table III of Attachment 8.1. These values are the Atmospheric Dispersion Factors (ADF) times the windspeed, U. Log these values in Step 4.0. Then divide them by the current windspeed to get the ADF's.

6.2 Dose Rate Calculation

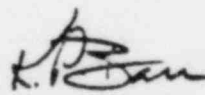
- 6.2.1 Dose rate calculations are performed at five distances equivalent to locations at the beach (83m), Exclusion Area Boundary (600m), 2 miles, 5 miles, 10 miles, 20 miles, and 50 miles. The data needed for these calculations is the source term (EPIP S023-VIII-22) and the ADF's, (Step 4, Attachment 8.1 of this procedure).
- 6.2.2 Perform the calculations requested in Attachment 8.2, Step 2.0.

7.0 RECORDS

- 7.1 Forward all records and calculation worksheets to the Administrative Leader

8.0 ATTACHMENTS

- 8.1 Determination of Atmospheric Dispersion Factors Checklist
- 8.2 Dose Calculation Checklist


K. P. BARR
HEALTH PHYSICS MANAGER

DETERMINATION OF ATMOSPHERIC DISPERSION FACTORS CHECKLIST

Step 1.0 (Use the 10 meter chart recorder)

Wind Speed: (_____ MPH) X (.447) = U = _____ m/sec
(_____ Knots) X (.514) = _____ m/sec

Wind Direction: _____ Degrees

(Obtain the affected sector from attached Table I)

Affected Sector Designation _____ (By Letter)

Step 2.0 Determine from Met Tower instrumentation, the vertical temperature gradient.

ΔT = _____ degrees C

Step 3.0 Determine the Stability Class (From Table II, attached).

Stability Class _____

HPL Initials

Time

Date

Step 4.0 Atmospheric Dispersion Factor (ADF)

Using the stability class from above, look-up the ADF X U values for each of the locations from Table III. Log these values below. Then divide them by the windspeed, U, in m/sec from Step 1.0 above and log into the table below:

	BEACH	EAB	2 MILES	5 MILES	10 MILES	20 MILES	50 MILES
ADF X U							
ADF							

NOTE: Divide [ADF X U] by the windspeed (Step 1.0 in m/sec) to get the ADF values.

TABLE I

WIND DIRECTION TABLE

<u>DEGREES</u>	<u>SECTOR DESIGNATION</u>
348.75°-11.25°	J
11.25°-33.75°	K
33.25°-56.25°	L
56.25°-78.75°	M
78.75°-101.25°	N
101.25°-123.75°	P
123.75°-146.25°	Q
146.25°-168.75°	R
168.75°-191.25°	A
191.25°-213.75°	B
213.75°-236.25°	C
236.25°-258.75°	D
258.75°-281.25°	E
281.25°-303.75°	F
303.75°-326.25°	G
326.25°-348.75°	H

TABLE II

DETERMINATION OF ATMOSPHERIC DISPERSION FACTORS

Classification of Atmospheric Stability by ΔT

<u>Stability Class</u>	ΔT ($^{\circ}\text{C}$)
A	$\leq (-.57)$
B	(-.56) to (-.51)
C	(-.50) to (-.45)
D	(-.44) to (-.15)
E	(-.14) to (+.45)
F	(.46) to (1.2)
G	> 1.2

TABLE III
ADF X U

STABILITY CLASS	BEACH	EAB	2 MILES	5 MILES	10 MILES	20 MILES	50 MILES
A	4.0E-4	1.2E-5	0	0	0	0	0
B	5.7E-4	4.7E-5	8.8E-7	0	0	0	0
C	7.3E-4	9.9E-5	5.5E-6	1.5E-6	4.4E-7	1.5E-7	3.5E-8
D	8.4E-4	2.4E-4	2.2E-5	5.9E-6	1.9E-6	8.5E-7	2.5E-7
E	8.8E-4	3.5E-4	3.5E-5	1.2E-5	4.9E-6	2.4E-6	8.0E-7
F	9.1E-4	5.5E-4	9.0E-5	3.2E-5	1.5E-5	6.5E-6	2.4E-6
G	9.3E-4	7.3E-4	2.0E-4	7.7E-5	3.6E-5	1.6E-5	5.6E-6

DOSE CALCULATION CHECKLIST

Step 1.0 (Obtain highest source term data from EPIP-S023-VIII-22)
(Obtain met data from attachment 8.1, this procedure)

_____ / _____ / _____
TIME DAY DATE

Source Term: _____ Ci/sec (Xe-133) _____ Ci/Sec(I-131)

Windspeed _____ MPH _____ m/s

Stability Class _____

Wind Direction From: _____ (Degrees)

Affected Sector Designation _____ (By Letter)

BEACH EAB 2 MILE 5 MILE 10 MILE 20 MILE 50 MILE

ADF's _____

Step 2.0

Dose Rate (DR) at Beach

WHOLE BODY

DR = ADF (at beach) X Source Term (Xe-133) X 3.36E4

DR = _____ X _____ X 3.36E4 = _____ mrem/hr
ADF Xe-133

THYROID

$$DR = ADF \text{ (at beach)} \times \text{Source Term (I-131)} \times 1.85E9$$

$$DR = \frac{\quad}{ADF} \times \frac{\quad}{I-131} \times 1.85E9 = \quad \text{mrem/hr}$$

Step 3.0

Dose Rates at EAB

WHOLE BODY

$$DR = ADF \text{ (at EAB)} \times \text{Source Term (Xe-133)} \times 3.36E4$$

$$DR = \frac{\quad}{ADF} \times \frac{\quad}{Xe-133} \times 3.36E4 = \quad \text{mrem/hr}$$

THYROID

$$DR = ADF \text{ (at EAB)} \times \text{Source Term (I-131)} \times 1.85E9$$

$$DR = \frac{\quad}{ADF} \times \frac{\quad}{I-131} \times 1.85E9 = \quad \text{mrem/hr}$$

Step 4.0

Dose Rates at 2 Miles

WHOLE BODY

$$DR = ADF \text{ (at 2 Miles)} \times \text{Source Term (Xe-133)} \times 3.36E4$$

$$DR = \frac{\quad}{ADF} \times \frac{\quad}{Xe-133} \times 3.36E4 = \quad \text{mrem/hr}$$

THYROID

$$DR = ADF \text{ (at 2 Miles)} \times \text{Source Term (I-131)} \times 1.85E9$$

$$DR = \frac{\quad}{ADF} \times \frac{\quad}{I-131} \times 1.85E9 = \quad \text{mrem/hr}$$

Step 5.0

Dose Rates at 5 Miles

WHOLE BODY

$$DR = ADF \text{ (at 5 Miles)} \times \text{Source Term (Xe-133)} \times 3.36E4$$

$$DR = \frac{\quad}{ADF} \times \frac{\quad}{\text{Xe-133}} \times 3.36E4 = \quad \text{mrem/hr}$$

THYROID

$$DR = ADF \text{ (at 5 Miles)} \times \text{Source Term (I-131)} \times 1.85E9$$

$$DR = \frac{\quad}{ADF} \times \frac{\quad}{\text{I-131}} \times 1.85E9 = \quad \text{mrem/hr}$$

Step 6.0

Dose Rates at 10 Miles

WHOLE BODY

$$DR = ADF \text{ (at 10 Miles)} \times \text{Source Term (Xe-133)} \times 3.36E4$$

$$DR = \frac{\quad}{ADF} \times \frac{\quad}{\text{Xe-133}} \times 3.36E4 = \quad \text{mrem/hr}$$

THYROID

$$DR = ADF \text{ (at 10 Miles)} \times \text{Source Term (I-131)} \times 1.85E9$$

$$DR = \frac{\quad}{ADF} \times \frac{\quad}{\text{I-131}} \times 1.85E9 = \quad \text{mrem/hr}$$

Step 7.0

Dose Rates at 20 Miles

WHOLE BODY

$$DR = ADF \text{ (at 20 Miles)} \times \text{Source Term (Xe-133)} \times 3.36E4$$

$$DR = \frac{\quad}{ADF} \times \frac{\quad}{\text{Xe-133}} \times 3.36E4 = \quad \text{mrem/hr}$$

THYROID

$$DR = ADF \text{ (at 20 Miles)} \times \text{Source Term (I-131)} \times 1.85E9$$

$$DR = \frac{\quad}{ADF} \times \frac{\quad}{\text{I-131}} \times 1.85E9 = \quad \text{mrem/hr}$$

Step 8.0

Dose Rates at 50 Miles

WHOLE BODY

DR = ADF (at 50 Miles) X Source Term (Xe-133) X 3.36E4

DR = $\frac{\text{ADF}}{\text{ADF}}$ X $\frac{\text{Xe-133}}{\text{Xe-133}}$ X 3.36E4 = _____ mrem/hr

THYROID

DR = ADF (at 50 Miles) X Source Term (I-131) X 1.85E9

DR = $\frac{\text{ADF}}{\text{ADF}}$ X $\frac{\text{I-131}}{\text{I-131}}$ X 1.85E9 = _____ mrem/hr

Step 9.0

Dose Rate Summary

_____ / _____ / _____
TIME DAY DATE

Source Term: _____ Ci/sec Xe-133

_____ Ci/sec I-131

Wind Speed: _____ MPH _____ m/s

Stability Class: _____

Wind Direction From: _____ degrees

Wind Direction Toward: _____ sector designation

mrem/hour BEACH EAB 2 MILE 5 MILE 10 MILE 20 MILE 50 MILE

WHOLE BODY _____

THYROID _____

DIRECTION OF ONSITE EMERGENCY MONITORING

SITE

NOT FOR CONSTRUCTION
FOR START-UP USE ONLY
CHECK APPLICABLE CONTROLLED
STICK FILE FOR CURRENT INFORMATION
RECEIVED
OCT 14 1981

1.0 OBJECTIVE

1.1 This procedure provides the guidance for coordinating direction of onsite radiological monitoring efforts during an emergency. The Health Physics Leader (or in his absence, Emergency Coordinator) is responsible for the implementation of this procedure.

2.0 REFERENCES

- 2.1 NUREG-0654, Rev. 1, Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants
- 2.2 San Onofre Nuclear Generating Station, Unit 2 and 3 Emergency Plan

3.0 PREREQUISITES

- 3.1 An emergency condition has been declared at San Onofre Nuclear Generating Station, Unit 2 and 3.
- 3.2 The Emergency Coordinator has requested onsite monitoring and/or emergency center - assembly area monitoring.

4.0 PRECAUTIONS

- 4.1 Monitoring teams should be reminded to monitor their own exposures, and request relief if their cumulative exposure approaches an administrative limit. The Emergency Coordinator may authorize emergency exposure extensions in accordance with procedure S023-VIII-31, "EMERGENCY EXPOSURE CONTROL."
- 4.2 Ensure that all communications related to reporting monitoring data are brief and factual.
- 4.3 Ensure that instructions and data transmissions are carefully worded and understood:
 - 4.3.1 Avoid abbreviations, use the complete word or unit.
 - 4.3.2 Clearly identify survey locations, using predetermined survey locations, map coordinates, equipment and building names, as available.

5.0 CHECK-OFF LISTS

5.1 Onsite Monitoring Checklist

6.0 PROCEDURE

6.1 Discussion

- 6.1.1 The extent and degree of onsite radiological monitoring following a release of radioactive material will depend on the nature, the severity, the physical/chemical form, and the radioisotopic composition of the release. The Emergency Coordinator, with the assistance and advice of the Health Physics Leader, will determine the extent and nature of post-accident radiological monitoring.
- 6.1.2 Sufficient Health Physics personnel will be available to support several monitoring teams for releases which occur during normal working hours. During other times, it may only be possible to deploy one monitoring team immediately. In these circumstances, the Health Physics Leader will assign priorities for radiological monitoring based on the known or projected radiological conditions, while calling in additional personnel.
- 6.1.3 In the event of a radioactive release determined or estimated to be equivalent to or greater than 10 times the applicable technical specification, a monitoring team should be dispatched to perform a beta-gamma dose rate survey offsite. The purpose of this survey is to confirm that a release is (has) taken place, and to assess the need for protective actions. The starting point of this survey should be consistent with the expected source and magnitude of the release and extend out to the site perimeter in the sector with the highest projected dose rate. This survey should be limited to specific survey points rather than a "scan" survey in order to obtain initial data rapidly. Following this, time and personnel permitting, more extensive scan surveys may be performed if warranted. Based on the survey results at this point, the monitoring team should proceed along the site perimeter for a sufficient distance in either direction to ensure that the maximum levels have been identified. This survey should be performed periodically if the release continues and if personnel are available.

6.0 PROCEDURE (Continued)

6.1 Discussion (Continued)

- 6.1.4 Silver zeolite cartridges will be used for all air sampling. Upon completion of field analysis of the cartridges, return cartridges to the plant for analysis using laboratory instrumentation. All samples obtained by the monitoring teams will be returned to the plant for additional analysis.
- 6.1.5 If a Local Area Evacuation has been initiated, based on area radiation monitors or continuous air monitors, an appropriate survey should be performed to verify the alarm condition and to attempt to determine the reason for the increase from normal levels.
- 6.1.6 If a Plant Evacuation is declared, a survey should be performed in the primary Assembly Area (AWS Building Supply Center) to verify the reading of the Control Room area radiation monitor, and an air sample for particulate and iodine radioactivity should be obtained, if the monitor indicates the need, or if airborne activity is suspected.

6.2 General Instructions for Onsite Monitoring

- 6.2.1 Use available information (meteorological information, effluent monitors, radiation monitor, etc.) to define sector(s) or area(s) to be monitored.
- .1 If in-plant monitoring is indicated, determine area(s) to be monitored and best route for monitoring team(s) to approach area(s).
 - .2 If out-of-doors onsite monitoring is indicated, determine the direction of the plume and determine which sector(s) should be monitored. Identify specific locations to be monitored.
- 6.2.2 Assemble monitoring team(s). Ensure that at least one member of each team is qualified to perform radiological surveys.
- 6.2.3 Brief monitoring team(s) on sector(s) or area(s) to be monitored; radiological conditions and other potential hazards that may be encountered; precautions to be observed; and protective clothing or equipment as necessary.

NOTE: If necessary, ensure that Radiation Exposure Permit(s) and/or Emergency Exposure Authorizations are obtained.

6.0 PROCEDURE (Continued)

6.1 Discussion (Continued)

- 6.2.4 Dispatch monitoring team(s). Maintain frequent radio contact and track progress of team(s) on a map or plan view as appropriate.
 - 6.2.5 Record monitoring data as it is received over the radio. Backup readings or samples should be taken if appropriate. Remind team members to monitor their own exposure.
 - 6.2.6 If initial results indicate that more complete data is needed, or that adjacent areas should be surveyed, direct monitoring team(s) to perform additional monitoring at specified locations.
 - 6.2.7 Upon completion of monitoring, recall monitoring team(s). Instruct team leader to report to the TSC for debriefing, if necessary.
 - 6.2.8 Evaluate monitoring data and advise the Emergency Coordinator of the results.
 - 6.2.9 Implement emergency procedure S023-VIII-44, "EMERGENCY CONTAMINATION CONTROL", if appropriate. Implement Emergency Procedure S023-VIII-43, "Sample Coordination during an Emergency".
 - 6.2.10 Evaluate laboratory analyzed data and advise the Emergency Coordinator of the results. Upon receipt of survey forms, review and submit to the Administrative Leader for filing.
- 6.3 Specific Instructions for Emergency Center/Assembly Area Monitoring
- 6.3.1 Local Evacuation Assembly Areas:
 - .1 If the evacuation is from a contaminated area or results from an airborne release of radioactivity, direct monitoring team to perform the following surveys:
 - .1.1 Contamination smear survey of floor area route to assembly area.
 - .1.2 Personnel contamination monitoring with particular emphasis on the face, hands and feet.
 - .1.3 Airborne radioactivity survey utilizing a particulate filter and silver zeolite cartridge.

6.0 PROCEDURE (Continued)

6.3.1 (Continued)

- .2 If the evacuation is from a clean area and is the result of a radiation alarm, perform the following surveys:
 - .2.1 Dose Rate Survey with open and closed shielded readings.
 - .2.2 Personnel and Assembly Area floor contamination survey.
 - .2.3 Airborne survey; only if contamination greater than 100 cpm on individuals or 1000 cpm/100cm² on the floors is found.
- .3 If the results of the radiation surveys at the assembly area(s) indicate levels in excess of 100 mrem/hr or gross airborne radioactivity in excess of 4E-8 μ Ci/cc, or if continued occupancy is expected to result in excess of 40 MPC-hrs. for isotopic mix less noble gasses; relocate to another Assembly Area and notify the EC.
- .4 If only contamination is found then control egress from the area by ensuring all personnel exiting area are clean or wearing sufficient non-contaminated protective clothing to prevent spread of the contamination.
- .5 The contamination and airborne surveys will only be performed initially, and as requested by EC. The dose rates in the Assembly Area should be continuously monitored until the emergency condition is terminated.

6.3.2 Plant Evacuation Assembly Areas:

- .1 No surveys other than normal exit monitoring (frisking) are necessary if the evacuation is precautionary and no release of radioactive material locally or to the environs has occurred.
- .2 If the evacuation is the result of a release of radioactive material, known or suspected, the following site assembly areas should have dose rate, contamination, and airborne surveys conducted at the locations below in the following preferential order:

6.0 PROCEDURE (Continued)

6.3.2 (Continued)

.2.1 The AWS Warehouse

NOTE: No survey is necessary at the CDM Center as the AWS Warehouse surveys should be sufficient to ascertain the conditions in that area.

.2 If conditions permit, such as the release has ceased or is not affecting the Assembly, area contamination control efforts should be conducted to ensure minimal contamination is spread further.

.3 If the results of the surveys at the Assembly Area indicate levels in excess of 100 mrem/hr or gross airborne radioactivity in excess of $4E-8$ $\mu\text{Ci/cc}$, or if continued occupancy is expected to result in excess of 40 MPC-hours for isotopic mix less noble gasses, notify EC and request permission to relocate to an Offsite Assembly Area.

.4 The frequency of monitoring should be as follows:

.4.1 Contamination - initially and as directed by the EC or HPL if conditions deteriorate.

.4.2 Radiation Dose Rate - continuously

.4.3 Airborne - initially and once every 1/2 hour unless directed otherwise by the EC or HPL.

6.3.3 Site Evacuation Assembly Areas:

NOTE: Monitoring of Offsite Assembly Areas is covered in this procedure as well as "Direction of Offsite Monitoring" as a matter of convenience.

.1 No surveys other than normal existing monitoring are necessary if the evacuation is precautionary and no release of radioactive material locally or to the environs has occurred.

6.0 PROCEDURE (Continued)

6.3.3 (Continued)

- .2 If the evacuation is the result of release of radioactive material, known or suspected, the designated Offsite Assembly Area should have dose rate, contamination, and airborne surveys conducted.
- .3 If conditions permit, such as the release has ceased or is not affecting the Offsite Assembly Areas, contamination control efforts should be conducted to ensure minimal contamination is spread further or leaves the site.
- .4 If the results of the surveys at the Offsite Assembly area(s) indicate levels in excess of 100 mrem/hr or gross airborne radioactivity in excess of $4E-8 \mu\text{Ci/cc}$, or if continued occupancy is expected to result in excess of 40 MPC-hours for isotopic mix less noble gasses, notify EC and request permission to relocate to the Alternate Offsite Assembly Area.
- .5 The frequency of monitoring should be as follows:
 - .5.1 Contamination - initially and as directed by the EC or HPL if conditions deteriorate.
 - .5.2 Radiation Dose Rate - continuously.
 - .5.3 Airborne - initially and once every 1/2 hour unless directed otherwise by the EC or HPL.

6.3.4 Control Room and TSC

- .1 Radiation Dose Rates shall be monitored continuously
- .4.2 Airborne surveys should be obtained every 30 minutes or more frequently if the radiation dose rate surveys indicate a rise in noble gas airborne activity.

NOTE: If no release of radioactive material is occurring the airborne surveys are not necessary.

6.0 PROCEDURE (Continued)

6.3.4 (Continued)

- .4.3 Personnel Contamination Surveys should be performed prior to entering the TSC or Control Room.

Surface contamination surveys should be performed every 30 minutes.

- 4.4 Evacuation of the Control Room and TSC should only be implemented for radiological conditions which exceed Attachment 1 radiation dose rates, radioiodine concentrations and/or associated permissible occupancy times.

6.3.5 OSC and ESC

- .1 Radiation dose rates should be monitored continuously.
- .2 Airborne surveys should be obtained every 30 minutes.

NOTE: If no release of radioactive material is occurring then airborne surveys are not necessary.

- .3 Personnel Contamination Surveys should be performed prior to entering the OSC and ESC.
- .4 Surface contamination surveys should be performed every 30 minutes.
- .5 If the results of the radiation surveys at the OSC or ESC indicate levels in excess of 100 mrem/hr or gross airborne radioactivity in excess of $4E-8$ μ Ci/cc, or if continued occupancy is expected to result in excess of 40 MPC-hrs for isotopic mix less noble gasses; relocated to an unaffected area designated by the EC.

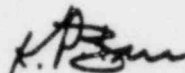
NOTE: In case of OSC evacuation, relocation should be to the Units 2 and 3 OSC if radiological conditions permit.

7.0 RECORDS

7.1 Forward the results of all radiation monitoring and assessment actions to the Administrative Leader.

8.0 ATTACHMENTS

8.1 Criteria for Mandatory Evacuation.



K. P. BARR
HEALTH PHYSICS MANAGER

DM:0107F/sss

CRITERIA FOR MANDATORY ONSITE EVACUATIONS

WHOLE BODY DOSE RATE (mrem/hour)	IMPLEMENT EVACUATION WITHIN	RADIOIODINE CONCENTRATION (μ CI/cc)
Up to 600	8 Hours	Up to 1E-5
600 to 1000	4 Hours	1E-5 to 2E-5
1000 to 2500	2 Hours	2E-5 to 4E-5
2500 to 5000	1 Hour	4E-5 to 7E-5
5000 to 10,000	30 min.	7E-5 to 1E-4
10,000 to 20,000	15 min.	1E-4 to 3E-4
> 20,000	IMMEDIATELY	> 3E-4

1. It is important to realize that there is no direct correlation between the whole body dose rates and the radioiodine concentrations; and the measurements or projections of each must be performed independently. In the event that only a direct radiation determination is available, with no corresponding knowledge of the concentration or fraction of the total which is attributable to radioiodine, the most conservative assumptions specified in the USEPA Manual for Protective Action Guides would be required. Such assumptions, based only on direct radiation determinations, would likely result in gross over-estimation of thyroid dose commitment.
2. Whole body dose to non-emergency personnel should not exceed 5000 mrem from the event. The whole body dose rates specified above are based on 5000 mrem. This value is based on the UPESA PAG Manual specified upper limit for members of the general public. Although this table specifies mandatory evacuation times, in the absence of significant constraints evacuations should be implemented to maintain personnel exposure as low as reasonably achievable and within specified quarterly exposure limits.
3. Maximum concentrations for specified time corresponds to approximately 25,000 mrem adult thyroid dose commitment. Radioiodine concentration vs. adult thyroid dose commitment based on Appendix D, (January 1979) to USEPA Manual of Protective Action Guides. Radioiodine nuclide distribution corresponds to four (4) hours following reactor shutdown.

ONSITE MONITORING CHECKLIST

1. Onsite monitoring to be performed at the following locations:

HPL Initials Time Date

2. Monitoring team(s) briefed and dispatched.

HPL Initials Time Date

3. Monitoring team(s) recalled.

HPL Initials Time Date

4. Summary of radiological conditions: _____

Reported to Emergency Coordinator:

HPL Initials Time Date

5. Procedures Implemented: _____

HPL Initials Time Date

6. Summary of Laboratory Data: _____

Reported to Emergency Coordinator:

HPL Initials Time Date

DIRECTION OF OFFSITE EMERGENCY MONITORING

SITE

NOI FOR CONSTRUCTION
FOR START-UP USE ONLY
CHECK APPLICABLE CONTROLLED
STICK FILE FOR CURRENT INFORMATION

1.0 OBJECTIVE

This procedure provides the guidance for coordination and offsite radiological monitoring efforts during an emergency. The Physics Leader is responsible for the implementation of this procedure.

2.0 REFERENCES

- 2.1 NUREG-0654, Rev. 1, Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants
- 2.2 San Onofre Nuclear Generation Station, Units 2 & 3 Emergency Plan

OCT 14 1981
CDM SITE

3.0 PREREQUISITES

- 3.1 An emergency condition has been declared at San Onofre Nuclear Generating Station, Units 2 & 3.
- 3.2 The Emergency Coordinator has requested offsite monitoring.

4.0 PRECAUTIONS

- 4.1 Monitoring teams should be reminded to monitor their own exposures, and request relief if their cumulative exposure approaches an administrative limit. The Emergency Coordinator may authorize emergency exposure extensions in accordance with Emergency Procedure S023-VIII-31, "Emergency Exposure Control".
- 4.2 Ensure that all communications related to reporting monitoring data are brief and factual.
- 4.3 Ensure that instructions and data transmissions are carefully worded and understood:
 - 4.3.1 Avoid abbreviations, use the complete word or unit.
 - 4.3.2 Clearly identify survey locations, using predetermined survey locations, map coordinates, equipment and building names, as available.

5.0 CHECK-OFF LISTS

- 5.1 Offsite Monitoring Checklist

6.0 PROCEDURE

6.1 Discussion

- 6.1.1 The extent and degree of offsite radiological monitoring following a release of radioactive material will depend on the nature, the severity, the physical/chemical form and the radioisotopic composition of the release. The Health Physics Leader, (or in his absence the Emergency Coordinator), will determine the extent and nature of post-accident radiological monitoring.
- 6.1.2 Sufficient health physics personnel will be available to support several monitoring teams for releases which occur during normal working hours. During other times, it may only be possible to deploy immediately one monitoring team. In these circumstances, the Health Physics Leader will assign priorities for radiological monitoring based on the known or projected radiological conditions, while calling in additional personnel.
- 6.1.3 Silver zeolite cartridges will be used for all air sampling. Upon completion of field analysis of the cartridges, return cartridges to the plant for analysis using laboratory instrumentation. All samples obtained by the monitoring teams will be returned to the plant for additional analysis.

6.2 General Instructions For Offsite Monitoring

- 6.2.1 Use available information (meteorological information, effluent monitors, radiation monitors, etc.) to define sector(s) or area(s) to be monitored.
- 6.2.2 Assemble monitoring team(s). Ensure that at least one member of each team is qualified to perform radiological surveys.
- 6.2.3 Brief monitoring team(s) on sector(s) or area(s) to be monitored; radiological conditions; precautions to be observed; and protective clothing or equipment as necessary.
- 6.2.4 Dispatch monitoring team(s). Maintain frequent radio contact and track progress of team(s) on a map or plan view as appropriate.

6.0 PROCEDURE (Cont'd)

- 6.2.5 Advise teams to scan (move back and forth) with instruments to locate highest reading in a plume.
- 6.2.6 Record monitoring data as it is received over the radio. Direct backup readings or samples be taken if appropriate. Remind team members to monitor their own exposure.
- 6.2.7 If initial results indicate that more complete data is needed, or that adjacent areas should be surveyed, direct monitoring team(s) to perform additional monitoring at specified locations.
- 6.2.8 Upon completion of monitoring, recall monitoring team(s). Instruct team leader to report to the TSC for debriefing, if necessary.
- 6.2.9 Evaluate monitoring data and advise the Emergency Coordinator of the results.
- 6.2.10 Implement Emergency Procedure S023-VIII-26, "Recommendations for Offsite Protective Measures", if appropriate.
- 6.2.11 Evaluate laboratory analyzed data and advise the Emergency Coordinator of the results. Upon receipt of survey forms, review and submit to the Administrative Leader for filing.

6.3 Specific Instructions For Offsite Assembly Area Monitoring

- 6.3.1 In the event of Site Evacuation, the designated offsite assembly area shall be surveyed for dose rate, airborne and contamination conditions.
- 6.3.2 If the results of the radiation surveys at the remote assembly area(s) indicate levels in excess of 100 mrem/hr or gross airborne radioactivity in excess of $4E-8$ μ Ci/cc, or if occupancy is expected to result in excess of 40 MPC-hours for isotopic mix less noble gases; relocate the personnel and vehicles to the alternate offsite assigned reception centers designated by County Emergency Response Personnel.

6.0 PROCEDURE (Cont'd)

6.3.3 The frequency of monitoring should be as follows:

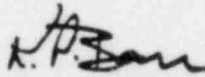
- .1 Contamination initially and as directed by the Emergency Coordinator or Health Physics Leader if conditions deteriorate.
- .2 Radiation Dose Rate - continuously.
- .3 Airborne initially and once every 1/2 hour unless directed otherwise by the Emergency Coordinator or Health Physics Leader.

7.0 RECORDS

Forward the results of all radiation monitoring and assessment actions to the Administrative Leader.

8.0 ATTACHMENTS

8.1 Offsite Monitoring Checklist


K. P. BARR
HEALTH PHYSICS MANAGER

JSD:emb

OFFSITE MONITORING CHECKLIST

1. Offsite monitoring to be performed at the following locations: _____

HPL Initials Time Date

2. Monitoring team(s) briefed and dispatched.

HPL Initials Time Date

3. Monitoring team(s) recalled.

HPL Initials Time Date

4. Summary of radiological conditions: _____

Reported to Emergency Coordinator

HPL Initials Time Date

5. Procedures Implemented: _____

HPL Initials Time Date

6. Summary of Laboratory Data: _____

Reported to Emergency Coordinator:

HPL Initials Time Date

SEP 9 1981

RECOMMENDATION FOR OFFSITE PROTECTIVE MEASURES

1.0 OBJECTIVE

This procedure provides the guidance for the Health Physics Leader in making recommendations for offsite protective measures in the event of an emergency. The Health Physics Leader is responsible for the implementation of this procedure. The Emergency Coordinator is responsible for making the recommendations to state and local emergency authorities for protective actions.

NOT FOR CONSTRUCTION
FOR START-UP USE ONLY
CHECK APPLICABLE INFORMATION
STICK FILE FOR CURRENT INFORMATION

NOTE: The responsibility to make protective action recommendations can not be delegated.

RECEIVED

OCT 14 1981

CDM SITE

2.0 REFERENCES

- 2.1 NUREG-0654, Rev. 1, Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants
- 2.2 EPA 520/1-75-001, Manual of Protective Action Guides and Protective Actions for Nuclear Incidents
- 2.3 San Onofre Nuclear Generating Station, Units 2 & 3 Emergency Plan

3.0 PREREQUISITES

- 3.1 An emergency condition has been declared at San Onofre Nuclear Generating Station, Units 2 & 3.
- 3.2 Initial assessments and dose projections have been made which indicate the need for offsite protective actions.

4.0 PRECAUTIONS

- 4.1 Initiation of protective actions for offsite areas is the responsibility of the State of California.
- 4.2 The Emergency Coordinator will make recommendations for protective actions as advised by the Health Physics Leader only after review of Attachment 8.1 "Basis For Protective Action Recommendations".
- 4.3 If immediate protective actions are required, and the state authorities are unable to respond in a timely manner, recommendations will be made directly to the local authorities.

5.0 CHECK-OFF LISTS

- 5.1 Offsite Protective Action Recommendation Checklist

6.0 PROCEDURE (Cont'd)

- 6.1 Obtain projected dose data generated by procedure S023-VIII-23, "Dose Assessments".
- 6.2 Using meteorological data, determine the plume direction and wind speed. Evaluate the potential for wind direction shifting.
- 6.3 Evaluate plant condition parameters to approximate the duration of the release; or if the release has not started, how long until the release does start and what will be the duration of the release.
- 6.4 Using the data obtained in Steps 6.1 through 6.3, determine the appropriate protective action recommendations utilizing Attachments 8.3, 8.4 and 8.5.
- 6.5 Attachments 8.6 and 8.7 may be used to determine the effectiveness of sheltering.
- 6.6 Determine the affected area.

NOTE: Do not delay recommending protective actions while waiting for offsite monitoring team results.

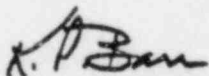
- 6.7 Advise the Emergency Coordinator to make the recommendations for appropriate offsite protective action to County authorities as follows:
 - 6.7.1 Identify the affected area(s) by radius. (For example: "Evacuate within a 5 mile radius, seek shelter beyond 5 miles".)
 - 6.7.2 If the wind variability permits, use sector numbers. (For example: "Evacuate within a 5 mile radius and in sectors C and D to 10 miles. Seek shelter in all other sectors to 10 miles".)
- 6.8 If, as a result of continuing assessment, dose projection results or meteorological conditions change significantly, re-evaluate the recommended protection action and, if necessary, update the initial recommendation.

7.0 RECORDS

After review, data sheets will be transmitted to the Administrative Leader.

8.0 ATTACHMENTS

- 8.1 Basis for Protective Action Recommendations
- 8.2 Offsite Protective Action Recommendation Checklist
- 8.3 Recommended Protective Action to Avoid Whole Body and Thyroid Dose From Exposure to a Gaseous Plume
- 8.4 Guidelines for Protection Against Ingestion of Contamination
- 8.5 Recommended Protective Actions
- 8.6 Representative Shielding Factors From Gamma Cloud Source
- 8.7 Representative Shielding Factors for Surface Deposited Radionuclides



K. P. BARR
HEALTH PHYSICS MANAGER

JSD:emb

BASIS FOR PROTECTION ACTION RECOMMENDATIONS

A. PROTECTIVE ACTION GUIDES

Protective actions are measures taken to avoid or reduce the projected dose when the benefits derived from such action are sufficient to offset any undesirable features of the protective actions.

The protective actions in this procedure emphasize protective actions for minimizing the exposure of the public to external and internal radiation exposure. Detailed guidance for minimizing public exposure via the ingestion pathway is also given.

1. No protective action should be recommended for incidents involving actual or potential radioactivity releases which are projected to result in projected whole body or thyroid doses less than about 170 mrem to members of the general public.
2. Sheltering of members of the general public within affected areas should be recommended for incidents involving actual or potential radioactivity releases which are projected to result in whole body or thyroid doses greater than 170 mrem, but less than 1 rem whole body/5 rem thyroid (child).

B. PROTECTIVE ACTION OPTIONS

1. Sheltering

Sheltering is a protective action which involves members of the general public taking cover in a building that can be made relatively air tight. Although sheltering, particularly in masonry buildings, will also reduce the exposure of personnel to external radiation as the plume passes, this effect is less significant than the corresponding reduction in internal exposure. Sheltering is an appropriate protective action for:

- a. Severe incidents in which an evacuation cannot be implemented because of inadequate lead time to the rapid passage of the plume ("puff" release).
- b. When an evacuation is indicated, but local constraints, such as traffic conditions, dictate that directing the public to seek shelter is a more feasible and effective protective measure than evacuation.
- c. As a precautionary measure, while a determination of the need to evacuate is made.

BASIS FOR PROTECTION ACTION RECOMMENDATIONS

2. Evacuation

Evacuation of the population is the most effective protective action. Traffic conditions may make evacuation an inappropriate measure for:

- a. An incident involving a release, or potential release, which is projected to result in an offsite dose greater than 1 rem whole body, and/or 5 rem to the child thyroid, in situations where the lead time between declaration of the emergency and population relocation is compatible with plume involvement.
- b. Situations which do not provide for advance warning, but for which substantial reductions in population dose can be made by avoiding exposure to residual radioactivity (plume fallout) in wake of sudden severe incidents.

C. DESIGNATION OF AFFECTED AREAS

1. The designation of the area requiring protective actions will depend on several variables, each of which will have to be evaluated at the time of the incident. Major variables, include the nature and extent of the incident, local geography, and existing meteorological conditions. Generally, the affected area will resemble a keyhole consisting of a circle with a 90° (or larger) wedge shaped sector attached in the downwind direction.
2. Affected areas will be defined by SCE personnel on the basis of circles or various diameters, and if wind patterns permit, particular sectors beyond the initial circle.

OFFSITE PROTECTIVE ACTION RECOMMENDATION CHECKLIST

FOR LIQUID RELEASE:

1. Release volume: _____; Release activity: _____;
Offsite Dose Assessment: _____

HPL Initials Time Date

2. Communicated release information
to Emergency Coordinator

HPL Initials Time Date

FOR GASEOUS/AIRBORNE RELEASES

1. Results of Offsite Dose Projection: _____

HPL Initials Time Date

2. Plume direction: _____ Windspeed _____ mph.
Prognosis for wind direction shifting: _____

HPL Initials Time Date

3. Duration (estimate if necessary of release): _____

HPL Initials Time Date

OFFSITE PROTECTIVE ACTION RECOMMENDATION CHECKLIST

4. Protection action(s) recommended: _____

	<u>HPL Initials</u>	<u>Time</u>	<u>Date</u>
Completed:	_____	_____	_____
	Health Physics Leader	Time	Date

5. Affected area(s): _____

<u>HPL Initials</u>	<u>Time</u>	<u>Date</u>
---------------------	-------------	-------------

6. Protective action recommendations reviewed and communicated to County Authorities.

<u>HPL Initials</u>	<u>Time</u>	<u>Date</u>
---------------------	-------------	-------------

7. Re-evaluation of data: _____

Protective Actions recommended: _____

<u>HPL Initials</u>	<u>Time</u>	<u>Date</u>
---------------------	-------------	-------------

RECOMMENDED PROTECTIVE ACTIONS TO AVOID WHOLE BODY
 AND THYROID DOSE FROM EXPOSURE TO A GASEOUS PLUME

Projected Dose (Rem) to The Population	Recommendations Actions	Comments
Whole Body < 1 Thyroid < 5	No planned protection actions. Issue an advisory to seek shelter and await further in- structions. Monitor environmental radiation levels.	Previously recommended protective actions may be reconsidered or terminated.
Whole Body 1 to < 5 Thyroid 5 to < 25	Seek shelter as minimum. Consider evacuation. Evacuate unless constraints make it impractical. Monitor environmental radiation levels. Control access.	If constraints exists, special consideration should be given for evacuation of children and pregnant women.
Whole Body 5 and above Thyroid 25 and above	Conduct mandatory evacuation. Monitor environmental radiation levels and adjust area for man- datory evacuation based on these levels. Control access.	Seeking shelter would be an alternative if evacuation were not immediately possible.
<u>Projected Dose (Rem) To Emergency Workers</u>		
Whole Body 25 Thyroid 125	Control exposure of emergency team members to these levels except for lifesaving missions. (Appropriate controls include time limitations, respirators and thyroid prophylaxis.)	Although respirators and thyroid prophy- laxis should be used where effective to control dose to emer- gency workers, Thyroid dose should not be the limiting factor for <u>lifesaving</u> missions.
Whole Body 75	Control exposure of emergency team members performing a lifesaving mission to this level. (Control of time exposure will be most effec- tive.)	

GUIDELINES FOR PROTECTION AGAINST INGESTION OF CONTAMINATION[†]

I. Ground Contamination

A. Action Levels

1. Projected whole body dose above the ground 1 Rem.
2. Ground Contamination Levels 200 $\mu\text{Ci}/\text{m}^2$ at $t = 1$ hr. post-accident.
3. Exposure rate 12 mRem/hr at 1 meter above ground at $t = 1$ hr post-accident.

B. Recommended Protective Actions

1. Evacuation of affected areas.
2. Restriction of entry to contaminated offsite areas until radiation level has decreased to State approved levels.

II. Food and Water Contamination

A. Action Levels

Nuclide*	Contamination in Milk or Water		Total Intake via all Food & Water Pathways		Pasture Grass (Fresh Weight)	
	(0.5 Rem WB or Bone: 1.5 Rem Thyroid) Preventive Level ($\mu\text{Ci}/\text{l}$)	(5 Rem WB or Bone: 15 Rem Thyroid) Emergency Level ($\mu\text{Ci}/\text{l}$)	Preventive (μCi)	Emergency (μCi)	Preventive ($\mu\text{Ci}/\text{kg}$)	Emergency ($\mu\text{Ci}/\text{kg}$)
I-131 (Thyroid)	0.012	0.12	0.09	0.9	0.27	2.7
Cs-137 (Whole Body)	0.34	3.4	7	70	3.5	35
Sr-90 (Bone)	0.007	0.008	0.02	0.2	0.7	7
Sr-89 (Bone)	0.13	1.3	2.6	26	13	130

GUIDELINES FOR PROTECTION AGAINST INGESTION OF CONTAMINATION[†]

II. Food and Water Contamination (Cont'd)

B. Recommended Protective Actions

Preventive

1. Removal of lactating dairy cows from contaminated pasture and substitution of uncontaminated stored feed.
2. Substitute source of uncontaminated water.
3. Withhold contaminated milk from market to allow radioactive decay.
4. Divert fluid milk to production of dry whole milk, butter, etc.

Emergency

Isolate food and water from its introduction into commerce after considering:

- a. availability of other possible actions;
- b. importance of particular food in nutrition;
- c. time and effort to take action;
- d. availability of other foods.

* If other nuclides are present, Regulatory Guide 1.109 should be used to calculate the dose to the critical organ(s). Infants are critical segment of the population.

References: U.S. Food and Drug Administration, Federal Register, Volume 43, No. 242, December 15, 1978.

RECOMMENDED PROTECTIVE ACTIONS

ACCIDENT PHASE	EXPOSURE PATHWAY	EXAMPLES OF ACTIONS TO BE RECOMMENDED
EMERGENCY PHASE ¹ (0.5 to 24 hrs)*	Inhalation of gases, radio-iodine, or particulate	Evacuation, shelter, access control, respiratory protection, prophylaxis (thyroid protection).
	Direct whole body exposure	Evacuation, shelter, access control
	Ingestion of milk	Take cows off pasture, prevent cows from drinking surface water, discard contaminated milk, or divert to stored products, such as cheese.
INTERMEDIATE PHASE ²	Ingestion of fruits and	Wash all produce, or impound produce, delay harvest until approve substitute uncontaminated produce.
	Ingestion of water	Cut off contaminated supplies, substitute from other sources, filter, demineralize.
(24 Hrs to 30 days)*	Whole body exposure and inhalation	Relocation, decontamination, access control.

1 Emergency Phase - Time period of major release and subsequent plume exposure.

2 Intermediate Phase - Time period of moderate continuous release with plume exposure and contamination of environment.

* "Typical" Post-Accident time periods

RECOMMENDED PROTECTIVE ACTIONS

ACCIDENT PHASE	EXPOSURE PATHWAY	EXAMPLES OF ACTIONS TO BE RECOMMENDED
LONG TERM PHASE ³	Ingestion of food and water contaminated from the soil either by resuspension or uptake through roots.	Decontamination, condemnation, or destruction of food; deep plowing, condemnation or alterate use of land.
(Over 30 days)*	Whole body exposure from deposition material or inhalation of resuspended material	Relocation, access control, decontamination, fixing of contamination, deep plowing.

3 Long Term Phase - Recovery period

* "Typical" Post-Accident time periods

REPRESENTATIVE SHIELDING FACTORS FROM GAMMA CLOUD SOURCE

Structure or Location	Shielding Factor(a)	Representative Range
Outside	1.0	--
Vehicles	1.0	--
Wood-Frame House (b) (No Basement)	0.9	--
Basement of Wood House	0.6	0.1 to 0.7 (c)
Masonry House (No Basement)	0.6	0.4 to 0.7 (c)
Basement of Masonry House	0.4	0.1 to 0.5 (c)
Large Office or Industrial Building	0.2	0.1 to 0.3 (c&d)

- (a) The ratio of the dose received inside the structure to the dose that would be received outside the structure.
- (b) A wood frame house with brick or stone veneer is approximately equivalent to a masonry house for shielding purposes.
- (c) This range is mainly due to different wall materials and different geometries.
- (d) The shielding factor depends on where the personnel are located within the building (e.g., the basement or an inside room).

SELECTED SHIELDING FACTORS FOR AIRBORNE RADIONUCLIDES

Wood House, no basement	0.9
Wood House, basement	0.6
Brick House, no basement	0.6
Brick House, basement	0.4
Large Office or Industrial Building	0.2
Outside	1.0

* Taken from SAND 77-1725 (Unlimited Release)

REPRESENTATIVE SHIELDING FACTORS FOR SURFACE DEPOSITED RADIONUCLIDES

STRUCTURE OR LOCATION	REPRESENTATIVE SHIELDING FACTOR(a)	REPRESENTATIVE RANGE
1 m above an infinite smooth surface	1.00	--
1 m above ordinary ground	0.70	0.47 - 0.85
1 m above center of 50ft roadways, 50% decontaminated	0.55	0.4 - 0.6
Cars on 50ft road:		
Road fully contaminated	0.5	0.4 - 0.7
Road 50% decontaminated	0.5	0.4 - 0.6
Road fully decontaminated	0.25	0.2 - 0.5
Trains	0.40	0.3 - 0.5
One and two-story wood-frame house (no basement)	0.4	0.2 - 0.5
One and two-story block & brick house (no basement)	0.2(b)	0.04 - 0.40
House basement, one/two walls fully exposed	0.1(b)	0.03 - 0.15
One story, less than 2ft of basement, walls exposed	0.5(b)	0.03 - 0.07
Two stories, less than 2ft of basement, walls exposed	0.03(b)	0.02 - 0.05
Three/four-story structures, 5000 to 10,000 ft ² per floor:		
First and second floors:	0.05(b)	0.01 - 0.08
Basement	0.01(b)	0.001 - 0.07
Multi-story structures, 10,000 sq. ft per floor:		
Upper floors	0.01(b)	0.001 - 0.02
Basement	0.005(b)	0.001 - 0.015

(a) The ratio of dose received inside the structure to the dose that would be received outside the structure.

(b) Away from doors and windows.

* Taken from SAND 77-1725 (Unlimited Release)

EMERGENCY ENVIRONMENTAL MONITORING

SITE FILE COPY
NOT FOR CONSTRUCTION
CHECK START-UP ONLY
STICK FILE FOR CURRENT INFORMATION
1981

1.0 OBJECTIVE

This procedure provides guidance of offsite environmental monitoring. The Health Physics Leader is responsible for this procedure.

2.0 REFERENCES

- 2.1 San Onofre Nuclear Generating Station, Units 2 and 3 Emergency Plan
- 2.2 SONGS, Units 2 and 3 Environmental Procedure, S-IX-1.1, Environmental Sample Collection.
- 2.3 SONGS, Units 2 and 3 Environmental Procedure S-IX-1.2, Air Samples
- 2.4 SONGS, Units 2 and 3 Environmental Procedure S-IX-1.4, Drinking Water
- 2.5 SONGS, Units 2 and 3 Environmental Procedure S-IX-1.5, Beach Sand
- 2.6 SONGS, Units 2 and 3 Environmental Procedure S-IX-1.6, Local Crops
- 2.7 SONGS, Units 2 and 3 Environmental Procedure S-IX-1.8, Soil Samples

3.0 PREREQUISITES

- 3.1 An emergency condition has been declared at San Onofre Generating Station, Units 2 and 3.
- 3.2 The Emergency Coordinator has requested emergency environmental monitoring.

4.0 PRECAUTIONS

- 4.1 Monitoring teams should be reminded to monitor their own exposures, and request relief if their cumulative exposure approaches an administrative limit. The Emergency Coordinator may authorize emergency exposure extensions in accordance with Emergency Procedure S023-VIII-31, "EMERGENCY EXPOSURE CONTROL"
- 4.2 Ensure that all communication related to reporting monitoring data are brief and factual.

INSTRUCTIONS FOR EMERGENCY ENVIRONMENTAL MONITORING TEAMS

- 1.0 Report to Health Physics Leader (HPL) for briefing.
- 2.0 When instructed as to the type of samples to be obtained review the appropriate environmental procedure. These are listed below with a short explanation.
 - S-IX-1.1 "ENVIRONMENTAL SAMPLE COLLECTION" Gives directions for all kinds of sampling, includes necessary equipment and directions to TLD locations.
 - S-IX-1.2 "AIR SAMPLES" Gives directions for taking environmental air samples and the locations of samplers.
 - S-IX-1.4 "DRINKING WATER" Gives directions for taking drinking water samples and the normal locations.
 - S-IX-1.5 "BEACH SAND" Gives directions for beach sand sampling.
 - S-IX-1.6 "LOCAL CROPS" Gives directions for taking local crop samples and the normal locations. Samples from other location may be necessary.
 - S-IX-1.8 "SOIL SAMPLES" Gives directions for taking soil samples.
- 3.0 Obtain the appropriate sampling equipment from normal supply locations.
- 4.0 Obtain a Walkie-Talkie and check operation before leaving the station. Keep the radio operational at all times while offsite in order to maintain communications with the HPL.
- 5.0 Obtain and re-zero dosimeters if the HPL deems them necessary. Don Protective clothing and/or respirators only if directed by the HPL. Such protective measures would be necessary only if a significant airborne release has occurred.
- 6.0 Obtain an SCE vehicle, if available. Otherwise, use any available privately owned vehicle. Note gas tank level. Ensure that there is at least one-half tank of gas. Obtain another vehicle if necessary.

4.0 PRECAUTIONS (continued)

- 4.3 Ensure that instructions and data transmissions are carefully worded and understood.
- 4.3.1 Avoid abbreviations, use the complete word or unit.
- 4.3.2 Clearly identify survey locations, using predetermined survey locations, map coordinates, equipment and building names, as available.

5.0 CHECK-OFF LISTS

- 5.1 Environmental Monitoring Checklist

6.0 PROCEDURE

6.1 Discussion

- 6.1.1 The extent and degree of environmental monitoring following a release of radioactive material will depend on the nature, the severity, the physical/chemical form and the radioisotopic composition of the release. The Health Physics Leader, (or in his absence the Emergency Coordinator), will determine the need for and extent of post-accident environmental monitoring.
- 6.1.2 Sufficient health physics personnel will be available to support several monitoring teams for releases which occur during normal working hours. During other times, it may only be possible to deploy immediately one monitoring team. In these circumstances the Health Physics Leader will assign priorities for monitoring based on the known or projected radiological conditions, while calling in additional personnel. Normally, radiological monitoring will have priority over environmental monitoring.
- 6.1.3 Environmental monitoring can effectively document integrated gamma exposure and/or iodine concentration of specific locations. The capability is limited by the number and location of established monitoring points. Additionally, environmental monitoring can be used to assess contamination levels in soil, drinking water and feed or food crops.
- 6.1.4 Normally environmental monitoring would not be implemented immediately after declaration of an emergency. Rather, it should be implemented after the termination of a radioactive release or periodically during a prolonged low level release. This being the case, monitoring teams dispatched for environmental monitoring should include one individual cognizant of environmental procedures.

6.0 PROCEDURE (continued)

6.2 General Instruction for Offsite Monitoring

6.2.1 Emergency environmental monitoring.

- .1 For Alert (when a radioactivity release is involved) or Site Emergency Conditions, one set of gamma dosimeters should be exchanged for each location upon termination of the emergency condition.
- .2 For a General Emergency condition one set may be exchanged during the emergency conditions but should not be exchanged during any known release period. Consideration for exchanging the dosimeters would include:
 - a) Taking parallel actions with the state and NRC as deemed necessary.
 - b) Providing interim data as to long term effects of the casualty on the environment.
 - c) Providing additional data as to the extent of the release plume.
- .3 The second set of dosimeters should not be exchanged, except at the normal annual exchange frequency.
- .4 When exchanging dosimeters ensure that an adequate supply of replacement dosimeters is available. These may be requested from the contractor laboratory.
- .5 Other environmental monitoring samples may be obtained as appropriate. These include; Drinking Water, Local Crops, soil samples and sand samples. These samples would be useful to assess environmental contamination levels.

6.2.2 Use available information (meteorological information, effluent monitors, radiation monitors, etc.) to define sector(s) or area(s) to be monitored

6.2.3 Assemble monitoring team(s). Ensure that at least one member of each team is cognizant of normal environmental procedures.

6.2.4 Brief monitoring team on monitoring locations to be sampled; the samples to be taken; radiological conditions; precautions to be observed; and protective clothing or equipment as necessary.

6.2.5 Ensure that the environmental monitoring team has Attachment 8.2 of this procedure and any reference environmental procedures which cover the sampling to be performed.

6.0 PROCEDURE (continued)

6.2 (continued)

- 6.2.6 Dispatch monitoring teams(s) maintaining radio contact.
- 6.2.7 Determine the most convenient airline service to the Oakland Airport. This may be from San Diego, Orange County or Los Angeles. Make arrangements for air freight of environmental samples.
- 6.2.8 Contact EAL Corporation and arrange for emergency environmental monitoring analysis services.

NOTE: EAL CORPORATION
2030 Wright Av.
RICHMOND, CA. 94804
(415) 235-2633

Inform EAL of the Airline flights which will be used to transport samples to them.

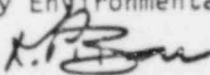
- 6.2.9 Normally qualitative results of sample analysis will be telephoned from EAL within a few hours of receipt. Quantitative formalized results will be available within 24 hours of receipt, with the exception that leafy vegetable analysis results take 72 hours. Evaluate analysis results and advise the Emergency Coordinator of the results.
- 6.2.10 Implement Emergency Procedure SO23-VIII-26, "RECOMMENDATIONS FOR OFFSITE PROTECTIVE MEASURES", if appropriate.
- 6.2.11 Upon receipt of formalized analysis results - review and submit to the Administrative Leader for filing.

7.0 RECORDS

- 7.1 Forward the results of all emergency environmental monitoring sample analyses to the Administrative Leader.

8.0 ATTACHMENTS

- 8.1 Emergency Environmental Monitoring Checklist
- 8.2 Instruction for Emergency Environmental Monitoring Teams.


K. P. BARR
HEALTH PHYSICS MANAGER

EMERGENCY ENVIRONMENTAL MONITORING CHECKLIST

1. Environmental monitoring to be performed at the following locations:

HPL Initials Time Date

2. Environmental Monitoring Team briefed and dispatched.

HPL Initials Time Date

3. Environmental Monitoring Team recalled.

HPL Initials Time Date

4. Summary of Environmental Monitoring qualitative analysis results:

Reported to Emergency Coordinator

HPL Initials Time Date

5. Procedure Implemented: _____

HPL Initials Time Date

6. summary of Formalized data: _____

- 7.0 Proceed to the assigned sampling locations and obtain samples in accordance with existing environmental monitoring procedures.
- 8.0 If it is necessary to enter private or military property, identify yourself as Southern California Edison Employees with SCE identification card, and briefly and courteously explain the reason for the special sampling.
- 9.0 Continue collecting samples until all of the samples have been collected or as directed by the HPL, then return to the station for further instructions.

ENVIRONMENTAL MONITORING TEAM LEADER

DATE

EMERGENCY EXPOSURE CONTROL

SEP 9 1981

NOT FOR CONSTRUCTION
FOR START-UP USE ONLY
CHECK APPLICABLE CONTROLLED
STICK FILE FOR CURRENT INFORMATION
RECEIVED
OCT 14 1981
CDM SITE

COPY

1.0 OBJECTIVE

This procedure provides guidance and criteria for the control of personnel exposure to radiation in excess of administrative limits during an emergency. The Emergency Coordinator approves emergency exposure authorizations. Assigned Health Physicists are responsible for implementation of this procedure. The Health Physicist leader is responsible for reviewing all aspects of emergency exposure authorization and post exposure evaluation.

2.0 REFERENCES

- 2.1 10 CFR 20, Standards for Protection Against Radiation
- 2.2 ICRP Publication 28, The Principles and General Procedures for Handling Emergency and Accidental Exposures of Workers
- 2.3 EPA-520/1-75-001, Manual of Protective Action Guides and Protective Actions for Nuclear Incidents
- 2.4 NUREG-0654, Rev. 1 Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants

3.0 PREREQUISITES

- 3.1 An emergency condition at San Onofre Nuclear Generating Station has resulted in radiation levels within the plant, in excess of normal levels, and special considerations are required for exposure control.
- 3.2 The provisions of this procedure are applicable only in actual emergency situations, and are applicable only to SONGS-2 & 3 emergency organization personnel performing assigned emergency functions.
- 3.3 The radiation exposure to emergency personnel shall be maintained as low as reasonably achievable and should be maintained within the SONGS-2 & 3 administrative exposure guides and/or less than the radiation exposure limits in 10 CFR 20, if practical.
- 3.4 To maintain personnel exposures within established guides and limits, administrative methods used during normal operations to control and minimize exposures, such as exposure clearances and ALARA measures, should remain in force during an emergency condition to the degree consistent with timely implementation of emergency measures.
- 3.5 To the degree possible, the probability of success of the proposed action requiring emergency exposure shall be weighed against the projected element of risk.

3.0 PREREQUISITES (Cont'd)

- 3.6 The Emergency Coordinator may approve personnel exposures in excess of normal guides and limits but less than the planned radiatici exposure criteria established in this procedure if the prerequisites for receiving such exposure are satisfied.
- 3.7 The Emergency Coordinator is the only individual authorized to permit emergency exposures.

4.0 PRECAUTIONS

- 4.1 Emergency exposures should be limited to one occurrence in a lifetime.
- 4.2 Personnel shall not be permitted to enter any area where dose rates are unknown.
- 4.3 Dosimetry equipment capable of measuring the anticipated maximum exposure and type of radiation(s) shall be worn by personnel receiving emergency exposure.
- 4.4 Extremity dosimeters shall be worn if the anticipated extremity exposure is greater than about 5 times the whole body exposure.
- 4.5 Reasonable measures shall be taken to minimize skin contamination and the ingestion of radioactive materials.
- 4.6 Personnel receiving exposures which may or will exceed 10 CFR 20 limits shall be volunteers.
- 4.7 Women of child-bearing age and capability shall not be permitted to receive exposures which exceed 10 CFR 20 limits.
- 4.8 Volunteers should be more than 45 years of age, if possible.
- 4.9 All volunteers shall be briefed on potential biological consequences prior to receiving such exposure.

5.0 CHECK-OFF LISTS

Not Applicable

6.0 PROCEDURE

6.1 Emergency Exposure Documentation

NOTE: The following actions shall be performed to document emergency radiation exposure. Although it is preferable to perform these steps before the exposure is received, the Emergency Coordinator may, at his discretion, verbally authorize the emergency exposure with documentation to be completed at a later time. Any emergency exposures authorized shall be in accordance with the guidance of Attachment 8.1.

- 6.1.1 Have the individual who will receive the emergency exposure complete Section A of the Emergency Exposure Authorization Form items 1 through 5 (See Attachment 8.2).
- 6.1.2 Complete items 6 and 7 of Section A and submit the form to the Health Physics Leader for review and endorsement.
- 6.1.3 Prior to entry into the affected area, the individual shall be briefed on the radiological conditions and other conditions known or expected to exist in the area; the task(s) to be performed; ALARA measures applicable to the task(s); and, any contingency measures.

NOTE: The Health Physics Group shall ensure that emergency workers monitor their exposures during the performance of their tasks, using their dosimeters.

- 6.1.4 Have the individual who will receive the emergency exposure complete Section B of the form. Attachment 8.3 contains the information on Effects of Acute Exposures.
- 6.1.5 Submit the form to the Emergency Coordinator for approval.
- 6.1.6 Following the exposure, complete Section C of the form.
- 6.1.7 Submit the form to the Dosimetry Supervisor who shall complete Section D of the form.
- 6.1.8 The Health Physics Leader shall review all documentation of emergency exposures before forwarding to the Administrative Leader.

6.0 PROCEDURE (Cont'd)

6.2 Post-Exposure Evaluations

6.2.1 Individuals receiving emergency exposures shall be restricted from further occupational radiation exposure pending the outcome of exposure evaluations and, if necessary, medical surveillance.

6.2.2 An exposure evaluation shall be performed to determine a dose equivalent for the emergency exposure. This evaluation shall be based on measured area dose rates, airborne radioactivity measurements and dosimetry results.

NOTE: Record exposure devices shall be processed, either by the onsite dosimetry system or by the dosimetry vendor, following any emergency exposure.

6.2.3 If an individual's dose equivalent exceeds 10 rem for the whole body, 60 rem for the skin and/or 150 rem for an extremity (two times the annual dose equivalent limits), the details of the exposure shall be brought to the attention of a physician who shall determine the need for, extent of and nature of any clinical, biological or biochemical examinations.

6.2.4 If an individual's dose equivalent exceeds 25 rem for the whole body, 150 rem for the skin and/or 375 rem for an extremity (5 times the annual dose equivalent limits), the individual shall be examined by a physician. The physician shall determine the need for, extent of and nature of any clinical, biological or biochemical examinations and any necessary medical surveillance.

NOTE: The dose equivalent is equal to the total risk to the organ of interest, be it from internal exposure, external exposure or both.

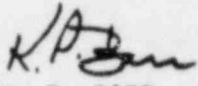
7.0 RECORDS

7.1 Completed Attachment 8.2

7.2 Dosimetry records.

8.0 ATTACHMENTS

- 8.1 Emergency Exposure Guidelines
- 8.2 Emergency Exposure Authorization Form
- 8.3 Effects of Acute Exposures


K. P. BARR
HEALTH PHYSICS MANAGER

JSD:emb

EMERGENCY EXPOSURE GUIDELINES

	Lifesaving/Protection Of Public Health And Safety Activities		Emergency (Non-Lifesaving) Activities	
	Whole Body Dose (Rem)	Thyroid Dose (Rem)	Whole Body Dose (Rem)	Thyroid Dose (Rem)
Undertaking Corrective Actions	75	*	25	125
Performing Assessment Actions	--	--	25	125
Providing First Aid	75	*	25	125
Performing Personnel Decontamination	**	**	3	15
Providing Ambulance Services	**	**	3	15
Providing Medical Treatment	**	**	3	15
Performing Search and Rescue Operations	75	*	25	125
Removal of Injured Persons	75	*	25	125
Recovery of Dead	--	--	25	125

* No specific upper limit is given for thyroid exposure since in the extreme case complete thyroid loss might be an acceptable penalty for a life saved. However, this should not be necessary as respirators and/or thyroid protection for the rescue personnel are available.

** It is unlikely that lifesaving guidelines will be necessary if exposures are maintained as low as practicable; however, should they be necessary, guidelines shall be consistent with other "Lifesaving/Protection of Public Health and Safety Activities".

EMERGENCY EXPOSURE AUTHORIZATION FORM

SECTION A

1. Name of Individual to Receive Exposure: _____
2. Social Security No.: _____
3. Film or TLD Badge No.: _____
4. Employer/SCE Department: _____
5. Date of Authorization: _____
6. Authorized Exposure Limit: _____
7. Conditions:

- _____ Individual is a volunteer or professional rescue person.
- _____ Individual is broadly familiar with radiological consequences of exposure.
- _____ Woman capable of reproduction has been advised not to take part (Reg. Guide 8.13).
- _____ Individual has not received an emergency exposure before.
- _____ Dose rates in area known/measurable.
- _____ Undertaking corrective actions.
- _____ Performing assessment actions.
- _____ Providing first aid.
- _____ Performing personnel decontamination.
- _____ Providing ambulance services.
- _____ Providing medical treatment.
- _____ Performing search and rescue operations.
- _____ Removal of injured persons.

Health Physics Leader: _____
(Signature)

Date: _____

EMERGENCY EXPOSURE AUTHORIZATION FORM

SECTION B

I have volunteered to perform the task(s) during which I will receive the emergency exposure and I have been briefed on the potential biological consequences of the proposed emergency exposure.

Individual to Receive Exposure: _____ Date: _____
(Signature)

Approved By: _____ Date: _____
Emergency Coordinator

SECTION C (Attach exposure evaluation)

Film or TLD Badge/Direct-Reading Dosimeter Results: _____

Bioassay Results: _____

Medical Evaluation/Action: _____

Dose Equivalent Assigned to Individual: _____

Health Physics: _____ Date: _____
(Signature)

EMERGENCY EXPOSURE AUTHORIZATION FORM

SECTION D

Disposition (Allow additional exposure, restrict access, etc.):

Dosimetry Supervisor: _____
(Signature)

Date: _____

EFFECTS OF ACUTE EXPOSURES

<u>Acute Dose (Rem)</u>	<u>Probable Effect</u>
0-50	No obvious effect, except possibly minor blood changes.
80-120	Vomiting and nausea for about 1 day in 5 to 10 percent of exposed personnel. Fatigue but no serious disability.
130-170	Vomiting and nausea for about 1 day, followed by other symptoms of radiation sickness in about 25 percent of personnel. No deaths anticipated.
180-220	Vomiting and nausea for about 1 day, followed by other symptoms of radiation sickness in about 50 percent of personnel. Rarely death may occur.
270-330	Vomiting and nausea in nearly all personnel on first day, followed by other symptoms of radiation sickness. About 20 percent deaths with 2 to 6 weeks after exposure; survivors convalescent for about 3 months.
400-500	Vomiting and nausea in all personnel on first day, followed by other symptoms of radiation sickness. About 50 percent deaths within 1 month; survivors convalescent for about 6 months.
550-750	Vomiting and nausea in all personnel within 4 hours from exposure, followed by other symptoms of radiation sickness. Up to 100 percent deaths; few survivors convalescent for about 6 months.
1000	Vomiting and nausea in all personnel within 1 or 2 hours. Probably no survivors from radiation sickness.
5000	Incapacitation almost immediately. All personnel will be fatalities within 1 week.

LOCAL AREA EVACUATION AND ACCOUNTABILITY

1.0 OBJECTIVE

- 1.1 This procedure provides instructions for implementing an emergency evacuation of local areas within SONGS Unit 2 and 3. The basic procedure may also be applied, as appropriate, to evaluation related to other hazards affecting habitability, such as fire, toxic gas, or chemical hazards. The Emergency Coordinator is responsible for implementation of this procedure.

NOT FOR CONSTRUCTION
FOR START-UP USE ONLY
CHECK APPLICABLE CONTROLLED
STICK FILE FOR CURRENT INFORMATION

RECEIVED
SITE FILE COPY
OCT 14 1981

2.0 REFERENCES

- 2.1 San Onofre Nuclear Generating Station Unit 2 and 3. Emergency Plan
- 2.2 Emergency Procedure S023-VIII-11, "RECOGNITION AND CLASSIFICATION OF EMERGENCIES"
- 2.3 Emergency Procedure S023-VIII-33, "PLANT EVACUATION AND ACCOUNTABILITY."
- 2.4 Emergency Procedure S023-VIII-34, "SITE EVACUATION AND ACCOUNTABILITY."
- 2.5 Emergency Procedure S023-VIII-61, "RE-ENTRY"

3.0 PREREQUISITES

- 3.1 Hi alarm(s) on any Area Radiation Monitoring System (ARMS) Alarm, or:
- 3.2 A building or containment ventilation monitor(s) indicates airborne activity in excess of 10MPC, or:
- 3.3 Alarm on portable radiation monitors and/or continuous air monitors (CAMS), or:
- 3.4 Localized spills of sufficient magnitude to result in personnel exposure, or:
- 3.5 Radiation dose rates, radioiodine concentrations, and associated permissible occupancy times in excess of those in "Criteria for Mandatory Evacuations "(Attachment 8.1) in localized areas (e.g.: containment, localized areas of buildings, etc.) of the plant, or:
- 3.6 Fire in any occupied area, or:
- 3.7 Toxic or flammable gases or heavy smoke observed or reported in any area, or:
- 3.8 Chemical hazards to personnel in any area.

4.0 PRECAUTIONS

4.1 Evacuation of the Control Room should only be implemented in the event of:

4.1.1 Uncontrolled fire in the Control Room.

4.1.2 Heavy smoke or toxic or flammable gases in the Control Room.

4.1.3 Radiation dose rates, radioiodine concentrations, and associated permissible occupancy times exceed those in "Criteria for Mandatory Evacuations" (Attachment 8.1).

NOTE: Evacuation of the Control Room should only be implemented after respiratory protective equipment and other protective measures prove inadequate.

4.2 Local Area Evacuations are announced over the public address system, indicated by an area radiation or airborne monitor alarm, or initiated by personnel in the affected area in response to observed conditions. No other alarm system shall be used to initiate this type of evacuation.

5.0 CHECK-OFF LIST

5.1 Local Area Evacuation Checklist.

6.0 PROCEDURE

NOTE: A Local Area Evacuation may be initiated by personnel in the affected area in response to observed conditions, survey instrument indications, or locally-alarming radiation monitors. The procedure steps below assume that the evacuation is initiated by indications/alerts observed in the Control Room. As a result, some steps may not be applicable to all Local Area Evacuations.

6.0 PROCEDURE

6.1 Have the following announcement made over the public address system:

"ATTENTION ALL PERSONNEL, ATTENTION ALL PERSONNEL: THERE IS A _____ (HIGH RADIATION LEVEL/FIRE/OTHER HAZARD-) INDICATED IN _____ (specify Area). PERSONNEL IN AFFECTED AREAS EVACUATE TO _____ (specify location) (PROVIDE ANY ADDITIONAL INSTRUCTIONS NECESSARY.)"

6.0 PROCEDURE

6.1 (continued)

NOTE: Evacuees would normally assemble at the Health Physics Access Control Point (at the entrance to the Radwaste Building.)

- 6.2 Repeat the announcement two additional times at approximately one minute intervals.
- 6.3 Evaluate alarm(s) or information received with respect to other control room instrument indications.
- 6.4 Initiate personnel accountability for a Local Area Evacuation as follows:

NOTE: The number of personnel involved in a Local Area Evacuation is normally small and involves areas which, when occupied, are normally attended by supervising and/or Health Physics personnel.

- 6.4.1 If access to the area is controlled by a manned Health Physics control point direct Health Physics personnel to assist personnel in the removal of protective clothing and/or respiratory protection equipment and in monitoring in order to facilitate clearing the affected area. Also direct the Health Physics Technician(s) to account for all personnel in the area using Radiation Work Permit records, and notify the Control Room when all personnel have been accounted for and are clear of the affected area.
- 6.4.2 If step 6.4.1 does not apply or proves ineffective, contact the supervisor(s) of the work party(ies) to verify the presence of individuals in the work party(ies).
- 6.4.3 If individuals are not accounted for, page them over the public address system.
- 6.4.4 If individuals are still unaccounted for, implement procedure S023-VIII-39, "SEARCH AND RESCUE"
- 6.5 Direct Health Physics to perform radiological surveys in the affected areas to identify the extent, nature, and if possible, the source of the problem. Direct Health Physics personnel to perform radiological surveys in the areas in which evacuees are assembled and provide evacuees with assistance.

6.0 PROCEDURE (continued)

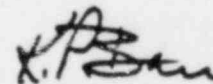
- 6.6 If the results of radiation surveys at the assembly area indicates radiation levels in excess of 100 mrem/hr or gross airborne radioactivity (less noble gases) in excess of $4E-8\mu\text{Ci/cc}$, or if continued occupancy is expected to result in excess of 40 MPC-hours for isotopic mix less noble gases; relocate to another Assembly Area, or if necessary, initiate a Plant or Site Evacuation.
- 6.7 Evaluate the survey results and any changes in plant parameters. If the survey(s) show that radiation or contamination levels are abnormally high, consider corrective actions, including decontamination.
- 6.8 Use Procedure SO23-VIII-11, "RECOGNITION AND CLASSIFICATION OF EMERGENCIES", to determine if an emergency event should be declared.

7.0 RECORDS

- 7.1 Attachment 8.2

8.0 ATTACHMENTS

- 8.1 Criteria for Mandatory Evacuations
- 8.2 Local Area Evacuation Checklist.



K. BARR
HEALTH PHYSICS MANAGER

CRITERIA FOR MANDATORY ONSITE EVACUATIONS

WHOLE BODY DOSE RATE (mrem/hour)	IMPLEMENT EVACUATION WITHIN	RADIOIODINE CONCENTRATION (μ CI/cc)
Up to 600	8 Hours	Up to 1E-5
600 to 1000	4 Hours	1E-5 to 2E-5
1000 to 2500	2 Hours	2E-5 to 4E-5
2500 to 5000	1 Hour	4E-5 to 7E-5
5000 to 10,000	30 min.	7E-5 to 1E-4
10,000 to 20,000	15 min.	1E-4 to 3E-4
>20,000	IMMEDIATELY	>3E-4

1. It is important to realize that there is no direct correlation between the whole body dose rates and the radioiodine concentrations; and the measurements or projections of each must be performed independently. In the event that only a direct radiation determination is available, with no corresponding knowledge of the concentration or fraction of the total which is attributable to radioiodine, the most conservative assumptions specified in the USEPA Manual for Protective Action Guides would be required. Such assumptions, based only on direct radiation determinations, would likely result in gross over-estimation of thyroid dose commitment.
2. Whole body dose to non-emergency personnel should not exceed 5000 mrem from the event. The whole body dose rates specified above are based on 5000 mrem. This value is based on the USEPA PAG Manual specified upper limit for members of the general public. Although this table specifies mandatory evacuation times, in the absence of significant constraints evacuations should be implemented to maintain personnel exposure as low as reasonably achievable and within specified quarterly exposure limits.
3. Maximum concentrations for specified time corresponds to approximately 25,000 mrem adult thyroid dose commitment. Radioiodine concentration vs. adult thyroid dose commitment based on Appendix D, (January 1979) to USEPA Manual of Protective Action Guides. Radioiodine nuclide distribution corresponds to four (4) hours following reactor shutdown.

LOCAL AREA EVACUATION CHECKLIST

(For use with Procedure S023-VIII-32)

1. Local Area Evacuation Announced:

_____ Emerg Coord. / Watch Supv. Signature _____ Time _____ Date

2. Area(s)

Evacuated: _____

Reason for evacuation: _____

Assembly Area: _____

_____ E.C. / WS INITIAL _____ TIME _____ DATE

3. Accountability Implemented:

a. All involved individuals accounted for: (YES / NO)

b. The following named individuals are unaccounted for (if applicable)

_____	_____
_____	_____
_____	_____
_____	_____

c. "SEARCH & RESCUE" procedure implemented if applicable.
(YES / NO)

_____ E.C. / WS INITIAL _____ TIME _____ DATE

4. Radiation surveyor(s) dispatched

_____ E.C. / WS INITIAL _____ TIME _____ DATE

5. Summary of affected area radiological status: _____

E.C. / WS INITIAL TIME DATE

6. Offsite agencies notified: (if applicable)

E.C. / WS INITIAL TIME DATE

NOTE: AFTER THIS CHECKLIST IS COMPLETED AND IS NOT REQUIRED FOR IMMEDIATE USE, FORWARD IT TO THE STATION SERVICES MANAGER. FORWARD TO THE ADMINISTRATIVE LEADER IF EMERGENCY ORGANIZATION IS ACTIVATED.

PLANT EVACUATION AND ACCOUNTABILITY

OCT 9 1981
NOT FOR CONSTRUCTION --
FOR START-UP USE ONLY
CHECK APPLICABLE CONTROLLED
STICK FILE FOR CURRENT INFORMATION

1.0 OBJECTIVE

1.1 This procedure provides instructions for implementing an emergency evacuation of non-essential personnel (personnel without an assigned emergency response function) from the SONGS Unit 2 and 3 Plants. The Emergency Coordinator is responsible for implementation of this procedure.

2.0 REFERENCES

- 2.1 San Onofre Nuclear Generating Station, Unit 2 and 3 Emergency Plan.
- 2.2 Emergency Procedure S023-VIII-14, "SITE EMERGENCY"
- 2.3 Emergency Procedure S023-VIII-11, "RECOGNITION AND CLASSIFICATION OF EMERGENCIES"
- 2.4 Emergency Procedure S023-VIII-32, "LOCAL AREA EVACUATION AND ACCOUNTABILITY"
- 2.5 Emergency Procedure S023-VIII-34, "SITE EVACUATION AND ACCOUNTABILITY"
- 2.6 Emergency Procedure S023-VIII-61, "RE-ENTRY"

3.0 PREREQUISITES

- 3.1 Declared Site Emergency, or:
- 3.2 Declared Plant Evacuation at Unit 1;
- 3.3 Valid Hi alarm(s) on two or more Area Radiation Monitoring System (ARMS) Alarms, or:
- 3.4 Fire, toxic or flammable gases or heavy smoke affecting more than just one room or local area, or:
- 3.5 High airborne radioactivity levels, as detected by installed monitors or survey, that impact more than one room or local area, or:

SITE FILE COPY

3.0 PREREQUISITES (continued)

- 3.6 Radiation dose rates, radioiodine concentrations, and associated permissible occupancy times in excess of those in "Criteria for Mandatory Onsite Evacuations" (Attachment 8.1) in wide areas of the plant.

4.0 PRECAUTIONS

- 4.1 Evacuation of the Control Room should only be implemented in the event of:

- 4.1.1 Uncontrollable fire in the Control Room, or:
- 4.1.2 Heavy smoke or toxic or flammable gases in the Control Room, or:
- 4.1.3 Radiation dose rates, radioiodine concentrations, and associated permissible occupancy times exceed those in "Criteria for Mandatory Onsite Evacuations" (Attachment 8.1)

NOTE: Evacuation of the Control Room should only be implemented after respiratory protective equipment and other protective measures prove inadequate.

- 4.2 The actual decision to implement a Plant Evacuation is the responsibility of the Emergency Coordinator. The decision should be based upon the Emergency Coordinators evaluation of the magnitude and severity of the situation.

- 4.3 Accountability must be completed within 30 minutes after Plant Evacuation.

5.0 CHECK-OFF LISTS

- 5.1 Plant Evacuation Checklist.

6.0 PROCEDURE

- 6.1 Evaluate information available on initiating event. If additional time or information is needed prior to making the decision to implement a Plant Evacuation, order a Local Area Evacuation for effected areas in accordance with procedure SO23-VIII-32, "LOCAL AREA EVACUATION AND ACCOUNTABILITY"

- 5.2 Direct the Security Supervisor/Leader to appoint an officer to act as the Assembly Area Coordinator and dispatch him to the Assembly Area.

NOTE: Upon arrival, the Assembly Area Coordinator will maintain Communications with the Emergency Coordinator.

6.0 PROCEDURE (continued)

- 6.3 If a Site Emergency has not been declared have the following announcement made over the public address system:

"ATTENTION ALL PERSONNEL, ATTENTION ALL PERSONNEL: THERE IS
A (HIGH RADIATION LEVEL/FIRE/OTHER HAZARD) INDICATED IN

(specify area) ALL PERSONNEL WITH EMERGENCY ASSIGNMENTS REPORT TO YOUR DUTY STATION. ALL OTHER PERSONNEL REPORT TO YOUR DESIGNATED ASSEMBLY AREA. THERE WILL BE NO EATING, DRINKING OR SMOKING UNTIL FURTHER NOTICE."

(Provide any additional instruction if necessary)

- 6.4 Repeat announcement two additional times. Initiate "Plant Evacuation Checklist," Attachment 8.2
- 6.5 If the emergency is radiological in nature, direct that the Radiological Emergency Siren (Thunderbolt) be sounded.
- 6.6 Call Unit 1 Control Room (Bell: or PAX), inform them of the Plant Evacuation, and indicate that they should assemble their non-essential personnel also implementing SOI-VIII-33, "PLANT EVACUATION AND ACCOUNTABILITY".
- 6.7 Ensure personnel evacuate in accordance with Attachment 8.2
- 6.8 Initiate personnel accountability for a Plant Evacuation as follows (this should normally be delegated to the Security Leader):
- 6.8.1 Direct the supervising security officers at each of the protected area exits to determine the names of the individuals, who have not evacuated the Protected Area by using the sign out register, and have them promptly report these names to the TSC.
- 6.8.2 Determine the names of the Emergency Team Members and operations personnel in the Control Room, TSC and OSC.
- 6.8.3 Direct the supervising security officer to provide the TSC with the names of security personnel who are still at their posts.

NOTE: Ensure that all personnel listed as being within the Protected Area are Emergency Team Members, operations, or security personnel.

- 6.8.4 If a complete accounting of all personnel within the Protected Area indicates a missing or trapped individual, report individual name(s) and last known location(s) to the Emergency Coordinator, and recommend that he implement procedure SO23-VIII-39, "RESCUE."

6.0 PROCEDURE (continued)

- 6.9 Direct the Health Physics Leader to assess the radiological status of affected areas as follows:
- 6.9.1 Direct Health Physics personnel to perform radiological surveys in affected areas per procedure S023-VIII-24, "DIRECTION OF ONSITE EMERGENCY MONITORING". The purpose of these surveys is to determine the extent, nature, and, if possible, the source of the problem.
 - 6.9.2 Direct that Health Physics personnel perform radiological surveys at the Assembly Areas.
- 6.10 On the basis of radiation surveys performed in the affected areas and assembly areas, allow personnel to return to their normal work station, send personnel home, or evacuate them to an Offsite Assembly Area.
- 6.10.1 If the results of radiation surveys at the Assembly Area indicate radiation levels in excess of 100 mrem/hr or gross airborne radioactivity (less noble gases) in excess of 4 E-8 uCi/cc, or if continued occupancy is expected to result in excess of 40 MPC-hours for isotopic mix less noble gases; relocate to another assembly area, or if necessary initiate a Site Evacuation (S023-VIII-34 "SITE EVACUATION AND ACCOUNTABILITY").
 - 6.10.2 If contamination beyond the owner controlled area is observed or suspected, direct Health Physics personnel to establish a personnel monitoring station in an area where ambient radiation levels permit personnel contamination monitoring. (Personnel within the owner controlled area are monitored upon exit from the owner controlled area.)
 - 6.10.3 Implement procedures S023-VIII-44, "EMERGENCY CONTAMINATION CONTROL " and/or S023-VIII-45, "PERSONNEL AND VEHICLE MONITORING" if appropriate.

7.0 RECORDS

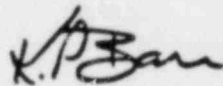
7.1 Attachment 8.2

8.0 ATTACHMENTS

8.1 Criteria for Mandatory Onsite Evacuations

8.2 Plant Evacuation Checklist.

8.3 Plant Scheme Evacuation



K. BARR
HEALTH PHYSICS MANAGER

KB:0103F:sss

CRITERIA FOR MANDATORY ONSITE EVACUATIONS

WHOLE BODY DOSE RATE (mrem/hour)	IMPLEMENT EVACUATION WITHIN	RADIOIODINE CONCENTRATION (7 CI/cc)
Up to 600	8 Hours	Up to 1E-5
600 to 1000	4 Hours	1E-5 to 2E-5
1000 to 2500	2 Hours	2E-5 to 4E-5
2500 to 5000	1 Hour	4E-5 to 7E-5
5000 to 10,000	30 min.	7E-5 to 1E-4
10,000 to 20,000	15 min.	1E-4 to 3E-4
>20,000	IMMEDIATELY	> 3E-4

1. It is important to realize that there is no direct correlation between the whole body dose rates and the radioiodine concentrations; and the measurements or projections of each must be performed independently. In the event that only a direct radiation determination is available, with no corresponding knowledge of the concentration or fraction of the total which is attributable to radioiodine, the most conservative assumptions specified in the USEPA Manual for Protective Action Guides would be required. Such assumptions, based only on direct radiation determinations, would likely result in gross over-estimation of thyroid dose commitment.
2. Whole body dose to non-emergency personnel should not exceed 5000 mrem from the event. The whole body dose rates specified above are based on 5000 mrem. This value is based on the USEPA PAG Manual specified upper limit for members of the general public. Although this table specifies mandatory evacuation times, in the absence of significant constraints evacuations should be implemented to maintain personnel exposure as low as reasonably achievable and within specified quarterly exposure limits.
3. Maximum concentrations for specified time corresponds to approximately 25,000 mrem adult thyroid dose commitment. Radioiodine concentration vs. adult thyroid dose commitment based on Appendix D, (January 1979) to USEPA Manual of Protective Action Guides. Radioiodine nuclide distribution corresponds to four (4) hours following reactor shutdown.

PLANT EVACUATION CHECKLIST

(For use with Procedure S023-VIII-33)

1. Local Area Evacuation Announced: (YES / NO) _____
Time

Plant Evacuation Announced: (YES / NO..) _____
Time

EMERGENCY COORDINATOR SIGNATURE / DATE

2. Units 2 and 3 Control Room notified. _____
E.C. INITIAL / TIME / DATE

3. Accountability Implemented: (Required within 30 minutes)

a. All involved individuals accounted for: (YES / NO)

b. The following individuals are unaccounted for (if applicable)

c. "RESCUE" procedure implemented if applicable. (YES / NO)

E. C. INITIAL / TIME / DATE

4. Reason for evacuation: _____

E. C. INITIAL / TIME / DATE

5. Radiation surveyor(s) dispatched: (YES / NO)

_____/_____/_____
E. C. INITIAL TIME DATE

6. Summary of plant radiological status: _____

_____/_____/_____
E. C. INITIAL TIME DATE

7. Offsite agencies notified: (YES / NO)

Summary of subsequent actions taken: _____

_____/_____/_____
E. C. INITIAL TIME DATE

NOTE: AFTER THIS CHECKLIST IS COMPLETED AND IS NOT REQUIRED FOR IMMEDIATE USE, FORWARD IT TO THE ADMINISTRATIVE LEADER.

PLANT EVACUATION SCHEME

1. All personnel within the Protected Area except Operations, Security, and Emergency Team Members shall evacuate through the Protected Area North Gate to the Warehouse Assembly Area at the North End Receiving Bay of the AWS Building.
 - 1.1 Personnel within the protected area, should remove protective clothing and put on clean clothing prior to proceeding to the Warehouse, unless instructed otherwise by Health Physics Personnel.
 - 1.2 Personnel should avoid the area immediately South of the Containment Sphere and Turbine Deck on their route out of the Protected Area.
 - 1.3 The Guard in the tower station will report to the AWS Warehouse Assembly Area to assist the Assembly Area Coordinator. Security Officers at the Protected Area South Gate entrances shall close their posts and remove the badges and registration logs and set up an alternate post at the North PA Vehicle Gate or report to an assembly area as directed by the Security Leader.
2. All personnel, including visitors and contractors, outside the Protected Area, but within the Owner controlled Gates, shall report to the AWS Warehouse at the north end receiving area.
3. Administration Shop and Warehouse (AWS) Building personnel shall report as follows:
 - 3.1 Personnel in the Administration and Engineering Area (except CDM Center) should proceed to the Assembly Area at the Warehouse North Entrance.
 - 3.2 Personnel in the shop and supply counter area of the Warehouse should proceed through the Warehouse to the North Receiving Area

PLANT EVACUATION SCHEME

- 3.3 Personnel in the CDM Center shall remain in the Center, complete pre-evacuation CDM Procedures as may be required and report to the Senior Supervisor present for additional instructions.
4. Visitors and Contractors within the Site boundary shall report to the AWS Warehouse North Entrance Receiving Area and await the instructions of the Assembly Area Coordinator.
5. The Assembly Area Coordinator(s) shall ensure a list of all personnel is prepared and provide any additional instructions to those assembled at the Assembly Area.

OCT 9 1981

RECEIVED

SITE EVACUATION AND ACCOUNTABILITY

OCT 14 1981

SITE INFORMATION
NOT FOR CONSTRUCTION
CHECK FOR START-UP USE ONLY
STICK FILE FOR APPLICABLE CURRENT INFORMATION

1.0 OBJECTIVE

- 1.1 This procedure provides directions for evacuation of non-essential personnel (personnel not assigned emergency response function) from the site. Evacuation may be precautionary in anticipation of emergency conditions. The Emergency Coordinator is responsible for implementation of this procedure.
- 1.2 Should complete evacuation (all personnel) of the SONGS Site become necessary, the basic instructions in this procedure, with appropriate changes, should still be followed to the extent practicable.

2.0 REFERENCES

- 2.1 San Onofre Nuclear Generating Station Unit 2 and 3 Emergency Plan
- 2.2 Emergency Procedure S023-VIII-11, "Recognition and Classification of Emergency Conditions"
- 2.3 Emergency Procedure S023-VIII-15, "General Emergency"
- 2.4 Emergency Procedure S023-VIII-32, "Local Area Evacuation and Accountability"
- 2.5 Emergency Procedure S023-VIII-33, "Plant Evacuation and Accountability"
- 2.6 Emergency Procedure S023-VIII-61, "Re-entry"

3.0 PREREQUISITES

- 3.1 Declared General Emergency, or:
- 3.2 Radiation dose rates, radiiodine concentrations, and associated permissible occupancy times in excess of those in "Criteria for Mandatory Onsite Evacuations" (Attachment 8.1) in major portions of the plant.
- 3.3 A Site Evacuation should be considered when:
 - 3.3.1 Significant ground level releases have occurred or are projected, or:
 - 3.3.2 Other safety hazards, such as toxic gases, fire, or flammable gases which affect large areas of the plant and/or site, or:

3.0 PREREQUISITES (continued)

- 3.3.3 Adverse weather conditions, such as floods, hurricanes, or tornados, are present or are expected to occur. In the case of adverse weather, advance weather warnings will normally provide adequate time for an orderly dismissal of plant personnel, without the need for evacuation.
- 3.3.4 Personnel Accountability must be completed within 30 minutes

4.0 PRECAUTIONS

4.1 Evacuation of the Control Room should only be implemented in the event of:

- 4.1.1 Uncontrollable fire in the Control Room, or:
- 4.1.2 Heavy smoke or toxic or flammable gases in the Control Room, or:
- 4.1.3 Radiation dose rates, radioactive iodine concentrations, and associated permissible occupancy times exceeding those in "Criteria for Mandatory Onsite Evacuations " (Attachment 8.1)

NOTE: Evacuation of the Control Room should only be implemented after respiratory protective equipment and other protective measures prove inadequate.

- 4.2 The actual decision to implement a Site Evacuation is the responsibility of the Emergency Coordinator. The decision should be based upon the Emergency Coordinator's evaluation of the magnitude and severity of the situation.
- 4.3 Prior to ordering an evacuation of site personnel, the Emergency Coordinator should determine, based on the best information available, that evacuation is the protective action that will result in the lowest personnel exposure. In ordering an evacuation, the Emergency Coordinator should consider (1) dose rates at Assembly Areas, onsite and along evacuation routes; and (2) whether or not these conditions can be mitigated prior to personnel receiving significant exposures.
- 4.4 Evacuations should be accomplished either before or after the passage of the release, and evacuation routes should be chosen that lead personnel away from the path of the plume.

4.0 PRECAUTIONS (continued)

- 4.5 The condition under which a Site Evacuation would be initiated could involve significant release offsite with resultant contamination of environmental surfaces offsite. Under these conditions, delaying Site Evacuation to monitor and/or decontaminate personnel or vehicles would be superfluous, in light of the potential for re-contamination offsite. In this case, personnel should be directed to proceed directly to the upwind offsite assembly area for monitoring. If all offsite assembly areas are within sectors from which the population is being evacuated, the Emergency Coordinator, in cooperation with SCE management, State and County Agencies, shall designate an assembly area at which personnel monitoring will be performed. In this event, vehicles will be monitored as provided in the emergency plans of the affected jurisdiction.

5.0 CHECK-OFF LISTS

- 5.1 Site Evacuation Checklist.

6.0 PROCEDURE

- 6.1 Evaluate information available on initiating event. If additional time or information is needed prior to making the decision to implement a Site Evacuation, order a Plant Evacuation in accordance with procedure S023-VIII-33, "Plant Evacuation and Accountability".

- 6.2 Direct the Security Leader to appoint an officer to act as Assembly Area Coordinator, and dispatch him to the Assembly Area.

NOTE: Upon arrival, the Assembly Area Coordinator will establish communications with the Emergency Coordinator at the TSC.

- 6.3 Prior to ordering a Site Evacuation direct the Health Physics Leader to dispatch teams to survey affected parking lots in accordance with Procedure S023-VIII-45, "PERSONNEL AND VEHICLE MONITORING."

- 6.4 If monitoring teams report the presence of contamination in parking lot(s) perform the following:

- .1 Direct the Security Leader to restrict access to the contaminated parking lot(s).
- .2 Inform the Assembly Area Coordinator of the problem with contaminated parking lots and the resultant need for car pooling using clean parking lot vehicles.
- .3 Use this information to modify the evacuation announcement if required.

NOTE: Prior to announcement, consideration should be given to whether evacuees are to be sent home or to off-site Assembly Areas.

6.0 PROCEDURE (continued)

- 6.5 Have the following announcement made over the public address system.

"ATTENTION ALL PERSONNEL, ATTENTION ALL PERSONNEL: ALL PERSONNEL WITH EMERGENCY ASSIGNMENTS REPORT TO YOUR DUTY STATIONS. ALL OTHER PERSONNEL REPORT TO YOUR DESIGNATED ASSEMBLY AREA AND AWAIT FURTHER INSTRUCTIONS PURSUANT TO ORDERLY EVACUATION OF THE SITE." (Provide any additional instructions necessary).

or:

"ATTENTION ALL PERSONNEL, ATTENTION ALL PERSONNEL: ALL PERSONNEL EXCEPT THOSE WITH EMERGENCY ASSIGNMENTS SHALL EVACUATE THE SITE IMMEDIATELY. PROCEED IN YOUR CAR TO

[THE (NORTH/SOUTH) OFFSITE

AND AWAIT FURTHER

ASSEMBLY AREA/YOUR HOME]

INSTRUCTIONS."

(Provide any additional instructions necessary)

- 6.6 Repeat the announcement two additional times. Initiate "Site Evacuation Checklist," Attachment 8.3. If the emergency is radiological in nature, direct that the Radiological Emergency Siren (Thunderbolt) be sounded.
- 6.7 Inform Unit 1 Watch Engineer (Bell or PAX _____) of incident and request that they initiate a Site Evacuation.
- 6.8 Direct the Security Leader to implement Emergency Procedure S023-VIII-35 "TRAFFIC AND ACCESS CONTROL", and to assure that personnel evacuate per the Attachment 8.2.
- NOTE: If radiological conditions warrant, security personnel directing traffic should be equipped with appropriate respirators and protective clothing.
- 6.9 Implement Emergency Procedure S023-VIII-24, "DIRECTION OF ONSITE EMERGENCY MONITORING." and to direct the Health Physics Leader to dispatch Emergency Monitoring Teams to the Assembly Area.
- 6.10 Direct the Health Physics Leader to implement procedure S023-VIII-45, "PERSONNEL AND VEHICLE MONITORING," unless to do so would conflict with the guidance in Precaution 4.5 of this procedure.

6.0 PROCEDURE (Continued)

- 6.11 Initiate personnel accountability for Site Evacuation as follows (this should normally be delegated to the Security Leader):
- 6.11.1 Direct the supervising security officers at each of the Protected Area exits to determine the names of the individuals, who have not evacuated the Protected Area by using the sign out register, and have them promptly report these names to the TSC.
 - 6.11.2 Determine the names of the Emergency Team Members and operations personnel in the Control Room, TSC, and OSC.
 - 6.11.3 Direct the supervising security officer to provide the TSC with the names of security personnel who are still at their posts.

NOTE: Ensure that all personnel listed as being within the Protected Area are Emergency Team Members, operations or security personnel.
 - 6.11.4 If a complete accounting of all personnel within the Protected Area indicates a missing or trapped individual, report individual name(s) and last known location(s) to the Emergency Coordinator, and recommend that he implement procedure S023-VIII-39, "RESCUE".
- 6.12 On the basis of radiation surveys performed in conjunction with procedures S023-VIII-24, S023-VIII-25 (Step 6.9) S023-VIII-45 (Step 6.10), send personnel home, retain them at the Assembly Area, or transfer them to an alternate Assembly Area, as appropriate.
- 6.13 Upon completion of accountability, or as mandated by conditions, have the Security Leader direct the Assembly Area Coordinator(s) to begin orderly evacuation to the designated (upwind) Offsite Assembly Area.
- 6.14 After Site Evacuation direct the Shift Security Supervisor to begin a search of areas outside the Protected area to determine if any individuals have not evacuated or heard the warning signals.

7.0 RECORDS

- 7.1 None

8.0 ATTACHMENTS

- 8.1 Criteria for Mandatory Evacuations
- 8.2 Normal and Emergency Access Routes and Remote Assembly Areas
- 8.3 Site Evacuation Checklist.



K. BARR
HEALTH PHYSICS MANAGER

DB:0073F/sf

CRITERIA FOR MANDATORY ONSITE EVACUATIONS

WHOLE BODY DOSE RATE (mrem/hour)	IMPLEMENT EVACUATION WITHIN	RADIOIODINE CONCENTRATION (μ CI/cc)
Up to 600	8 Hours	Up to 1E-5
600 to 1000	4 Hours	1E-5 to 2E-5
1000 to 2500	2 Hours	2E-5 to 4E-5
2500 to 5000	1 Hour	4E-5 to 7E-5
5000 to 10,000	30 min.	7E-5 to 1E-4
10,000 to 20,000	15 min.	1E-4 to 3E-4
]20,000	IMMEDIATELY]3E-4

1. It is important to realize that there is no direct correlation between the whole body dose rates and the radioiodine concentrations; and the measurements or projections of each must be performed independently. In the event that only a direct radiation determination is available, with no corresponding knowledge of the concentration or fraction of the total which is attributable to radioiodine, the most conservative assumptions specified in the USEPA Manual for Protective Action Guides would be required. Such assumptions, based only on direct radiation determinations, would likely result in gross over-estimation of thyroid dose commitment.
2. Whole body dose to non-emergency personnel should not exceed 5000 mrem from the event. The whole body dose rates specified above are based on 5000 mrem. This value is based on the USA PAG Manual specified upper limit for members of the general public. Although this table specifies mandatory evacuation times, in the absence of significant constraints evacuations should be implemented to maintain personnel exposure as low as reasonably achievable and within specified quarterly exposure limits.
3. Maximum concentrations for specified time corresponds to approximately 25,000 mrem adult thyroid dose commitment. Radioiodine concentration vs. adult thyroid dose commitment based on Appendix D, (January 1979) to USEPA Manual of Protective Action Guides. Radioiodine nuclide distribution corresponds to four (4) hours following reactor shutdown.

SAN ONOFRE NUCLEAR GENERATING STATION
UNIT 2 AND 3

EMERGENCY PROCEDURE S023-VIII-34
REVISION 1 Page 1 of 1
ATTACHMENT 8.2

NORMAL AND EMERGENCY ACCESS ROUTES
AND REMOTE ASSEMBLY AREAS

SITE EVACUATION CHECKLIST

(For use with Procedure S01-VIII-34)

1. Plant Evacuation Announced: (YES / NO) _____
Time

Site Evacuation announced: (YES / NO) _____
Time

EMERGENCY COORDINATOR SIGNATURE / DATE

2. Units 2 and 3 Control Room notified. _____ / _____ / _____
E.C. INITIAL TIME DATE

3. a. "Traffic and Access Control" Procedure implemented:
(YES / NO) _____
Time

b. Beach evacuation initiated: (YES / NO) _____
Time

c. Emergency Radiation Monitoring Implemented:
(YES / NO) _____
Time

E.C. INITIAL / DATE

4. Accountability Implemented:

a. All involved individuals accounted for: (YES / NO)

b. The following named individuals are unaccounted for (if applicable)

_____	_____
_____	_____
_____	_____
_____	_____

c. "RESCUE" procedure implemented if applicable. (YES / NO)

_____/_____/_____
E. C. INITIAL / TIME / DATE

5. Reason for evacuation: _____

_____/_____/_____
E. C. INITIAL / TIME / DATE

6. Summary of plant radiological status: _____

_____/_____/_____
E. C. INITIAL / TIME / DATE

SAN ONOFRE NUCLEAR GENERATING STATION
UNIT 2 AND 3

EMERGENCY PROCEDURE SO23-VIII-34
REVISION 1 Page 2 of 3
ATTACHMENT 8.3

7. Offsite agencies notified: (YES / NO)

Summary of subsequent actions taken: _____

E. C. INITIAL / TIME / DATE

NOTE: AFTER THIS CHECKLIST IS COMPLETED AND IS NOT REQUIRED FOR IMMEDIATE USE, FORWARD IT TO THE ADMINISTRATIVE LEADER.

SEP 9 1981

TRAFFIC AND ACCESS CONTROL

NOT FOR CONSTRUCTION
SITE FOR START-UP USE ONLY
CHECK APPLICABLE CONTROLLED
STICK FILE FOR CURRENT INFORMATION

OCT 14 1981

CDM SITE.

1.0 OBJECTIVE

1.1 In the event of an emergency involving radioactivity, it may be necessary to evacuate the Nuclear Generating Site. This procedure provides the Emergency Coordinator and Station Security for vehicle and personnel ingress and egress during a site evacuation. The Security Leader is responsible for implementation of this procedure.

2.0 REFERENCES

- 2.1 SONGS-2 and 3 Emergency Plan.
- 2.2 Emergency Procedure S023-VIII-34, Site Evacuation and Accountability.
- 2.3 Emergency Procedure S023-VIII-45, Personnel and Vehicle Monitoring.

3.0 PREREQUISITES

3.1 A site evacuation has been declared by the Emergency Coordinator.

4.0 PRECAUTIONS

4.1 Any type evacuation shall be conducted in an orderly manner to prevent personnel injury or property damage or both.

5.0 CHECK-OFF LIST

5.1 None

6.0 PROCEDURE

6.1 Site Evacuation Traffic Control.

6.1.1 If notified of a contaminated parking area prevent any vehicle from the contaminated parking lot from leaving the site.

6.1.2 Restrict personnel access to contaminated parking areas. Establish all vehicle egress control points in accordance with Figure 7.3 of the SONGS-2 and 3 Emergency Plan.

6.0 PROCEDURE

6.1 (continued)

- 6.1.3 Request the California Highway Patrol to assist in directing evacuation vehicles to the Offsite Assembly Area / or onto Rt. 5.

NOTE: Every effort should be made to block access to Route 5 if the decision is made to utilize Offsite Assembly Areas rather than dispatch of evacuees to their residences.

- 6.1.4 Have the personnel in the Onsite Assembly Area instructed as to which Offsite Assembly Area (North or South) is to be used, parking lots that the vehicles are impounded because of contamination, sharing of vehicles by people who have had their vehicles impounded and the proper way to ride in a vehicle to the Offsite Assembly Area (windows up, vents closed, no riding in open vehicles etc.).

- 6.1.5 Have the traffic from the site directed to the designated Offsite Assembly Area. Insure that at least one lane is kept open for incoming emergency vehicles.

6.2 Site Access Control.

- 6.2.1 Personnel entering the site after a Site Evacuation shall require proof of entry authorization. Such proof can come in the form of personal recognition by a San Onofre Plant Staff Member, SCE identification card or similar I.D. Additionally, these persons shall be authorized entrance by the Emergency Coordinator or the Administrative Leader. This authorization may be verbal (via phone) or by written roster.

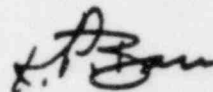
- 6.2.2 If required by the Emergency Coordinator, all vehicles shall be escorted or directed to an approved parking lot via approved routes. Escorts should be Security Officers but may be Health Physics Technicians or other designated individuals.

7.0 RECORDS

- 7.1 None

8.0 ATTACHMENTS

8.1 Evacuation Route and Assembly Area Diagram.



K. P. BARR
HEALTH PHYSICS MANAGER

DM:0082F/ryh

THYROID PROPHYLAXIS

SITE FILE COPY

1.0 OBJECTIVE

This procedure provides guidance for determining when potassium iodide (KI) should be issued to SONGS 2 & 3 personnel, for thyroid block to minimize I-131 uptake. The Health Physics Leader is responsible for implementing this procedure.

RECEIVED
OCT 14 1981

2.0 REFERENCES

CDM SITE

- 2.1 NCRP Report No. 55 - Protection of the Thyroid Gland in the Event of Releases of Radioiodine
- 2.2 EPA - 5201/1-75-001, Manual of Protective Action Guides
- 2.3 NUREG - 0654, Rev. 1 Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants

3.0 PREREQUISITES

An emergency condition involving release of radioactive material has been declared at the Units 2 & 3 San Onofre Nuclear Generating Station as provided in the SONGS 2 & 3 Emergency Plan.

4.0 PRECAUTIONS

- 4.1 All Station Emergency workers should be tested for sensitivity to Iodine prior to issue or use. This is normally done during respiratory protective device user qualification.
- 4.2 Unless medical personnel are available to administer potassium iodide (KI), only the Health Physics Leader or his designee shall administer KI.
- 4.3 KI shall be administered only when the thyroid dose is estimated to be 10 rads or greater based on estimated or measured I-131 airborne concentrations.
- 4.4 Only one 130 mg KI tablet (100 mg of iodide) shall be administered daily to each individual involved.
- 4.5 After KI administration has been initiated for an individual, daily KI administration shall continue for the individual for at least 6 additional consecutive days but in no case shall the total length of administration exceed 10 consecutive days (for a total iodide dose of about 1 gram).

4.0 PRECAUTIONS (Cont'd)

4.6 The maximum efficiency for thyroid blocking is achieved if KI is administered before an I-131 uptake occurs or within two hours after an I-131 uptake occurs. KI administration is of some value for thyroid blocking as long as 12 hours after an I-131 uptake occurs but is of little value after that.

4.7 The administration of KI must be documented.

4.8 Follow-up medical surveillance is required for individuals who take KI.

5.0 CHECK-OFF LISTS

Not Applicable

6.0 PROCEDURE

6.1 Determining the Need for KI Administration

6.1.1 The Emergency Coordinator or his designee shall determine the need for KI administration as follows:

NOTE: The following steps can be used to determine the need for KI prior to a planned uptake or after an uptake has occurred.

- .1 Determine by estimation or actual measurement the I-131 airborne concentration in the area of interest.
- .2 Divide the I-131 airborne concentration by the Protection Factor (PF) of the respiratory protective equipment used. If respiratory protective equipment is not used, the PF=1.
- .3 Determine the proposed residency time of the individual(s) in the area.
- .4 Find the time determined in Step 6.1.1.3 on the vertical "Minutes" axis on the graph (Attachment 8.1).

6.0 PROCEDURE (Cont'd)

- 6.1.1.5 Find the I-131 concentration determined in Step 6.1.1.2 on the horizontal "I-131 Concentration" axis on the graph and follow the line vertically until it intersects the time line located in Step 6.1.1.4.
- .6 If the point of intersection is to the left of the curve on the graph, the projected dose to the thyroid is less than 10 rad and no further action is required as thyroid blocking is unnecessary.
- .7 If the point of intersection lies on the curve or to the right of the curve, the projected dose to the thyroid is 10 rad or more and thyroid blocking is necessary. Continue with Section 6.2.

6.2 Administering KI

- 6.2.1 Enter the name and social security number of each individual who will receive a KI tablet on a KI Issue Record form (see Attachment 8.2).
- 6.2.2 Enter the date of the first administration and the initials of the individual who is dispensing the KI tablets in the first column on the form.
- 6.2.3 Give one KI tablet to each individual requiring KI.

NOTE: KI is stored in the Control Room.

- 6.2.4 Continue to dispense one KI tablet each day to each individual listed on the form for at least 6 additional consecutive days but in no case for greater than a total of 10 consecutive days.

NOTE: The State Department of Health is responsible for administration of radioprotective drugs to the general population.

6.0 PROCEDURE (Cont'd)

6.3 Medical Surveillance

- 6.3.1 Medical surveillance is required for any individual(s) administered KI. The surveillance program will be established by the SCE Medical Department.

7.0 RECORDS

Record of KI Issuance shall be forwarded to the Administrative Leader, the Health Physics Leader and the SCE Medical Department.

8.0 ATTACHMENTS

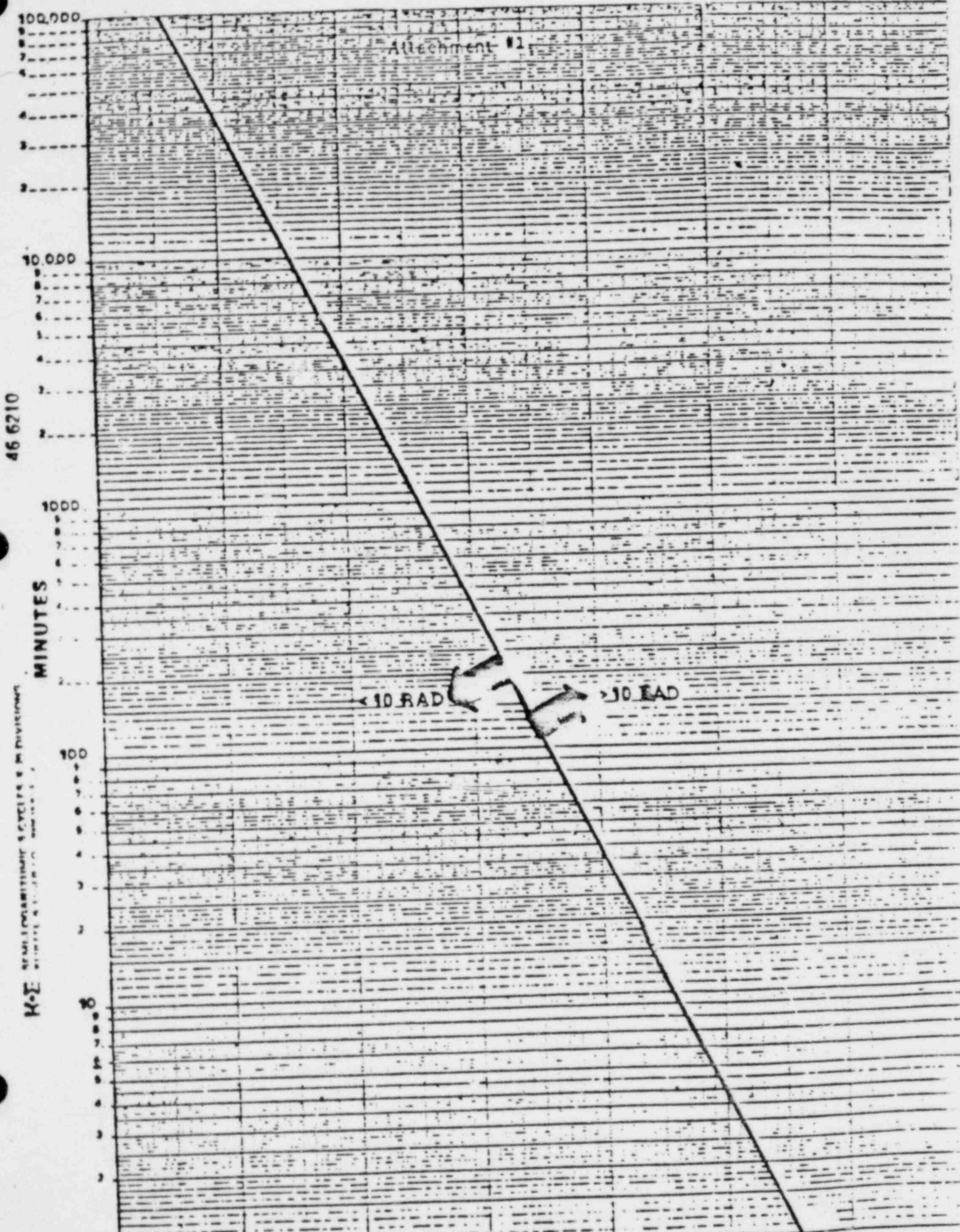
- 8.1 Graph of "Minutes" vs "I-131 Concentration"
8.2 KI Issue Record



K. P. BARR
HEALTH PHYSICS MANAGER

JSD:emb

GRAPH OF "MINUTES" vs "I-131 CONCENTRATION"



FIRE FIGHTING

NOT FOR CONSTRUCTION
FOR START-UP USE ONLY
CHECK APPLICABLE CONTROLLED
STICK FILE FOR CURRENT INFORMATION

1.0 OBJECTIVE

This procedure describes the actions and responsibilities of a fire in Units 2 and 3.

2.0 REFERENCES

- 2.1 SONGS -2 and 3 Operating Instruction SO23-3.5-5.35, "PLANT FIRES"
- 2.2 SONGS -2 and 3 Health Physics Procedures
- 2.3 NUREG-0654/FEMA-REP-1, "CRITERIA FOR PREPARATION AND EVALUATION OF RADIOLOGICAL EMERGENCY RESPONSE PLANS AND PREPAREDNESS IN SUPPORT OF NUCLEAR POWER PLANTS"
- 2.4 San Onofre Nuclear Generating Station Unit 2 and 3 Emergency Plan

RECEIVED

OCT 14 1981

3.0 PREREQUISITES

- 3.1 Indication of a Unit 2/3 fire has been received.

SITE FILE COPY

4.0 PRECAUTIONS

- 4.1 Appropriate emergency actions are to be taken to ensure plant safety at all times.
- 4.2 Personnel fighting fires in controlled or exclusion area are to wear standard protective area clothing and self-contained breathing apparatus (SCBA)
- 4.3 If a fire occurs in a controlled or exclusion area, or there is a suspected radiological release, the appropriate Emergency Procedure(s) must be initiated.

5.0 CHECK-OFF LISTS

- 5.1 None.

6.0 PROCEDURE

6.1 Personnel detecting fires:

- 6.1.1 Immediately report to the control room the location and, if known: class, relative size of fire, and status of automatic suppression (if any).

6.0 PROCEDURE (continued)

6.1 (continued)

- 6.1.2 Ensure personnel in the immediate area are aware of the fire.
- 6.1.3 If conditions permit, remain in area in communication with the control room until directed otherwise.
- 6.1.4 If able, begin fire fighting with the available equipment in the area.

6.2 Control Room Operator

- 6.2.1 Upon notification of a fire by personal report, or after verification is made of an annunciation by the automatic detection system initiate Emergency Procedure S023-VIII-32, "LOCAL AREA EVACUATION AND ACCOUNTABILITY".
- 6.2.2 Carry out "IMMEDIATE OPERATOR ACTION" of Operating Instruction S023-3-5.35, "PLANT FIRES".
- 6.2.3 Establish communication with the following using the "FIRE RADIO" system:
 - .1 Watch Engineer
 - .2 Fire Brigade Leader
 - .3 Site Security
- 6.2.4 Ensure that available fire control systems are operable.
- 6.2.5 Carry out "SUBSEQUENT OPERATOR ACTIONS" of Operating Instruction S023-3-5.35, "PLANT FIRES" as directed by the Operating Foreman.
- 6.2.6 Continue plant operations as directed by the Operating Foreman.

6.3 Operating Foreman

- 6.3.1 Assume direction of operating personnel including the control room.
- 6.3.2 Ensure that Fire Brigade members proceed to fire scene.
- 6.3.3 Ensure that Operating Instruction S023-3-5.35, "PLANT FIRES" has been implemented.

6.0 PROCEDURE (continued)

6.3 (continued)

- 6.3.4 Assess the safety significance of the fire and apprise the Watch Engineer.
- 6.3.5 Take the necessary actions to ensure plant safety.
- 6.3.6 Continue plant operations as directed by the Watch Engineer.

6.4 Fire Brigade

- 6.4.1 The Fire Brigade consists of six (6) members as follows:
 - Unit 2 Outside Assistant Control Operator who is the Fire Brigade Chief
 - Unit 3 Outside Assistant Control Operator who is the Alternate Fire Brigade Chief
 - The Common Plant Equipment Operator
 - Two (2) Security Officers
 - Health Physics will supply an individual to serve as Safety and Radiological officer
- 6.4.2 The Fire Brigade will form two (2) fire parties, under the direction of the Fire Brigade Chief, at the access area delineated in the Pre-Fire Plan.
- 6.4.3 The Health Physics member will establish a safe area near the fire and implement the following, as directed by the Fire Brigade Chief:
 - .1 Access control to the fire area
 - .2 Care and first aid of injured personnel
 - .3 Evaluation of fire area radiological hazards

6.5 Fire Brigade Chief

- 6.5.1 Acknowledge the fire announcement to the Control Room.
- 6.5.2 Inform the Control Room of arrival on scene.
- 6.5.3 Assume overall direction of the fire fighting effort and all personnel at the scene of the fire.

6.0 PROCEDURE (continued)

6.5 (continued)

- 6.5.4 Report the safety and operational impact of the fire to the Watch Engineer.
- 6.5.5 Determine the need for and request outside fire fighting equipment and assistance from the Camp Pendleton Marine Corps Fire Department.
- 6.5.6 Co-ordinate fire fighting effort(s) with the Camp Pendleton Marine Corps Senior Fire Fighter and assume full direction when and if controlled areas are affected or threatened.
- 6.5.7 Keep the Watch Engineer informed of the status of the fire fighting activities.

6.6 Site Security Force

- 6.6.1 Initiate the actions delineated in the site security plan.
- 6.6.2 Supply two (2) Security Officers to fire scene access as members of the Fire Brigade.
- 6.6.3 The responsibilities when outside assistance is requested are as follow:
 - .1 Open the gates and keep the gates clear of all obstructions and vehicles to provide fire fighting equipment access to the station.
 - .2 Supply each Camp Pendleton fire fighter with a film badge as he enters the station.
 - .3 The roving Security Officer shall meet the incoming fire equipment at the gate and provide escort to the fire area.
 - .4 Collect film badges and identify each Camp Pendleton fire fighter by badge number prior to departure.

6.7 Watch Engineer/Emergency Coordinator

The Watch Engineer assumes the position of Emergency Coordinator until relieved

- 6.7.1 Provide direction in accordance with maintaining overall responsibility for fire fighting effort and plant operations.
- 6.7.2 Declare Emergency Action Levels, if necessary, as presented in Emergency Procedure S)23-VIII-11, "RECOGNITION AND CLASSIFICATION OF EMERGENCIES".

6.0 PROCEDURE (continued)

6.7 (continued)

6.7.3 If an Emergency Action Level is declared, implement the appropriate class emergency procedure as follows:

- .1 "UNUSUAL EVENT" S023-VIII-12
- .2 "ALERT" S023-VIII-13
- .3 "SITE EMERGENCY" S023-VIII-14
- .2 "GENERAL EMERGENCY" S023-VIII-15

6.7.4 If the Control Room is notified of individual(s) requiring medical or First Aid assistance, implement Emergency Procedure S023-VIII-38, "CONTAMINATED INJURY".

6.7.5 If the fire emergency is radiological in nature, the following Emergency Procedures may be implemented:

- .1 S023-VIII-41, "ONSITE MONITORING"
- .2 S023-VIII-42, "OFFSITE MONITORING AND SAMPLING"
- .3 S023-VIII-46, "ONSITE SAMPLING"

6.7.6 After the fire has been extinguished secure the area in question, notifying station management to begin an engineering safety analysis and/or post fire investigations.

7.0 RECORDS

7.1 As required by referenced documents.

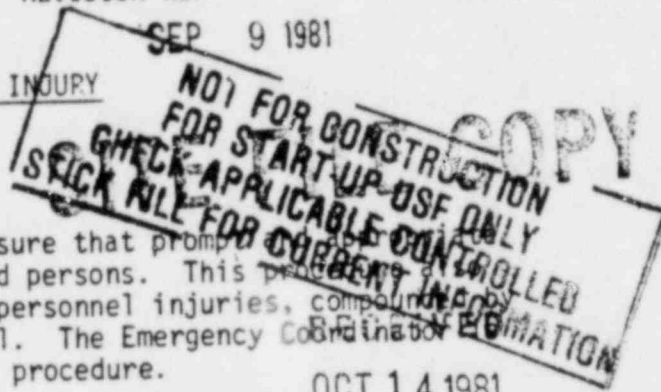
8.0 ATTACHMENTS

8.1 None.



K. P. BARR
HEALTH PHYSICS MANAGER

CONTAMINATED INJURY



1.0 OBJECTIVE

The purpose of this procedure is to assure that prompt medical care is provided to any injured persons. This procedure provides guidance for the handling of personnel injuries, contamination of the injured individual. The Emergency Coordinator is responsible for implementation of this procedure.

OCT 14 1981

2.0 REFERENCES

CDM SITE

- 2.1 San Onofre Nuclear Generating Station, Units 2 & 3, Emergency Plan
- 2.2 Emergency Procedure, S023-VIII-31, "Emergency Exposure Control"
- 2.3 Health Physics Procedure, S023-VII-4.4, "Personnel Decontamination"

3.0 PREREQUISITES

Individual(s) requires medical or First Aid assistance and the Control Room is notified.

4.0 PRECAUTIONS

4.1 External exposure to radiation or external and internal contamination of personnel by radioactive materials, with rare exceptions, do not constitute a medical emergency; i.e., the lives of involved individuals do not depend upon emergency procedures directed against radiation exposure or contamination that require action within minutes or hours. However good hygiene and common sense require that, whenever possible, external and internal contamination be removed promptly to diminish the level of contamination or to eliminate it if possible. There is no radiological need for precipitant action before an adequate medical and health physics evaluation has been completed. Treatment for trauma and shock, hemorrhage and ensuing adequate respiration always take precedence over decontamination procedures and treatment of possible symptoms for irradiation.

4.2 Emergency Exposure guidelines as specified in Reference 2.2, must be followed if exposures in excess of 10 CFR 20 are anticipated.

5.0 CHECK-OFF LISTS

Check-Off List #1 - Control Room Actions for Personnel Injury

6.0 PROCEDURE (Cont'd)

- 6.2.10 If the injured individual is contaminated, have the Control Operator notify one of the following hospitals:

South Coast Community -

or

Tri-City -

The Control Operator should indicate the number of individual(s) injured, extent of injury(ies), extent of contamination and approximate time the ambulance should arrive at the hospital.

- 6.2.11 Once the hospital has been determined, the ambulance crew should be notified of the receiving hospital.
- 6.2.12 When the ambulance leaves the site with the injured individual(s), notify the receiving hospital that the ambulance is in route.
- 6.2.13 Notify offsite authorities in accordance with Emergency Procedure S023-VIII-16, "Notification".

6.3 First Aid Team

- 6.3.1 Render whatever first aid is necessary to sustain life and maximize the comfort of the individual.
- 6.3.2 Assess the extent of the injury and radiological conditions present.
- 6.3.3 Notify the Watch Engineer of the following information:
- .1 Name(s) of injured
 - .2 Extent of injury and first aid rendered
 - .3 Presence of contamination

6.0 PROCEDURE (Cont'd)

6.2.5 If contaminated, have the Control Operator call .

NOTE: The Control Operator should state whether contamination is present, the type of injury(ies), the number of individual(s) involved and that San Onofre Security will meet the ambulance at Security Fence Vehicle Entrance.

6.2.6 Determine the location where the individual should be transferred to the ambulance.

6.2.7 Notify Security that the ambulance is on the way and indicate the location where the ambulance will receive the injured individual(s). If contamination is involved, emphasize to Security that they should provide the ambulance crew with Emergency Kits, Pocket Dosimeters and Film Badges.

6.2.8 Notify the assembled first aid team of the location where the ambulance will receive the injured individual(s).

6.2.9 If the injured individual(s) is not contaminated, have the Control Operator notify one of the following hospitals:

San Clemente General Hospital - \\
(Ask for Emergency Room)

or

Mission Community - \\

or

Tri-City West - \\

The Control Operator should indicate the number of individual(s) injured, extent of injury(ies) and the approximate time the ambulance should arrive at the hospital. He should also state that no contamination is involved.

6.0 PROCEDURE

6.1 Control Operator (Utilizing Check-Off List #1)

6.1.1 Upon notification, ascertain from caller the location of occurrence, number of personnel injured, extent of injuries, whether contamination is involved, other hazards in area and name of caller.

6.1.2 Notify the Watch Engineer

6.2 Watch Engineer (Utilizing Check-Off List #1)

6.2.1 Evaluate information and determine if injury (or illness) is minor (a minor injury is one which does not require medical treatment other than normal first aid) or major.

Determine if injury is or suspected to be complicated by contamination or excessive radiation exposure.

.1 If minor injury with no contamination/excessive irradiation involved, follow normal first aid procedures.

.2 If minor injury involving contamination/excessive irradiation, contact the Health Physics Leader and have him assess situation and determine follow-up actions. In the interim until the Health Physics Leader has assessed the situation, ensure first aid is rendered to injured individuals and a Health Physics Technician is present to control contamination in accordance with Attachment 8.2, "Treatment of Minor Contaminated Injury". The injured individual should be brought to the health physics office for decontamination and treatment.

.3 If a major injury is involved, proceed with Sections 6.2.2 through 6.2.12.

6.2.2 Organize a First Aid Team consisting of at least two individuals. The assigned team should consist of at least one first aid qualified individual and one Health Physics Technician (if contamination involved).

6.2.3 Direct the First Aid Team to implement Section 6.3 of this procedure.

6.2.4 Have the Control Operator call _____ for ambulance service if the individual(s) is not contaminated.

6.0 PROCEDURE (Cont'd)

NOTE: An open and closed window G-M tube or Ion Chamber reading should be taken in addition to any count rate assessments made.

- 6.3.3.4 Magnitude of external radiation exposure, if excessive exposure is suspected.
 - .5 Radiation and contamination levels at injury location.
- 6.3.4 Request assistance from the Watch Engineer as needed. Assistance may be in one or all of the following forms:
 - .1 Stretchers and Blankets
 - .2 Additional Manpower
 - .3 Shielding
 - .4 Additional Radiation Monitoring Instruments
- 6.3.5 Request or recommend the location to which the injured individual(s) should be transferred to the ambulance.
- 6.3.6 If in a contaminated or radiation area, attempt to minimize exposure of the First Aid Team and that of the injured individual(s) without jeopardizing the life of the injured individual or causing further injury. The following methods may provide some reduction in exposure.
 - .1 Emergency Team Members maintain distance from area with highest radiation levels.
 - .2 Injured individual, if ambulatory, is moved to area with minimum radiation levels.
 - .3 Shielding is placed between radiation source and injured individual.
 - .4 Respiratory Protection be worn by Emergency Team Members if high airborne radioactivity levels are suspected.

6.0 PROCEDURE (Cont'd)

NOTE: An individual with a suspected back or head injury should only be removed from the incident scene immediately (i.e. without placing on stretcher in proper manner) if the physical conditions of the area are life threatening such as high pressure steam, fire and/or toxic gases.

6.3.7 If the injured individual is ambulatory and the sustained injury does not interfere with decontamination procedures, an attempt should be made to decontaminate the individual in accordance with Health Physics Procedure S023-VII-4.4, "Personnel Decontamination". (Reference 2.3)

.1 If the individual is in need of hospital treatment, transfer the injured individual to the ambulance transfer location.

NOTE: If at all possible, the Health Physics Leader shall arrange for a clean transfer. A clean transfer is accomplished by establishing a boundary at the most suitable location between the injury scene and the transfer location. The area between the boundary and ambulance transfer location shall be free of contamination and the First Aid Team shall establish the clean side of the boundary to accept the injured individual(s). A blanket shall be laid down on the clean side surface adjacent to the boundary. The First Aid Team on the contaminated side of the boundary should place the stretcher on the blanket without stepping over the boundary. The blanket should be wrapped around the stretcher and body without covering the face and be secured by the First Aid Team on the clean side of the boundary. If the handles of the stretcher are suspected of being contaminated, the clean side First Aid Team should tape the handles or wear rubber gloves.

6.3.8 Prior to transfer of the individual to the ambulance, a tag should be placed on the injured individual and should contain the following information.

.1 Name

.2 Social Security Number

6.0 PROCEDURE (Cont'd)

6.3.8.3 Extent of Injury

- .4 Contamination and Radiation Levels (if no contamination, the fact should be explicitly stated).

NOTE: The individual's medical record, if applicable, should be sent along with the individual to the hospital.

- 6.3.9 Remove the individual's personnel dosimetry before transferring him to the ambulance, forward to Health Physics Foreman.

- 6.3.10 A Health Physics Technician from the SONGS staff should accompany the ambulance and individual to the hospital and assist the hospital staff in radiological control aspects of patient treatment. If no one is immediately available, the Emergency Coordinator shall contact an off-duty Health Physics Technician and have him meet the ambulance at the hospital.

- 6.3.11 Notify the Watch Engineer that the injured individual has been transferred to the ambulance.

6.4 Security

- 6.4.1 Upon notification from the Watch Engineer, Security should arrange for distribution of personnel monitoring devices to the ambulance drivers and an escort to the injured individual(s) transfer location.

- 6.4.2 Upon arrival of the ambulance, Security should notify the Watch Engineer.

- 6.4.3 If the individual is contaminated, obtain the Ambulance Emergency Kit in the First Aid Room. Security should distribute personnel monitoring devices to the ambulance drivers and lay down blotting paper in the rear section of the ambulance.

6.5 Health Physics Leader

- 6.5.1 For minor injuries involving contamination ensure appropriate Steps in Attachment 8.2, "Minor Contaminated Injury Treatment" are implemented.

6.0 PROCEDURE (Cont'd)

- 6.5.2 Ensure the following information is assembled immediately after a major injury involving contamination or excessive radiation exposure occurs:
- .1 Names of injured individual(s) and extent of injury.
 - .2 Name of non-injured individuals present at accident scene.
 - .3 Radiological condition at the accident scene.
 - .4 Contamination levels, location of contamination and length of time contamination persisted on the injured individual.
 - .5 Type and serial numbers of instruments used in evaluating radiological conditions of injured individual(s).
 - .6 Accumulated external and internal exposures for First Aid Team, injured individual(s), personnel present during accident, Hospital staff and Ambulance personnel.
 - .7 Method of Decon and numbers of attempts made including contamination levels after each attempt.
 - .8 Analysis of isotopes present at accident.
 - .9 Analysis of isotopes present in debrided tissue, urine or fecal samples, and materials used for decontaminating injured individual(s).
 - .10 Contamination levels of ambulance and hospital if decontamination of these facilities was necessary.
- 6.5.3 Ensure personnel monitoring dosimetry for injured individual(s), ambulance personnel and hospital staff are accounted for and results recorded.
- 6.5.4 Ensure ambulance is decontaminated to less than 22 DPM/100 cm² alpha and 220 DPM/100 cm² beta, gamma loose surface contamination and less than 100 CPM above background as directly measured by an RM-14/HP-210 or equivalent.
- 6.5.5 Ensure all contaminated clothing and material in hospital and ambulance are brought to site for analysis or disposal.

CONTAMINATED INJURY

6.0 PROCEDURE (Cont'd)

6.5.6 A physician with experience in radiation health should be contacted if:

- .1 the individual's dose (dose equivalent) is determined or estimated to exceed 10 rem whole body, 60 rem skin or 50 rem to an extremity.
- .2 an internal exposure projected to exceed 5 rem whole body or 25 rem thyroid due to uptake and disposition of radioactive material in the body.

The physician of service to SCE is:


Dr. J. F. Ross
UCLA Department of Medicine

7.0 RECORDS

After review, all records will be maintained by the Administrative Leader.

8.0 ATTACHMENTS

- 8.1 Check-Off List #1 - Control Room Actions for Personnel Injury
- 8.2 Minor Contaminated Injury Treatment
- 8.3 Directional Map to South Coast Community Hospital
- 8.4 Entrance to South Coast Community Hospital
- 8.5 South Community Hospital Layout


K. P. BARR
HEALTH PHYSICS MANAGER

CHECK-OFF LIST #1 - CONTROL ROOM ACTIONS FOR PERSONNEL INJURY

1. Notification Received

Time/Initial

- a. Location of Injured Person _____
- b. Number of Personnel Involved _____
- c. Contamination Present (Circle One) YES NO
- d. Name of Caller _____
- e. Phone No. of Caller _____
- f. Other Hazards _____

2. Watch Engineer Notified

Time/Initial

- a. Nature of Injury Determined:
 - 1. Minor w/o Contamination No ambulance or HP assistance required
 - 2. Minor w/Contamination Notify Health Physics Leader
 - 3. Major w/o Contamination Activate First Aid Team - Call Ambulance
 - 4. Major w/Contamination Activate First Aid Team - Notify Health
Physics Leader - Call Ambulance

NOTE:

Notifications should give particulars of Step 1 above. Specific emphasis should be made if no contamination is present.

3. Location for Injured Personnel Transfer Established

Time/Initial

CHECK-OFF LIST #1 - CONTROL ROOM ACTIONS FOR PERSONNEL INJURY

4. Security Notified Time/Initial
- a. Ambulance Company _____
- b. If Personnel Monitoring Needed _____
- c. Transfer Location _____
5. First Aid Team Notified Time/Initial
- a. Transfer Location _____
6. Notify Hospital Time/Initial
- Major Injury w/o Contamination (Ask for Emergency Room)
- Major Injury w/Contamination - Extension

NOTE:

Notification should give particulars of Step 1 above, the name of the ambulance company and expected time of arrival. Specific emphasis should be made if no contamination present.

7. Ambulance Crew Notified of Receiving Hospital Time/Initial
8. Hospital Notified Ambulance Has Left Time/Initial
9. Offsite Authorities Notified Time/Initial

MINOR CONTAMINATION INJURY TREATMENT

I. If the injury is not an open wound (such as a shallow cut or puncture), proceed to Section II. If the injury is an open wound, proceed as follows:

A. Flush the wound using lukewarm water over the sink in the station personnel decontamination room for at least two minutes. Additionally, promote light to moderate bleeding to help flush the wound.

NOTE: If a specific object caused the wound, the object should be surveyed for contamination by Health Physics, if feasible.

B. After the wound has been flushed, carefully blot the wound and surrounding skin area dry using clean, absorbent material.

C. Survey the wound and the surrounding skin area using a count rate instrument with a thin window G-M detector (such as the HP-210) and obtain open and closed window dose rate readings with an Ion Chamber (preferable) or G-M tube detector.

D. If contamination levels in or around the wound do not exceed 100 CPM above background, administer necessary first aid in accordance with First Aid Manual to treat the wound. (Survey remaining skin areas if the individual was in a radiological control area when the injury occurred. If other skin areas are contaminated (> 100 CPM above background), cover the wound area and decontaminate other skin areas in accordance with Health Physics Procedure S023-VII-4.4, "Personnel Decontamination" (Reference 2.3).

E. If contamination levels in or around the wound exceed 100 CPM above background, proceed as follows:

1. Prepare a thick detergent paste.

2. Dip a cotton swab in the detergent paste and rub a small area of the skin immediately surrounding the wound, using a motion which starts by placing the cotton swab at the edge of the wound and then moves away from the wound (do not rub towards the wound). Use as many swabs as necessary to clean an area about 1 1/2" wide around the wound.

3. Moisten a swab in water and rinse the detergent from the skin surrounding the wound, using the same motion as that used for applying the detergent paste. Use as many swabs as necessary until the skin is completely rinsed.

4. Blot the skin dry using clean, absorbent material.

MINOR CONTAMINATION INJURY TREATMENT

- F. Survey the wound and surrounding area using a count rate instrument with a thin window G-M detector and open and closed window readings with an Ion Chamber (preferable) or G-M tube detector.
- G. If contamination levels in or around the wound do not exceed 100 CPM above background, administer necessary first aid in accordance with the First Aid Manual to treat the wound. Survey remaining skin areas. If other skin areas are contaminated (> 100 CPM above background), cover the wound area and decontaminate other skin areas in accordance with Health Physics Procedure, S023-VII-4.4, "Personnel Decontamination" (Reference 2.3).
- H. If contamination levels in or around the wound still exceed 100 CPM above background, repeat Steps I-E-1 through I-E-4, a maximum of two addition cycles. (A maximum of 3 decontamination cycles is recommended to prevent possible damage to the skin surrounding the wound).
- I. Survey the wound and surrounding area using a count rate instrument with a thin window G-M detector and open and closed window readings with an Ion Chamber (preferable) or G-M tube detector.
- J. If contamination levels in or around the wound have been reduced to 100 CPM above background or less at the end of 3 cycles, administer necessary first aid in accordance with the First Aid Manual to treat the wound. Survey remaining skin areas. If other skin areas are contaminated (> 100 CPM above background), cover the wound area and decontaminate other skin areas in accordance with Reference 2.3.
- K. If contamination levels in or around the wound still exceed 100 CPM above background (it must be assumed that some or all of the radioactive material is in the wound), notify the Health Physics Manager.
- L. After being notified that a wound may be contaminated, the Health Physics Leader shall call the following physician for medical advice:
Dr. J. F. Ross - Office: _____ - Home: (Later)
- M. Further treatment of the wound will proceed following the advice of the physician or will be performed with direct assistance by the physician.

MINOR CONTAMINATION INJURY TREATMENT

- N. If the physician is to come to the station, the Watch Engineer shall call the Security Force to alert them and to give them instructions as to where to escort the physician when he arrives.
- O. If skin areas other than the wound area are contaminated (> 100 CPM above background), cover the wound area and decontaminate other skin areas in accordance with Reference 2.3.

MINOR CONTAMINATION INJURY TREATMENT

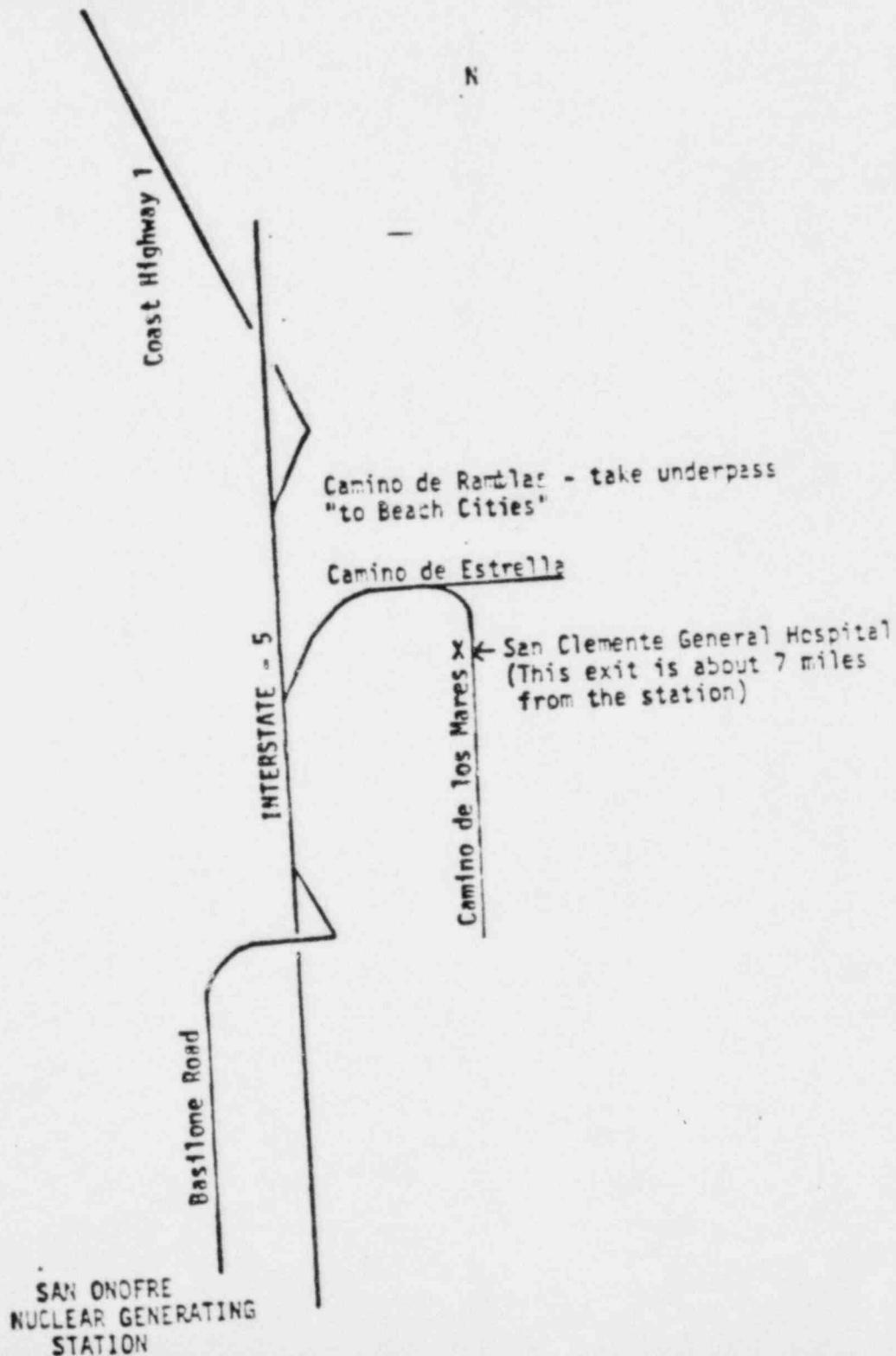
II. If the injury is not an open wound, proceed as follows:

- A. If the individual was not in a radiological control area when the injury occurred, administer necessary first aid in accordance with the First Aid Manual.
- B. If the individual was in a radiological control area when the injury occurred, perform a complete body survey using a count rate instrument with a thin window G-M detector.
- C. If contamination levels on the skin in the area of the injury and on the remainder of the body do not exceed 100 CPM above background, administer necessary first aid in accordance with the First Aid Manual to treat the injury.
- D. If contamination levels on the skin in the area of the injury and/or on the remainder of the body exceed 100 CPM above background, decontaminate in accordance with Health Physics Procedure, S023-VII-4.4, "Personnel Decontamination" (Reference 2.3). Obtain contamination readings with open and closed window readings from an Ion Chamber (preferable) or G-M tube detector.
- E. If the skin in the area of the injury is contaminated and if decontamination is unsuccessful in 3 or less cycles, administer necessary first aid in accordance with the First Aid Manual to treat the injury.
- F. If the skin in the area of the injury is contaminated and if decontamination is unsuccessful in 3 or less cycles, notify Health Physics Manager.
- G. The Health Physics Leader shall call the following physician for medical advice:

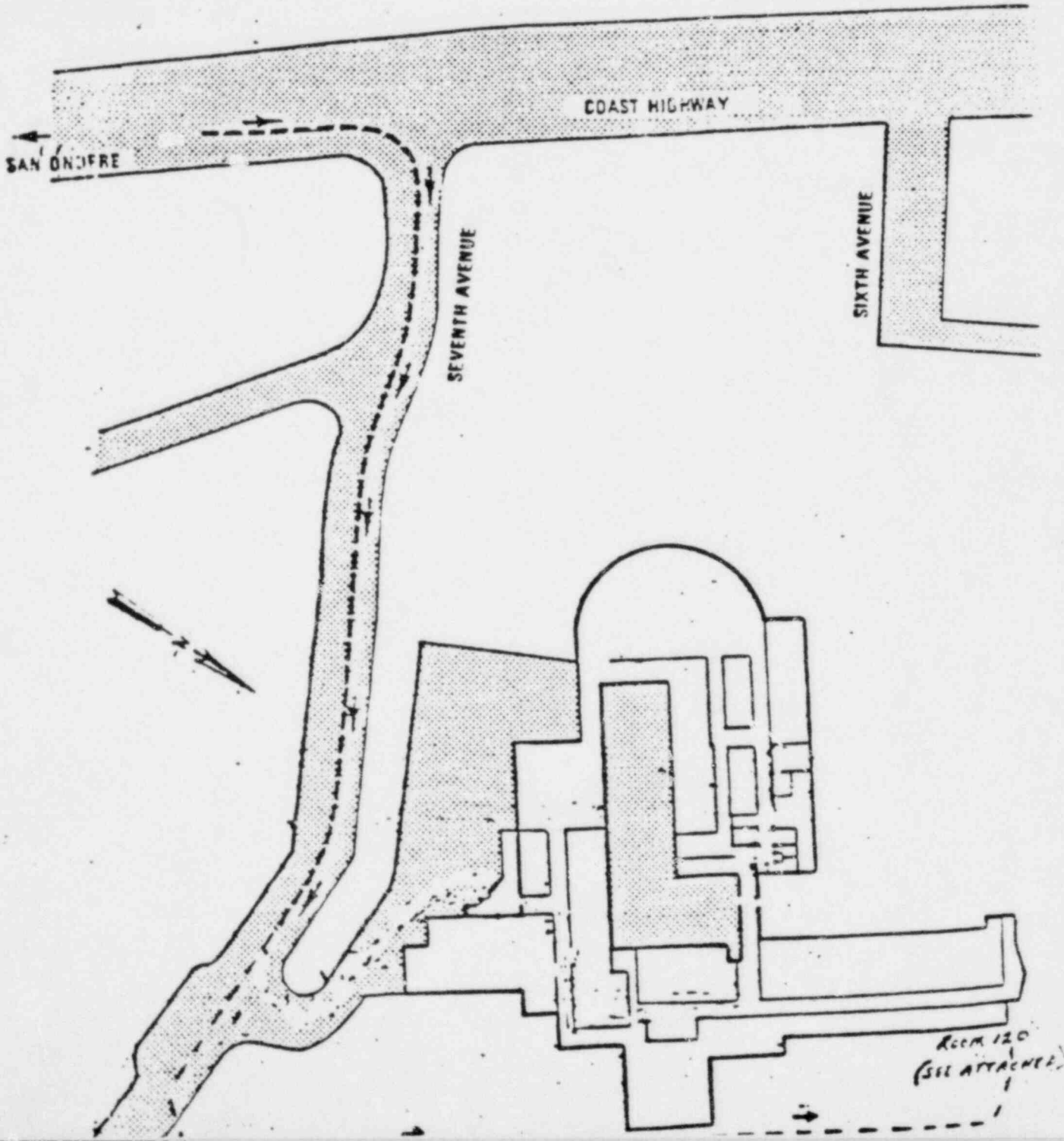
Dr. J. F. Ross - Office: _____ - Home: (Later)
- H. Further decontamination and treatment of the injury will proceed following the advice of the physician or will be performed with direct assistance by the physician.
- I. If the physician is to come to the station, the Watch Engineer shall call the Security Force to alert them and to give them instructions as to where to escort the physician when he arrives, and provide personnel monitoring as required by the Health Physics Leader.

DIRECTIONAL MAP TO SOUTH COAST COMMUNITY HOSPITAL

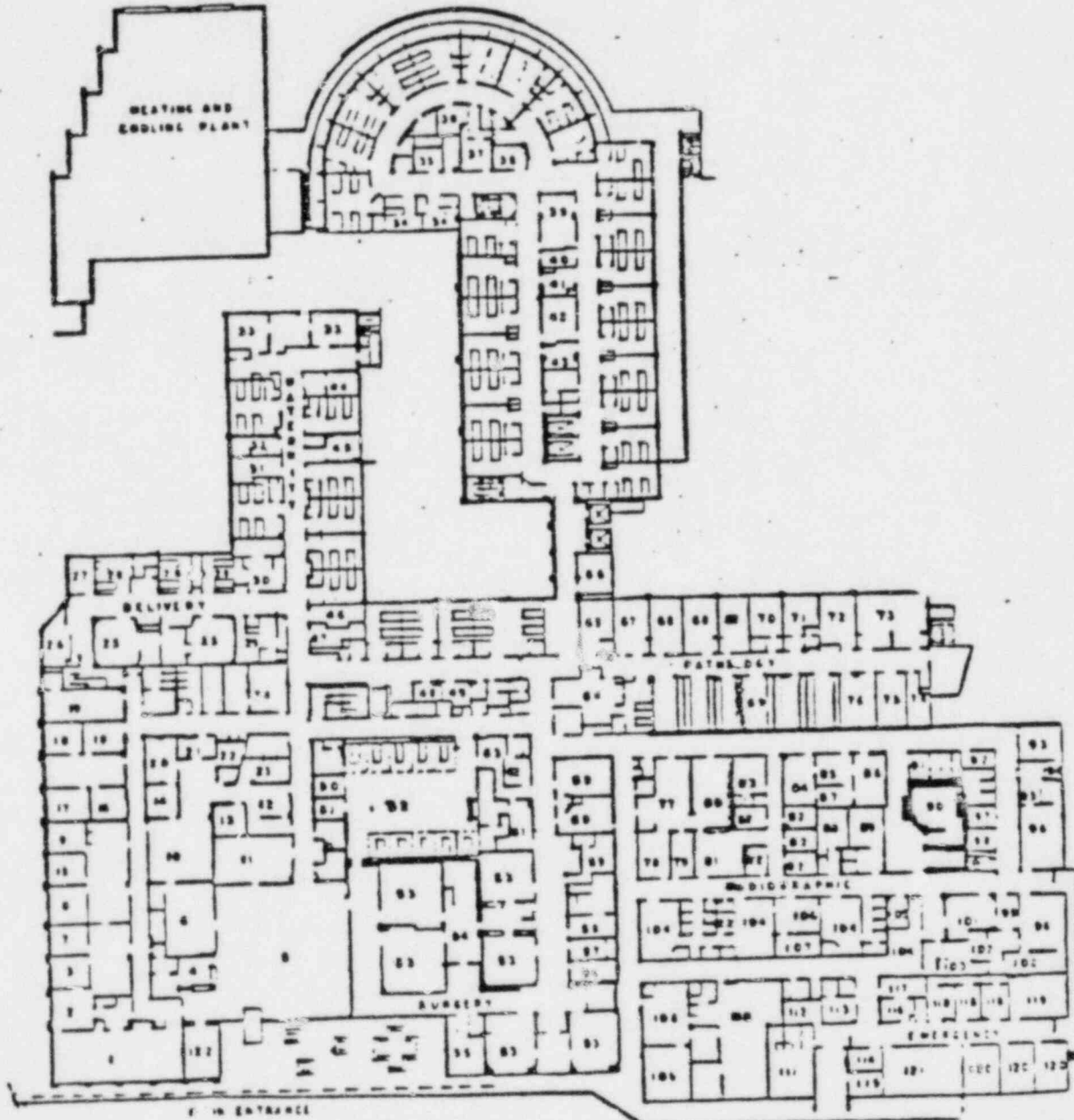
Go through Dana Point
See Figure IV-A "Entrance to
South Coast Community Hospital"



ENTRANCE TO SOUTH COAST COMMUNITY HOSPITAL



SOUTH COAST COMMUNITY HOSPITAL LAYOUT



SOUTH COAST COMMUNITY HOSPITAL

RESCUE

RECEIVED
SEP 9 1981
NOT FOR CONSTRUCTION
FOR START-UP USE ONLY
CHECK APPLICABLE CONTROLLED
STICK FILE FOR CURRENT INFORMATION
SITE FILE COPY

1.0 OBJECTIVE

This procedure provides instructions for the rescue of persons who may be trapped or disabled in some part of the station. The Emergency group leader is responsible for actions prescribed by this procedure.

2.0 REFERENCES

- 2.1 San Onofre Nuclear Generating Station Units 2 & 3 Emergency Plan
- 2.2 Health Physics Procedure, S023-VII-1.0, "Health Physics Manual"
- 2.3 Emergency Procedure, S023-VIII-31, "Emergency Exposure Control"
- 2.4 Emergency Procedure, S023-VIII-32, "Contaminated Injury"

3.0 PREREQUISITES

An emergency condition has been declared at San Onofre Nuclear Generating Station, Units 2 & 3.

4.0 PRECAUTIONS

All normal and emergency safety precautions are to be observed. Specific precautions are listed in the body of the procedure.

5.0 CHECK-OFF LISTS

- 5.1 Attachment 8.1 - Rescue Team Action and Checklist

6.0 PROCEDURE

6.1 General

- 6.1.1 Upon notification of a missing or trapped person, the Control Operator shall announce over the public address system that the rescue brigade should report to the area involved. (If location of missing person is not known, the rescue brigade should be told to report to the Operations Support Center). This message should be repeated.
- 6.1.2 The Watch Engineer shall acknowledge receipt of the alarm to the Control Room. If the Control Room Operator does not receive an acknowledgment from the Watch Engineer in 2 minutes, he should repeat the announcement.

6.0 PROCEDURE (Cont'd)

- 6.1.3 If the location of the missing person is not known, the Emergency Group Leader shall contact the Control Room to gather information and organize a search party to try to locate the missing person. The search party should include a person from the Health Physics Group.
- 6.1.4 Once the location of the missing person is established, the Emergency Group Leader shall direct the rescue brigade to report to the area. He shall also obtain two lifelines and appropriate radiation instruments from the Operations Support Center. (If the location is in a High Radiation Area, obtain a Geletector and 0-50R dosimeters from the emergency kit in the Operations Support Center). The Health Physics technician at the location may provide additional input and radiological monitoring
- 6.1.5 The Emergency Group Leader shall direct personnel to do the following if needed when instructed to report to the rescue area:
- .1 Two people (Assistant Control Operators on backshifts) should pick up a stretcher in the most convenient location. If the area is potentially contaminated, they should also pick up protective clothing for three people.
 - .2 One person (Plant Equipment Operator on backshifts) should pick up two self-contained air supplied masks to take to the rescue area.
- 6.1.6 At the rescue area, the Assistant Control Operator or individual appointed by the Emergency Group Leader shall be director of the rescue operations. The director and one man will enter the immediate area to assess the situation:

NOTE: As part of the assessment of the situation, Health Physics should provide radiological monitoring of the areas of interest.

- .1 If the area is known to be contaminated or if an explosion or massive escape of steam is involved in an area where it can be contaminated, protective clothing and respiratory protection shall be worn.

6.0 PROCEDURE (Cont'd)

- 6.1.6.2 If the area is smoke or steam filled, or if the area is in disarray because of fire or explosion, the men shall use lifelines and the self-contained air-supplied masks as necessary.
- .3 If there is potential radiation in the area, radiation levels shall be monitored as the area is entered.
- 6.1.7 On the basis of this inspection of the area, the rescue should be completed or, if the rescue is complicated by the condition of the area, the brigade will retire to a safe area and plan the method of rescue. (See Section 6.2)
- 6.1.8 If offsite emergency response assistance is required, refer to the emergency telephone numbers list ("Notifications" S023-VIII-16).

6.2 Specific Complications

6.2.1 High Radiation

- .1 Changes from normal Health Physics Procedures.

If an individual is trapped or disabled in an area in which the dose received during the rescue effort will be greater than 300 mrem, the rescue must be carried out as expeditiously as possible to keep the dose to the victim as low as possible. Therefore, for the rescue of personnel in which undue delay might result in the victim's death, the following modifications supersede the Health Physics Manual.

- .1.1 Prior approval for exposures covered by this procedure are required except in immediate Life or Death situations.
- .1.2 Exposures in excess of 10 CFR 20 limits are allowed provided the criteria in Emergency Procedure S023-VIII-31, "Emergency Exposure Control" are followed.
- .2 Action to be taken.
 - .2.1 Complete all the items in Sections 6.1.4 through 6.1.7 but wear the O-50R self-reading dosimeters and using the Teletector, enter the area and attempt to complete the rescue.

6.0 PROCEDURE (Cont'd)

6.2.2 Fire

.1 Rescue of a victim shall take precedence over fire fighting unless the fire can be put out quickly with no detrimental affect on the victim, or if it is necessary to suppress the fire to accomplish rescue.

.2 Action to be taken.

.2.1 Complete all items in Sections 6.1.4 through 6.1.7.

.2.2 Obtain rainsuits from the fire fighting supplies.

.2.3 One rescuer should spray water (using a hose and spray nozzle) over the others while they perform the rescue.

6.2.3 Steam or Hot Water

.1 Rescue of a victim shall take precedence over isolation of system unless:

.1.1 It is necessary to isolate the system to perform the rescue.

.1.2 The isolation of not isolating the system will seriously affect r safety or will place the lives of other personnel in immediate danger.

.2 Action to be taken.

.2.1 Complete all items in Sections 6.1.4 through 6.1.7.

.2.2 Obtain rainsuits from fire fighting supplies.

.2.3 One rescuer should spray water (using a hose and spray nozzle) over the others while they perform rescue.

6.2.4 Wreckage

.1 Action to be taken.

.1.1 Complete all items in Sections 6.1.4 through 6.1.7.

.1.2 Obtain tools necessary to perform the rescue from the maintenance shop.

.1.3 Enter the area and perform the rescue.

6.0 PROCEDURE (Cont'd)

6.3 Action After Rescue

6.3.1 Remove the victim to the closest safe area and apply any required first aid.

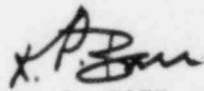
6.3.2 If the victim is injured, advise the Control Room of the situation and take the following actions according to Emergency Procedure S023-VIII-38, "Contaminated Injury".

7.0 RECORDS

Forward all records of rescue actions and radiation doses to the Administrative Leader.

8.0 ATTACHMENTS

8.1 Rescue Team Action and Checklist



K. P. BARR
HEALTH PHYSICS MANAGER

JSD:emb

RESCUE TEAM ACTIONS AND CHECKLIST

1. Date: _____ Time: _____
2. Emergency Group Leader in OSC: _____
3. Team Members: _____ From Organizational Group
- a. (Director) _____
- b. _____
- c. _____
4. Identity of Missing Person(s) Probable Location(s) Injury
- a. _____
- b. _____
- c. _____
5. Potential Conditions at Location(s) (Circle as appropriate)
- a. Contaminated b. High Radiation c. Steam Release d. Smoke or Steam Filled
- e. Fire f. Wreckage g. Loss of Illumination
6. As appropriate to conditions, obtain from OSC the following:
- a. Two (2) life lines _____
- b. Radiation measuring instruments _____
- c. Dosimeters and TLD's _____
- d. Telectors _____
- e. 0 - 50R dosimeters _____
- f. Stretcher _____
- g. Protective clothing for three (3) persons _____
- h. Two (2) self-contained air supply masks _____
- i. Flashlights or spotlights _____
- j. Radio communication equipment _____
- k. Other (specify) _____

RESCUE TEAM ACTIONS AND CHECKLIST

- 7. Authorization obtained for emergency exposure limits? _____
- 8. Inspection of area indicates conditions:
 - a. _____
 - b. _____
 - c. _____
- 9. Missing person(s) located: Time: _____ Location: _____
- 10. Condition of missing person(s) (medical attention require?): _____

- 11. Notify Emergency Group Leader of condition: _____
- 12. First Aid Team arrives (if required): Time: _____
- 13. Rescue complete: Time: _____
- 14. Rescue Team members return to OSC:
 - a. _____ Time: _____
 - b. _____ Time: _____
 - c. _____ Time: _____
- 15. Copy of this checklist to Emergency Group Leader: _____

Completed By: _____ Date _____ Time _____

NO FOR CONSTRUCTION
FOR START-UP USE ONLY
CHECK APPLICABLE CONTROLLED
STICK FILE FOR CURRENT INFORMATION

OCT 14 1981

ONSITE MONITORING

SITE FILE COPY

1.0 OBJECTIVE

- 1.1 This procedure provides instructions and guidance for conducting radiological monitoring onsite during an emergency.
- 1.2 Assigned Health Physics Technicians are responsible for implementation of this procedure.

2.0 REFERENCES

- 2.1 NUREG-0654, Rev. 1, Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants.
- 2.2 San Onofre Nuclear Generating Station Unit 2 and 3 Emergency Plan.
- 2.3 SONGS - 2 and 3 Health Physics Procedures.
- 2.4 EPIP S023-VIII-24, "Direction of Onsite Emergency Monitoring."
- 2.5 EPIP S023-VIII-31, "Emergency Exposure Control".
- 2.6 EPIP S023-VIII-36, "Thyroid Prophylaxis."
- 2.7 EPIP S023-VIII-43, "Sample Coordination during an Emergency."
- 2.8 EPIP S023-VIII-44, "Emergency Contamination Control."
- 2.9 EPIP S023-VIII-61, "Re-entry".

0 PREREQUISITES

3.1 An emergency condition has been declared at San Onofre Nuclear Generating Station, as provided in the SONGS Unit 2 and 3 Emergency Plan, and the Emergency Coordinator (Health Physics Leader) or his designee has ordered one or more of the following:

3.1.1 Onsite monitoring (airborne release);

3.1.2 Emergency center or onsite assembly area monitoring;

-and-

3.2 The Health Physics Leader has determined the general path of the plume and has provided monitoring team members with specific instructions on areas to survey, types of surveys, and requirements for protective clothing and respirators.

-and-

3.3 Appropriate monitoring equipment is available in emergency kits and currently calibrated.

4.0 PRECAUTIONS

4.1 Except where specifically identified, survey equipment and laboratory analysis will be performed in accordance with existing health physics and chemistry procedures.

4.2 For radiological accidents which occur during normal working hours, sufficient health physics personnel will be available to support general monitoring teams. During other times, it may only be possible to deploy one monitoring team. In these circumstances, the Emergency Coordinator (or HPL if available) will assign priorities for radiological monitoring based on the known or expected extent and severity of the release or radiological conditions while calling in additional personnel.

4.3 Monitoring teams must remain alert to their own exposure and request relief if their cumulative exposure approaches a SONGS-1 administrative control level. Exposure limit extensions may be authorized in accordance with procedure S023-VIII-31, "Emergency Exposure Control".

4.4 Communications between the monitoring team and emergency control personnel will be via SCE radio. Since radio communications at this frequency can be intercepted by commercially available scanners, all communications related to reporting survey data must be brief and factual, and free of exclamatory or alarming expressions. To the extent possible, survey points should be referenced by map designator rather than the actual location.

4.0 PRECAUTIONS (continued)

- 4.5 Since implementation of proper protective actions onsite and offsite and subsequent reconstruction of the event requires accurate information, observe the following guidelines:
- 4.5.1 Carefully word data transmissions to the TSC to minimize possible confusion. In particular, avoid abbreviations (such as "mrem", which could be confused with "rem"). Use the complete word or unit, i.e., "millirem".
 - 4.5.2 Clearly identify survey locations, using predesignated survey location numbers and map coordinates, and equipment/building names, as available.
 - 4.5.3 Preface radio communications with the title or name of the receiving party and your title or name. For example: "SONGS-2 and 3 TSC, this is NE monitoring team..." Wait for the receiving party to acknowledge prior to relaying any data. End the message with an appropriate termination phrase. For example: "...NE monitoring team, out".
- 4.6 Accurately document all survey data. Ensure that units associated with the data are clear. Enter the date, time, instrument serial number(s), and name of the surveyor on all survey records.
- 4.7 In general, ion chamber instruments should be used to measure dose rates; however, a Teletector may be used where high dose rates or location make it necessary.
- 4.8 Do not use a GM instrument (except Teletector) in a high level radiation field because the detector may saturate causing the instrument to erroneously read "zero" or below scale.
- 4.9 If an instrument malfunctions or "pegs" out during survey operations, immediately exit the area by the same route used to enter it, and obtain a new instrument if necessary. A malfunctioning instrument should be appropriately tagged.
- 4.10 Ensure that appropriate protective clothing and equipment (e.g. respirators) is worn by all members of the survey party. If there is a potential for high beta dose rates, use protective eyewear.
- 4.11 Exposures of personnel in the survey party shall be in accordance with SCE administrative control limits. Monitoring teams must remain alert to their own exposure and request relief if their cumulative exposures approach these levels. The Emergency Coordinator may authorize exposure limit extensions, if necessary (S023-VIII-31). All exposures shall be maintained as low as reasonably achievable by employing the following methods or techniques:

4.0 PRECAUTIONS

4.11 (continued)

- 4.11.1 Limit the number of personnel in the survey party to the minimum number necessary to perform the survey in a safe and efficient manner.
 - 4.11.2 If time is available, plan the survey in advance to ensure gathering a maximum amount of data in a minimum time period. Conduct a pre-survey briefing to insure all members of the party understand their tasks.
 - 4.11.3 Ensure that the party has all equipment and supplies it needs, including survey maps and forms. Pre-number swipes and take other measures to minimize time in the radiation field.
 - 4.11.4 Use extendable probe instruments (such as the Teletector) to minimize exposure when monitoring "hot spots" or hard to reach areas.
 - 4.11.5 Use available equipment or structures as shielding when appropriate.
- 4.12 Alarming dosimeters should be considered in addition to high range self-reading dosimeters.

5.0 CHECK-OFF LISTS

5.1 None

6.0 PROCEDURE

- 6.1 Report to the Health Physics Leader at the Technical Support Center for briefing.
- 6.2 Obtain appropriate monitoring equipment from the monitoring kit(s) located in the storage locations. Equipment selected will depend on the type of survey assigned. Obtain and re-zero assigned dosimeter, if applicable. Obtain applicable survey maps and emergency survey log sheets, etc.
- 6.3 Turn on instruments and allow for 2 minute warmup. Check instruments for proper response using a check source.
- 6.4 Obtain a portable radio transceiver and check operation before leaving to start survey. Keep the radio operational at all times while performing surveys in order to maintain communications with the Health Physics Leader or other TSC personnel.

6.0 PROCEDURE (continued)

NOTE: The next three major sections of this procedure are as follows:

Section 6.5, "In-Plant Monitoring," provides instructions and guidance for monitoring within SONGS Unit 1; Section 6.6, "Out-of-Plant Monitoring", applies to onsite monitoring outside of SONGS Unit 2 and 3; and Section 6.7, "Airborne Radioactivity Monitoring," applies to monitoring done either in-plant (6.5) or out-of-plant (6.6).

6.5 In-Plant Monitoring

6.5.1 If the Health Physics Leader so directs, or if substantial airborne activity or contamination is suspected, or as mandated by cognizant REP(s), don protective clothing and/or respirators, as appropriate. Avoid the unnecessary use of respirators and protective clothing.

6.5.2 While enroute to the assigned survey location, and at any other time while moving about the plant, have the survey instrument turned on (with the beta window open, if applicable). Frequently observe the survey meter and report readings to the Health Physics Leader. Record abnormal readings or other readings have special significance.

NOTE: If observed dose rates significantly exceed those to be expected, immediately notify the Health Physics Leader, then proceed with survey unless otherwise directed.

6.5.3 Upon arriving at survey location, approach with caution and continue to monitor dose rates frequently as above. Take swipes and air samples as appropriate. Record general area dose rates and any significant "hot spots" encountered. General area dose rates should be conducted as follows:

- .1 Open the beta shield (if applicable).
- .2 Hold the instrument probe about 3 feet (waist height) above the ground and position for a maximum reading.
- .3 Take a reading. Allow sufficient time for the meter to stabilize. Document the reading.

NOTE: The type and extent of the survey will depend upon the nature of radiological conditions and the instructions given at the briefing.

6.0 PROCEDURE (continued)

6.6 Out-Of-Plant Monitoring

- 6.6.1 If the monitoring is to be performed outside of the security fence, leave the station via the Security Processing Facility exit. Retain your film and dosimeter(s) while performing radiological monitoring.
- 6.6.2 Obtain an SCE vehicle, if available. Otherwise, use any available privately-owned vehicle. There should be at least 1/2 tank of gas. Obtain another vehicle if necessary and practicable.
- 6.6.3 If the Health Physics Leader so directs, or if substantial airborne activity or contamination is suspected, don protective clothing and/or respirators, as appropriate. Avoid the unnecessary use of respirators and protective clothing. If observed dose rates exceed 10 millirem per hour while monitoring out of doors, evacuate the area and/or seek shelter, unless otherwise directed by the Health Physics Leader.
- 6.6.4 Perform measurements assigned by the Health Physics Leader as follows:
 - .1 Moving Dose Rate Monitoring
 - .1.1 While enroute to the first assigned monitoring location, and at any other time while moving about the site, have the survey instrument turned on, with the beta window open. Frequently observe the survey meter and report readings to the Health Physics Leader. If a level of 1.0 millirem per hour or greater is observed, immediately notify the Health Physics Leader.
 - .1.2 Take occasional beta-gamma (beta-window open) readings with the instrument probe extended through an open vehicle window. Note and record any readings significantly higher than the average and document them.

6.0 PROCEDURE

6.6.4 (continued)

.2 Stationary Dose Rate Monitoring

- .2.1 Open the beta shield.
- .2.2 Hold the instrument probe about 3 feet (waist height) above the ground and position for a maximum reading.
- .2.3 Take a reading. Allow sufficient time for the meter to stabilize. Document the reading.
- .2.4 Move the instrument probe to about three inches above the ground and take another reading. Document the reading.

NOTE: The type and extent of the survey will depend upon the nature of radiological conditions and the instructions given at the briefing.

6.7 Airborne Radioactivity Monitoring

NOTE: This section may apply to both in-plant monitoring (section 6.5) and out-of-plant monitoring (Section 6.6).

- 6.7.1 Place a clean particulate filter and a silver zeolite cartridge in the air sampler. The filters are installed such that the air flow passes through the particulate filter first.

NOTE: The HPL may change the sample volume from 10 ft³ to another volume consistent with radiological conditions.

- 6.7.2 Record the sample flow rate, in cfm, on the survey form. On the DC powered samplers, this is normally 1.0 ft³. Calculate the time necessary to obtain a 10 ft³ sample.

$$\text{Sample Time, (minutes)} = \frac{10\text{ft}^3}{\text{Sampler Flow Rate, (cfm)}}$$

- 6.7.3 Position or hold the sampler such that the intake is neither touching nor in close proximity to potentially contaminated surfaces. Connect the sampler to the power supply, or for 12 VDC samplers, to the battery of the vehicle. Keep the engine running when drawing power from the vehicle battery.
- 6.7.4 Turn the sampler on and record the sample start time on an Air Sample Record Card (see Attachment 8.2).
- 6.7.5 When approximately 1.0 ft³ has been collected, turn the sampler off and record the sample stop time on the Air Sample Record Card.

6.0 PROCEDURE

6.7 (continued)

6.7.6 Remove the filter and cartridge from the sampler.

6.7.7 Count each filter cartridge separately, using a G-M count rate instrument with a thin window detector for filters and a SAM 2 or equivalent for cartridges. Place the filter/cartridge on a clean surface and position the detector about one-half centimeter away from the filter/cartridge.

NOTE: See appropriate SONGS-2 and 3 Health Physics procedure for SAM-2 operating instructions.

NOTE: If the GM instrument has a RESPONSE control, insure that it is set for the slowest response. This is necessary to maintain an adequate minimum detectable count rate (MDCR). The MDCR for typical background count rates and instrument response times are listed in Attachment 8.3. If the background exceeds the highest background in Attachment 8.3, move to a location with a lower background.

6.7.8 Record readings, location, and time on the survey form.

6.7.9 Report any radioiodine sample which exceeds 100 cpm above background to the HPL.

6.7.10 Place the samples in a plastic bag with the Air Sample Record Card. At the end of the survey, return all samples and survey forms/maps to the Station, or to another location designated by the PHL for laboratory counting.

6.7.11 After all of the required data has been collected at the first survey location, establish radio contact with the HPL and report the following data:

- .1 Survey location and time.
- .2 Air sample volume.
- .3 Background count rate.
- .4 Gross counts for the particulate sample.
- .5 Gross counts for the radioiodine cartridge (Identify if other than silver zeolite).
- .6 Average 3 - foot (waist high) reading.
- .7 Radiation readings taken between survey points.

6.0 PROCEDURE

6.7 (continued)

6.7.12 Proceed to the next monitoring point and repeat for each monitoring location.

6.8 After all of the required data has been collected at the first monitoring point, establish radio contact with the Health Physics Leader and report all data.

6.9 Proceed to subsequent monitoring points and repeat appropriate steps.

6.10 Periodically, read pocket dosimeters of the entire monitoring team. Report these readings to the Health Physics Leader at least every 30 minutes, or when accumulated exposure to any individual reaches 100 mrem.

6.11 After reporting the data from the last monitoring point, request further instructions from the HPL.

6.12 Other Monitoring

The basic monitoring for alpha contamination, neutron exposure rate, and surface contamination will be conducted using the general methods established in SONGS Unit 2 and 3 Health Physics Procedures.

7.0 RECORDS

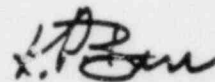
7.1 Forward the results of all radiation monitoring and subsequent actions to the Administrative Leader.

8.0 ATTACHMENTS

8.1 Emergency Radiological Survey Record

8.2 Air Sample Record Card

8.3 Minimum Detectable Count Rates



K. P. BARR
HEALTH PHYSICS MANAGER

AIR SAMPLE RECORD CARD

Air Sample Location: _____
Date: _____ Surveyor: _____
Sampler ID No.: _____
Sampler Flow Rate: _____ cfm
Sample Start Time: _____ Stop Time: _____
Sample Time: _____ min.
Sample Volume: _____ ft³

MINIMUM DETECTABLE COUNT RATES

<u>Background (cpm)</u>	<u>MDCR (cpm)</u>		
	<u>Response Time</u>		
	<u>2 sec</u>	<u>5 sec</u>	<u>10 sec</u>
100	180	115	80
200	255	165	115
500	405	255	180
1000	570	360	255
1500	700	445	315
2000	810	510	360
2500	905	570	405
3000	990	625	445
3500		675	480
4000		725	510
4500		765	545
5000		810	570
7500		990	700
10000			810
15000			990

0109F/ge

SAN ONOFRE NUCLEAR GENERATING STATION
UNITS 2 AND 3

NO. FOR CONSTRUCTION
EEMERGENCY PROCEDURE S023-VIII-42
NEW SEP FOR START-UP USE ONLY
CHECK APPLICABLE CON
STICK FILL FOR CURRENT H
CDM SITE

OFFSITE MONITORING AND SAMPLING

SITE FILE COPY

1.0 OBJECTIVE

- 1.1 This procedure provides instructions and guidance for conducting offsite radiological monitoring and sampling for accident assessment purposes during an emergency.
- 1.2 Assigned Health Physics Technicians are responsible for implementation of this procedure.

2.0 REFERENCES

- 2.1 NUREG-0654, Rev. 1, Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants.
- 2.2 San Onofre Nuclear Generating Station Units 2 and 3 Emergency Plan.
- 2.3 SONGS -2 and 3 Health Physics Procedures.
- 2.4 EPIP S023-VIII-25, "Direction of Offsite Emergency Monitoring."
- 2.5 EPIP S023-VIII-31, "Emergency Exposure Control".
- 2.6 EPIP S023-VIII-36, "Thyroid Prophylaxis."
- 2.7 EPIP S023-VIII-43, "Sample Coordination during an Emergency."

0 PREREQUISITES

- 3.1 An emergency condition has been declared at San Onofre Nuclear Generating Station, as provided in the SONGS Units 2 and 3 Emergency Plan, and the Emergency Coordinator (Health Physics Leader) or his designee has ordered one or both of the following:
- 3.1.1 Offsite monitoring (airborne release);
 - 3.1.2 Offsite Emergency Center or onsite Assembly Area monitoring;
- and-
- 3.2 Emergency control personnel have determined the general path of the plume and have provided monitoring team members with specific instructions on areas to survey, types of surveys, and requirements for protective clothing and respirators.
- and-
- 3.3 Appropriate monitoring equipment is available in emergency kits, operable and currently calibrated.

4.0 PRECAUTIONS

- 4.1 Except where specifically identified, survey equipment operation and laboratory analysis will be performed in accordance with existing health physics and chemistry procedures.
- 4.2 For radiological accidents which occur during normal working hours, sufficient health physics personnel will be available to support general monitoring teams. During other times, it may only be possible to deploy one monitoring team. In these circumstances, the Emergency Coordinator (or HPL if available) will assign priorities for radiological monitoring based on the known or expected extent and severity of the release or radiological conditions while calling in additional personnel.
- 4.3 Monitoring teams must remain alert to their own exposure and request relief if their cumulative exposure approaches a SONGS-2 and 3 administrative control level. Exposure limit extensions may be authorized in accordance with procedure S023-VIII-31, "EMERGENCY EXPOSURE CONTROL".
- 4.4 Communications between the monitoring team and emergency control personnel will be via SCE radio. Since radio communications at this frequency can be intercepted by commercially available scanners, all communications related to reporting survey data must be brief and factual, and free of exclamatory or alarming expressions. To the extent possible, survey points should be referenced by map designator rather than the actual location.

4.0 PRECAUTIONS (continued)

- 4.5 Since implementation of proper protective actions onsite and offsite and subsequent reconstruction of the event requires accurate information, observe the following guidelines:
- 4.5.1 Carefully word data transmissions to the TSC to minimize possible confusion. In particular, avoid abbreviations (such as "mrem", which could be confused with "rem"). Use the complete word or unit, i.e., "millirem".
- 4.5.2 Clearly identify survey locations, using predesignated survey location numbers and map coordinates, and equipment/building names, as available.
- 4.5.3 Preface radio communications with the title or name of the receiving party and your title or name. For example: "SONGS-2 and 3 TSC, this is NE monitoring team..." Wait for the receiving party to acknowledge prior to relaying any data. End the message with an appropriate termination phrase. For example: "...NE monitoring team, out".
- 4.6 Accurately document all survey data. Ensure that units associated with the data are clear. Enter the date, time, instrument serial number(s), and name of the surveyor on all survey records.
- 4.7 In general, ion chamber instruments should be used to measure dose rates; however, a Teletector may be used where high dose rates or location make it necessary.
- 4.8 Do not use a GM instrument (except Teletector) in a high level radiation field because the detector may saturate causing the instrument to erroneously read "zero" or below scale.
- 4.9 If an instrument malfunctions or "pegs" out during survey operations, immediately exit the area by the same route used to enter it, and obtain a new instrument if necessary. A malfunctioning instrument should be appropriately tagged.
- 4.10 Ensure that appropriate protective clothing and equipment (e.g. respirators) is worn by all members of the survey party. If there is a potential for high beta dose rates, use protective eyewear.
- 4.11 All exposures shall be maintained as low as reasonably achievable by employing the following methods or techniques:

4.0 PRECAUTIONS

4.11 (continued)

- 4.11.1 Limit the number of personnel in the survey party to the minimum number necessary to perform the survey in a safe and efficient manner.
 - 4.11.2 If time is available, plan the survey in advance to ensure gathering a maximum amount of data in a minimum time period. Conduct a briefing to ensure all members of the party understand their tasks.
 - 4.11.3 Ensure that the party has all equipment and supplies it needs, including survey maps and forms. Pre-number swipes and take other measures to minimize time in the radiation field.
 - 4.11.4 Use extendable probe instruments (such as the Teletector) to minimize exposure when monitoring "hot spots" or hard to reach areas.
 - 4.11.5 Use available equipment or structures as shielding when appropriate.
- 4.12 Alarming dosimeters should be considered in addition to high range self-reading dosimeters.

5.0 CHECK-OFF LISTS

- 5.1 None

6.0 PROCEDURE

- 6.1 Report to the Health Physics Leader at the Technical Support Center for briefing.
- 6.2 Obtain appropriate monitoring equipment from the monitoring kit(s) located in the storage locations. Equipment selected will depend on the type of survey assigned. Obtain and re-zero assigned dosimeter, if applicable. Obtain applicable survey maps and emergency survey log sheets, etc.
- 6.3 Turn on instruments and allow for 2 minute warmup. Check instruments for proper response using a check source.
- 6.4 Obtain a portable radio transceiver and check operation before leaving to start survey. Keep the radio operational at all times while performing surveys in order to maintain communications with the Health Physics Leader or other TSC personnel.

5.0 PROCEDURE (continued)

NOTE: The next two major sections of this procedure are as follows:

Section 6.5, "Offsite Dose Rate Monitoring".
Section 6.6, "Offsite Airborne Radioactivity Monitoring"

These two sections and the collection of samples for later analysis should be executed concurrently as appropriate.

6.5 Offsite Dose Rate Monitoring

6.5.1 Retain your film badge(s) and dosimeter(s) while performing offsite radiological monitoring.

6.5.2 Obtain an SCE vehicle, if available. Otherwise, use any available privately-owned vehicle. There should be at least 1/2 tank of gas. Obtain another vehicle if necessary and practicable.

6.5.3 If the Health Physics Leader so directs, or if substantial airborne activity or contamination is suspected, or as mandated by cognizant REP(s), don protective clothing and/or respirators, as appropriate. Avoid the unnecessary use of respirators and protective clothing. If observed dose rates exceed 10 millirem per hour while monitoring out of doors, evacuate the area and/or seek shelter, unless otherwise directed by the Health Physics Leader.

6.5.4 Perform measurements assigned by the Health Physics Leader as follows:

.1 Moving Dose Rate Monitoring

.1.1 While enroute to the first assigned monitoring location, and at any other time while moving about the site, have the survey instrument turned on, with the beta window open. Frequently observe the survey meter and report readings to the Health Physics Leader. If a level of 1.0 millirem per hour or greater is observed, immediately notify the Health Physics Leader.

.1.2 Take occasional beta-gamma (beta-window open) readings with the instrument probe extended through an open vehicle window. Note and record any readings significantly higher than the average and document them.

6.0 PROCEDURE

6.5.4 (continued)

.2 Stationary Dose Rate Monitoring

- .2.1 Open the beta shield.
- .2.2 Hold the instrument probe about 3 feet (waist height) above the ground and position for a maximum reading.
- .2.3 Take a reading. Allow sufficient time for the meter to stabilize. Document the reading.
- .2.4 Move the instrument probe to about three inches above the ground and take another reading. Document the reading.

NOTE: The type and extent of the survey will depend upon the nature of radiological conditions and the instructions given at the briefing.

6.6 Offsite Airborne Radioactivity Monitoring

- 6.6.1 Place a clean particulate filter and a silver zeolite cartridge in the air sampler. The filters are installed such that the air flow passes through the particulate filter first.
- 6.6.2 The HPL may change the sample volume from 10 ft³ to another volume consistent with radiological conditions.
- 6.6.3 Record the sample flow rate, in cfm, on the survey form. On the DC powered samplers, this is normally 1,0 ft³. Calculate the time necessary to obtain a 10 ft³ sample.

$$\text{Sample Time, (minutes)} = \frac{10\text{ft}^3}{\text{Sampler Flow Rate, (cfm)}}$$

- 6.6.4 Position or hold the sampler such that the intake is neither touching nor in close proximity to potentially contaminated surfaces. Connect the sampler to the power supply, or for 12 VDC samplers, to the battery of the vehicle. Keep the engine running when drawing power from the vehicle battery.
- 6.6.5 Turn the sampler on and record the sample start time on an Air Sample Record Card (see Attachment 8.2).
- 6.6.6 When approximately 10 ft³ has been collected, turn the sampler off and record the sample stop time on the Air Sample Record Card.

6.0 PROCEDURE

6.6 (continued)

- 6.6.7 Remove the filter and cartridge from the sampler.
- 6.6.8 Count each filter cartridge separately, using a G-M count rate instrument with a thin window detector for filters and a SAM 2 or equivalent for cartridges. Place the filter/cartridge on a clean surface and position the detector about one-half centimeter away from the filter/cartridge.
- NOTE: See appropriate SONGS-2 and 3 Health Physics procedure for SAM-2 operating instructions.
- NOTE: If the GM instrument has a RESPONSE control, ensure that it is set for the slowest response. This is necessary to maintain an adequate minimum detectable count rate (MDCR). The MDCR for typical background count rates and instrument response times are listed in Attachment 8.3. If the background exceeds the highest background in Attachment 8.3, move to a location with a lower background.
- 6.6.9 Record readings, location, and time on the survey form.
- 6.6.10 Report any radioiodine sample which exceeds 100 cpm above background to the HPL.
- 6.7.11 Place the samples in a plastic bag with the Air Sample Record Card. At the end of the survey, return all samples and survey forms/maps to the Station, or to another location designated by the HPL for laboratory counting.
- 6.7.12 After all of the required data has been collected at the first survey location, establish radio contact with the HPL and report the following data:
- .1 Survey location and time.
 - .2 Air sample volume.
 - .3 Background count rate.
 - .4 Gross counts for the particulate sample.
 - .5 Gross counts for the radioiodine cartridge (Identify if other than silver zeolite).
 - .6 Average 3 - foot (waist high) reading.
 - .7 Radiation readings taken between survey points.

6.0 PROCEDURE (continued)

- 6.7 Collect requested samples for later analysis.
- 6.8 After all of the required data has been collected at the first monitoring point, establish radio contact with the Health Physics Leader and report all data.
- 6.9 Proceed to subsequent monitoring points and repeat appropriate steps.
- 6.10 Periodically, read pocket dosimeters of the entire monitoring team. Report these readings to the Health Physics Leader at least every 30 minutes, or when accumulated exposure to any individual reaches 100 mrem.
- 6.11 After reporting the data from the last monitoring point, request further instructions from the HPL.
- 6.12 Other Monitoring

The basic monitoring for alpha contamination, neutron exposure rate, and surface contamination will be conducted using the general methods established in SONGS Units 2 and 3 Health Physics Procedures.

7.0 RECORDS

- 7.1 Forward the results of all radiation monitoring and subsequent actions to the Administrative Leader.

8.0 ATTACHMENTS

- 8.1 Emergency Radiological Survey Record
- 8.2 Air Sample Record Card
- 8.3 Minimum Detectable Count Rates



K. P. BARR
HEALTH PHYSICS MANAGER

ATTACHMENT 8.2

AIR SAMPLE RECORD CARD

Air Sample Location: _____
Date: _____ Surveyor: _____
Sampler ID No.: _____
Sampler Flow Rate: _____ cfm
Sample Start Time: _____ Stop Time: _____
Sample Time: _____ min.
Sample Volume: _____ ft³

ATTACHMENT 8.3

MINIMUM DETECTABLE COUNT RATES

<u>Background (cpm)</u>	<u>MDCR (cpm)</u>		
	<u>Response Time</u>		
	<u>2 sec</u>	<u>5 sec</u>	<u>10 sec</u>
100	180	115	80
200	255	165	115
500	405	255	180
1000	570	360	255
1500	700	445	315
2000	810	510	360
2500	905	570	405
3000	990	625	445
3500		675	480
4000		725	510
4500		765	545
5000		810	570
7500		990	700
10000			810
15000			990

0097F/ge

SAMPLE COORDINATION DURING AN EMERGENCY



1.0 OBJECTIVE

This procedure establishes a means for coordination and tracking of samples during an emergency. This procedure allows for the appointment of a Sample Coordinator, establishes an Emergency Sample Log, and provides guidelines for sample priorities. The Chemistry Leader is responsible for the implementation of this procedure.

2.0 REFERENCES

- 2.1 NUREG - 0654, Rev. 1, Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants
- 2.2 San Onofre Nuclear Generating Station, Units 2 & 3 Emergency Plan

SITE FILE COPY

3.0 PREREQUISITES

- 3.1 An emergency condition has been declared at San Onofre Nuclear Generating Station, Units 2 & 3.
- 3.2 Due to radiological conditions, a greater than normal volume of samples are being processed.
- 3.3 The Chemistry Leader or his designee, has appointed a Sample Coordinator.
- 3.4 The Sample Coordinator should be familiar with routine chemistry and Health Physics procedures, and Emergency procedures associated with sampling and analysis.

4.0 PRECAUTIONS

- 4.1 Personnel Exposures shall be in accordance with Emergency Procedure S023-VIII-31, "Emergency Exposure Control".
- 4.2 Personnel Exposures related to transporting, handling and analysis should be maintained as low as is reasonably achievable.

5.0 CHECK-OFF LISTS

- 5.1 Sample Coordination Checklist (Attachment 8.1)

6.0 PROCEDURE

- 6.1 The Sample Coordinator shall initiate an Emergency Sample Log (Attachment 8.3) and ensure that all sampler and analytical results are properly logged.

6.0 PROCEDURE (Cont'd)

- 6.2 The Sample Coordinator shall assign a sequential sample number and a numerical priority number to each sample (if not already assigned) in accordance with Section 6.4 of this procedure.
- 6.3 The Sample Coordinator may request the Health Physics Leader/Chemistry Leader to provide the appropriate quantities of the following resources as are necessary to carry out his/her duties:
- 6.3.1 Clerical support
 - 6.3.2 Sample "runners"
 - 6.3.3 Transportation as necessary and available.
- 6.4 The Sample Coordinator shall assign a priority number of each sample if one has not already been assigned by the Chemistry Leader or an appropriate member of the Technical Support Center (TSC) staff. Attachment 8.2 of this procedure, "Guidelines for Assignment of Sample Priority", shall be consulted to accomplish this.

NOTE: The priority number assigned a given sample shall govern the urgency with which the sample is logged and transmitted, analyzed and the results returned to the originator. Priority "1" samples should be logged, transmitted and analyzed immediately, and the results returned to the originator as expeditiously as possible.

6.5 Attachment 8.3 provides the format for the Emergency Sample Log.

7.0 RECORDS

Forward all records to the Administrative Leader after review.

8.0 ATTACHMENTS

- 8.1 Sample Coordination Checklist
- 8.2 Guidelines For Assignment of Sample Priority
- 8.3 Emergency Sample Log Format



K. P. BARR
HEALTH PHYSICS MANAGER

JSQ:emb

SAMPLE COORDINATION CHECKLIST

- | | <u>Initials</u> |
|--|-----------------|
| 1. Emergency Sample Log instituted. | _____ |
| 2. All samples assigned sample and priority numbers. | _____ |

After this checklist is completed it should be submitted to the Administrative Leader.

Emergency Sample Coordinator: _____

Emergency Sample Log Completed: _____ Hours Date: _____

Reviewed By: _____ Date: _____
Chemistry Leader

GUIDELINES FOR ASSIGNMENT OF SAMPLE PRIORITY*

PRIORITY

EXAMPLE

- | | |
|---|--|
| 1 | a. Post-Accident Assessment |
| | b. Samples in support of accident mitigation operations or affecting personnel safety. |
| 2 | a. Post-Accident Surveillance |
| | b. Samples in support of recovery operations. |
| 3 | a. Routine Surveillance |

* The Chemistry Leader or his representative may assign priority numbers as conditions dictate; however, the Sampler Coordinator should attempt to follow these guidelines if the priority has not already been assigned.

EMERGENCY SAMPLE LOG FORMAT

SAMPLE NO.	PRIORITY	SAMPLE TIME	RECEIVED DATE	DESCRIPTION	INITIALS

CHECK APPLICABLE CONTROLS

CDM SITE

1.0 OBJECTIVE

This procedure provides contamination control guidelines for emergency conditions, to minimize the spread of contamination during an emergency, and provide methods to identify and handle contaminated personnel.

The Health Physics staff is responsible for implementation of this procedure.

SITE FILE COPY

2.0 REFERENCES

- 2.1 NUREG-0654, Rev. 1, Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants
- 2.2 San Onofre Nuclear Generating Station, Units 2 & 3, Emergency Plan
- 2.3 Health Physics Procedure S023-VII-1.0, "Health Physics Manual"
- 2.4 Health Physics Procedure S023-VII-4.2, "Bioassay Program"
- 2.5 Health Physics Procedure S023-VII-4.4, "Personnel Decontamination"
- 2.6 Health Physics Procedure S023-VII-7.2, "Airborne Radioactivity Surveys (Non-Routine)"
- 2.7 Health Physics Procedure S023-VII-7.3, "Contamination Surveys"
- 2.8 Health Physics Procedure S023-VII-7.4, "Radiation Surveys"

3.0 PREREQUISITES

- 3.1 An emergency condition has been declared at San Onofre Nuclear Generating Station, Units 2 & 3.
- 3.2 A release of radioactive material has occurred which has caused significant levels of radioactive contamination.
- 3.3 There is reason to suspect personnel contamination has occurred.

4.0 PRECAUTIONS

- 4.1 Personnel entering a contaminated area must be properly attired in protective clothing and respiratory protection in accordance with Health Physics Procedure S023-VII-1.0, "Health Physics Manual".
- 4.2 Medical treatment/First Aid to seriously injured individuals always takes priority over contamination control measures.
- 4.3 Definitive detection of inhalation or ingestion of radioactive material depends on positive results of either whole body counting or excreta analysis.
- 4.4 The Health Physics Group is responsible for controlling all food and water supplies at the plant during an emergency. Whenever an evacuation due to radiological conditions takes place, all food and water supplies within the evacuated area will be considered contaminated and measures will be taken to prevent their use.
- 4.5 Before any water or food may be consumed, the Health Physics Group must verify that the water/food itself and the eating surfaces are below emergency contamination guidelines for personnel (Attachment 8.1). Random samples of food/water shall be analyzed for low level contamination on a periodic basis.

5.0 CHECK-OFF LISTS

- 5.1 Contamination Control Checklist Spills and Releases (Attachment 8.2)

6.0 PROCEDURE

6.1 Contamination Control

- 6.1.1 It may become necessary to extend the boundaries of the controlled area. Appropriate access control and associated contamination control measures shall be established for any area in which contamination exists at levels higher than that specified for a clean area in the Health Physics Manual. (Reference 2.3)
- 6.1.2 Personnel and equipment monitoring and release procedures shall remain in force to the extent possible. There may be exceptions applicable to emergency conditions as follows:

6.0 PROCEDURE (Cont'd)

6.1.2.1 If background dose rates at normal monitoring locations preclude detection of levels of contamination equivalent to the clean limit, monitoring locations shall be moved to a location where this can be done. However, if significant levels of contamination exist, it may be appropriate to perform a gross screening at the exit of highly contaminated areas, followed by a more complete monitoring at a suitable location.

.2 If dose rates (or other life threatening factors) within the contaminated area (or controlled area) warrant an immediate evacuation, personnel monitoring shall not be required prior to evacuation. If possible, personnel exiting such areas should remove any clothing thought to be contaminated, or don clean coveralls to minimize the spread of potential contamination, pending subsequent monitoring. In this case, appropriate monitoring should be performed at the designated Assembly Area.

.3 Contamination limits for release of personnel, equipment, and areas, as specified in the Health Physics procedures, shall remain in effect to the maximum extent possible. The Health Physics Leader will determine when a change in contamination limits is applicable and will establish appropriate revised limits.

6.1.3 The conditions under which a Site evacuation would be initiated might involve significant releases with resultant contamination of environmental surfaces offsite. Under these conditions, delaying site evacuation to monitor and/or decontaminate personnel or vehicles would be inconsistent with maintaining exposures As Low As Reasonably Achievable, and may be superfluous in light of the potential for recontamination offsite. The following procedures should be used:

.1 Personnel should be directed to the remote Assembly Area for monitoring.

.2 If the Assembly Area is within sectors from which the population is being evacuated, the Emergency Coordinator, in cooperation with SCE management and State and county agencies, shall designate an Assembly Area at which personnel monitoring will be performed. In this event, personnel and vehicles will be monitored the same as members of the general public in accordance with the emergency plans of the affected jurisdictions.

6.0 PROCEDURE (Cont'd)

- 6.1.3.3 For rescue efforts in which there is a potential for the imminent death of the victim, and for which the magnitude of radiological conditions in the affected area are generally known, one or two emergency squad members should proceed to the scene without protective clothing to assess the situation and render first aid. Other members of the emergency squad should don appropriate protective clothing and proceed to the area to assist. The initial emergency squad member(s) should leave the area and be monitored and/or decontaminated as soon as possible.
- .4 For fire fighting efforts, normal fire fighting equipment (helmets, coats, boots, gloves, etc.) may take the place of protective clothing. This apparel is as likely to provide protection from contaminated water spray as protective clothing.

6.2 Radioactive Spill or Release

- 6.2.1 If possible to do so in a safe manner, take immediate steps to terminate the spill or release.
- Take steps to mitigate the consequence of the spill or release, e.g., perform the following actions as appropriate:
- .1 Inform others in the area.
- .2 Secure ventilation
- .3 Inform the Health Physics Leader or Emergency Coordinator in his absence.
- .4 Contain the contaminated area by barricading, closing doors, etc.
- 6.2.2 Don protective clothing and respiratory equipment as necessary.

NOTE: If personnel were contaminated or are suspected to be, and must be moved, consider donning clean, protective clothing to contain the contamination.

6.0 PROCEDURE (Cont'd)

- 6.2.3 Monitor the area to determine the extent of the contamination spread. Smear and radiation/airborne surveys should be in accordance with Health Physics Procedures, S023-VII-7.2, 7.3 and 7.4. (References 2.6 through 2.8)
- 6.2.4 Inform the Health Physics Leader of the local radiological conditions.
- 6.2.5 Properly barricade and post the area in accordance with normal plant procedures and the guidelines in Attachment 8.1. Inform the Health Physics Leader when done and await further instructions.

6.3 Contaminated Personnel

- 6.3.1 Monitor personnel suspected of being contaminated as follows:
- .1 Quickly survey the entire body of subject, including clothing, with Geiger-Mueller and/or alpha detectors.
 - .2 If radioactivity is found, remove subject's clothing and re-survey entire body.
 - .3 Mark contaminated areas and take care not to spread contamination. Record the highest reading found and the size of contaminated area for later skin dose calculations. (See Attachment 8.3)
 - .4 In the case of suspected alpha contamination, take filter paper smears of representative areas and count.
 - .5 Special care should be taken to survey areas under the fingernails, ear lobes and between skin folds (i.e., arm pits, buttocks, between toes) if individual has already showered.
 - .6 The skin is considered to be contaminated, if any radioactivity is found. However, the guidelines in Attachment 8.1 may be used in emergency conditions.
- 6.3.2 If skin is contaminated to levels greater than the guidelines in Attachment 8.1, initiate personnel decontamination efforts in accordance with Health Physics Procedure S023-VII-4.4. (Reference 2.5)

6.0 PROCEDURE (Cont'd)


- 6.3.3 If inhalation of radioactive material is suspected, determine if the individual is a potential inhalation case as follows:
- .1 A history of possible exposure to airborne contamination, whether the employee was or was not using respiratory protective equipment, places him in the group of "potential inhalation cases".
 - .2 A positive Geiger-Mueller or alpha survey or a positive smear survey in the area of the nose and mouth places the employee in the category of "potential inhalation cases".
 - .3 Smear sterile moistened cotton tipped applicator gently about the openings of the nose (not deep in the nose) and then count. Detectable contamination places the individual in the category of a "potential inhalation case".
 - .4 All persons considered as "potential inhalation cases" will be analyzed in accordance with Health Physics Procedure S023-VII-4.2. (Reference 2.4)
- 6.3.4 If ingestion of radioactive materials is suspected, determine if the individual is a potential ingestion case as follows:
- .1 A positive Geiger-Mueller or alpha survey or a positive smear survey in the area of the mouth places an individual in the group of potential ingestion cases.
 - .2 Smear a sterile cotton tipped applicator within the mouth and count. Also, have the individual gargle with one ounce of water for 30 seconds, collect water and count. A positive result from either sample places an individual in the group of potential ingestion cases.
 - .3 All individuals considered to be in the "potential ingestion group" will be analyzed in accordance with Health Physics Procedure S023-VII-4.2. (Reference 2.4)
- 6.3.5 Report all results to the Health Physics Leader and assure that individuals requiring follow up analyses, decontamination, etc., are properly attended to.

7.0 RECORDS

Forward all records to the Administrative Leader after review.

8.0 ATTACHMENTS

- 8.1 Emergency Contamination Guidelines
- 8.2 Contamination Control Checklist Spills and Releases
- 8.3 Personnel Contamination Record
- 8.4 Nasal Smear Test Data
- 8.5 Contamination Control Summary Contaminated Personnel



K. P. BARR
HEALTH PHYSICS MANAGER

JSD:emb

EMERGENCY CONTAMINATION GUIDELINES

	SMEARABLE		CONTACT* READING
Personnel	220 dpm/100 cm ²	OR	100 cpm above bkgd.
Equipment - Release To Clean Area	220 dpm/100 cm ² beta-gamma 22 dpm/100 cm ² alpha	AND	0.1 mr/hr
Equipment - Release To Controlled Area	1000 dpm/100 cm ² beta-gamma 100 dpm/100 cm ² alpha	AND	2.5 mr/hr
AREAS**	500 dpm/100 cm ² beta-gamma 50 dpm/100 cm ² alpha		--

* Approximately 1/4" from surface

** Areas above guidelines should be barricaded and posted per normal plant operating procedures.

CONTAMINATION CONTROL CHECKLIST SPILLS & RELEASES

IMMEDIATE ACTIONS (May be filled out later)

1. Actions taken to terminate and/or mitigate the spill/release (if applicable):

Initial Time Date

2. Radiological Monitoring Completed: _____ Summary of Results:
Highest Smearable: _____ dpm/100 cm²; Highest Contact: _____ mr/hr;
Airborne: _____ μ Ci/mi.
Extent of Contamination: _____

Initial Time Date

3. Personnel contaminated (yes/no). Description: _____

Initial Time Date

4. Area properly barricaded and posted. Health Physics Leader informed:

Initial Time Date

NASAL SMEAR TEST DATA

Name	Date	Time	Area Individual Was In	Net CPM	DPM*

* If ≥ 1000 dpm after 4 hours decay, perform Bioassay (HPP-S023-VII-4.2)

CONTAMINATION CONTROL SUMMARY

CONTAMINATED PERSONNEL

INDIVIDUAL	FRISK RESULTS		POTENTIAL INHALATION CASE (YES / NO)	POTENTIAL INHALATION CASE (YES / NO)	DISPOSITION
	BETA-GAMMA	ALPHA			

Completed: _____
Health Physics Technician _____ Date _____

Reviewed : _____
Health Physics Leader _____ Date _____

ONSITE SAMPLING

RECEIVED

OCT 17 1981

1.0 OBJECTIVE

SITE FILE COPY

CDM SITE

- 1.1 This procedure provides instructions and guidance for collection and analysis of containment air samples and reactor coolant samples during or following a major emergency.
- 1.2 The Health Physics Leader, and Chemistry Leader are responsible for the implementation of their respective parts of this procedure.
- 1.3 Assigned Health Physics / Nuclear Chemistry Technicians are responsible for the actual collection and analysis of samples.

2.0 REFERENCES

- 2.1 San Onofre Nuclear Generating Station Unit 1 Emergency Plan.
- 2.2 LONGS-1 Chemistry Procedures.
- 2.3 Emergency Procedure S01-VIII-31, "Emergency Exposure Control".
- 2.4 Emergency Procedure S01-VIII-43, "Sample Coordination during an Emergency".

3.0 PREREQUISITES

- 3.1 An emergency has been declared in accordance with emergency procedure S01-VIII-11, "Recognition and Classification of Emergencies," and the Emergency Coordinator has requested that the subject samples be collected and analyzed.
- 3.2 The following personnel protection equipment should be available for use in obtaining the sample.
 - 3.2.1 O-1R and O-5R pocket dosimeters.
 - 3.2.2 Film badge and TLD finger rings.

3.0 PREREQUISITES

3.1 (continued)

- 3.2.3 Full Face Respirator w/cannister or self contained breathing apparatus.
- 3.2.4 Teletector or Xetex 302 extendable probe G-M tube survey meters.
- 3.2.5 Walkie talkies.
- 3.2.6 Protective clothing - full suit (two for each team member).
- 3.2.7 Alarming integrating dosimeter.
- 3.2.8 Beta dose rate ion chambers (RO-2A or equivalent).

4.0 PRECAUTIONS

- 4.1 If procedure implemented during safety injection, then maintain constant communication with Control Room operators so that evacuation can be accomplished prior to initiation of long term recirculation.
- 4.2 Exposure to all personnel due to sampling and analysis operations should be maintained as low as is reasonably achievable. Techniques such as temporary shielding, remote handling and sample dilution prior to analysis should be considered to reduce exposure to personnel.
- 4.3 If exposure rates of sampling area exceed 20R/hr, discontinue procedure and notify Chemistry Leader of sampling termination.
- 4.4 G-M tube survey instruments can saturate at extremely high dose rates and subsequently register a false zero reading on the meter. Always monitor the sample area on the highest scale and switch to lower scale(s) as more accuracy is needed.
- 4.5 In severe accident conditions beta dose rates to the skin may be more limiting than gamma whole body exposure rates. If beta dose rates exceed gamma exposure rates by greater than factor of six, the Health Physics Leader should be consulted as to proper personnel protection and appropriate sampling procedures.

5.0 CHECK-OFF LISTS

- 5.1 None

6.0 PROCEDURE

6.1 Containment Atmosphere Sample

6.1.1 The following sampling and collection apparatus shall be available for use.

- .1 Two 50 ml sample flasks and syringe.
- .2 55 gallon concrete lined drum with shield plug.
- .3 RAdCo Model GY-130 silver zeolite cartridge.
- .4 Obtain a key to gate L-2 and high radwaste from the Watch Engineer or Security.
- .5 Large Plastic bags
- .6 Marking Pen

6.1.2 Health Physics Leader (HPL).

- .1 The HPL shall request the Emergency Group Leader to form a two man sampling team of which one member is a qualified Health Physics Technician and the other is a qualified Nuclear Chemistry Technician.
- .2 The HPL shall verify that the sphere isolation signal for the ORMS Channel 1211/1212 sample line has been manually overridden, and in service for a minimum of five (5) minutes prior to sampling.
- .3 The HPL may obtain authorization of emergency exposure in accordance with Emergency Procedure S01-VIII-31, "Emergency Exposure Control," for Emergency Sampling Team members if appropriate.
- .4 The HPL should use Attachment 8.1, "Containment Air Sample Data Sheet" to record results.

6.1.3 Emergency Sampling Team

- .1 The Emergency Sampling Team shall assemble at or near the OSC, and obtain the sampling and collection apparatus and protective equipment listed previously.
 - .1 They shall don their Protective Clothing and Respirators and preset their Alarming Dosimeters to 1000 mR.
- .2 Proceed into the Controlled Area via Gate L-2 Access Route.
 - .1 Leave a complete change of clothing at Gate L-2.

6.0 PROCEDURE

6.1.3 (continued)

- .2 Unlock the high radwaste storage area.
- .3 Proceed to Ventilation Building.
- .4 Close the two 1" brass ball valves immediately upstream and downstream of the moisture filter on the containment return line (1234-1"-KP3). Put in place the quick disconnect 50cc sample vial. Open the 1" brass ball valve on the bypass line to the moisture filter. Flush containment sample line through the 50cc sample vial for a minimum of two minutes.
- .5 While sample line is being flushed proceed to General Atomic Stack Sampler.
- .6 Collect charcoal cartridge and replace with RADeCo Model GY-1 30 Silver Zeolite Cartridge.

NOTE: Dose rates on cartridge may make removal impossible. Monitor to ensure eighteen inch gamma exposure rate is less than 20R/hr.

- .1 Place the charcoal cartridge in a pre-labelled plastic bag reading, "stack charcoal cartridge". If the sample is reading greater than 10 mR/hr at 1 foot take the sample to high radwaste storage and put it in the concrete lined 55 gallon drum. Make sure to hold the sample as far from your body as possible. If the sample is less than 10 mR/hr it may be transported to the Health Physics office when sampling is completed.
- .2 Notify HPL of sampling time and flow integrator value.
- .7 Return to ORMS Channel 1211/1212 sample point and collect 50cc gas sample.
- .8 Using syringe transfer 1cc of sample collected to 50cc flask labeled "Dilution 50".
- .9 Place both samples in appropriately labelled plastic bags.
- .10 Close the 1" brass ball valve on the bypass line to the moisture filter and open the two 1" brass ball valves immediately upstream and downstream of the moisture filter on the containment return line (1234-1"-KP3).

6.0 PROCEDURE

6.1.3 (continued)

- .1 Have the Health Physics Leader notify the Emergency Coordinator to isolate the containment sphere sample line.
- 11. Check the radiation level. Any sample reading greater than 25 mR/hr at 1 foot should be transported to the high radwaste storage area concrete lined 55 gallon drum. Make sure to keep the samples as far from your body as possible while you transport the gas samples.
 - .1 If both gas samples are greater than 25 mR/hr additional dilutions should be made to bring the radiation level down to this point before any sample is transported to the Health Physics Office. Store the samples in the high radwaste concrete lined drum while obtaining additional gas sample containers.
- .12 Transport samples to the Health Physics Office via Gate L-2 Access Route.
 - .1 Lock the High Radwaste Area gate.
 - .2 Change into clean Protective Clothing at Gate L-2 location. Lock the gate as you leave the area.
- NOTE: Exercise good contamination control practice in taking the samples out of the controlled area.
- .13 Transfer the samples to the reactor plant chemistry laboratory via the dumbwaiter in the reactor coolant sample room.
- .14 Analyze G/A stack sample charcoal cartridge on Ge(Li) system in accordance with the instrument operating procedures.
- .15 Analyze gas sample on the Ge(Li) system in accordance with the instrument operating procedures.
- .16 Determine hydrogen in containment airborne sample using Chemical Procedure S01-III-1.18, "Dissolved H₂ by Gas Chromatography".
- .17 Have the HPL notify the Emergency Coordinator of analysis results.

6.0 PROCEDURE

6.2 REACTOR COOLANT SAMPLE

6.2.1 The following sample and collection apparatus shall be available for use.

- .1 55 gallon concrete lined drum with shield plug.
- .2 One (1) 100ml sample flask labeled "Undiluted Sample".
- .3 One (1) 1000ml sample flask labeled "Boron-10³ Dilution" - Fill the flask to the mark with demineralized water prior to sampling.
- .4 One(1) 1000ml sample flask labeled "RCS-10⁶ Dilution" - Fill the flask to the mark with demineralized water prior to sampling.
- .5 Several 1 ml pipet tips.
- .6 1 ml automatic pipet.
- .7 Stopwatch.
- .8 Obtain a key to gate L-2 and high radwaste from the Watch Engineer or Security.
- .9 Large Plastic bags.
- .10 Marking pen.

6.2.2 Chemistry Leader (CL).

- .1 The CL shall request the Emergency Group Leader to form a two man sampling team of which one member is a qualified Health Physics Technician, and the other a Nuclear Chemistry Technician.
- .2 The CL shall verify that letdown flow has been manually established so that the mixed-bed demineralizers and the reactor coolant filter have been bypassed. The letdown flow must be established a minimum of ten (10) minutes prior to sampling.
- .3 The CL may obtain authorization for emergency exposures in accordance with Procedure, S01-VIII-31, "Emergency Exposure Control," for Emergency Sampling Team Members if appropriate.
- .4 The CL should use Attachment 8.2, "Reactor Coolant Data Sheet" to record the coolant analysis results.

6.0 PROCEDURE

6.2.3 Emergency Sampling Team

- .1 The Emergency Sampling Team shall assemble, at or near the OSC, the sampling and collection apparatus and protective equipment listed previously.
 - .1 They shall don one set of Protective Clothing and their Respirators and preset their alarming dosimeters to 1000 mR.
- .2 Proceed to the controlled area via Gate L-2 Access Route.
 - .1 Leave complete change of protective clothing at Gate L-2.
 - .2 Unlock High Radwaste Area before collecting samples.
- .3 Prior to entering Boron Analyzer Room, one member of the team shall determine the radiation exposure rates in the room by entering the room with the survey meter on the highest scale. If working area (18" from sample line) is less than 20 R/hr, then continue with sampling and collection.
 - .1 The inverse square rule should be utilized (exposure rate only) to estimate the working area exposure rates, i.e., (if 5 R/hr at 36 inches, then the 18" dose will be 20 R/hr).
 - .2 If exposure rate approaches 20 R/hr at 18", discontinue procedure, return to OSC and have Emergency Group Leader notify HPL and CL.
- .4 Flush approximately two (2) liters through the sample line into a bucket or drain. Obtain 1 ml sample using the automatic pipet. Deliver to a 1 liter volumetric flask marked "Boron-10³ Dilution".
 - .1 Close sample valve.
 - .2 Leave sample room.
 - .3 Determine 1ml sample exposure rate. Take this reading in a low background area.
 - .4 Mix sample (marked "Boron-10³ Dilution").
5. Pipet 1ml of the "Boron-10³ Dilution" sample in a 1000ml volumetric flask marked "RCS-10⁶ Dilution". Mix the sample.

6.0 PROCEDURE

6.2.3 (continued)

- .6 If the sample exposure rate reading obtained in Step 6.2.3.4 was below 1,000 mR/hr, then obtain 100ml sample in flask marked "Undiluted Sample".
- .7 Make sure all samples are securely closed. Place each sample in an appropriately marked plastic bag and proceed immediately to the High Radwaste Storage Area. During transport make sure to keep the samples as far from your body as possible.
- .8 Transfer coolant samples to previously prepared DOT approved 55 gallon concrete lined drum.
- .9 Cap top portion of drum with lead shield and seal top of drum. Ensure that the seal is secure.
- .10 Relock high radwaste area.
- .11 Check the status of manual initiation of long-term recirculation with the Operations Leader. If long-term recirculation is about to be initiated, then immediately evacuate the area via the Gate L-2 Access Route making sure to lock the gate.
- .12 Return to Health Physics Office via Gate L-2 Access Route making sure to lock the gate.
- .13 Inform the Emergency Group Leader that the sampling in the Boron Analyzer Room has been completed.
- .14 Contact the CL and the HPL in the Technical Support Center and indicate that an unpressurized reactor coolant sample has been obtained from the letdown line and is available for shipment offsite.
- .15 Verify through the Operations Leader that the Control Operators have manually over-ridden the containment isolation signal to valve CV-957 so that the reactor coolant sample line can be opened.

NOTE: If the radiation level obtained in Step 6.2.3.3 is less than 1.0 R/hr at 18" proceed with Step 6.2.3.16 thru 6.2.3.23. If greater than the above level notify the Chemistry Leader (TSC) and request further instructions.
- .16 Following SONGS-1 Chemical Procedures, obtain a pressurized reactor coolant sample and a hydrogen gas sample.

6.0 PROCEDURE

6.2.3 (continued)

- .17 Following SONGS-1 Chemical Procedures, obtain an additional reactor coolant sample for boron and chloride analyses.
- .18 Inform the Operations Leader that a pressurized reactor coolant sample has been obtained and that the sample line can again be isolated.
- .19 Determine hydrogen in reactor coolant following SONGS-1 Chemical Procedures.
- .20 Determine chlorides in reactor coolant following SONGS-1 Chemical Procedures.
- .21 Determine boron in reactor coolant following SONGS-1 Chemical Procedures.
- .22 Determine gross coolant activity and degassed activity using SONGS-1 Chemical Procedures.
- .23 Inform the CL in the Technical Support Center that a pressurized reactor coolant sample and a hydrogen gas sample have been obtained and give the analysis results.

7.0 RECORDS

- 7.1 The Supervisor of Plant Chemistry shall review all analysis and transfer results to Administrative Leader.

8.0 ATTACHMENTS

- 8.1 Containment Air Sample Data Sheet.
- 8.2 Reactor Coolant Sample Data Sheet.



K. P. BARR
HEALTH PHYSICS MANAGER

CONTAINMENT AIR SAMPLE DATA SHEET

1. G/A Stack Sampler

Sampling Time _____

Flow Intergrator _____

2. Charcoal Cartridge Results

I-131 _____ $\mu\text{Ci/cc}$

I-132 _____ $\mu\text{Ci/cc}$

I-133 _____ $\mu\text{Ci/cc}$

I-134 _____ $\mu\text{Ci/cc}$

I-135 _____ $\mu\text{Ci/cc}$

Total

3. Gas Sample Results

Kr-85 _____ $\mu\text{Ci/cc}$

Kr-85m _____ $\mu\text{Ci/cc}$

Kr-87 _____ $\mu\text{Ci/cc}$

Kr-87 _____ $\mu\text{Ci/cc}$

Xe-133 _____ $\mu\text{Ci/cc}$

Xe-133m _____ $\mu\text{Ci/cc}$

Xe-135 _____ $\mu\text{Ci/cc}$

Xe-135m _____ $\mu\text{Ci/cc}$

Total

4. Hydrogen Content _____ %

Signature

Date

REACTOR COOLANT SAMPLE DATA SHEET

- 1. Hydrogen Concentration _____ %
- 2. Chloride Concentration _____ ppm
- 3. Boron Concentration _____ ppm
- 4. Gross Coolant Activity _____ μ Ci/ml
- 5. Degassed Coolant Activity _____ μ Ci/ml

Signature

Date

SEP 9 1981

PERSONNEL AND VEHICLES MONITORING
**NOT FOR CONSTRUCTION
FOR START-UP USE ONLY**
**CHECK APPLICABLE CONTROLLED
STICK FILE FOR CURRENT INFORMATION**

1.0 OBJECTIVE

This procedure provides the requirements, methods, action levels and documentation for the monitoring of personnel and vehicles during an evacuation. The Health Physics Leader is responsible for the implementation of this procedure.

2.0 REFERENCES

- 2.1 NUREG-0654, Rev. 1, Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants
- 2.2 San Onofre Nuclear Generating Station, Units 2 & 3, Emergency Plan
- 2.3 Health Physics Procedure S023-VII-4.2, "Bioassay Program"
- 2.4 Health Physics Procedure S023-VII-4.4, "Personnel Decontamination"

3.0 PREREQUISITES

- 3.1 An emergency condition has been declared at San Onofre Nuclear Generating Station Units 2 & 3.
- 3.2 An evacuation has been initiated in accordance with Emergency Procedures S023-VI-I-32, "Local Evacuation and Accountability", S023-VIII-33, "Plant Evacuation and Accountability" or S023-VIII-34, "Site Evacuation and Accountability".

4.0 PRECAUTIONS

- 4.1 The safety of personnel shall take precedence over the monitoring of personnel and vehicles for the purpose of radiation/contamination control.
- 4.2 Monitoring of personnel and/or vehicles shall be terminated, or not implemented, if such monitoring is known or suspected to be increasing the hazard to personnel during evacuation.
- 4.3 Monitoring stations should be selected and monitoring operations should be conducted in such a manner as to maintain personnel exposures as low as is reasonably achievable.

5.0 CHECK-OFF LISTS

- 5.1 Personnel Monitoring Checklist For Local/Plant Evacuation (Attachment 8.1)
- 5.2 Personnel and Vehicle Monitoring Checklist For Site Evacuation (Attachment 8.2)

SITE FILE COPY RECEIVED
OCT 14 1981

CDM SITE

6.0 PROCEDURE

6.1 Local and Plant Evacuations

- 6.1.1 Personnel involved in local evacuations should be directed to the Health Physics office area. If these facilities are not accessible, evacuated personnel should be directed to an appropriate alternate location.
- 6.1.2 Personnel involved in plant evacuations should be directed from the protected area to the AWS warehouse receiving entrance.
- 6.1.3 Personnel should be monitored for contamination, and if practicable, evacuated personnel should pass through a portal monitor prior to frisking.
- 6.1.4 If conditions permit, an immediate attempt will be made to remove any contamination detected on personnel in accordance with Health Physics Procedure S023-VII-4.4 (Reference 2.4).
- 6.1.5 If personal clothing items become contaminated, an effort will be made to reduce the levels to clean release limits ($< .1$ mr/hr fixed and < 220 dpm/100 cm² smearable). If these levels cannot be obtained after reasonable efforts have been made, the items shall be disposed of as radioactive waste.
- 6.1.6 Dose estimates should be made utilizing both self-reading dosimeters and TLD/Film data.
- 6.1.7 Personnel who may have been exposed to airborne radioactivity, should have nasal contamination monitoring and bioassay performed in accordance with Health Physics Procedure S023-VII-4.2 (Reference 2.3).
- 6.1.8 The Personnel Contamination Record, Attachment 8.3, should be completed for contaminated individuals.
- 6.1.9 A listing of all personnel surveyed, with survey results, and personnel exposures should be compiled, signed and dated by the Health Physics technician. This information should be submitted to the Health Physics Leader.

6.2 Site Evacuation

NOTE: Personnel evacuated from the site may not have adequate time for contamination monitoring onsite. Therefore, the potential for contamination of vehicles is increased.

6.0 PROCEDURE (Cont'd)

- 6.2.1 Prior to site evacuation, perform vehicle contamination monitoring on every tenth (10th) vehicle at the designated auto parking areas as indicated by meteorological conditions.
- 6.2.2 If some vehicles are determined to be contaminated, determine extent of the contamination by surveying nearby vehicles. It may be necessary to restrict access to parking lots or major portions thereof.
- 6.2.3 Report to the Health Physics Leader the results of the vehicle survey.

NOTE: All vehicles found to be contaminated should be documented on Attachment 8.5, Vehicle Survey Form.

- 6.2.4 Contaminated vehicles must be held for decontamination.

NOTE: Contaminated vehicles should be clearly marked for easy identification.


- 6.2.5 Personnel will be monitored at the Assembly Area and should be resurveyed at the remote Assembly Area. If any personnel are found contaminated, they should be decontaminated in accordance with Health Physics Procedure S023-VII-4.4 (Reference 2.4).

7.0 RECORDS

Forward all records to the Administrative Leader after review.

8.0 ATTACHMENTS

- 8.1 Personnel Monitoring Checklist For Local/Plant Evacuation
- 8.2 Personnel and Vehicle Monitoring Checklist for Site Evacuation
- 8.3 Personnel Contamination Record
- 8.4 Vehicle Survey Record
- 8.5 Vehicle Survey Form


K. P. BARR
HEALTH PHYSICS MANAGER

JSD:emb

PERSONNEL MONITORING CHECKLIST FOR LOCAL/PLANT EVACUATION

- | | <u>Initials</u> |
|---|-----------------|
| 1. All personnel frisked for contamination. | _____ |
| 2. If any individuals are found contaminated, decontamination procedures instituted and Attachment 8.3 completed. | _____ |
| 3. Dose estimates made. | _____ |
| 4. Nasal smears taken and Bioassay performed, if applicable. | _____ |
| 5. Survey results and dose estimates recorded. | _____ |

After this check-off list is completed it should be submitted to the Administrative Leader.

Monitoring Performed By: _____

Completed: _____ Hours

Date: _____

Reviewed By: _____
Health Physics Leader

Date: _____

PERSONNEL AND VEHICLE MONITORING CHECKLIST FOR SITE EVACUATION

- | | <u>Initials</u> |
|--|-----------------|
| 1. Survey point established. Vehicles surveyed. | _____ |
| 2. Contaminated vehicles held, Vehicle Survey Forms completed for each. (Attachment 8.5) | _____ |
| 3. Personnel surveyed for contamination. | _____ |
| 4. Vehicle Survey Record, Attachment 8.4 should be filled out for all vehicles. | _____ |

After this check-off list is completed it should be submitted to the Administrative Leader.

Surveys Performed By: _____

Completed: _____ Hours

Date: _____

Reviewed By: _____
Health Physics Leader

Date: _____

VEHICLE SURVEY RECORD

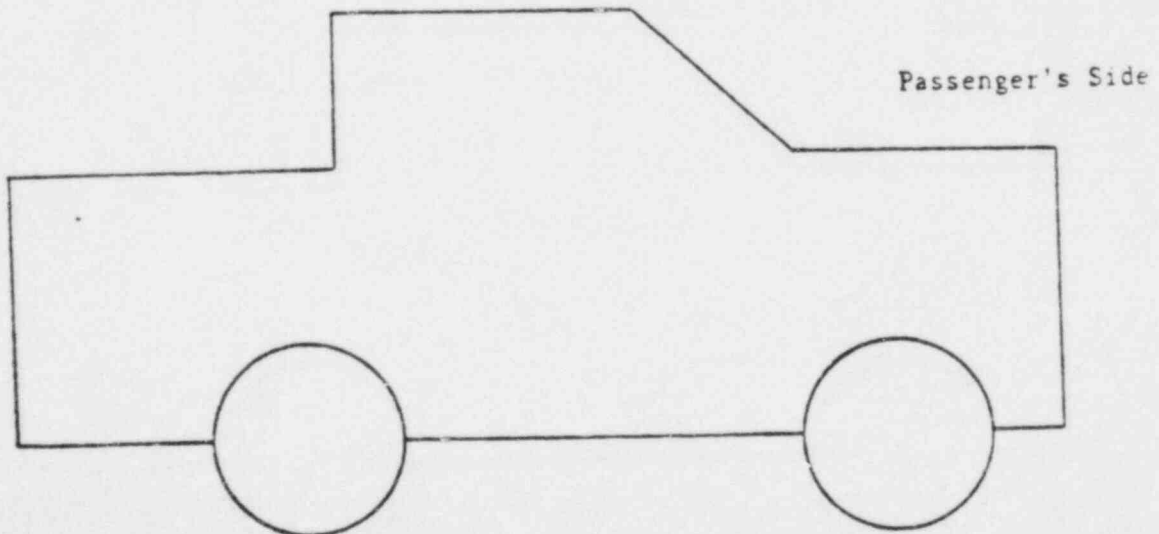
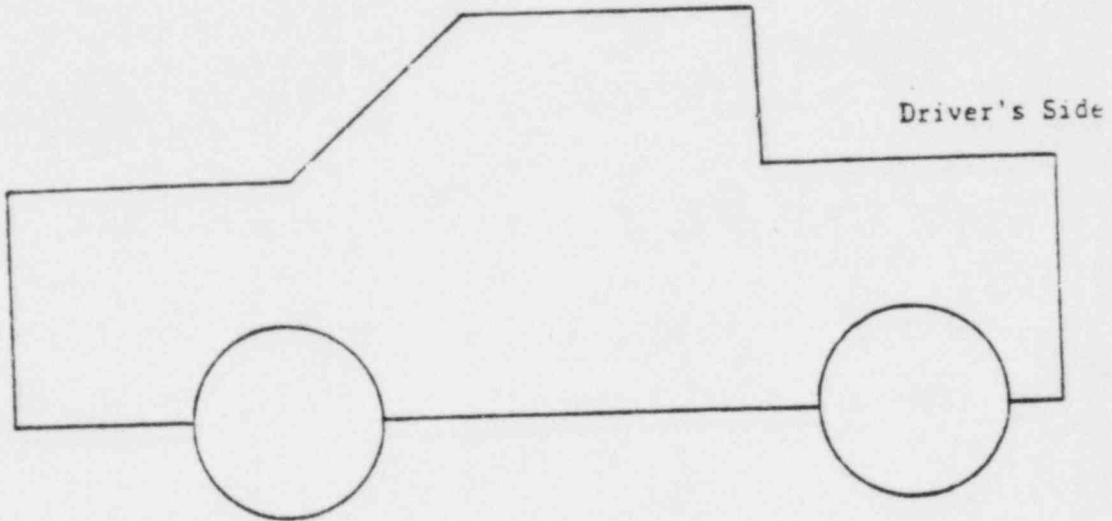
Circle tag numbers of vehicles needing decontamination.

Get owner's address and inform him that his car may not be removed until decontaminated.

SCE Personnel			Contract Personnel and Visitors
Name/License No.	Name/License No.	Name/License No.	Name/License No.

VEHICLE SURVEY FORM

1. This form should only be filled out for contaminated vehicles.
2. Ensure that all tag numbers and names are recorded on the Vehicle Survey Record.



RECORD KEEPING

1.0 OBJECTIVE

1.1 To provide a method of documenting events and important data on an emergency. The Emergency Coordinator is responsible for implementation of this procedure.

2.0 REFERENCES

- 2.1 NUREG-0654, Rev. 1, Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants.
- 2.2 San Onofre Nuclear Generating Station, Units 2 and 3 Emergency Plan.

3.0 PREREQUISITES

3.1 An emergency condition has been declared at San Onofre Nuclear Generating Station, Units 2 and 3.

4.0 PRECAUTIONS

4.1 None

RECEIVED

OCT 14 1981

5.0 CHECK OFF LIST

5.1 None

SITE FILE COPY CDM SITE

6.0 PROCEDURE

6.1 The Emergency Log shall be official documentation of events during an emergency with one exception: the operations staff will log operational events in an Operations Log. The Operations Log will suffice for emergency documentation of operational events. All other important events should be logged in the Emergency Log. The Emergency Log may subsequently be used to reconstruct events. Entries may be corrected and expanded by comparison with other logs covered in the procedure. The Emergency Coordinator/Watch Engineer should delegate the record-keeping task of this log to the designated Emergency Communicator or another available individual. The below listed items are examples of events and data that should be recorded in the Emergency Log:

6.1.1 Significant events and the times at which they occur.

6.1.2 Reports made to the Emergency Coordinator (plant status, radiological conditions, etc.).

6.1.3 Notification made.

6.0 PROCEDURE (Continued)

6.1 The Emergency Log (Continued)

- 6.1.4 Hazard assessment.
 - .1 Operation (not operational documentation effort)
 - .2 Radiological
- 6.1.5 Radiological monitor alarms.
- 6.1.6 Survey results, area and personnel.
- 6.1.7 Evacuations
- 6.1.8 Injuries and medical care
- 6.1.9 Meteorological information
- 6.1.10 Emergency teams dispatched (survey, first aid, repair, fire, etc.).
- 6.1.11 Re-entry efforts
- 6.1.12 Recovery efforts
- 6.1.13 Offsite dose projections
- 6.1.14 Any other item deemed necessary or pertinent.

6.2 Emergency Coordinators Log

- 6.2.1 The Emergency Coordinators Log is an unofficial bound notebook maintained by the Emergency Coordinator containing information which may be needed subsequently to reconstruct events. Entries are entirely at the discretion of the Emergency Coordinator but may include the bases for decisions and recommendations.

6.3 Emergency Organization Logs

- 6.3.1 The remaining logs, listed below, are unofficial and are used to provide a bound book for the notes, calculations and recommendations of each area of the Emergency Organization. The responsibility for maintaining the log and, ultimately, for deciding what information to log, belongs to the leader of each group. Each leader should log all pertinent data and events to facilitate casualty reconstruction at a later time.

6.0 PROCEDURE

6.3.1 (Continued)

- .1 Operations Log -- Operations Leader/Emergency Advisor
- .2 Emergency Team Log -- Emergency Group Leader
- .3 Engineering Log -- Technical Support Leader
- .4 Health Physics Log -- Health Physics Leader
- .5 Administrative Support Log -- Administrative Leader
- .6 Security Log -- Security Leader
- .7 Chemistry Log -- Chemistry Leader

6.4 Emergency Plan Implementing Procedure (EPIP) Attachments

6.4.1 To avoid taking attachments from the hard bound sets of EPIPS an extra forms book will be kept at the control room (to be used in the TSC when activated) and the OSC. These shall be maintained as follows:

- .1 The books shall contain 10 copies of each attachment from all the EPIPS.
- .2 Upon completion of these attachments each responsible person shall forward it to the Administrative Leader or the Station Services Manager if the TSC is not activated.
- .3 The Administrative Leader (or Station Services Manager) will ensure that attachments that have been used are replenished to maintain 10 copies of each.

7.0 RECORDS

- 7.1 All completed records are to be forwarded to the Administrative Leader (Station Services Manager if TSC is not activated). He shall ensure that all filled in attachments are filed in CDM under respective procedure number and sequential event number as per 6.2 of S023-VIII-16.

GENERAL LOG FORMAT

TITLE OF LOG

_____*
(DATE)

_____*
(RECORDED BY)

_____*
(INITIAL CLASSIFICATION OF EMERGENCY/TIME)

TIME/
Date**

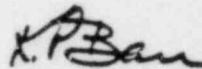
ENTRY

INITIAL

-
- * First page only
 - ** Date only entered once per day at 0001

8.0 ATTACHMENTS

8.1 General Log Format



K. P. BARR
HEALTH PHYSICS MANAGER

DM:0066F:sss

SEP 9 1981
NOT FOR CONSTRUCTION
RE-ENTRY
FOR START-UP USE ONLY
CHECK APPLICABLE CONTROLLED
STICK FILL FOR CURRENT INFORMATION COPY

1.0 OBJECTIVE

- 1.1 This procedure provides instructions for re-entry to the site, plant or to affected local areas within the plant when radiological conditions are largely unknown. Re-entry is made to perform essential tasks such as rescue and life saving, controlling release of radioactive materials and preventing additional damage to plant equipment.
- 1.2 The Emergency Coordinator is responsible for activation of this procedure and may delegate responsibility for specific tasks and measurements to the Health Physics Leader.

2.0 REFERENCES

- 2.1 San Onofre Nuclear Generating Station Unit 1 Emergency Plan.
- 2.2 EPIP S023-VIII-31, "Emergency Exposure Control". RECEIVED
- 2.3 EPIP S023-VIII-36, "Thyroid Prophylaxis". OCT 14 1981
- 2.4 EPIP S023-VIII-39, "Rescue". CDM SITE

3.0 PREREQUISITES

- 3.1 An emergency condition at SONGS Units 2 and 3 has resulted in the evacuation of the site, or:
- 3.2 An emergency condition at SONGS Units 2 and 3 has resulted in the evacuation of the Plant, or:
- 3.3 An emergency condition at SONGS Units 2 and 3 has resulted in the evacuation of a local area within the site, and:
- 3.4 The magnitude and/or nature of the radiological hazard in the affected area is unknown, and:
- 3.5 Conditions have stabilized to the point that re-entry can be considered to assess the conditions, and perform vital operational or repair functions, or effect search and rescue.

4.0 PRECAUTIONS

- 4.1 Because of the unknown conditions within the site, the plant or the affected area, appropriate precautions for personnel safety shall be implemented. These include, but are not limited to the precautions described below:
- 4.1.1 Re-entry teams shall be composed of a minimum of two individuals, one of whom is a qualified Health Physics Technician. These individuals shall remain in visual/voice contact with each other at all times when in the affected area.
 - 4.1.2 If the ventilation to the area has been isolated, and/or if there is reason to believe that the air within the area is toxic or an oxygen deficiency exists, appropriate self-contained breathing apparatus (SCBA) shall be used. In this case, in addition to the two man entry team, one or more additional individuals shall be assigned to remain outside of the affected area, in appropriate clothing and with SCBAs on standby, ready to enter the area to effect rescue.
 - 4.1.3 Life-lines should be used in areas containing heavy smoke, or in areas where visual contact cannot be maintained with the re-entry team.
 - 4.1.4 Personal alarming dosimeters should be used if extreme conditions are suspected.
 - 4.1.5 Protective clothing should be chosen on the basis of the suspected conditions, or if a reasonable estimation cannot be made, the protective clothing with the highest protection should be used.
 - 4.1.6 If possible, areas should be ventilated prior to entry.
 - 4.1.7 Exposures of re-entry personnel shall be in accordance with S023-VIII-31, "Emergency Exposure Control".

5.0 CHECK -OFF LISTS

- 5.1 Re-entry Team Equipment and Protective Gear.
- 5.2 Re-entry Checklist.

6.0 PROCEDURE

- 6.1 Initial Site Re-entry

Note: This section of the procedure assumes that personnel have evacuated the site and have assembled at an offsite assembly area:

6.0 PROCEDURE

6.1 Initial Site Re-entry (continued)

6.1.1 The Health Physics Leader shall assume the duties of Re-entry Coordinator, and shall organize and direct re-entry. If he is still in the TSC he shall appoint a senior Health Physics member offsite as Re-entry Coordinator.

6.1.2 The Re-entry Coordinator shall utilize all pertinent data available including survey data from adjacent areas, observations made by evacuated personnel, and any other source to determine:

- .1 Which plant areas are affected.
- .2 Conditions in affected areas (hazards, radiological conditions, temperatures, etc.).
- .3 If personnel are trapped and/or disabled in affected areas.
- .4 If actions can be taken to reduce the potential hazards to re-entry personnel prior to or during re-entry.
- .5 If re-entry can be delayed without affecting plant or personnel safety to allow for radioactive decay.
- .6 Preferred route to survey area.

6.1.3 Form an appropriate re-entry team.

Note: Re-entry teams should be composed of volunteers and shall include at least one Health Physics member.

6.1.4 The Re-entry Coordinator shall direct each team member to obtain appropriate equipment and don appropriate protective clothing and respirators. Attachment 8.1 should be used as a guide for appropriate equipment and protective gear.

6.1.5 A vehicle should be obtained in which to approach the site. Gas tank level shall be greater than 1/2 full.

6.1.6 If available, plastic should be spread on the floor of the vehicle and seats, in order to minimize contamination.

6.1.7 As appropriate to the radiological conditions and/or re-entry team assignment, the Re-entry Coordinator should:

- .1 Ensure that the team turns on and checks the operation of survey instrument(s).

6.0 PROCEDURE

6.1 (continued)

Note: If at any time the survey instrument appears to be malfunctioning, direct team to immediately retreat to a safe area. Be especially careful for unexpected low survey instrument readings. Some GM survey instruments will read "0" or a low value if the detector is saturated by extremely high radiation levels.

- .2 Ensure that the team approaches the site from upwind as much as possible and continuously monitors radiation levels by extending the instrument probe out the vehicle window.
- .3 Continuously apprise the EOF of the progress of the re-entry team, conditions observed, and dose rates.
- .4 Direct re-entry team members to check their pocket dosimeters periodically and report the results. The frequency of these checks should be consistent with the observed dose rate.
- .5 If at any time during re-entry, observed dose rates exceed 1 rem/hr (or other predetermined level), or if the exposure of any member of the re-entry team exceeds 2.5 rem, (or other specified maximum allowable dose), direct the entire re-entry team to retreat to a safe area.
- .6 Direct the team to perform assigned surveys in accordance with emergency monitoring procedure, and to fully document all results.
- .7 Upon arrival of the team at the site boundary, direct them to enter the site and perform an additional survey about halfway between the affected unit and the site boundary.
- .8 If instructed to re-enter the plant, direct the team to approach the guardhouse, continuously monitoring dose rate. Upon entry thru the gate report the progress and dose rates observed.
- .9 If directed further, have the team re-enter the unit and continue as provided in subsequent sections of this procedure.

6.0 PROCEDURE (continued)

6.2 Restoration of Limited Site Access

6.2.1 The Emergency Coordinator and Health Physics Leader shall utilize all pertinent data available including area and process monitoring channels, survey data and observations made by Re-entry Team and Operations personnel to determine:

- .1 Which plant or site areas are affected.
- .2 The conditions (hazards, temperature, air quality, etc.) in the areas.
- .3 Is it practical to reduce the potential hazards to re-entry personnel by ventilating, change flow paths or secure systems, etc.).
- .4 If re-entry into specific areas can be deferred without affecting plant safety to allow for radioactive decay.
- .5 Once the radiation levels are low enough so that personnel will not receive more than the 10CFR20 quarterly dose during their entry, stay, and exit from the plant, personnel may be assigned to enter the plant for specific tasks. These personnel will be equipped with appropriate protective clothing depending on contamination and airborne conditions.

6.2.2 Based upon radiological surveys of the site and the status of radioactive emissions, if any, from the plant, the Emergency Coordinator and Health Physics Leader shall determine a location for vehicle and personnel access control.

- .1 The location shall be utilized for contamination monitoring and dosimetry issue and recording.
- .2 Security shall be able to establish a reasonable degree of control over personnel and vehicle access to the site.
- .3 Radiological controls such as type of respiratory equipment, protective clothing and dosimetry shall be specified and issued to all work groups entering the station.
- .4 Operations and Maintenance personnel necessary to operate the station and effect repairs shall be accompanied by a Health Physics technician.
- .5 Access routes that minimize personnel exposures shall be established.

6.0 PROCEDURE (continued)

6.3 Re-entry to Plant and/or Local Areas

Note: This section of the procedure may be used without the preceding sections, if only certain areas within the plant have evacuated and isolated. Applicable steps may also be used subsequent to the implementation of the preceding sections, if a Site Evacuation has taken place.

6.3.1 The Health Physics Leader (or other senior Health Physics individual) shall assume the duties of Re-entry Coordinator, and shall organize and direct re-entry.

6.3.2 The Re-entry Coordinator shall utilize all pertinent data available including area and process monitoring channels, survey data from adjacent area, observations made by evacuated personnel, and any other source to determine.

.1 Which plant areas are affected.

.2 Conditions in affected areas (hazards, radiological conditions, temperatures, etc).

.3 If personnel are trapped and/or disabled in affected areas.

.4 If actions can be taken to reduce the potential hazards to re-entry personnel prior to or during re-entry.

.5 If re-entry can be delayed without affecting plant or personnel safety to allow for radioactive decay.

6.3.3 Form an appropriate re-entry team.

Note: When possible re-entry teams should be composed of volunteers and include at least one Health Physics member.

6.3.4 The Re-entry Coordinator shall direct each team member to obtain appropriate equipment and don appropriate protective clothing and respirators. Attachment 8.1 should be used as a guide for appropriate equipment and protective gear.

6.3.5 Ensure that the team turns on and checks the operation of the survey instrument(s).

Note: If at any time the survey instrument appears to be malfunctioning, direct the team to immediately retreat to a safe area. Be especially careful for unexpected low survey instrument readings. Some GM survey instruments will read "0" or a low value if the detector is saturated by extremely high radiation levels.

6.0 PROCEDURE

6.3.5 (continued)

- .2 Direct the team to approach the affected unit/area, continuously monitoring dose rates.
- .3 Continuously apprise the TSC/EOF of the re-entry team exposures, conditions observed, and dose rates.
- .4 Direct re-entry team members to check their pocket dosimeters periodically and report the results. The frequency of these checks should be consistent with the observed dose rate.
- .5 If at any time during re-entry observed dose rates exceed 1 rem/hr (or other pre-determined level), or if the exposure of any member of the re-entry team exceeds 2.5 rem, (or other specified maximum allowable dose), direct the entire re-entry team to retreat to a safe area.
- .6 Direct the team to perform surveys in accordance with emergency monitoring procedures and to full document all results.
- .7 Direct the team to perform appropriate inspections, repairs, and operations.
- .8 Direct team to perform appropriate rescue and first aid functions if trapped or disabled personnel are discovered in the area.

6.3.6 At the completion of assigned functions, direct the team to leave the affected area and return to the control point, remove protective clothing, and monitor prior to leaving the area.

6.4 Restoration of Limited Access to Unit/Area

- 6.4.1 Once radiation, contamination and airborne levels are low enough to permit a 40 hour week without exceeding a dose of 200 mrem, the essential plant staff can resume a normal work week. Visitors and non-essential personnel will still not be admitted.

6.5 Restoration of Normal Access to Unit/Area

- 6.5.1 Once radiation contamination and airborne levels are near normal, the plant will be returned to normal routine entry requirements.

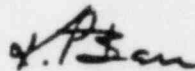
7.0 RECORDS

7.1 Forward all completed check lists and survey forms to the Administrative Leader after they are no longer required for immediate use.

8.0 ATTACHMENTS

8.1 Re-entry Team Equipment and Protective Gear Check-list

8.2 Re-entry Criteria Check-list



K. BARR
HEALTH PHYSICS MANAGER

DM:0074/ryh

RE-ENTRY TEAM EQUIPMENT AND PROTECTIVE GEAR

Health Physics/Re-entry Coordinator: Initial each applicable item below in the space provided as it is provided to the re-entry team(s). Do not initial items that are not provided.

<u>INITIALS</u>	<u>ITEM</u>
_____	High range self-reading pocket dosimeters (2 per individual)
_____	TLD badges (2 or more per individual)
_____	Extremity TLD's - as appropriate
_____	Portable radio transceiver
_____	High range survey instrument (preferably with telescoping probe) - as appropriate
_____	Intermediate range survey instrument
_____	G-M survey instrument
_____	Air samples and filters/cartridges
_____	Personnel air monitors - as appropriate
_____	Alarming dosimeters - as appropriate
_____	Area maps, survey forms, pencils
_____	Contamination swipes and envelopes
_____	First aid/rescue equipment - as appropriate
_____	Appropriate protective clothing - if in doubt, require full protective clothing
_____	Appropriate respiratory protective equipment
_____	Keys - as appropriate

NOTE:

Only Self-Contained Breathing Apparatus (SCBA) should be used for re-entry and/or rescue purposes. Air-purifying respirators shall not be used if toxic gases or oxygen deficiency is present or suspected. Air hose respirators should not be used due to difficulties in handling hoses in confined areas during emergencies.

(Date)

(Re-entry Coordinator / Designee)

NOTE:

After this checklist is completed and is not required for immediate use, forward it to the Administrative Leader.

RE-ENTRY CRITERIA CHECK-LIST
(for use with procedure S023-VIII-61)

Date _____

CHECK-LIST

INITIALS	TIME	ITEM
_____	_____	Corrective actions completed with results as follows: _____ _____ _____
_____	_____	Surveys completed (Attach copies)
_____	_____	Radiation levels near those prior to emergency. List areas roped off _____ _____ _____
_____	_____	Type of access restored (circle) Controlled/Unlimited
_____	_____	Restored access announcement made on PA system: (repeat twice): "Attention all personnel (attention all personnel), Recently (controlled or unlimited) to (Specify area) is now permitted.
_____	_____	Units 2 and 3 notified.
_____	_____	Offsite agencies notified using: Follow-up Notification Form

Re-entry Coordinator Signature

SAN ONOFRE NUCLEAR GENERATING STATION
UNITS 2 AND 3

EMERGENCY PROCEDURE SO23-VIII-61
NEW PAGE 2 of 2
ATTACHMENT 8.2

NOTE: After this checklist is completed and is not required for
immediate use, forward it to the Administrative Leader.

0075F/ryh

NEW SEP 9 1981

ACTIVATION OF THE RECOVERY ORGANIZATION

NOT FOR CONSTRUCTION
FOR START-UP USE ONLY
CHECK APPLICABLE CONTROLLED
SITE FILE FOR CURRENT INFORMATION

RECEIVED

OCT 14 1981

CDM SITE

1. OBJECTIVE

- 1.1 The objective of this procedure is to provide for the notification and activation of the SONGS-2 and 3 Recovery Organization and the transfer of control of emergency response operations from the Emergency Coordinator to the Recovery Manager.
- 1.2 The Emergency Coordinator has the responsibility for determining when an emergency condition at SONGS-2 and 3 has stabilized such that a recovery operation can begin. The Emergency Coordinator is responsible for implementing Part A of the procedure, while the Recovery manager is responsible for implementing Part B. The Emergency Coordinator and the Recovery Manager may make joint decisions in regard to the timing of the transfer of operation to the Recovery Organization.

2.0 REFERENCES

- 2.1 Emergency Procedure S023-VIII-11, "Recognition and Classification of Emergencies".
- 2.2 SONGS-2 and 3 Emergency Plan.
- 2.3 Emergency Procedure S023-VIII-61, "Re-entry".
- 2.4 Regulatory Guide No. 1.109.

3.0 PREQUISITES

- 3.1 An emergency response organization is functioning as a result of a declared emergency condition at SONGS-2 and 3 in accordance with the Emergency Plan.
- 3.2 The emergency conditions have stabilized to the point that the previous level of emergency response effort is no longer required and the emergency is under control. The emergency condition may have been terminated.
- 3.3 The Emergency shall be considered under control and in the re-entry recovery phase only when the following general guidelines have been met:
 - 3.3.1 Reactor and associated systems are considered to be in a safe, stable condition.

SITE FILE COPY

3.0 PREREQUISITES (continued)

3.3 (continued)

- 3.3.2 Radiation levels in all in-plant areas are stable or decreasing with time.
- 3.3.3 Release of radioactive materials to the environment from the plant are under control.
- 3.3.4 Any fire, flooding, or similar emergency conditions are controlled or have ceased.
- 3.3.5 Contaminated/injured personnel, when the victim(s) has been transferred to a hospital, or has received appropriate medical treatment.
- 3.3.6 For emergency conditions classified as Unusual Events, when the specified corrective action has been taken and/or when the plant has been placed in the appropriate operating mode.

3.4 Considerable plant damage has occurred and/or severe on-site radiological conditions exist as a result of the emergency such that the plant cannot resume normal operations with the normal organization.

3.5 The re-entry procedure may have be activated.

4.0 PRECAUTIONS

4.1 Recovery actions that plan for, or may result in, radioactive release will be evaluated by the Recovery Manager and his staff as far in advance of the event as possible. Such events and data pertaining to the release shall be reported to the off-site emergency response organizations and agencies listed in table 1 of Emergency Procedure S023-VIII-16, "Notification". The follow-up notification form will be used for transmitting this information.

5.0 CHECK-OFF LIST

5.1 Checklist for activation of the Recovery Organization (Attachment 8.3)

6.0 PROCEDURE

6.1 Part A, Emergency Coordinator Actions

- 6.1.1 Determine whether or not the emergency condition can be considered to be under control according to the prerequisites of Section 3.3. If the emergency appears to be under control, continue with this procedure, otherwise continue the emergency response actions required by the Emergency Plan Implementing Procedures.

NOTE: It is very unlikely that an Unusual Event will require activation of the recovery organization.

- 6.1.2 Notify the Recovery Manager to report to the Technical Support Center to begin preparations for establishing the recovery effort.

NOTE: The Recovery Manager will be involved in the last phases of the emergency response efforts in order to be familiar with the plant conditions. Other members of the Recovery Organization will not be called for service until, at the discretion of the Recovery Manager, they are required.

- 6.1.3 Determine whether the criteria for termination are met, using Attachment 8.5 of Emergency Procedure SO23-VIII 11, "Recognition and Classification of Emergencies". If the criteria are met, proceed with this procedure, otherwise continue the emergency response actions required by the Emergency Plan.

NOTE: In case of a severe emergency involving off-site protective actions (such as sheltering and evacuation), the decision for termination shall then be made with the concurrence of the Recovery Manager, California State OES, Orange County, San Diego County, San Clemente, San Juan Capistrano, Camp Pendleton, California Department of Parks and the NRC. It will be the responsibility of the Emergency Coordinator to determine whether or not the concurrence of off-site agencies and organization is required for the termination decision.

- 6.1.4 Make the declaration of termination if appropriate. This declaration "can only be made" by the Emergency Coordinator, but may be arrived at jointly with others.

6.0 PROCEDURE (continued)

6.1 (continued)

6.1.4 (continued)

NOTE: This declaration and the subsequent notifications shall be made as promptly as possible after the criteria are met.

6.1.5 Announce or have announced over the station public address system, "ATTENTION ALL PERSONNEL. ATTENTION ALL PERSONNEL. THE _____ EMERGENCY CONDITION (specify) HAS BEEN TERMINATED AND THE PLANT IS IN A RECOVERY MODE. CHECK WITH YOUR SUPERVISOR PRIOR TO RE-ENTRY." (Make this announcement three times.)

6.1.6 Authorize notification of the termination of the emergency and the activation of the recovery phase to the off-site agencies and organizations listed in Table 1 (Attachment 8.1) of Emergency Procedure S023-VIII-16, "Notification". Use the follow-up notification form (Attachment 8.6).

6.1.7 Determine jointly with the Recovery Manager whether or not a Recovery Organization will be required and whether it will be short term or long term.

.1 Short-term recovery organization:

The Technical Support Organization under the direction of the Technical Support Leader will handle recovery efforts where post-accident conditions require minimal on-site support activity and are expected to be of short duration (several days).

.2 Long-term recovery organization:

In those cases where post-emergency conditions indicate that recovery operations will require extensive on-site support activity and extend over a long period of time (more than one week), SCE will shift from the existing emergency response organization to a long term recovery organization. The functions of this long term recovery organization are listed in Section 9.0 of the Emergency Plan. The typical general recovery organization is shown in Attachment 8.1 and described in Attachment 8.2. The precise organization will depend upon conditions.

6.1.8 Activate the Re-Entry procedure (S023-VIII-61) if re-entry is not already underway.

6.0 PROCEDURE (continued)

6.1 (continued)

- 6.1.9 Brief the Recovery Manager on the existing plant conditions, any special plant situations and the status of personnel accountability.
- 6.1.10 Direct that all records related to the emergency be made available to the Recovery Manager (through transfer to the Administration and Logistics Manager).
- 6.1.11 Turn over management of emergency operations to the Recovery Manager.

NOTE: The Recovery Manager will subsequently establish a recovery center from which he will function.

6.2 Part B, Recovery Manager Actions.

- 6.2.1 Initiate a post-accident review. Following the termination of the emergency response phase of the accident and the commencement of recovery operation, appropriate evaluations to assess SONGS-1 conditions will be performed. The outcome of these evaluations will form the basis of recovery planning and licensee event reports to the USNRC. The scope of these evaluations will be consistent with the emergency classification, the nature of the initiating events, and the preliminary assessment of SONGS-1 equipment status.
- 6.2.2 Refer to Section 9.0 of the Emergency Plan for the organizational plan of the Recovery Organization.
- 6.2.3 Review the status of the re-entry operation if not complete and the implications of the findings of the resulting investigation on the long-term recovery organizational requirements.
- 6.2.4 Activate the Recovery Support Organization and activate the recovery centers, as required.
- 6.2.5 Make notification to the off-site agencies and organizations listed in table 1 of Emergency Procedure S023-VIII-16, "Notification", that a recovery organization is now activated.

6.0 PROCEDURE (continued)

6.2 (continued)

6.2.6 Total Population Exposure Estimate

The Recovery Manager/Designee shall make an estimate of the total population radiation exposure resulting from radioactivity releases (if any) during the emergency. Analyses will be performed to estimate population exposure from all applicable exposure pathways identified in Regulatory Guide 1.109. These analyses will utilize monitoring and sampling data obtained during the emergency and the actual meteorological conditions. Emergency Procedures S023-VIII-42 and 23 provide guidance and methods for analyzing the off-site radiological monitoring data.

6.2.7 Resumption of Operation

SONGS-2 and 3 operation shall be permitted to resume only after repair or replacement of damaged systems and completion of any licensing review and approvals.

6.2.8 A report of the emergency and the recovery actions shall be completed at the direction of the Recovery Manager or his designee.

7.0 RECORDS

7.1 All completed checklists and records are to be maintained by the Administrative Leader (in the emergency response phase) and by the Administrative and Logistics Manager (in the recovery phase).

8.0 ATTACHMENTS

8.1 Typical Recovery Organization

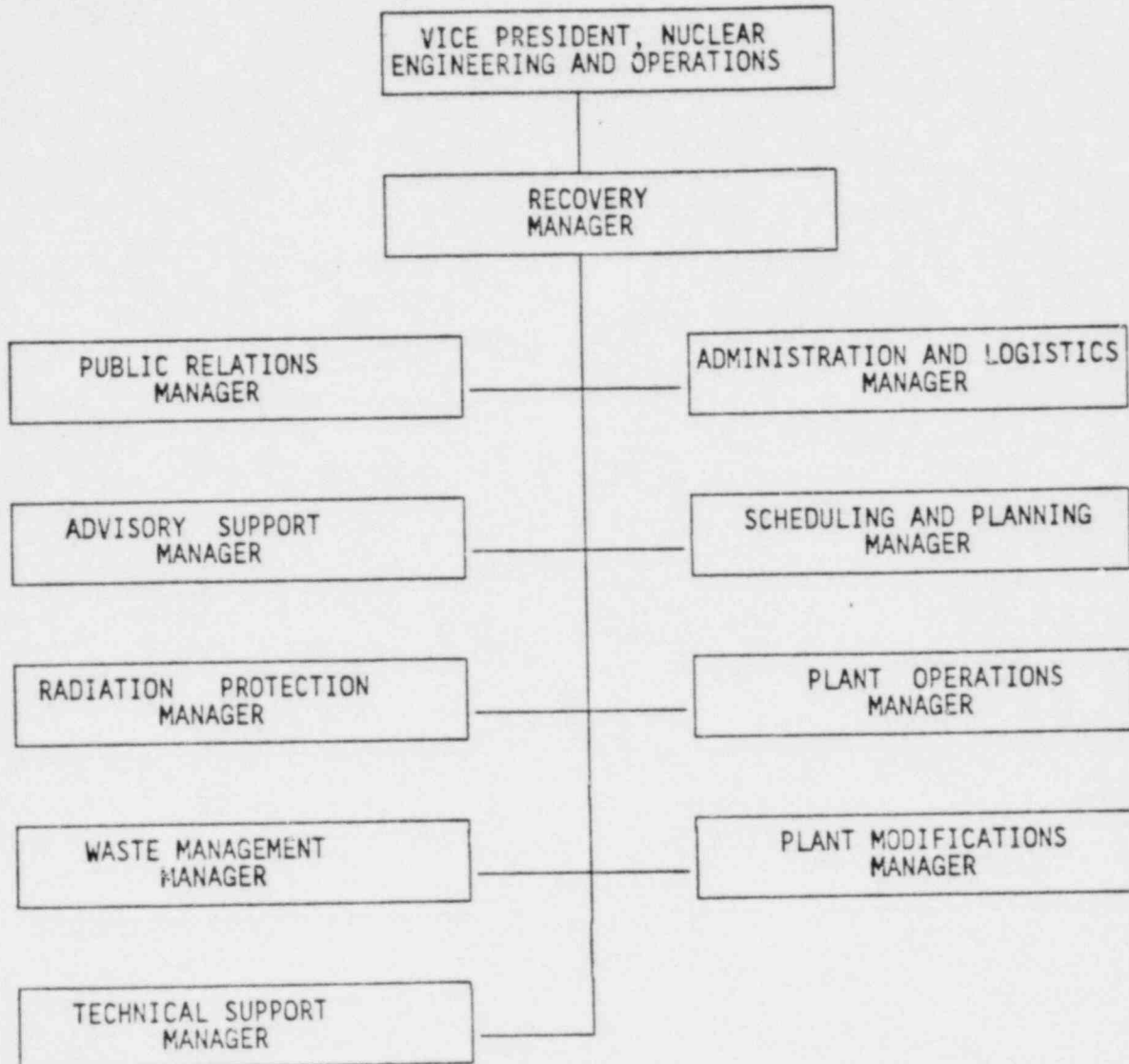
8.2 Description of Recovery Organization

8.3 Checklist for Activation of the Recovery Organization.



K. P. BARR
HEALTH PHYSICS MANAGER

TYPICAL GENERAL RECOVERY ORGANIZATION



DESCRIPTION OF RECOVERY ORGANIZATION FUNCTIONS

1. Vice President, Nuclear Engineering and Operations

The Vice President Nuclear Engineering and Operations of SCE is responsible for designating the senior personnel to fill key positions in the long-term recovery organization.

2. Recovery Manager

The Recovery manager is responsible for implementation and coordination of the overall technical aspects of the recovery operation. This includes overseeing the operations of the various functional groups and ensuring that all activities, proposed courses of action, and contingency plans receive proper analysis and coordination.

3. Public Relations Manager

The Public Relations Manager is responsible for providing accurate, timely information to the public through the news media and coordinating with federal, state, and local public relations officials. The Public Relations Manager is to be the single source for all public information.

4. Administration and Logistics Manager

The Administration and Logistics Manager is responsible for providing necessary administrative/logistics requirements such as communications, manpower, transportation, commissary arrangements, accommodations, clerical support, records management, temporary office space and equipment.

5. Technical Support Manager

The Technical Support Manager is responsible for providing technical engineering support, technical planning and analysis, control room technical support, procedure support, and data reduction and management.

6. Scheduling/Planning Manager

The Scheduling/Planning Manager sets priorities, develops plans and schedules, coordinates and monitors the status of tasks, and reports on the work progress of all technical groups. Liaison with the Nuclear Regulatory Commission is also provided through the Scheduling/Planning Manager.

7. Plant Operations Manager

The Plant Operations Manager is responsible for performing all plant operations and maintenance activities, terminating or minimizing off-site releases, stabilizing plant conditions, and restoring the plant's ability to function normally and respond to any further emergencies.

8. Radiation Protection Manager

The Radiation Protective Manager is responsible for controlling and limiting personnel radiation exposures, development and /or approval of all health physics procedures, and in-plant health physics management.

9. Waste Management Manager

The Waste Management Manager is responsible for safely and effectively managing the quantities of radioactive gases, liquids, and solids that might exist during the initial phases of recovery. Subsequently, this person is responsible for the development and implementation of short and long-term plans to manage and process contaminated solids, liquids, and gases; quantifying the degrees of contamination of buildings and systems; and the establishment of processing priorities based on plant needs.

10. Plant Modifications Manager

The Plant Modifications Manager is responsible for providing the engineerings, design, materials, and construction necessary to complete required modifications to plant systems, equipment, and structures.

11. Advisory Support Manager

The Advisory Support Manager is responsible for objective review of potential problems, maintaining awareness of perceived plant and core status, and for providing independent assessment based on experience and judgment.

CHECKLIST FOR ACTIVATION OF RECOVERY ORGANIZATION

(Forward completed checklist to Administrative Leader in TSC)

EMERGENCY COORDINATOR _____

RECOVERY MANAGER _____

ITEM	INITIAL	TIME	DATE
1. Recovery Manager notified:	_____	_____	_____
2. Termination criteria met:	_____	_____	_____
Circle off-site agencies that give concurrence (if appropriate)			
Cal. OES OC SDC SC SJC			
USMC PARKS NRC	_____	_____	_____
3. Declaration of termination:	_____	_____	_____
4. Announcement on PA to SONGS personnel of termination:	_____	_____	_____
5. Noticiation of termination to off-site agencies. Begin:	_____	_____	_____
Complete:	_____	_____	_____
6. Required recover organization			
a) Short term (omit items 7-8):	_____	_____	_____
b) Long term	_____	_____	_____
7. Brief Recovery Manager on plant conditions and re-entry status:	_____	_____	_____
<hr/>			
8. Emergency Coordinator turns over managment of emergency operation to Recovery Manager:			
Signed _____	Date _____	Time _____	
Emergency Coordinator			
Signed _____	Date _____	Time _____	
Recovery Manager			

NOT FOR CONSTRUCTION
EMERGENCY START-UP USE ONLY
CHECK APPLICABLE CONTROLLED
STICK FILL FOR CURRENT INFORMATION

1.0 OBJECTIVE AND RESPONSIBILITY

1.1 To delineate the requirements for testing, evaluating, and documenting emergency drills as required by reference 2.1 and ensuring drills are carried out to measure emergency preparedness of SONGS personnel. The Emergency Planning Administrator is responsible for implementing this procedure.

RECEIVED

OCT 14 1981

2.0 REFERENCES

2.1 San Onofre Nuclear Generating Station Units 2 and 3 Emergency Plan.

3.0 PREREQUISITES

3.1 A complete scenario of the annual Radiation Emergency Exercise will be sent to the NRC for review and comment no less than 75 days prior to the scheduled drill. The NRC will be invited to observe the scheduled exercise by receipt of the Scenario.

4.0 PRECAUTIONS

4.1 None.

SITE FILE COPY

5.0 CHECK-OFF LISTS (See attachment 8.1)

6.0 PROCEDURE

6.1 The Emergency Planning Administrator is responsible for the planning, scheduling and coordinating of all Emergency Plan related drills and exercises.

6.2 The Fire Brigade Training Coordinator is responsible to assist the Emergency Planning Administrator in conducting the Fire Emergency Drill

6.2.1 At least one Fire emergency drill shall be conducted per calendar quarter per shift.

6.2.2 At least one Fire emergency drill every 12 months, (+3 months) shall involve the participation of the Camp Pendleton Marine Corps Fire Department.

6.0 PROCEDURE (Continued)

6.3 The Health Physics Manager is responsible to assist the Emergency Planning Administrator in conducting the following:

6.3.1 Radiation Emergency Exercise .

- .1 A major exercise appropriate to a site or general emergency shall be conducted every 12 months, (± 3 months)
- .2 Conduct of the exercise shall provide for the coordination with and participation of: offsite emergency response personnel, organizations and agencies; including those of state and county governments.

6.3.2 Radiological Monitoring Drill.

- .1 The drill shall include collection and analysis of all appropriate sample media for both onsite and offsite locations.
- .2 A least one drill shall be conducted every 12 months, (± 3 months).

6.3.3 Health Physics Drill.

- .1 The drill will involve response to, and analysis of, simulated elevated airborne and liquid samples and direct radiation measurements in the environment.
- .2 At least one drill shall be conducted every 6 months (± 1 month).

NOTE: The Chemistry Supervisor will assist in development of all drills involving sampling.

6.4 The Station Services Manager is responsible to assist the Emergency Planning Administrator in conducting the Medical Emergency Drill.

6.4.1 Medical Emergency Drill

- .1 Involves the participation of some, if not all, of the local medical support personnel and organizations, and will involve simulated cases of contaminated injured personnel and/or radiation overexposure
- .2 At least one drill shall be conducted every 12 months, (± 3 months).

6.0 PROCEDURE (Continued)

- 6.5 The Station Assistant Maintenance Manager is responsible to assist the Emergency Planning Administrator in conducting the Repair and Damage Control Drill.
- 6.5.1 At least one drill shall be conducted every 12 months, (\pm 3 months)
- 6.6 The Station Assistant Operations Manager is responsible to assist the Emergency Planning Administrator in conducting the Communications Links drill.
- 6.6.1 At least once per month the communications links to state and local government agencies within the 10 mile EPZ shall be operationally checked.
- 6.6.2 At least once every 3 months, (\pm 1 month) the communications links to federal emergency response organizations and state agencies within the 50 - mile EPZ shall be operationally checked.
- 6.6.3 At least once every 12 months, (\pm 3 months) the communications links between the nuclear facility, state and local emergency operations centers and field assessment teams shall be operationally checked.
- 6.7 Drill Implementation and Evaluation
- 6.7.1 All drills will be planned, developed and conducted by the Emergency Planning Administrator through the use of the Drill Packet. (Attachment 8.1)
- .1 The Drill Packet is a separate set of check-off sheets and forms that is used for any of the emergency drills conducted at the SONGS site.
- .1.1 The purposes of the Drill Packet are:
- a. To provide a step-by-step procedure for conducting a drill to ensure that all aspects of every drill are completed.
 - b. To provide a means of documenting the fact that a drill has been performed.
- 6.7.2 When a drill is required, the Emergency Planning Administrator shall obtain a Drill Packet and begin at step 1, Attachment 8.1 of the procedure and then follow the outline as indicated.

6.0 PROCEDURE (Continued)

6.7.2 (Continued)

- .1 The Drill Packet shall not leave the Emergency Planning Administrator at any time during the conduct of the drill and he shall be responsible for ensuring that the entire Drill Packet is completed and forwarded to the Training Department at the completion of the drill.

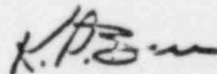
NOTE: Only Drill Evaluators and Observers not directly involved may have access to the Drill Packet prior and during the Drill.

7.0 RECORDS

7.1 None.

8.0 ATTACHMENTS

- 8.1 Drill Packet Check-off sheets
- 8.2 Drill Scenario Sheet
- 8.3 Emergency Drill Critique - Individual Action Item Assignment Sheet.
- 8.4 Emergency Drill Overall Assignment Sheet
- 8.5 Emergency Drill Evaluator and Observer Critique sheet



K. BARR
HEALTH PHYSICS MANAGER

DRILL PACKET

1. Drill Classification and Scheduling

The Emergency Planning Administrator shall check the appropriate box below and note the date and time the drill is to be held.

DATE	INITIALS		Date	Time
_____	_____	Medical Emergency	_____	_____
_____	_____	Fire Emergency	_____	_____
_____	_____	Repair and Damage control	_____	_____
_____	_____	Communications Links test	_____	_____
_____	_____	Radiation Emergency Exercise	_____	_____
_____	_____	Radiological Monitoring	_____	_____
_____	_____	Health Physics Drill	_____	_____

2. Scenario Development and Routing

The Emergency Planning Administrator and a designated assistant as indicated in section 6.1 of this procedure, shall be responsible for preparing the drill scenario. The scenario will be sent to the NRC for review and comment no less than 75 days prior to the drill.

<u>DATE</u>	<u>INITIALS</u>	
_____	_____	Meet with designated assistant and develop emergency drill scenario
_____	_____	Meet with the Supervisor of Plant Coordination and establish a date for the drill that will least affect plant operations.
_____	_____	If the Drill will involve Corporate Management ensure that the personnel involved will be able to participate on the scheduled date.

DRILL PACKET

3. Outside Agency Notification

The Emergency Planning Administrator is responsible for coordinating efforts with outside participating emergency personnel and organizations. Notification has been made to the agencies indicated below that will participate in or observe the drill

<u>DATE</u>	<u>INITIALS</u>	
_____	_____	Pendleton Coast Area Office - California Department of Parks and Recreations.
_____	_____	City of San Clemente.
_____	_____	Camp Pendleton - U. S. Marine Corps Base.
_____	_____	Orange County Control One - Department of Health
_____	_____	San Diego County Office of Disaster Preparedness Station.
_____	_____	City of San Juan Capistrano
_____	_____	Department of Energy (DOE) Nevada Operations Office.
_____	_____	Nuclear Regulatory Commission, Bethesda, MD.
_____	_____	Resident Inspector and Region .
_____	_____	Ambulance Services.

(Specify)

DRILL PACKET

DATE	INITIALS	Other (Specify)
_____	_____	_____
_____	_____	_____
_____	_____	_____

4. Notification of SONGS & SCE Departments

DATE	INITIALS	
_____	_____	Manager of Nuclear Operations
_____	_____	Supervisor of Health Physics and Emergency Planning
_____	_____	SONGS Station Manager
_____	_____	Assistant Station Manager Operations
_____	_____	Supervisor Station Security.
_____	_____	Health Physics Manager
_____	_____	Nuclear Affairs.
_____	_____	Media Relations.

All notifications will be made by memo or phone contact prior to sending the scenario to the NRC for review and comments.

5. Observers

The Emergency Planning Administrator is responsible for assigning Evaluators to monitor personnel and areas involved in the drill.

DATE	INITIALS	
_____	_____	Assign all Evaluators and complete the Emergency drill Overall Assignment sheet (Attachment 8.4).

DRILL PACKET

6. Pre-drill Meeting

<u>DATE</u>	<u>INITIALS</u>	
_____	_____	Meet with all Evaluators and other personnel involved with the drill to brief them on scope, sequence of events and individual responsibilities.
_____	_____	Pass out Emergency Drill Evaluator and Observer Critique Sheets (Attachment 8.5) to all observers.
_____	_____	Prepare and pass out Drill Data Cards to appropriate observers.
_____	_____	Instruct each evaluator and observer to keep a log of all activities he observes during the drill to be turned in the Emergency Planning Administrator for reconstruction of the scenario.
_____	_____	Have all attending personnel fill out the appropriate Training Program Administrative Form (PSS0333).

7. Drill

The Emergency Planning Administrator is responsible for commencing the drill as scheduled under part 1 of this Drill Packet

<u>DATE</u>	<u>INITIALS</u>	
_____	_____	Position all observers and ensure that the drill is initiated in a manner consistent with safe plant operations.

8. Post Drill Requirements.

Upon completion of the drill, the Emergency Planning Administrator is responsible for meeting with all evaluators and observers and holding a critique to review and discuss deficiencies and corrective actions.

<u>DATE</u>	<u>INITIALS</u>	
_____	_____	Meet with all evaluators and observers to review their significant comments, and to collect all logs of observed activities
_____	_____	Hold drill critique to review drill with all involved personnel.
_____	_____	Collect all Emergency Drill Observer Critique Sheets(Attachment 8.5)

DRILL PACKET

9. Action Items

The Emergency Planning Administrator is responsible for initiating any Emergency Drill Critique Individual Action Item Assignment Sheets (Attachment 8.3) and assigning those action items to the EPAL (Emergency Planning Action List) computer tracking system with the appropriate priority code based upon recommendations as a result of the drill.

DATE

INITIALS

_____ _____ Initiate all required Emergency Drill Critique Individual Actions Item Assignment Sheets (Attachment 8.3), and forward them to the appropriate manager for action.

10. Documentation of and Routing of Drill and Critique Results.

DATE

INITIALS

_____ _____ Prepare and distribute to all SONGS Department Heads a memorandum detailing the results of the drill.

_____ _____ Forward the completed drill packet to training.
Items included in the drill packet are the following:

_____ _____ Training Program Administrative forms (PSS0333)

_____ _____ Drill Scenario and Cover Sheet (Attachment 8.2).

_____ _____ Copy of Drill memorandum sent to all Department Heads.

_____ _____ Emergency Drill Observer Critique Sheets (Attachment 5)

_____ _____ Emergency Drill Observer Assignment Sheet (Attachment 4)

_____ _____ Completed Drill Packet Check-off Sheets(Attachment 1).

11. Action Item Assignment Sheets

The Emergency Planning Administrator shall maintain a file -f "open" Individual Action Item Assignment Sheets for each drill and enter these in the computerized SONGS Emergency Planning Action List (EPAL) under the appropriate Priority Code. Once all action items for a particular drill are closed out, the Emergency Planning Administrator shall forward them to the Manager of Training for filing with the Drill Packet

DRILL SCENARIO

The following Scenario was developed by:

	NAME	TITLE	SIGNATURE
1.	_____ /	_____ /	_____ /
2.	_____ /	_____ /	_____ /
2.	_____ /	_____ /	_____ /

Approval of Date of Exercise By:

Manager of Nuclear Operations
(Exercise)

Date

(Annual Radiation
Emergency)

SONGS Station Manager

Date

Review and approval of Scenario By:

Watch Engineer (SRO)

Date

(Not participating
drill)

Emergency Planning
Administrator

Date

NOTE: Only the Emergency Planning Administrator, one SRO not participating in the drill, and evaluators can have access to the drill scenario prior to the drill. Observers may have a copy on the day of the drill for observation purposes. Copies of the scenario were issued to the following people:

	NAME	ORGANIZATION	COPY #	SIGNATURE	DATE
1.	_____ /	_____ /	_____ /	_____ /	_____ /
2.	_____ /	_____ /	_____ /	_____ /	_____ /
	_____ /	_____ /	_____ /	_____ /	_____ /

DRILL SCENARIO

Type of Drill: _____

Date and time to be conducted: _____

Objectives: (including participation of offsite organizations)

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.

Scope: (General overview of event)

- Initial Conditions:
- 1.
 - 2.
 - 3.
 - 4.
 - 5.
 - 6.

- Safety Precautions:
- 1.
 - 2.
 - 3.
 - 4.
 - 5.
 - 6.

SAN ONOFRE NUCLEAR GENERATING STATION
UNITS 2 AND 3

EMERGENCY PROCEDURE S023-VIII-71
NEW Page 3 of 3
ATTACHMENT 8.2

DRILL SCENARIO

Detailed Scenario:

(Use Additional sheets as necessary)

SAN ONOFRE NUCLEAR GENERATING STATION
UNITS 2 AND 3

EMERGENCY PROCEDURE S023-VIII-71
NEW Page 1 of 1
ATTACHMENT 8.3

EMERGENCY DRILL CRITIQUE
INDIVIDUAL ACTION ITEM ASSIGNMENT SHEET

DRILL _____ ACTION _____

DATE _____ RESPONSIBLE DEPARTMENT _____

ACTION ITEM DUE DATE _____

ACTION RECOMMENDED _____

Emergency Planning Administrator

ACTION TAKEN:

ITEM CLOSE OUT DATE _____

DEPARTMENT HEAD _____

RETURN TO EMERGENCY PLANNING ADMINISTRATOR

NOTE: EMERGENCY PLANNING ADMINSTRATOR FORWARD TO THE MANAGER OF TRAINING TO
FILE WITH DRILL PACKET.

EMERGENCY DRILL
OVERALL ASSIGNMENT SHEET

TYPE OF EMERGENCY _____

DATE

AREA OF RESPONSIBILITY	OBSERVER
1. _____	_____
2. _____	_____
3. _____	_____
4. _____	_____
5. _____	_____
6. _____	_____
7. _____	_____
8. _____	_____
9. _____	_____
10. _____	_____
11. _____	_____
12. _____	_____
13. _____	_____
14. _____	_____
15. _____	_____
16. _____	_____
17. _____	_____

SAN ONOFRE NUCLEAR GENERATING STATION
UNITS 2 AND 3

EMERGENCY PROCEDURE S023-VIII-71
NEW Page 1 of 1
ATTACHMENT 8.5

EMERGENCY DRILL

EVALUATOR AND OBSERVER CRITIQUE SHEET

OBSERVER/EVALUATOR _____ DATE _____

TYPE OF DRILL _____

AREA OF RESPONSIBILITY _____

TIME: _____ EVENT: _____

COMMENTS (Include safety concerns, procedure adequacy and compliance,
radiological (ALARA), material, etc)

EMERGENCY EQUIPMENT INVENTORY

1.0 OBJECTIVE

1.1 To provide a means of

2.0 REFERENCES

2.1 San Onofre Nuclear Generating Station Unit 2/3 Emergency Plan

3.0 PREREQUISITES

3.1 None

4.0 PRECAUTIONS

4.1 None

5.0 CHECK-OFF LISTS

See 8.0, Attachments

6.0 PROCEDURE

6.1 Responsibilities

6.1.1 It is the responsibility of the Emergency Planning Administrator to ensure that all emergency kits listed in Attachment 8 are inventoried when specified.

6.2 Instruction

6.2.1 Using the appropriate checklist (Attachment 8) perform the following:

- .1 At quarterly (+ 1 month) intervals and after each use the Emergency Planning Administrator will designate Health Physics personnel to perform inventories of emergency equipment.

NOTE: If a lockwire on an emergency equipment locker is found broken, the Health Physics staff will notify the Emergency Planning Administrator, who will then direct an immediate inventory to be performed on that locker.

NO FOR CONSTRUCTION
FOR START-UP USE ONLY
CHECK APPLICABLE CONTROLLED
STICK FILE FOR CURRENT INFORMATION

RECEIVED

OCT 14 1981

CDM STP

SITE FILE COPY

6.0 PROCEDURE (continued)

6.2.1 (continued)

- .2 Health Physics personnel will break the lockwire, open the locker, visually inspect all equipment and replace any equipment showing deterioration. Note any replacement items in the appropriate column, and note, under REMARKS, why the item was replaced.
- .3 Verify that all items requiring them have expiration dates. If there is no expiration date on an item requiring one, replace the item with one possessing an expiration date.
- .4 Replace all items with past due expiration dates. Note the new item expiration date in the appropriate column of the checklist.
- .5 Verify that calibration dates on instruments requiring calibration are not past due. Replace any instruments with past due calibration dates and note the new calibration date in the appropriate column.
- .6 During the first inventory of the calendar year, replace all spare batteries with fresh batteries.

NOTE Indicate that battery replacement has been accomplished in the "Remarks" section of the Inventory list for applicable items.
- .7 Kit inventories are considered complete when all required items are present, all instruments are within the calibration and expiration dates and all instruments are functioning properly.
- .8 After rectifying noted deficiencies, lockwire shut the emergency equipment locker door.
- .9 After inventory, sign and date the attachment. All completed inventory lists will be forwarded to the Emergency Planning Administrator.

7.0 RECORDS

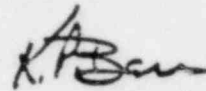
- 7.1 The Emergency Planning Administrator shall forward the records to EDM with the appropriate code.

8.0 ATTACHMENTS

- 8.1 Attachment 1 - Emergency Response Kit
- 8.2 Attachment 2 - Control Room Emergency Kit

8.0 ATTACHMENTS (continued)

- 8.3 Attachment 3 - Operational Support Center Emergency Kit
- 8.4 Attachment 4 - Technical Support Center Emergency Kit



K. P. BARR
HEALTH PHYSICS MANAGER

0122F/sss

Frequency: QUARTERLY

EMERGENCY RESPONSE KIT EQUIPMENT	Qty Required	Qty Found	Calib Date	Expiration Date	Recalib Required	Replaced	New Exp Date	Remarks
Clipboard	1							
Survey forms	50							
Pens	2							
Pencils	2							
Magic Marker	1							
Scissors	1							
Flashlight	1							
Extra Batteries (D)	2							
Plastic bags, small	10							
Yellow bags, large	2							
Masking tape	1 roll							
Rope, radiation boundary	50 ft							
Radiation signs	2							
Radiation sign inserts	10							
Radiation Material stickers	50							
Herculite 4' x 6'	1							
Air sample filters particulate	50							
Air sample cartridges, Charcoal	10							
Air sample cartridges, silver zeolite	10							
Nucron smears	100							
Masslin cloths	10							
Liquid sample bottles	2							
Dosimeters (0-200 mR)	2							
Dosimeters (0-5 R)	2							
Paper coveralls	4							

Frequency: QUARTERLY

EMERGENCY RESPONSE KIT	(continued)	Qty Required	Qty Found	Calib Date	Expiration Date	Recalib Required	Replaced	New Exp Date	Remarks
EQUIPMENT									
Paper hoods		4							
Cloth gloves		10 pr							
Green gloves		20 pr							
Film badges		2							
Latex gloves		2 pr							
Plastic booties		10 pr							
Equipment Operating Procedures:									
Teletector		1							
CP-6		1							
Radio H802-B2		1							
PUG		1							
SAM - 2		1							
SHL - 2		1							
Survey Procedures:									
On-site Monitoring	(41)	1							
Offsite Monitoring	(42)	1							
sampling									
On-site sampling	(46)	1							
Personnel Decontamination		1							
Procedure									
Survey maps		2							
Compass		1							

Frequency: QUARTERLY

EQUIPMENT	Qty Required	Qty Found	Calib Date	Expiration Date	Recalib Required	Replaced	New Exp Date	Remarks
CONTROL ROOM								
Frisker, SML-2	1							
Air sampler, Radico H809-B2	1							
Teletector	1							
CP-6	1							
Bio Packs	10							
Emergency Plan	1 set							
EPIPs	1 set							
Yellow bags, large	5							
Masking tape	2 rolls							
2 way radio (walkie-talkie)	2							
Radio charger	2							
Dosimeter charger	1							
Dosimeter charger battery (AA)	2							
Air sample filters particulate	50							
Air sample cartridges, charcoal	5							
Air sample cartridges, silver zeolite	5							
Station & Site floor plans	1 set							
Station P & IDs	1 set							
KI thyroid blocking tablets	1 bottle							
Dosimeters (0-200 mR)	10							
Dosimeters (0-50 R)	10							
Paper coveralls	20							
Paper hoods	20							
Cloth gloves	20 pr							
Green gloves	1 box							
Latex gloves	20 pr							

Frequency: QUARTERLY

EQUIPMENT	Qty Required	Qty Found	Cal/b Date	Expiration Date	Recalib Required	Replaced	New Exp Date	Remarks
Masking tape	5 rolls							
Swabs	1 box							
Iodine blocking pills	1 box							
Small plastic bags	1 box							
Large yellow bags	1 box							
Film badges	24							
Finger rings	50							
Flashlight	2							
Extra Batteries (D)	4							
1st Aid kit	1							
Radiation rope	1 coil							
Contaminated area signs	16							
Alarming dosimeter	15							
Dosimeter charger	2							
Dosimeter charger batteries (AA)	4							
OSC log book	1							
Pencils	10							
Paper	5 packs							
Pens	10							
Stopwatch	5							
Shoecovers	100 pr							
Magic Marker	2							
Scissors	1							
Personnel Exposure forms	100							
Emergency Plan	1 set							
EPIPs	2 set							
2 way - Radios (walkie talkies)	8							

TECHNICAL SUPPORT CENTER (continued)	Qty Required	Qty Found	Calib Date	Expiration Date	Recalib Required	Replaced	New Exp Date	Remarks
EQUIPMENT								Frequency: QUARTERLY
Manual of Emergency Events	1							
Title 10, Code of Fed Regulations	1							
NUREG 0654	1							
NUREG 0696	1							
ICRP Pub #28 "Principals & General Procedures for handling Emergency and Accidental Exposure of Workers"	1							
EPA 520 "Manual of Protective Action Guides"	1							
NCRP Report "Protection of the Thyroid Gland"	1							
Radiation Emergency Mutual Assistance Agreement folder	1							
Area Survey forms	200							
Teletector batteries	2							
SML-2 Flisker batteries	2							
Notification Procedure (16)	1							
SCE Telephone Directory	1							
Local (off-site) Telephone Directory	1							
P&IDs and one lines	1 set							
Emergency Coordinator's log	1							
Building floor plans	1 set							
Dictaphone	1							
Dictaphone tapes	10							
Three ring binders	3							
Rulers	6							
Scotch tape dispenser	3							

TECHNICAL SUPPORT CEMTER (continued)	Qty Required	Qty Found	Calib Date	Expiration Date	Recalib Required	Replaced	New Exp Date	Frequency: QUARTERLY	Remarks
EQUIPMENT									
SML-2	1								
Radico air sampler	1								
Pencils	15								
Paper	1 pack								
Pens	15								
Log books	1								
Emergency Plan	1								
EPIPs	1 set								
FSAR	1								
Chemistry Procedures	1 set								
H.P. Radiation Protection Proc.	1 set								
Pencil sharpener	1								
Stapler	2								
Staples	1 box								
3 - Hole punch	1								
Tech Specs	1 set								
Maps:									
Normal & Emergency Access Routes	1								
Environmental Monitoring Location	1								
Surveys	1								
Operation Procedure: Normal	1 set								
Emergency Procedure	1								
Vendor Data	1 set								
Acetate overlays for map	3								
INPO Resources Manual	1								
Engineering Procedures	1 set								

TECHNICAL SUPPORT CENTER (continued)	Qty		Expiration Date	Recallb Required	Replaced	New Ex Date	Frequency: QUARTERLY
	Required	Found					
EQUIPMENT							
Scotch tape	3 rolls						
Paper clips	26 boxes						
Scratch pads	12						
Pencil sharpener	1						
Typing paper	1 pkg						
Calibration & check sources	1						
General Arrangement drawings	1 set						
Radiation Zone Drawings	1 set						
Station orders	1 set						
Calibration & check sources	1						
Plant Operating records	1 set						
Reactor Safety Committee records and reports	1 set						