

SMUD - RANCHO SECO
EMERGENCY PLAN PROCEDURE

AP 580

TRAINING

TABLE OF CONTENTS

	<u>Page No.</u>
1.0 PURPOSE	2
2.0 RESPONSIBILITY	2
3.0 INITIATING CONDITIONS	2
4.0 PRECAUTIONS AND LIMITATIONS	3
5.0 INSTRUCTIONS	3
6.0 REFERENCES	5
7.0 ATTACHMENTS	5

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1.0 PURPOSES

- 1.1 To familiarize personnel with the Emergency Preparedness Program and with their assignments during an emergency.
- 1.2 To provide for the initial and periodic retraining of all personnel who are granted unescorted access, and to the emergency response organization.
- 1.3 To provide for the training of the members of those offsite emergency organizations who may support the plant in the event of an emergency.

2.0 RESPONSIBILITY

- 2.1 The Emergency Preparedness Coordinator and the Station Training Supervisor are responsible to develop jointly, the Emergency Response Training Program.
- 2.2 The Site Training Supervisor is responsible for the administration and maintenance of the General Onsite Emergency Response Training Program.
- 2.3 The Emergency Preparedness Coordinator is responsible for the administration and maintenance of the Emergency Organization Training and the Offsite General Emergency Response Training Programs.

3.0 INITIATING CONDITIONS

- 3.1 Training is conducted in accordance with the guidance set forth in AP 500, Section 8; Maintaining Emergency Preparedness and AP 700; Rancho Seco Training Program.

4.0 PRECAUTIONS AND LIMITATIONS

4.1 Not Applicable

5.0 INSTRUCTIONS

5.1 Training will be conducted for both onsite and offsite emergency response personnel and agencies in accordance with AP 500, Section 8.0; Maintaining Emergency Preparedness.

5.2 Initial and annual retraining for personnel granted unescorted access to the plant site will be in conjunction with the General Annual Training Program.

5.3 General Emergency Response Training

5.3.1 Personnel granted unescorted access (new site personnel, vendors, contractors) will receive the following during the initial badging process and annual retraining.

- a. Overview of the Emergency Preparedness Program.
- b. Emergency warning/alerting devices - alarms, sirens, public address system.
- c. Personnel assembly/accountability/evacuation/ reassembly.
- d. Radiation exposure control, decontamination, medical care, emergency dosimetry.

5.3.2 The format may be an audio-visual slide tape or video tape or a similar program augmented if necessary by formal classroom instruction.

5.3.3 A written examination will be administered and records maintained by the Plant Training Department.

5.3.4 The Station Training Supervisor will establish a minimum passing score. Individuals failing the written examination will be provided retraining.

5.4 Emergency Organization Training

5.4.1 Personnel assigned to the SMUD onsite and offsite emergency organization will receive training specific to their assignments.

5.4.2 The training will be conducted annually, and whenever necessitated by significant revisions to the Emergency Plan, Emergency Plan Procedures, equipment or when changes occur to emergency assignments.

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5.0 INSTRUCTIONS-contd.

- 5.4.3 In addition to formal classroom instruction, there will be drills conducted to enable personnel to further develop their skills.
- 5.4.4 This training program for emergency organization personnel is detailed in Attachments 7.1 and 7.2.
- 5.4.5 Records of the Emergency Organization training for onsite and offsite SMUD emergency personnel will be maintained by the Emergency Preparedness Coordinator (Attachment 7.3), with a copy forwarded to the Station Training Supervisor.

| 2

5.5 Offsite Emergency Support Agencies

- 5.5.1 The Emergency Preparedness Coordinator is responsible for developing, implementing, and documenting a training program for the following offsite support agencies:
 - a. Medical support - ambulance, physicians, hospitals.
 - b. County/State Emergency Services Officials.
 - c. Fire Department (under the plant fire protection program).
- 5.5.2 The training programs will be specific to the agency's response assignment to include at a minimum:
 - a. Basic radiation protection and emergency dosimetry.
 - b. Emergency site access control procedures.
 - c. Notifications and communications.
 - d. Interface with the plant emergency organization.
- 5.5.3 On an annual basis, in cooperation with the state/county governments, a training program will be given to the local/regional news media. The program will include:
 - a. Emergency plans and procedures.
 - b. Basic information concerning radiation.
 - c. Location and means for release of public information in an emergency.
 - d. Tour and familiarization of the media center.
- 5.5.4 Records of the training for offsite emergency support personnel will be maintained by the Emergency Preparedness Coordinator. (Attachment 7.3)

| 1

6.0 REFERENCES

- 6.1 AP 500, Section 8.0; Maintaining Emergency Preparedness
- 6.2 AP 700; Rancho Seco Training Program

7.0 ATTACHMENTS

	<u>Revision No.</u>	
7.1 Emergency Organization Training Groups	1	1
7.2 Emergency Response Training Program	1	
7.3 Training Attendance Sheet	Original	

ATTACHMENT 7.1

EMERGENCY RESPONSE ORGANIZATION TRAINING ASSIGNMENTS

1. Control Room	Modules
Shift Supervisor	1, 2, 3, 5, 7, 10
Control Room Staff	1, 3,
<u>2. Technical Support Center</u>	
Emergency Coordinator	1, 2, 3, 5, 7, 9, 10, 12, 13, 14
Technical Report Coordinator	1
Administrative Coordinator	1
Maintenance Coordinator	1
Nuclear Engineering	1
Instruct and Control	1
Computer Information	1
Engineer & Q.C.	1
Communicators	1, 10
Telephone Operator	1, 10
Security	1, 5, 12, 14
Technical Support Center Coordinator	1, 2, 5, 7
Emergency Teams	11
Fire Brigade	15
Radiological Assessment Coordinator	1, 3, 4, 6
Chem/Rad Support Team	1, 3, 4, 6
<u>3. Operations Support Center/ Plant Assembly Point</u>	
Plant Assembly Point Coordinator	1, 4, 6, 7, 12
Chem/Rad Logistics	1, 3, 4, 6
Maintenance Logistics	1
<u>4. Emergency Operations Facility</u>	
Emergency Manager	1, 2, 8, 9, 13
Communicators	1, 10
Telephone Operators	1, 10
Security Coordinator	1, 8, 14
Access Administration Coordinator	1, 8, 14
Media Center Coordinator	1, 8, 9
Technical and Logistical Support	1
Technical Support Coordinator	1
Logistics Support Coordinator	1
Environmental Assessment Coordinator	1, 3
Plant Status & Tech. Inf. Coordinator	1
Advisor to the County Emergency Organizations	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15

ATTACHMENT 7.2

EMERGENCY RESPONSE TRAINING PROGRAM

Module 1 - EMERGENCY PREPAREDNESS - GENERAL

Overview of the Emergency Preparedness Program
Emergency Response Organization
Offsite Support and Assistance

Module 2 - EMERGENCY CLASSIFICATION SYSTEM

Recognition and Classification of an Emergency
Unusual Event
Alert
Site Area Emergency
General Emergency

Module 3 - DOSE CALCULATION/ACTIONS

Control Room Dose Calculation
TSC Dose Calculation
EOF Dose Calculation
Protective Action Guide
Release Rate Determination

Module 4 - RADIOLOGICAL MONITORING PROCEDURES AND TECHNIQUES

Onsite and Offsite Radiological Monitoring
Reactor Coolant Sampling
Offsite Laboratory Assistance

Module 5 - ABNORMAL OCCURRENCES

Helicopter
Fire
Toxic Material
High Wind
Earthquake
Sabotage or Civil Disturbance

Module 6 - RADIOLOGICAL EXPOSURE/DECONTAMINATION PROCEDURES

Emergency Personnel Dosimetry
Emergency Exposure Guidelines
Radiation Overexposure
Personnel Decontamination
Equipment and Area Decontamination
Potassium Iodide Administration

ATTACHMENT 7.2

EMERGENCY RESPONSE TRAINING PROGRAM-cont.

Module 7 - ACTIVATION OF ONSITE SUPPORT CENTERS

Technical Support Center
Plant Assembly Points/Operations Support Center

Module 8 - ACTIVATION OF OFFSITE SUPPORT CENTERS

Emergency Operations Facility
Unified Dose Assessment Center
General Office Emergency Response Center
Media Center
Offsite Reassembly Point

Module 9 - PUBLIC INFORMATION PROCEDURES

Public Information
Release of Information to the Public and Media

Module 10 - NOTIFICATION PROCEDURES

Notification/Communications

Module 11 - MEDICAL PROCEDURES

Personnel Injury
First Aid - Red Cross Multimedia First Aid Course

Module 12 - SITE PERSONNEL

Site Evacuation
Personnel Accountability
Search and Rescue

Module 13 - RE-ENTRY/RECOVERY PROCEDURES

Module 14 - SECURITY

Module 15 - FIRE TRAINING

ATTACHMENT 7.3
TRAINING ATTENDANCE SHEET

INSTRUCTOR: _____ DATE: _____

TOPIC: _____

TIME ELAPSED: _____ QUIZ? _____ FILM? _____

Printed Name

Signature

Emergency Assignment

SMUD - RANCHO SECO
EMERGENCY PLAN PROCEDURE

AP 581

DRILLS

TABLE OF CONTENTS

	<u>Page No.</u>
1.0 PURPOSE.	2
2.0 RESPONSIBILITY	2
3.0 INITIATING CONDITIONS.	2
4.0 PRECAUTIONS AND LIMITATIONS.	3
5.0 INSTRUCTIONS	3
6.0 REFERENCES	5
7.0 ATTACHMENTS.	5

1.0 PURPOSE

- 1.1 To establish guidelines for developing, conducting, evaluating, and documenting Emergency Preparedness drills.
- 1.2 To test personnel, equipment, and procedures as an extension of classroom training.
- 1.3 To verify the adequacy of the Rancho Seco Emergency Plan procedures.

2.0 RESPONSIBILITY

- 2.1 The Emergency Preparedness Coordinator is responsible for ensuring that all drills are developed, conducted, evaluated, and properly documented.

3.0 INITIATING CONDITIONS

- 3.1 Drills are conducted in accordance with the guidance in AP 500, Section 8; Maintaining Emergency Preparedness and AP 700; Rancho Seco Training Program.
- 3.2 The Emergency Preparedness Coordinator shall complete the appropriate predrill checkoff sheet prior to the initiation of the drill.

4.0 PRECAUTIONS AND LIMITATIONS

4.1 Drills will be conducted in accordance with Attachments 7.1 and 7.2.

5.0 INSTRUCTIONS

5.1 The Emergency Preparedness Coordinator will coordinate the planning and scheduling of each drill. The coordinator shall develop the scenario if required. The scenario shall contain the following:

- a. Objectives
- b. Sequence of Events
- c. Initiating Messages
- d. Evaluation Sheets
- e. Status Sheets

1

5.1.1 Scenarios may be developed on a real time basis or on a accelerated time schedule to encompass more activities.

5.1.2 Emergency information messages may be developed to be given to emergency personnel at predetermined times.

5.2 The Emergency Preparedness Coordinator will submit to the Plant Superintendent the drill scenario and schedule for review and approval.

5.3 Drills that will be conducted on a periodic basis include:

- a. Communication
- b. Fire
- c. Medical
- d. Health Physics/Rad Monitoring

5.4 The Emergency Preparedness Coordinator will assign controllers/ evaluators, based on expertise and availability.

5.5 Prior to the drill, the Emergency Preparedness Coordinator will:

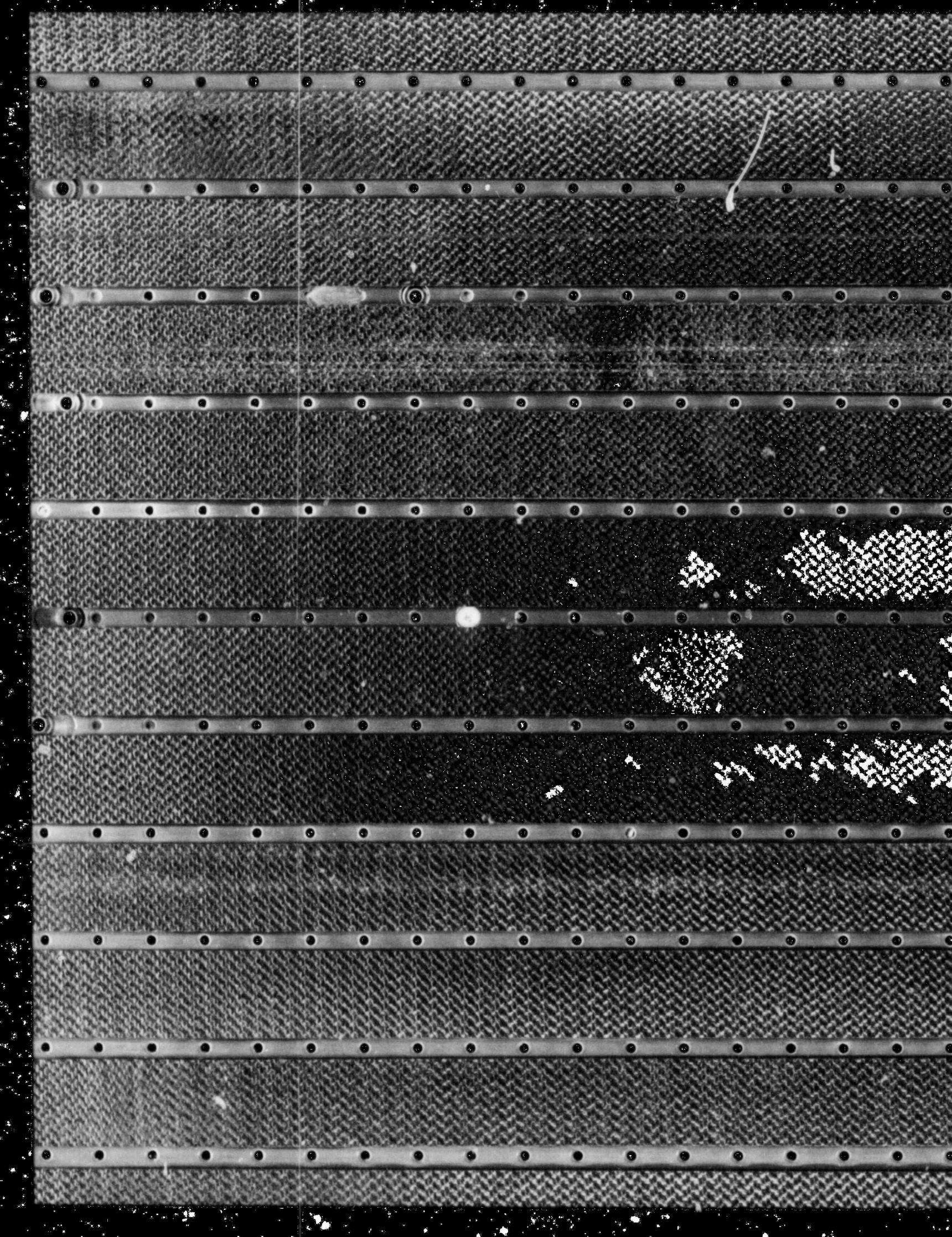
- a. Complete the predrill checkoff sheet (see appropriate drill).
- b. Brief all controllers/evaluators on the objectives of the drill. (If required)
- c. Distribute simulated message forms, if appropriate. (Attachment 7.3).
- d. Allow assigned controllers/evaluators ample time to reach their assigned observation location.

1

5.0 INSTRUCTIONS-contd.

- 5.6 Guidance from the controller/evaluators may be provided at any time during the drill regarding the use of emergency procedures and equipment.
- 5.7 Upon completion of the drill, the Emergency Preparedness Coordinator may conduct a critique involving participants and controller/evaluators.
- 5.8 The Emergency Preparedness Coordinator shall submit to the Plant Superintendent a written report, with simulated messages (if appropriate), and appropriate verification forms. (See appropriate drill).
- 5.9 The Plant Superintendent shall review all reports and assign individuals to perform corrective actions.
- 5.10 The Plant Superintendent shall review the corrective actions and, if confident that appropriate action has been initiated, shall sign off the appropriate attachments.
- 5.11 Records of all drills will be maintained by the Emergency Preparedness Coordinator.

1



6.0 REFERENCES

- 6.1 AP 500 Section 8; Maintaining Emergency Preparedness
- 6.2 AP 700 Rancho Seco Training Program
- 6.3 AP 581.01 "Communications Drills"
- 6.4 AP 581.02 "Fire Drills"
- 6.5 AP 581.03 "Medical Drills"
- 6.6 AP 581.04 "Health Physics/Radiological Monitoring Drills"

7.0 ATTACHMENTS

Revision No.

- | | |
|----------------------------|----------|
| 7.1 Time Periods | Original |
| 7.2 Drill Frequencies | 1 |
| 7.3 Simulated Message Form | 1 |

1

ATTACHMENT 7.1

TIME PERIODS

TIME PERIODS

May be extended to a maximum of +25% to accommodate operations scheduling. The total maximum combined interval time for any three consecutive tests shall not exceed 3.25 times a single specified surveillance interval.

SHIFT

A time period covering at least once per twelve (12) hours.

DAILY

A time period spaced to occur at least once per twenty-four (24) hours.

WEEKLY

A time period spaced to occur at least once per seven (7) days.

MONTHLY

A time period spaced to occur at least once per thirty-one (31) days.

QUARTERLY

A time period spaced to occur at least once per ninety-two (92) days.

SEMI-ANNUALLY

A time period spaced to occur at least once per six (6) months.

ANNUALLY

A time period spaced to occur at least once per twelve (12) months.

BIANNUALLY

A time period spaced to occur at least once in two (2) years.

FIVE YEARS

A time period spaced to occur at least once per sixty (60) months.

ATTACHMENT 7.2

FREQUENCIES OF DRILLS

ANNUALLY

1. Communications between Rancho Seco, the State of California, and local emergency centers and field assessment teams shall be tested.
2. A medical emergency drill involving a simulated contaminated individual which contains provisions for participations by local support services agencies shall be conducted.
3. A Radiological Monitoring drill shall be conducted involving communications, record keeping, and collection and analysis of sample media.
4. A Health Physics drill shall be conducted involving the analysis of liquid samples with simulated elevated radiation levels including use of the post accident sampling system.
5. A fire drill involving the offsite fire department(s) shall be conducted.
6. A major drill/exercise shall be conducted involving participation of offsite emergency support personnel within the county and state emergency organizations.

SEMI-ANNUALLY

A drill shall be conducted which involves response to, and analysis of, liquid and air samples, and direct radiation measurements in the environment.

QUARTERLY

A onsite drill will be conducted involving each fire brigade.

MONTHLY

Communications with state and local governments within the plume exposure pathway Emergency Planning Zone shall be tested.

Effective Date: 5/18/82

ATTACHMENT 7.3
SIMULATED MESSAGE FORM

MESSAGE FOR:

Time: _____

T: _____

SIMULATED PLANT CONDITIONS:

MESSAGE:

CONTROLLER/OBSERVER NOTES

ACTION EXPECTED:

EMERGENCY PLAN PROCEDURE

AP 581.01

COMMUNICATIONS DRILLS

TABLE OF CONTENTS

	<u>Page No.</u>
1.0 PURPOSE	2
2.0 RESPONSIBILITY	2
3.0 INITIATING CONDITIONS.	2
4.0 PRECAUTIONS AND LIMITATIONS.	3
5.0 INSTRUCTIONS	3
6.0 REFERENCES	5
7.0 ATTACHMENTS.	5

1.0 PURPOSE

- 1.1 To establish the guidelines for developing, conducting, evaluating and documenting communications drills.

2.0 RESPONSIBILITY

- 2.1 The Emergency Preparedness Coordinator is responsible for developing, conducting, and documenting all communications drills. The Coordinator is also responsible for reporting any deficiencies and recommended courses of corrective actions to the Plant Superintendent.
- 2.2 The Plant Superintendent is responsible for reviewing reports of all communication drills and assigning personnel to correct deficiencies.
- 2.3 The Nuclear Regulatory Commission is responsible for testing and maintaining its own communications equipment on site, including the dedicated "HOT LINE" and Health Physics Network.

3.0 INITIATING CONDITIONS

- 3.1 Communications Drills are conducted in accordance with AP 500, Section 8; Maintaining Emergency Preparedness and AP 506 "Notification/Communications".

1

4.0 PRECAUTIONS AND LIMITATIONS

4.1 Not Applicable.

5.0 INSTRUCTIONS

- 5.1 The Emergency Preparedness Coordinator will determine, the date, time and scope of the communications drill. | 1
- 5.2 Simulated Emergency Messages may be utilized.
- 5.3 Actual equipment checks may be conducted by members of the Emergency Response Organization as a training experience.
- 5.4 Equipment found to be inoperable will be replaced or repaired. Mitigating actions will be initiated until the equipment is operable.
- 5.5 A communications drill will be conducted with state and county government within the Plume Exposure Pathway (10 Mile EPZ) on a monthly basis from the Control Room. Procedures utilized will be in accordance with Attachment 7.1 and AP 506 "Notification/Communications" Attachment 7.2. | 1
- 5.6 An annual communications drill will be conducted to test the communications capabilities of:
- a. Control Room
 - b. Technical Support Center
 - c. Plant Assembly Points/Operations Support Center
 - d. State and Local Emergency Operations Centers
- Procedures utilized will be in accordance with Attachment 7.2 and AP 506 "Notification/Communications" Attachment 7.2. | 1
- 5.7 A record will be maintained of the drill by the Emergency Preparedness Coordinator.
- 5.8 A written report will be submitted to the Plant Superintendent by the Emergency Preparedness Coordinator in accordance with the guidance set forth in AP 581 "Drills". | 1
- 5.9 The Plant Superintendent shall review all reports and assign the individuals to perform corrective actions.
- 5.10 The Plant Superintendent shall review the corrective actions and, if confident that appropriate action has been initiated, shall sign off the appropriate attachment. | 1

5.0 INSTRUCTIONS-contd.

5.11 A quarterly communications drill will be conducted with NRC from the following locations:

- a. Control Room
- b. Technical Support Center
- c. Emergency Operations Facility

The onsite NRC representative is responsible for conducting the drill.

5.12 The NRC is the only Federal Emergency Response Organization with whom an annual communications drill is required.

6.0 REFERENCES

6.1 AP 500 Section 8; Maintaining Emergency Preparedness.

6.2 AP 506 "Notification/Communications"

6.3 AP 581 "Drills"

7.0 ATTACHMENTS

7.1 Monthly Communications Drill Record.

7.2 Annual Communication Drill Record.

Revision No.

1

1

1

ATTACHMENT 7.1

MONTHLY COMMUNICATIONS DRILL RECORD

The Monthly Communications Drill was conducted on _____.

Emergency Response Facility	Equipment	Emergency Response Facility	Initials/Date
Control Room (AP 550, Attachment 7.1)	Direct Dedicated phone or, Pacific Telephone Line Herald Exchange	1. Sacramento County	_____/____
		2. San Joaquin County	_____/____
		3. Amador County	_____/____
		4. California Office of Emergency Services	_____/____
	UHF Radio	Sacramento County	_____/____

Remarks: _____

Signature (Emergency Preparedness Coordinator)

Date

Appropriate Corrective Actions Have Been Initiated.

Signature (Plant Superintendent)

Date

Attachment:
Attachment 7.1, AP 550

ANNUAL COMMUNICATIONS VERIFICATION FORM

To: Plant Superintendent
 From: E.P.C.
 Subject: Communications Drill

The Annual Communications Drill was conducted on _____.

Emergency Response Facility	Equipment	Emergency Response Facility	initials/Date
Control Room (AP 550, Attachment 7.1)	Direct Dedicated phone or Pacific Telephone Line Herald Exchange	1. Sacramento County	_____ / _____
		2. San Joaquin County	_____ / _____
		3. Amador County	_____ / _____
		4. California Office of Emergency Services	_____ / _____
	*UHF Crossband Radio	1. SMUD Dispatcher	_____ / _____
		2. Sacramento County	_____ / _____
	Microwave/Dedicated 4 Point Line	1. SMUD Dispatcher	_____ / _____
		2. Sacramento County	_____ / _____
		3. State OES	_____ / _____
		4. General Office Emergency Center	_____ / _____
	CBX Telephone Extensions	1. Any Other Extension	_____ / _____
		2. Any Other Extension	_____ / _____
		3. Any Other Extension	_____ / _____
	Herald Exchange Lines (Terminates on 10 button 301 CBX Phone)	1. Other Number	_____ / _____
		2. Other Number	_____ / _____
	Speaker Phone	Security Building	_____ / _____
	*Walkie Talkie	Security	_____ / _____
	NRC "Hotline" (Red Phone)	NRC	_____ / _____

*Moved to the TSC upon declaration of an Alert, Site Area Emergency or General Emergency.

ATTACHMENT 7.2 (Cont.)

ANNUAL COMMUNICATIONS VERIFICATION FORM

Emergency Response Facility	Equipment	Emergency Response Facility	Initials/Date	
Technical Support Center (AP 550, Attachment 7.1)	Direct Dedicated Phone Pacific Telephone Lines	Any Other Number	/	
		1. Any Other Number	/	
		2. Any Other Number	/	
		3. Any Other Number	/	
		4. Any Other Number	/	
		5. Any Other Number	/	
		CBX Telephone Extensions	1. Other Extension	/
			2. Other Extension	/
		Herald Exchange Lines (Terminates on 10 Button 301 CBX Phone)	1. Other Number	/
			2. Other Number	/
	Dedicated Line to the Offsite Relocation Points -	1. Herald Fire Department	/	
		2. Ione Fire Academy	/	
	Dedicated Line to Onsite Assembly Points - Ringdown to the TSC -	1. Administration Building	/	
		2. Warehouse "A"	/	
	Dedicated Line to General Office - NRC "Hotline" Health Physics "Hotline"	General Office Emergency Center	/	
		NRC	/	
		NRC	/	

ANNUAL COMMUNICATIONS VERIFICATION FORM

Emergency Response Facility	Equipment	Emergency Response Facility	Initials/Date
Onsite Plant Assembly Points Warehouse "A" (AP 551, Attachment 7.2)	CBX Extensions	1. Any Other Extension	____/____
		2. Any Other Extension	____/____
		3. Any Other Extension	____/____
		4. Any Other Extension	____/____
		5. Any Other Extension	____/____
		6. Any Other Extension	____/____
		7. Any Other Extension	____/____
	Direct Pacific Telephone Line -	SMUD Headquarters	____/____
	Dedicated Line to Alternate PAP and the Offsite Relocation Points - 303244	1. Administration Bldg.	____/____
		2. Ione Fire Academy	____/____
		3. Herald Fire Department	____/____
	Dedicated Line - Ringdown to TSC -	1. TSC	____/____
		2. Administration Bldg.	____/____
	Health Physics "Hot Line"	NRC	____/____
Administration Bldg. (AP 551, Attachment 7.2)	CBX Extensions	1. Any Other Extension	____/____
		2. Any Other Extension	____/____
		3. Any Other Extension	____/____
		4. Any Other Extension	____/____
	Herald Exchange Lines (Terminates on 10 Button CBX Phone)	1. Other Number	____/____
		2. Other Number	____/____
	Dedicated Line to Alternate PAP and the Offsite Relocation Points - 303244	1. Warehouse "A"	____/____
		2. Ione Fire Academy	____/____
		3. Herald Fire Department	____/____

ATTACHMENT 7.2 (Cont.)

ANNUAL COMMUNICATIONS VERIFICATION FORM

Emergency Response Facility	Equipment	Emergency Response Facility	Initials/Date
Administration Bldg. (contd.)	Dedicated Line - Rinadown to the TSC Health Physics "Hotline"	1. TSC 2. Warehouse "A" NRC	_____ _____ _____
Offsite Plant Assembly Points Ione Fire Academy (AP 552, Attachment 7.3)	Pacific Telephone Lines	1. Any Other Number 2. Any Other Number 3. Any Other Number 4. Any Other Number 5. Any Other Number	_____ _____ _____ _____ _____
	Dedicated 4 Point Line -	1. Herald Fire Department 2. Warehouse "A" 3. Administration Bldg.	_____ _____ _____
	Dedicated 4 Point Line -	1. Herald Fire Department 2. State OES 3. Sacramento County	_____ _____ _____
	Dedicated 3 Point Line -	1. TSC 2. Herald Fire Department	_____ _____
	Dedicated 3 Point Line -	1. General Office 2. Herald Fire Department	_____ _____
	NRC "Hotline" Health Physics "Hotline"	NRC NRC	_____ _____
Herald Fire Department (AP 552, Attachment 7.2)	Pacific Telephone Lines	1. Any Other Number 2. Any Other Number 3. Any Other Number 4. Any Other Number 5. Any Other Number	_____ _____ _____ _____ _____

ANNUAL COMMUNICATIONS VERIFICATION FORM

Emergency Response Facility	Equipment	Emergency Response Facility	Initials/Date
Herald Fire Department (contd.)	Dedicated 4 Point Line -	1. Ione Fire Academy 2. Warehouse "A" 3. Administration Bldg.	_____ _____ _____
	Dedicated 4 Point Line - 303236	1. Ione Fire Academy 2. State OES 3. Sacramento County	_____ _____ _____
	Dedicated 3 Point Line - 303237	1. TSC 2. Ione Fire Academy	_____ _____
	Dedicated 3 Point Line - 303528	1. Ione Fire Academy 2. General Office	_____ _____
General Office Emergency Center	Pacific Telephone Lines	1. Any Other Number 2. Any Other Number	_____ _____
	CBX Extension -	Any Other Extension	_____
	Dedicated 2 Point Line - 303238	TSC	_____
	Microwave/Dedicated 4 Point Line	1. SMUD Dispatcher 2. State OES 3. Sacramento County	_____ _____ _____
	Dedicated 3 Point Line - 303528	1. Herald Fire Department 2. Ione Fire Academy	_____ _____

Remarks: _____

ATTACHMENT 7.2 (Cont.)

ANNUAL COMMUNICATIONS VERIFICATION FORM

Signature (Emergency Preparedness Coordinator)

Date

Appropriate Corrective Actions Have Been Initiated.

Signature (Plant Superintendent)

Date

Attachment:

Attachment 7.1

AP 551, Attachment 7.2 & 7.3

Attachment 7.2 & 7.3

AP 555, Attachment 7.2

SMUD - RANCHO SECO
EMERGENCY PLAN PROCEDURE

AP 581.02

FIRE DRILLS

TABLE OF CONTENTS

	<u>Page No.</u>
1.0 PURPOSE.	2
2.0 RESPONSIBILITY	2
3.0 INITIATING CONDITIONS.	2
4.0 PRECAUTIONS AND LIMITATIONS.	3
5.0 INSTRUCTIONS	3
6.0 REFERENCES	5
7.0 ATTACHMENTS.	5

1.0 PURPOSES

To establish the guidelines for developing, conducting, evaluating and documenting fire brigade drills as they pertain to the emergency preparedness program.

2.0 RESPONSIBILITY

2.1 The Safety Technician is responsible for the fire training program with both the Fire Brigade and the Herald Fire Department.

2.2 The Emergency Preparedness Coordinator is responsible for interfacing the plant fire brigade training and drill program with the emergency preparedness program.

3.0 INITIATING CONDITIONS

3.1 Fire Drills are conducted in accordance with AP 500, Section 8; Maintaining Emergency Preparedness and AP 700; Rancho Seco Training Program.

4.0 PRECAUTIONS AND LIMITATIONS

- 4.1 A quarterly fire drill shall involve only onsite fire brigade teams independent of any other drill. | 1
- 4.2 An annual fire drill shall involve onsite fire brigade teams with the offsite fire department that may or may not be held in conjunction with the annual exercises. (see AP 582). |

5.0 INSTRUCTIONS

- 5.1 Fire Drills will be conducted quarterly for each shift Fire Brigade. Drills will be conducted in all areas of the plant but will concentrate in Nuclear Safety Related Areas. | 1
- 5.2 The Herald Fire Department provides offsite assistance in the event of major fires. On a yearly basis, at the convenience of the Herald Fire Department, an exercise will be held at Rancho Seco. The Safety Technician will conduct the exercise to provide a checkout of offsite fire equipment compatibility and plant familiarization. (See AP 582). | 1
- 5.3 The Safety Technician may prepare drills to be carried out to allow for decision making. Scenarios for use in drills shall include but not be limited to the following:
 - 5.3.1 Objective(s) of each drill and appropriate evaluation criteria; | 1
 - 5.3.2 The date(s), time period, place(s) and participating organizations; | 1
 - 5.3.3 A time schedule of real and simulated initiating events;
- 5.4 Prior to the drill the following shall be performed:
 - a. Complete the Checkoff List. (Attachment 7.1)
 - b. Brief all controllers/evaluators on the objectives. (If appropriate). | 1
 - c. Distribute the Drill Evaluation/Verification Sheet. (Attachment 7.2)
 - d. Allow ample time for the controllers/evaluators to reach their assigned observation location.
- 5.5 A critique of the drill or exercise shall be conducted by the Safety Technician as soon as practicable following the drill.
- 5.6 A report of the drill forward to the Plant Superintendent shall consist of Attachment 7.1 and 7.2. | 1

5.0 INSTRUCTIONS-contd.

- 5.7 The Plant Superintendent shall review and assign personnel to perform corrective actions.
- 5.8 The Plant Superintendent shall review the corrective actions and, if confident that appropriate action has been initiated, shall sign off the appropriate enclosure.

6.0 REFERENCE

- 6.1 AP 500, Section 8; Maintaining Emergency Preparedness.
- 6.2 AP 700 Rancho Seco Training Program.
- 6.3 AP 581 "Drills"
- 6.4 10 CFR 50; Appendix "R"

| 1

7.0 ATTACHMENTS

- 7.1 Safety Technician's Checkoff List
- 7.2 Quarterly Fire Drill Evaluation/Verification Sheet

Revision No.

1
1

| 1

ATTACHMENT 7.1
SAFETY TECHNICIANS' CHECKOFF LIST

Notify the following:

Initial/Date

.1 Operations Supervisor

_____/_____
/

.2 Site Special Agent

_____/_____
/

.3 Training Supervisor

_____/_____
/

Description of drill: (If appropriate)

Completed by _____

Safety Technician

ATTACHMENT 7.2

QUARTERLY FIRE DRILL EVALUATION/VERIFICATION FORM

To: Plant Superintendent
From: Plant Safety Technician
Subj: Fire Drill

Date _____ Time _____ Crew _____

Location _____

Type of Fire _____

Observers check list (OK if acceptable. X if needs comment in remarks section and critique).

Response Time _____

Team Equipment

Team Leader

Turnouts _____

Leadership _____

Area Entry _____

SCBA's _____

Comm. w/CR _____

Smoke _____

Lights _____

Team Actions

Fire Attack _____

Communi-
cations _____

Approach _____

Containment _____

Rad
Monitors _____

Hose Handling _____

Ventilation _____

FE Handling _____

Rescue _____

Elec. Equip. _____

Ladders _____

Salvage _____

Remarks _____

ALL EQUIPMENT USED DURING DRILL RETURNED TO STATE OF READINESS _____

Fire Brigade Leader initial

Appropriate corrections have been initiated

Signature (Plant Superintendent)

Date

SMUD - RANCHO SECO
EMERGENCY PLAN PROCEDURE

AP 581.03

MEDICAL DRILLS

TABLE OF CONTENTS

	<u>Page No.</u>
1.0 PURPOSE.	2
2.0 RESPONSIBILITY	2
3.0 INITIATING CONDITIONS.	2
4.0 PRECAUTIONS AND LIMITATIONS.	3
5.0 INSTRUCTIONS	3
6.0 REFERENCES	5
7.0 ATTACHMENTS.	5

1.0 PURPOSE

1.1 To establish the guidelines for developing, conducting, evaluating and documenting medical drills for on-site emergency personnel and off-site support agencies, to include, physicians, ambulance service and hospitals.

2.0 RESPONSIBILITY

2.1 The Station Training Supervisor is responsible for all training for Rancho Seco personnel. With respect to first aid and rescue training, the Plant Occupational Nurse has the operational responsibility for implementing the onsite program.

2.2 The Emergency Preparedness Coordinator is responsible for:

- a. Interfacing the plant first aid and rescue training and drill program with the emergency preparedness program.
- b. Developing, implementing and documenting a training and drill program for off-site medical support agencies.

3.0 INITIATING CONDITIONS

3.1 The annual medical drill is conducted in accordance with AP 500, Section 8; Maintaining Emergency Preparedness.

4.0 PRECAUTIONS AND LIMITATIONS

4.1 Not Applicable.

5.0 INSTRUCTIONS

5.1 The Emergency Preparedness Coordinator and the Plant Occupational Health Nurse will develop, jointly, the scenario for the annual medical drill. The scenario shall include:

- a. Objectives
- b. Sequence of Events
- c. Initiating Messages
- d. Evaluation Sheets

5.2 The Emergency Medical Drill may vary but provisions will be made for simulated contaminated injuries, off-site ambulance personnel and off-site medical treatment facilities to be included in each drill.

5.3 The Emergency Preparedness Coordinator will submit to the Plant Superintendent, the scenario for review and approval.

5.4 The Emergency Preparedness Coordinator will assign controllers/evaluators.

5.5 Immediately prior to the drill the following shall be performed:

- a. Complete the Coordinators' Checkoff List. (Attachment 7.1)
- b. Brief all controllers/evaluators on the objectives of the drill based on the scenario.
- b. Distribute the Drill Evaluation and Time Sheets (Attachment 7.2 and 7.3).
- c. Allow controllers/evaluators ample time to reach their assigned location.

5.6 Conduct a critique upon completion of the medical drill involving both participants and controller/evaluators.

5.7 Upon completion of the drill and critique, the Emergency Preparedness Coordinator shall submit to the Plant Superintendent a written report that consist of Attachments 7.1, 7.2, 7.3 and 7.4.

5.8 The Plant Superintendent shall review and assign personnel to perform corrective actions.

| 1

| 1

| 1

5.0 INSTRUCTIONS-contd.

- 5.9 The Plant Superintendent shall review the corrective actions and, if confident that appropriate action has been initiated, shall sign off the appropriate attachments.
- 5.10 Records of all medical drills will be maintained by the Emergency Preparedness Coordinator.

6.0 REFERENCE

6.1 AP 500, Section 8; Maintaining Emergency Preparedness.

6.2 AP 581 "Drills"

7.0 ATTACHMENT

Revision No.

7.1 Coordinators' Checkoff Sheet

1

7.2 Drill Evaluation Sheet

Original

7.3 Drill Time Sheet

Original

7.4 Verification Form

Original

1

ATTACHMENT 7.1
COORDINATORS' CHECKOFF LIST

Notify the following:

	<u>Initial/Date</u>
.1 Plant Superintendent (approval for date and times)	_____/____
.2 Manager of Nuclear Operations	_____/____
.3 Operations Supervisor	_____/____
.4 Rancho Seco Visitor Center Information Director	_____/____
.5 Site Special Agent	_____/____
.6 Nuclear Regulatory Commission (Onsite)	_____/____
.7 Sacramento County Emergency Services Coordinator	_____/____
.8 Galt Fire District	_____/____
.9 Sutter General Hospital	_____/____
.10 University Medical Center	_____/____

Description of drill: (If appropriate)

Completed by Emergency Preparedness Coordinator

ATTACHMENT 7.2DRILL EVALUATION SHEET

- I. At what time did first aid team reach victim? T+ Satisfactory?
-
- II. First Aid Procedure: Yes No Justification
-
- A. Was radiological survey conducted prior to treatment?
- B. Was primary body survey conducted immediately?
- C. Was decontamination conducted prior to treatment?
- D. Was secondary body survey conducted prior to treatment?
- E. Were injuries correctly diagnosed and treated?
- III. Transport Procedures
- A. Was ambulance requested promptly?
- B. Was ambulance contaminated control procedures utilized prior to departure to the hospital?
- C. Was contaminated control maintained on way to hospital?
- D. Was portable air sampler picked up at access control?

ATTACHMENT 7.2 - cont.DRILL EVALUATION CRITIQUE SHEET

Evaluation	Satisfactory	Unsatisfactory	Comments
A. Personnel knowledge and performance of their responsibilities			
B. Performance of first aid treatment			
C. Performance of contamination control			
D. Performance of decontamination control			
E. Adequacy of equipment			
F. Adequacy of communications			
G. Interface with ambulance crew			
H. Interface with hospital			

Evaluator

ATTACHMENT 7.3

DRILL TIME SHEET

	Actual Time	Elapsed Time T+	Drill Time T+
1. Time injured person introduced			
2. Time first aid team alerted			
3. Time first aid team dispatched			
4. Time first aid team on scene			
5. Ambulance requested			
6. Hospital notified			
7. Victim loaded in ambulance			
8. Victim arrives at hospital			
9. Treatment initiated			
10. Treatment completed			
11. Decontamination initiated			
12. Decontamination completed			
13. All clear			

Note any problems encountered and recommend corrective actions:

EVALUATOR

ATTACHMENT 7.4

ANNUAL MEDICAL EMERGENCY DRILL VERIFICATION FORM

To: Plant Superintendent
From: E.P.C.
Subj: MEDICAL DRILL

The _____ Annual Medical Emergency Drill was conducted _____.
(Year) (Date)

The Emergency Transport Service used was _____.

The Hospital(s) drilled are _____.

Initials/Date

Critique Conducted _____ / _____

Corrective action recommendations recorded and submitted to the Plant Superintendent _____ / _____

Remarks: _____

Signature (Emergency Planning Coordinator) Date

Appropriate corrective actions have been initiated.

Signature (Plant Superintendent) Date

SMUD - RANCHO SECO
EMERGENCY PLAN PROCEDURE

AP 581.04

HEALTH PHYSICS/RADIOLOGICAL MONITORING DRILLS

TABLE OF CONTENTS

	<u>Page No.</u>
1.0 PURPOSE	2
2.0 RESPONSIBILITY	2
3.0 INITIATING CONDITIONS	2
4.0 PRECAUTIONS AND LIMITATIONS	3
5.0 INSTRUCTIONS	3
6.0 REFERENCES	5
7.0 ATTACHMENTS	5

1.0 PURPOSES

1.1 To establish the guidelines for developing, conducting, evaluating, and documenting health physics and radiological monitoring drills.

2.0 RESPONSIBILITY

2.1 The Emergency Preparedness Coordinator with assistance from the Chemical Radiation Supervisor, is responsible for developing, conducting and documenting all health physics and radiological monitoring drills.

2.2 The Plant Superintendent is responsible for reviewing reports of all health physics and radiological monitoring drills and assigning personnel to correct deficiencies.

3.0 INITIATING CONDITIONS

3.1 Health Physics and Radiological Monitoring Drills are conducted in accordance with AP 500, Section 8; Maintaining Emergency Preparedness.

1

4.0 PRECAUTIONS AND LIMITATIONS

4.1 Not applicable.

5.0 INSTRUCTIONS

5.1 Semi-annually, Health Physics Drills will be conducted to include response to, and analysis of, simulated elevated airborne and liquid samples and direct radiation measurements in the environment.

5.2 Annually, the analysis of inplant liquid samples with simulated elevated radiation levels using the post-accident sampling system will be included in a Health Physics Drill.

5.3 Annually, a Radiological Monitoring Drill will be conducted to include onsite and offsite collection and analysis of sample media. The sample media gathered will be based upon the type of release.

5.4 Provision for communications and record keeping will be included in all Radiological Monitoring and Health Physics Drills.

5.5 Health Physics and Radiological Monitoring Drills may be conducted independently or jointly.

5.6 The Emergency Preparedness Coordinator and the Chemical Radiation Supervisor will develop, jointly, the scenario to be used in the health physics/radiological monitoring drills to include and not limited to the following:

- a. Objectives
- b. Sequence of Events
- c. Initiating Messages
- d. Evaluation Sheets
- e. Status Sheets

5.7 The Emergency Preparedness Coordinator will submit to the Plant Superintendent, the scenario of all health physics and radiological monitoring drills for review and approval.

5.8 Prior to the drill the following shall be performed:

- a. Complete the Coordinators' Checkoff List. (Attachment 7.1)
- b. Brief all controllers/evaluators on the objectives of the drill based on the scenario.

1

5.0 INSTRUCTIONS-cor

- c. Distribute the Drill Evaluation Sheet (Attachment 7.2).
 - d. Allow controllers/evaluators ample time to reach their assigned observation location.
- 5.9 Upon completion of the drill, a critique will be conducted involving participants and controllers/evaluators.
- 5.10 The Emergency Preparedness Coordinator will submit a written report to the Plant Superintendent that shall consist of Attachments 7.1, 7.2, 7.3 and 7.4.
- 5.11 The Plant Superintendent shall review and assign personnel responsible for corrective actions.
- 5.12 The Plant Superintendent shall review the corrective actions and, if confident that appropriate action has been initiated, shall sign off the appropriate attachments.
- 5.13 Records of all Health Physics/Radiological Monitoring drills will be maintained by the Emergency Preparedness Coordinator.

1

6.0 REFERENCES

- 6.1 AP 500 Section 8; Maintaining Emergency Preparedness.
- 6.2 AP 581 "Drills".

7.0 ATTACHMENTS

	<u>Revision No.</u>
7.1 Coordinators' Checkoff List	1
7.2 Drill Evaluation Sheet.	Original
7.3 Annual/Semi Annual Health Physics Drill Verification Form	Original
7.4 Annual Radiological Monitoring Drill Verification Form	Original

1

ATTACHMENT 7.1
COORDINATORS' CHECKOFF LIST

Notify the following:

Initial/Date

- | | |
|---|------------------------------|
| .1 Plant Superintendent (approval for date and times) | <u> / </u> |
| .2 Manager of Nuclear Operations | <u> / </u> |
| .3 Chem/Rad Supervisor | <u> / </u> |
| .4 Operations Supervisor | <u> / </u> |
| .5 Rancho Seco Visitor Center Information Director | <u> / </u> |
| .6 Nuclear Regulatory Commission (Onsite) | <u> / </u> |
| .7 Sacramento County Emergency Services Coordinator | <u> / </u> |

Description of drill: (if appropriate)

Completed by Emergency Preparedness Coordinator

ATTACHMENT 7.2
DRILL EVALUATION SHEET

T = _____
TIME BEGUN

TIME ENDED

- I. Activation - How long after the emergency was sounded did it take for:
 - a. Radiological Assessment Coordinator to arrive on scene
 - b. Rad. monitoring teams assembled
 - c. Other personnel present and accountability performed

II. At what time were in plant surveys performed?

T+ _____

At what time were the first plant boundary surveys performed:

T+ _____

III. Evaluate the adequacy of:

SATISFACTORY

UNSATISFACTORY

- a. Physical facilities
- b. Resource materials
- c. On-site communications
- d. Off-site communications
- e. Portable instrumentation
- f. Fixed instrumentation
- g. Personnel resources
- h. Recordkeeping

SATISFACTORY

UNSATISFACTORY

IV. MISSION PERFORMANCE

- A. Appropriate direction and supervision by the Radiological Assessment Coordinator
- B. Appropriate direction and supervision of Radiation Monitoring Teams
- C. Did personnel know and carry out their duties.
- D. Was information promptly and accurately transmitted to appropriate parties.
- E. Coordination with off-site radiological monitoring teams
- F. Did personnel know location and use of equipment.
- G. Did personnel adequately support other emergency operations - first aid, egress screening, etc.

V. Note any problems encountered and recommended course of action.

Evaluator

ATTACHMENT 7.3

ANNUAL/SEMI-ANNUAL HEALTH PHYSICS DRILL VERIFICATION FORM

To: Plant Superintendent
From: E.P.C.
Subj: Health Physics Drill

The Semi-Annual Health Physics Drill was conducted _____. This drill
(Date)
does/does not satisfy the Annual Health Physics Drill requirements.

Initials/Date

(Annual, Semi-Annual) Were air borne measurements performed? Yes/No _____ / _____

(Annual, Semi-Annual) Were liquid measurements performed? Yes/No _____ / _____

(Annual, Semi-Annual) Were direct radiation measurements performed? Yes/No _____ / _____

(Annual) Were inplant liquid samples taken? Yes/No _____ / _____

(Annual) Were simulated radiation levels included? Yes/No _____ / _____

(Annual) Was post-accident sampling system used? Yes/No _____ / _____

Communications Satisfactory (Field Assessment Teams) Yes/No _____ / _____

The California Department of Health Service, Rad Health Section did/did not participate.

Initials/Date

Critique Conducted _____ / _____

Corrective recommendations recorded and submitted to the Plant Superintendent _____ / _____

Remarks: _____

Effective Date: 5/18/82

Signature (Emergency Preparedness Coordinator)

Date

Appropriate corrective actions have been initiated.

Signature (Plant Superintendent)

Date

Attachments:

- Coordinators' Checkoff List
- Drill Evaluation Sheets

ATTACHMENT 7.4

ANNUAL RADIOLOGICAL MONITORING DRILL VERIFICATION FORM

To: Plant Superintendent
From: E.P.C.
Subj: Radiological Monitoring Drill

The _____ Annual Radiological Monitoring Drill was conducted _____
(Year) (Date)

			Initials/Date
Enviorns monitored	Onsite	Yes/No	_____/____
	Offsite	Yes/No	_____/____
Sample media collected		Yes/No	_____/____
Sample media analysed		Yes/No	_____/____
Communications satisfactory (Field Assessment Teams)		Yes/No	_____/____
Records satisfactory		Yes/No	_____/____
Counties involved		Yes/No	_____/____

What offsite agencies were involved? _____

	Initials/Date
Critique Conducted	_____/____
Corrective recommendations recorded and submitted to PRC	_____/____

Remarks: _____

Effective Date: 5/18/82

Signature (Emergency Preparedness Coordinator)

Date

Appropriate corrective actions have been initiated.

Signature (Plant Superintendent)

Date

Attachments:

Coordinators' Checkoff List
Drill Evaluation Sheets

SMUD - RANCHO SECO
EMERGENCY PLAN PROCEDURE

AP 582

EXERCISES

TABLE OF CONTENTS

	<u>Page No.</u>
1.0 PURPOSE.	2
2.0 RESPONSIBILITY	2
3.0 INITIATING CONDITIONS.	2
4.0 PRECAUTIONS AND LIMITATIONS.	3
5.0 INSTRUCTIONS	3
6.0 REFERENCES	5
7.0 ATTACHMENTS.	5

1.0 PURPOSE

- 1.1 To establish guidelines for developing, conducting, evaluating and documenting Emergency Preparedness exercises.
- 1.2 To test personnel, equipment and procedures for both onsite and offsite emergency personnel to include the coordination and interfacing with Federal, State and local government.
- 1.3 To verify the adequacy of the Rancho Seco Emergency Plan Procedures.

2.0 RESPONSIBILITY

- 2.1 The Emergency Preparedness Coordinator is responsible for developing, conducting, and documenting emergency preparedness exercises.
- 2.2 The Plant Superintendent is responsible for approving all schedules for exercises.

3.0 INITIATING CONDITIONS

- 3.1 Exercises are conducted in accordance with AP 500, Section 8; Maintaining Emergency Preparedness.
- 3.2 The Emergency Preparedness Coordination shall complete the pre-exercise check-off sheet prior to the initiation of the exercise.

4.0 PRECAUTIONS AND LIMITATIONS

4.1 Not Applicable.

5.0 INSTRUCTIONS

5.1 The Emergency Preparedness Coordinator will plan, schedule, and coordinate all exercises.

5.2 The Emergency Preparedness Coordinator will develop the required scenario. The scenario will include the following:

- a. Objectives
- b. Sequence of Events
- c. Initiating Messages
- d. Evaluation Sheets
- e. Status Sheets

5.2.1 Scenarios may be developed on a real time basis or on an accelerated time schedule to encompass more activities.

5.2.2 Scenarios will be developed which will require the mobilization of State and County resources.

5.2.3 Scenarios developed will be varied from year to year such that all major elements of the plans and preparedness organizations are tested within a five year period. Efforts will be made to conduct exercises utilizing alternates and various shift personnel and under variable weather conditions.

5.2.4 Emergency information messages may be developed to be given to emergency personnel at predetermined times.

5.3 The Emergency Preparedness Coordinator will submit to the Plant Superintendent the scenario for the exercises for review and approval.

5.4 Exercises will be conducted on an annual basis. The exercise shall include a response to a Site Area or General Emergency.

5.5 The Emergency Preparedness Coordinator will assign controllers/evaluators based on expertise and availability.

5.6 Prior to the exercise, the Emergency Preparedness Coordinator will:

- a. Complete the Coordinator's Check-Off List (Attachment 7.1).
- b. Brief all controllers/evaluators on the objectives of the exercise.
- c. Distribute simulated message forms (Attachment 7.2), and appropriate evaluation sheets.

5.0 INSTRUCTIONS-contd.

- d. Allow assigned controllers/evaluators ample time to reach their assigned observation location.
- 5.7 Upon completion of the exercise, the Emergency Preparedness Coordinator will conduct a critique to include controllers/evaluators and participants.
- 5.8 The Emergency Preparedness Coordinator will submit a written report to the Plant Review Committee (Attachment 7.3), with scenario check off list, actual sequence of events and controller evaluation sheets.
- 5.9 The PRC shall review the report forwarded to the Committee. Upon completion of the review by the PRC the report will be forwarded to the Plant Superintendent for final review.
- 5.10 The Plant Superintendent shall forward the report to the Management Safety Review Committee (MSRC) for approval and for the assignment of individuals responsible for corrective action items.
- 5.11 Records of all exercises will be maintained by the Emergency Preparedness Coordinator.

1

6.0 REFERENCES

6.1 AP 500 Section 8; Maintaining Emergency Preparedness.

7.0 ATTACHMENTS

Revision No.

7.1 Coordinator's Check-Off List

1

7.2 Simulated Message Form

1

7.3 Annual Exercise Verification Form

1

1

ATTACHMENT 7.1

EMERGENCY PREPAREDNESS COORDINATORS' CHECKOFF LIST

Notify the following:	<u>Initial/Date</u>
.1 Plant Superintendent (approval for date and time)	_____/____
.2 Manager of Nuclear Operations	_____/____
.3 General Manager	_____/____
.4 AGM Chief Engineer	_____/____
.5 Site Special Agent	_____/____
.6 SMUD Supervising Telephone Operator	_____/____
.7 SMUD Dispatching and Communications Coordinator	_____/____
.8 Consumer Relations	_____/____
.9 Rancho Seco Visitor Center Information Director	_____/____
.10 Rancho Seco Park Personnel	_____/____
.11 Federal Emergency Management Agency (FEMA)	_____/____
.12 Nuclear Regulatory Commission (NRC)	_____/____
.13 State Office of Emergency Service (OES)	_____/____
.14 Sacramento County Emergency Services Coordinator	_____/____
.15 Amador County Emergency Services Coordinator	_____/____
.16 San Joaquin County Emergency Services Coordinator	_____/____
.17 Galt Fire District	_____/____
.18 Offsite Support Hospital(s)	_____/____
.19 Herald Fire Department	_____/____
.20 CA Division of Forestry (Ione)	_____/____

ATTACHMENT 7.1 (cont.)

Verify:

- .1 A list of exercise Controller/Evaluators, including name
Badge number, and observation location has been given
to the Emergency Coordinator and Assembly Point
Coordinator at the time of the initiation of the exercise. _____ / _____

Description of exercise:

Completed by _____
Emergency Preparedness Coordinator

ATTACHMENT 7.2
SIMULATED MESSAGE FORM

MESSAGE FOR:

Time: _____

T: _____

SIMULATED PLANT CONDITIONS:

MESSAGE:

CONTROLLER/OBSERVER NOTES:

ACTION EXPECTED:

ATTACHMENT 7.3

ANNUAL EXERCISE VERIFICATION FORM

To: PRC

From: E.P.C.

Subject: EXERCISE

1. The _____ exercise was conducted on _____.

2. Controller/Evaluator Locations: Personnel

3. Emergency Organization Position: Participant

4. Critique:

5. Recommendations:

Attachments: Scenario
Evaluation Sheets
Checkoff List
Actual Sequence of Events

Signature (Emergency Planning Coordinator)

Date

Corrective action recommendations reviewed.

Signature (PRC Chairman)

Date

Signature (Plant Superintendent)

Date

Recommendations approved and appropriate corrective actions have been assigned.

Signature (MSRC Chairman)

Date

SMUD - RANCHO SECO
EMERGENCY PLAN PROCEDURE

AP 583

PROCEDURE PREPARATION, REVIEW, APPROVAL AND
MAINTENANCE GUIDELINES

TABLE OF CONTENTS

	<u>Page No.</u>
1.0 PURPOSE.	2
2.0 RESPONSIBILITY	2
3.0 INITIATING CONDITIONS.	2
4.0 PRECAUTIONS AND LIMITATIONS.	2
5.0 INSTRUCTIONS	3
6.0 REFERENCES	9
7.0 ATTACHMENTS.	9

1.0 PURPOSE

- 1.1 To establish the administrative guidelines to be utilized in the initial development of the Emergency Plan Procedures.
- 1.2 To establish the guidelines for providing technical and administrative review, independent review and approval for all procedures pertaining to emergency preparedness of the Rancho Seco Nuclear Generating Station, Unit No. 1.
- 1.3 To establish the method of initiating and distributing procedures and procedure revisions.
- 1.4 To establish the method for voiding procedures.
- 1.5 To establish the method for processing editorial changes to procedures.

2.0 RESPONSIBILITY

- 2.1 The Emergency Preparedness Coordinator is responsible for the establishment of the guidelines to be utilized in the initial development of the Emergency Plan Procedures.
- 2.2 The Emergency Preparedness Coordinator is responsible for initiating the administrative and independent review of the Emergency Procedures.
- 2.3 The Emergency Preparedness Coordinator is responsible for the establishment of the guidelines for the distribution, editorial changes and voiding of procedures.
- 2.4 The Plant Review Committee, and the Plant Superintendent will review and the Manager of Nuclear Operations will approve all procedures prior to implementation.

3.0 INITIATING CONDITIONS

- 3.1 Review and updating procedures are conducted in accordance with AP 500, Section 8; Maintaining Emergency Preparedness.

4.0 PRECAUTIONS AND LIMITATIONS

- 4.1 Not Applicable.

5.0 INSTRUCTIONS

5.1 Initial procedure Preparation Format

5.1.1 Procedural format shall be in accordance with the guidance established in Attachments 7.1, 7.2 and 7.3.

5.1.2 The cover page shall include the following information.

- a. Effective date
- b. SMUD - Rancho Seco Emergency Plan Procedure
- c. Procedure number (AP _____)
- d. Procedure title
- e. Table of Contents
- f. AP numbers, pages

5.1.3 The Table of Contents shall consist of the following:

- a. Purpose
- b. Responsibility
- c. Initiating Conditions
- d. Precautions and Limitations
- e. Instructions
- f. References
- g. Attachments

5.1.4 Page Numbers will be listed directly to the right of each topic of the Table of Contents.

5.1.5 Subsequent pages will contain the effective date in the top right hand corner, procedure number and page listing at the bottom.

5.1.6 Attachments will have the effective date, attachment number and title located at the top of the page. Located at the bottom of the page will be the AP, attachment and page numbers.

5.2 Procedure Review and Approval

5.2.1 Review and subsequent revisions will be based upon:

- a. Deficiencies in training, procedures, personnel, and equipment noted during exercises and drills.
- b. Changes in personnel assignments within the Emergency Organization.
- c. Changes in functions, assignments, or response capabilities of supporting agencies.
- d. Changes in applicable Federal or State statutes, regulations or policies.

5.0 INSTRUCTIONS-contd.

- e. Recommended modifications to procedures or equipment from other agencies such as INPO, EPRI, ANSI, etc.
- f. Modifications to the plant or site area.
- g. Changes in construction or operating status.
- h. Results of Emergency Preparedness Appraisals/Reviews by the NRC, INPO, SMUD, or independent review organization.

5.2.2 The Emergency Preparedness Coordinator is responsible for reviewing the Emergency Plan procedures.

5.2.3 Emergency Procedures shall be forwarded to the Plant Review Committee (PRC) for review. The Plant Review Committee shall insure compliance with requirements of the FSAR, Technical Specifications and applicable federal, state and local regulations, if pertinent.

5.2.4 All emergency procedures are subject to the final approval of the Manager, Nuclear Operations. Editorial changes shall require only the approval of the Emergency Preparedness Coordinator.

5.2.5 The Emergency Preparedness Coordinator shall assign authorship responsibility for procedures under his cognizance. He shall review and approve the the completed procedure and forward it to the Plant Review Committee for review if required.

5.2.6 The PRC shall review procedures forwarded to the Committee. Upon completion of the review and approval by the PRC, the procedure shall be forwarded to the Plant Superintendent for approval and to the Manager of Nuclear Operations for review with a recommendation for review by the Management Safety Review Committee if the Plant Review Committee determines that the procedure incorporates an unreviewed nuclear safety question. In those instances wherein the PRC judges the procedure unsatisfactory or incomplete, the procedure shall be returned to the Emergency Preparedness Coordinator with appropriate comments. Upon resolution of these comments, the procedure shall be forwarded to the Plant Superintendent for approval.

5.2.7 Attachment 7.4 shall serve as the review and approval record of all procedures described herein, excepting procedures with a Procedure Change Approval required. For these procedures, Attachment 7.5 shall be utilized.

5.0 INSTRUCTIONS-contd.

5.2.8 Annual, Independent Reviews shall be conducted by individuals from within SMUD or outside, who are not immediately associated with the Emergency Preparedness Program.

a. Reviews will include but are not limited to:

1. Plan and Procedures
2. Training
3. Drills and Exercises
4. Equipment
5. Surveillance procedures
6. Emergency Response Facilities
7. Administration and Organization
8. Coordination with Offsite Agencies

b. Results of the review will be prepared in a written report and presented to the AGM, Chief Engineer and the Manager of Nuclear Operations.

c. Results will also be made available to appropriate personnel. Copies of the report will be retained for at least five years by the Emergency Preparedness Coordinator.

5.3 Initiating and Distributing of Procedures and Procedure Revisions.

5.3.1 Revisions to the Emergency procedures may be initiated by submitting changes to the Emergency Preparedness Coordinator. Revisions other than Editorial in nature shall receive the same review and approval as the original procedure. (Attachment 7.5) Editorial changes shall receive approval of the Emergency Preparedness Coordinator. PRC and Plant Superintendent approvals are not required. For Editorial changes, the word "Editorial" will be placed next to the procedure number on Attachment 7.5 to indicate this is only an Editorial change. Changes that are Editorial in nature are distributed in the same manner as revisions. The word "Editorial" shall be written on the Cover Letter. (Attachment 7.6)

5.3.2 The PRC shall review revisions to procedures to determine if other procedures are affected. The Chairman shall appoint an individual who will be responsible for revising the affected procedures and for designating a date when the procedure with the affected change will be returned to the PRC.

5.3.3 Temporary changes to written procedures which do not change the intent of the original procedure may be made by a Shift Supervisor and a Senior Control Room Operator or

5.0 INSTRUCTIONS-contd.

by the Shift Supervisor and a Plant Engineer. The Senior Control Room Operator may sign for the Shift Supervisor provided he has received verbal concurrence from the Shift Supervisor to make the change.

Both signing personnel shall be responsible for completion of the temporary change sheet and approval of the temporary change by the Group Supervisor.

If the PRC determines that the temporary change should become a permanent change, the Emergency Preparedness Coordinator will prepare a revision to the procedure and process it in the same manner as a normal revision.

The PRC will determine the expiration date of temporary changes and in which procedures temporary changes with a time limit will be inserted. The temporary change insertion will include a cover sheet. The Emergency Preparedness Coordinator will be responsible for inserting and removing temporary changes from the selected manuals.

All temporary changes shall be documented and forwarded for review and approval by the PRC and the Plant Superintendent within seven days of implementation.

Within the context of the above, Plant Engineers assigned at Rancho Seco shall be defined as: Mechanical Engineers, Nuclear Engineers, Instrument and Control Engineers, Electrical Engineers, Chemical and Radiation Supervisor Technical Assistant and the Emergency Preparedness Coordinator.

- 5.3.4 Upon approval of the revision, the Emergency Preparedness Coordinator will have the revision to the applicable procedure issued and distributed with a cover letter as shown in Attachment 7.6. The applicable pages shall be distributed.
- 5.3.5 Procedure holders shall make the revision and acknowledge by returning Attachment 7.7 to the Emergency Preparedness Coordinator. Thirty days after the revision issue date, the Emergency Preparedness Coordinator shall have the returned Acknowledgement Letters, Attachment 7.7, reviewed against the distribution. The cognizant Supervisor of those procedure holders who are delinquent in acknowledging entry of revision shall be informed. The cognizant Supervisor shall initiate follow-up as necessary. Upon receipt and recording of all acknowledgement slips, the slips may be destroyed.

5.0 INSTRUCTIONS-contd.

- 5.3.6 Procedures of a similar nature shall be maintained in a three-ring binder by approved holders. For example, all System Operating Procedures will be maintained in the "Plant Operations Manual, Unit No. One"; all procedures associated with the Emergency Plan shall be maintained in the "Emergency Plan"; all Maintenance procedures shall be maintained in the "Plant Maintenance Manual", etc.
- 5.3.7 Each revised page shall be numbered with the alpha numeric identification of the procedure followed by a dash and the page number. The alpha numeric identification will separate the letters and numbers by a period. The appropriate revision number will immediately follow the alpha numeric number. For example, see Attachment 7.9.
- 5.3.8 Each manual will contain a revision list as shown in Attachment 7.8. The revision list will be executed by each procedure holder.
- 5.3.9 When a revision is to be made, only the original typed pages will be given out, as the historical procedure files will not be allowed to leave the Record Center.
- 5.3.10 Revisions shall be numbered consecutively starting with one and shall apply to individual procedures. The accompanying cover letter will explain how each individual revision is to be inserted in the appropriate manual.
- 5.3.11 Whenever a revision is made to a procedure, it will be identified in the right hand margin by a vertical line opposite the change, with the revision number typed to the right of the vertical line (revision bars). The revision number and date of revision shall be placed on the upper right hand corner of only the title page. This page will always be reissued, see Attachment 7.9. The title page and all subsequent pages will have AP, Page and Revision number located at the bottom of the page, (Attachment 7.9).
- 5.3.12 If the entire procedure is revised, it shall not be necessary to include the vertical line and revision number. It is only necessary to put the revision number at the bottom of each page as indicated in paragraph 5.3.11. The fact that the procedure is a complete rewrite will be noted on the cover letter, Attachment 7.6. All previous revision numbers next to the vertical line on a revised page shall be deleted, i.e., only the latest revision bars should be on a revised page. The cover letter, Attachment 7.6, will explain how revisions are to be inserted in the manuals.
- 5.3.13 A copy of all revisions will be maintained in the procedure master file, for historical purposes.

5.0 INSTRUCTIONS-contd.

5.4 Voiding a Procedure

- 5.4.1 To void a procedure, a Procedure Change Approval Form, Attachment 7.5, will be filled out. The approval form will have indicated at the top in red letters "Procedure Voided". The voiding process will receive the same review as the procedure being voided. The change approval form identifying that the procedure is voided will be issued with a cover letter explaining what procedure is being voided and including directions for removing procedure from the manual.
- 5.4.2 The procedure file containing that procedure which is being voided will be marked so as to indicate that it has been voided. The procedure folder will be retained for historical purposes. The voided procedure number will be released so that it can be used again.

6.0 REFERENCES

6.1 AP 500, Section 8; Maintaining Emergency Preparedness

7.0 ATTACHMENTS

Revision No.

7.1 Cover Page	Original
7.2 Subsequent Pages	Original
7.3 Attachment Page	Original
7.4 Procedure Approval Form	Original
7.5 Procedure Change Form	Original
7.6 Cover Letter Form	Original
7.7 Acknowledge Letter Form	Original
7.8 Revision List Form	Original
7.9 Revision Format	Original

ATTACHMENT 7.1

COVER PAGE

Effective Date: _____

SMUD - RANCHO SECO
EMERGENCY PLAN PROCEDURE

AP - (procedure no.)

(PROCEDURE TITLE)

TABLE OF CONTENTS

	<u>Page No.</u>
1.0 PURPOSE	2
2.0 RESPONSIBILITY	2
3.0 INITIATING CONDITIONS	2
4.0 PRECAUTIONS AND LIMITATIONS	3
5.0 INSTRUCTIONS	3
6.0 REFERENCES	
7.0 ATTACHMENTS	

ATTACHMENT 7.2
SUBSEQUENT PAGES

Effective Date: _____

1.0 PURPOSE

1.1

1.2

2.0 RESPONSIBILITY

2.1

2.2

3.0 INITIATING CONDITIONS

3.1

3.2

4.0 PRECAUTIONS AND LIMITATIONS

(Begin top of page 3)

5.0 INSTRUCTIONS

5.1 IMMEDIATE ACTIONS

5.2 SUBSEQUENT ACTIONS

6.0 REFERENCES

(Begin top of last page)

6.1

6.2

7.0 ATTACHMENTS

7.1

7.2

Effective Date: 2/16/82

ATTACHMENT 7.3

ATTACHMENT PAGE

Effective Date: _____

ATTACHMENT (attachment no.)

(ATTACHMENT TITLE)

AP 5__ Attachment 7.__ Page 1 of __

AP 583 Attachment 7.3 Page 1 of 1

ATTACHMENT 7.4

RANCHO SECO NUCLEAR GENERATING STATION UNIT NO. 1

PROCEDURE APPROVAL FORM

Procedure Number _____

Title _____

Originator _____ Date _____

Approved _____ Date _____
Emergency Preparedness Coordinator

Recommend Approval by Plant Review Committee: Yes [] No []

Approved _____ Date _____
Plant Review Committee

Recommend Review by Management Safety Review Committee: Yes [] No []

Approved _____ Date _____
Plant Superintendent

Reviewed _____ Date _____
Manager, Nuclear Operations

Forward to Management Safety Review Committee: Yes [] No []

Reviewed _____ Date _____
Management Safety Review Committee

ATTACHMENT 7.5

RANCHO SECO NUCLEAR GENERATING STATION NO. 1

PROCEDURE CHANGE APPROVAL FORM

Procedure Number _____

Title _____

Originator _____ Date _____

Approved _____ Date _____

Emergency Preparedness Coordinator

Recommend Approval by Plant Review Committee: Yes [] No []

Requested Change _____

Reason for Change _____

Reviewed _____ Date _____

Plant Review Committee

Recommend Approval _____ Recommend Review by Management Safety Review Committee

Yes [] No [] Yes [] No []

Approved: Yes [] No [] _____ Date _____

Plant Superintendent

Reviewed: Yes [] No [] _____ Date _____

Manager, Nuclear Operations

Forward to Management Safety Review Committee: Yes [] No []

Reviewed _____ Date _____

Management Safety Review Committee

COVER LETTER

SACRAMENTO MUNICIPAL UTILITY DISTRICT

OFFICE MEMORANDUM

TO:

DATE:

FROM: Emergency Preparedness Coordinator

SUBJECT: REVISION LETTER (Number of Letter) TO THE (Applicable Manual)

Please make the following changes to your copy of the (Title of Manual).

When Completed, please indicated so by writing (Number of Letter), the date and your signature on the appropriate space of the (Title of Manual) Revision List.

Sign the attached receipt for (Number of Letter) and mail.

Effective Date: 2/16/82

ATTACHMENT 7.7

ACKNOWLEDGMENT LETTER (EXAMPLE)

DO NOT DETACH

TO: EMERGENCY PREPAREDNESS COORDINATOR
SACRAMENTO MUNICIPAL UTILITY DISTRICT
PO BOX 15830
SACRAMENTO CA 95813

This acknowledges receipt and insertion of the Revision Letter (Number of Letter) to the (Title of Manual).

Date

SIGNATURE OF MANUAL HOLDER

MANUAL NO.

Effective Date: 2/16/82

ATTACHMENT 7.8
RANCHO SECO NUCLEAR GENERATING STATION
UNIT ONE

EMERGENCY PLAN MANUAL _____

Revision List

REVISION LETTER NO.	DATE OF REVISION	REVISION COMPLETED BY

ATTACHMENT 7.9

EXAMPLE FOR INDICATING REVISIONS

Effective Date: _____
Revision No.: _____

SMUD - RANCHO SECO
EMERGENCY PLAN PROCEDURE

AP - (procedure no.)

(PROCEDURE TITLE)

TABLE OF CONTENTS

	<u>Page No.</u>
1.0 PURPOSE	2
2.0 RESPONSIBILITY	2
3.0 INITIATING CONDITIONS	2
4.0 PRECAUTIONS AND LIMITATIONS	3
5.0 INSTRUCTIONS	3
6.0 REFERENCES	
7.0 ATTACHMENTS	

SMUD - RANCHO SECO
EMERGENCY PLAN PROCEDURE

AP 584

TELEPHONE NUMBER VERIFICATION

TABLE OF CONTENTS

	<u>Page No.</u>
1.0 PURPOSE	2
2.0 RESPONSIBILITY	2
3.0 INITIATING CONDITIONS.	2
4.0 PRECAUTIONS AND LIMITATIONS.	3
5.0 INSTRUCTIONS	3
6.0 REFERENCES	4
7.0 ATTACHMENTS.	4

1.0 PURPOSE

1.1 To establish the guidelines for the verification and updating of the Emergency Plan phone numbers.

2.0 RESPONSIBILITY

2.1 The Emergency Preparedness Coordinator is responsible for the verification and maintenance of the Emergency Plan telephone listing.

3.0 INITIATING CONDITIONS

3.1 Verification procedures are conducted in accordance with AP 500, Section 8; Maintaining Emergency Preparedness.

4.0 PRECAUTIONS AND LIMITATIONS

4.1 Not Applicable.

5.0 INSTRUCTIONS

- 5.1 On a quarterly basis, telephone numbers will be verified and updated (Attachment 7.1).
- 5.2 Verification Procedures may be held in conjunction with the monthly communications drill with state and county government.
- 5.3 Verification Procedures may be held in conjunction with the annual exercise with state, county and onsite emergency personnel.
- 5.4 Verification shall be accomplished by dialing the number and receiving concurrence from the answering party that said number is the current number for the location indicated per AP 506 "Notification/Communications".
- 5.5 Telephone numbers shall be verified as functioning numbers if a specific use for them has not been assigned.
- 5.6 Changes to the telephone number listing will be immediately distributed to the following:
- a. Control Room
 - b. TSC
 - c. Rancho Seco Site Switchboard Operator
 - d. SMUD Switchboard Operator
 - e. Security
 - f. EOF
- 5.7 A record will be maintained by the Emergency Preparedness Coordinator of all changes to the Emergency telephone listing (Attachment 7.1).

6.0 REFERENCES

6.1 AP 500; Section 8; Maintaining Emergency Preparedness.

6.2 AP 506 "Notification/Communications".

7.0 ATTACHMENTS

Revision No.

7.1 Emergency Plan Phone Number Verification Form. Original

ATTACHMENT 7.1

EMERGENCY PLAN PHONE NUMBER VERIFICATION FORM

.1 This complies with the surveillance requirement for _____ quarter, 19__.

.2 Attach all AP 506 Attachments containing telephone numbers.

.3 Initial and date each verified telephone number.

.4 Changes

Location	Old Number	New Number	Initials/Date
_____	_____	_____	/
_____	_____	_____	/
_____	_____	_____	/
_____	_____	_____	/

.5 Above changes verified

Signature (Emergency Preparedness Coordinator)

Date

.6 Comments:

Signature (Emergency Preparedness Coordinator)

Date

SMUD - RANCHO SECO
EMERGENCY PLAN PROCEDURE

AP 585

EMERGENCY ASSIGNMENT VERIFICATION

TABLE OF CONTENTS

	<u>Page No.</u>
1.0 PURPOSE.	2
2.0 RESPONSIBILITY	2
3.0 INITIATING CONDITIONS.	2
4.0 PRECAUTIONS AND LIMITATIONS.	3
5.0 INSTRUCTIONS	3
6.0 REFERENCES	3
7.0 ATTACHMENTS.	3

1.0 PURPOSE

1.1 To establish the guidelines for the verification of emergency personnel assignments.

2.0 RESPONSIBILITY

2.1 The Emergency Preparedness Coordinator is responsible for the verification and maintenance of emergency personnel assignments.

3.0 INITIATING CONDITIONS

3.1 Verification procedures of Emergency Assignments are conducted in accordance with AP 500, Section 8; Maintaining Emergency Preparedness.

4.0 PRECAUTIONS AND LIMITATIONS

4.1 Not Applicable.

5.0 INSTRUCTIONS

5.1 Verification of Emergency personnel assignments will be conducted on an annual basis.

5.2 Verification shall be accomplished by contacting the listed personnel and receiving concurrence that the listed assignment is correct as indicated per AP 506 "Notification/Communications".

5.3 Changes to the assignments of emergency personnel will be immediately distributed to controlled copy holders as well as to applicable emergency response facility centers.

5.4 The Emergency Preparedness Coordinator will maintain records of all changes (Attachment 7.1).

6.0 REFERENCES

6.1 AP 500, Section 8; Maintaining Emergency Preparedness.

6.2 AP 506 "Notification/Communications".

7.0 ATTACHMENTS

7.1 Emergency Plan Response Personnel
Verification Form

Revision No.

Original

ATTACHMENT 7.1

EMERGENCY PLAN RESPONSE PERSONNEL VERIFICATION FORM

- .1 This complies with the annual surveillance requirement for 19____.
- .2 Attached are all AP 506 Attachments that include Onsite and Offsite Emergency Response Personnel and Offsite Support Organizations.
- .3 Initial and date each verified name/function.
- .4 Changes

Date/Initials	E.P. Title	Assignment/Name
/		Delete
		Add
/		Delete
		Add
/		Delete
		Add
/		Delete
		Add
/		Delete
		Add
/		Delete
		Add
/		Delete
		Add

.5 Above changes verified

Signature (Emergency Preparedness Coordinator)

_____ Date

SMUD - RANCHO SECO
EMERGENCY PLAN PROCEDURE

AP 586

SUPPORT GROUP AGREEMENT VERIFICATION

TABLE OF CONTENTS

	<u>Page No.</u>
1.0 PURPOSE.	2
2.0 RESPONSIBILITY	2
3.0 INITIATING CONDITIONS.	2
4.0 PRECAUTIONS AND LIMITATIONS.	3
5.0 INSTRUCTIONS	3
6.0 REFERENCES	4
7.0 ATTACHMENTS.	4

1.0 PURPOSE

1.1 To provide the guidelines for the verification and maintenance of all support agreements with offsite personnel and agencies which have agreed to support Rancho Seco during an emergency.

2.0 RESPONSIBILITY

2.1 The Emergency Preparedness Coordinator is responsible for verifying and maintaining all support agreements with offsite personnel and agencies.

3.0 INITIATING CONDITIONS

3.1 Support Agreements verification procedures are conducted in accordance with AP 500, Section 8; Maintaining Emergency Preparedness.

4.0 PRECAUTIONS AND LIMITATIONS

4.1 Not Applicable.

5.0 INSTRUCTIONS

5.1 Agreements with offsite personnel and agencies may take one of the following forms:

- Contracts
- Letters of Agreement
- Memorandums of Understanding

5.2 Agreements will be submitted to the SMUD Counsel for review and approval before implementation.

5.3 On an annual basis, the Emergency Preparedness Coordinator will review all existing agreements and maintain records of such review and status (Attachment 7.1).

5.4 Within six months of an agreement's expiration date, the Emergency Preparedness Coordinator will initiate a update and renewal of the agreement.

5.5 Copies of all agreements and revisions will be distributed to Rancho Seco Emergency Plan controlled copy holders.

6.0 REFERENCES

6.1 AP 500, Section 8; Maintaining Emergency Preparedness

7.0 ATTACHMENTS

	<u>Revision No.</u>
7.1 Support Group Agreement Verification Form	Original

SMUD - RANCHO SECO
EMERGENCY PLAN PROCEDURE

AP 587

MAINTENANCE AND INVENTORY OF EMERGENCY
EQUIPMENT AND SUPPLIES

TABLE OF CONTENTS

	<u>Page No.</u>
1.0 PURPOSE.	2
2.0 RESPONSIBILITY	2
3.0 INITIATING CONDITIONS.	2
4.0 PRECAUTIONS AND LIMITATIONS.	3
5.0 INSTRUCTIONS	3
6.0 REFERENCES	5
7.0 ATTACHMENTS.	5

1.0 PURPOSE

- 1.1 To establish the guidelines for the maintenance and inventory of offsite emergency lockers, skin decontamination kits and ambulance emergency kits. | 1

2.0 RESPONSIBILITY

- 2.1 The Emergency Preparedness Coordinator is responsible for the inventory and exchange of equipment and instruments located in the Herald and Ione emergency lockers, that includes skin decontamination kits, and ambulance emergency kits. | 1
- 2.2 Chem/Rad personnel or HP are responsible for the inventory and exchange of equipment located in all onsite emergency lockers. | 1
- 2.3 Chem/Rad personnel or HP are responsible for the inventory and exchange of supplies in the onsite ambulance kits and skin decontamination kits. | 1
- 2.4 Chem/Rad personnel or HP are responsible for the inventory and exchange of equipment in the Sutter Memorial Hospital and the University Medical Center Emergency Lockers.
- 2.5 Chem/Rad personnel or HP are responsible for the calibration of instruments located in onsite and offsite emergency lockers. |

3.0 INITIATING CONDITIONS

- 3.1 The maintenance and inventory of Emergency Equipment and Supplies procedures are conducted in accordance with AP 500; Section 8.

4.0 PRECAUTIONS AND LIMITATIONS

4.1 Not applicable.

5.0 INSTRUCTIONS

5.1 Equipment and supplies utilized on a daily basis but which may be used during an emergency shall be maintained through existing surveillance procedures.

5.2 Dedicated emergency equipment and supplies located in the emergency lockers shall be inventoried at a minimum, quarterly. Emergency lockers are maintained at the following locations:

1

- a. Control Room (Xerox Room adjacent to the Control Room)
- b. Administrative Building (Conference Room)
- c. Warehouse A
- d. Ione Fire Academy
- e. Herald Fire Department
- f. Sutter Memorial Hospital
- g. University Medical Center

5.3 Ambulance kits are maintained at the following locations:

1

- a. First Aid Room
- b. Security Building
- c. Emergency Locker (Ione)
- d. Emergency Locker (Herald)

5.4 Skin decontamination kits are maintained at the following locations:

- a. First Aid Room
- b. Auxiliary Building Personnel Change Room
- c. Emergency Locker (Administration Building)
- d. Emergency Locker (Warehouse "A")
- e. Emergency Locker (Ione)
- f. Emergency Locker (Herald)

5.0 INSTRUCTIONS-contd.

- 5.5 Inventories and equipment checks will be conducted in accordance with Attachments 7.1, 7.2, 7.3, 7.4, 7.5, 7.6, 7.7, and 7.8. | 1
- 5.6 Instruments and communications equipment stored in the Emergency Lockers shall be tested quarterly and after each use. Calibration of all instruments and equipment shall be at intervals established by the Chem/Rad department. | 1
- 5.7 Equipment or supplies found to be deficient or inoperable shall be repaired or replaced. | 1
- 5.8 Records of the inventory checks and calibration of equipment stored at Ione and Herald will be maintained by the Emergency Preparedness Coordinator. | 1
- 5.9 Records of the inventory and checks of onsite equipment and at the two hospitals will be maintained by the Chem/Rad department with a copy forwarded to the Emergency Preparedness Coordinator. | 1
- 5.10 Calibration records of all instruments will be maintained by the Chem/Rad department.

6.0 REFERENCES

- 6.1 AP 500, Section 8.
- 6.2 AP 500, Appendix B.

7.0 ATTACHMENTS

Revision No.

- | | |
|--|----------|
| 7.1 Control Room Emergency Locker Inventory | 1 |
| 7.2 Admin Bldg/Warehouse Emergency Locker Inventory | 1 |
| 7.3 Ione Fire Academy Emergency Locker Inventory | 1 |
| 7.4 Herald Fire Department Emergency Locker Inventory | 1 |
| 7.5 Sutter Memorial Hospital Emergency Locker Inventory | 1 |
| 7.6 University Medical Center Emergency Locker Inventory | 1 |
| 7.7 Skin Decontamination Kit Inventory | Original |
| 7.8 Ambulance Emergency Kit Inventory | Original |

1

ATTACHMENT 7.1

EMERGENCY LOCKER EQUIPMENT INVENTORY
LOCATION: Control Room

NUMBER REQUIRED		NUMBER IN LOCKER	BATTERY CHECK	SERIAL NUMBER	CALIBRATION DUE
1	Portable Dose Rate Inst. (IONE CHAMBER)	_____	_____	_____	_____
1	Portable Count Rate Inst.	_____	_____	_____	_____
1 ea	Hi-Vol Air Sampler and Box of Filters	_____	_____	_____	_____
1 ea	Low-Vol Air Sampler and Box of Filters and 1" x 2" Head	_____	_____	_____	_____
5	Dosimeters (1-511 mR)	_____	_____	_____	Color _____
5	Dosimeters (1-111 R)	_____	_____	_____	Color _____
1	Dosimeter Charger	_____	_____	_____	_____
1	Hand Calculator	_____	_____	_____	_____
1	Stop Watch	_____	_____	_____	_____
2 ea	Stoplights w/spare batteries	_____	_____	_____	_____
2 ea	Flashlights and spare batteries	_____	_____	_____	_____
3 ea	MSA Full Face Masks and Particulate Filters	_____	_____	_____	_____
1	Instrument Check Source (Cs 7A a8uci Cs137)	_____	_____	_____	_____
21	Protective Clothing-Coveralls	_____	_____	_____	_____
21	Surgeons Caps	_____	_____	_____	_____
21	Hoods	_____	_____	_____	_____
51 pr	Shoe Covers	_____	_____	_____	_____
51 pr	Gloves	_____	_____	_____	_____
11 ea	Poly Bags (Large and Small)	_____	_____	_____	_____
6	Plastic Sample Containers	_____	_____	_____	_____
1 roll	Blotting Paper	_____	_____	_____	_____
5 sets	Blank Survey Maps	_____	_____	_____	_____

ATTACHMENT 7.1-contd.

EMERGENCY LOCKER EQUIPMENT INVENTORY
LOCATION: Control Room

NUMBER REQUIRED		NUMBER IN LOCKER	
5	Ballpoint Pens (Black)	_____	
5	Flair Pens	_____	
24	Pencils	_____	
4	Wrist Cards	_____	
100	Smears	_____	
5	Ruled Tablets	_____	
5	Quadrille Tablets	_____	
3 sheets	3 Cycle Semi-log Graph Paper	_____	
5	1" x 2" Silver Zeolite Filters	_____	
2	2" x 2" Silver Zeolite Filters	_____	
1	Copy of AP 305-27	_____	
1	Site Emergency Plan	_____	
1	Emergency Gas Sampling Rig	_____	
3	100cc Gas Collection Chambers	_____	
1	First Aid Suitcase	_____	Seal Intact YES/NO
1	Medical Oxygen Cylinder	_____	Seal Intact YES/NO
	MS-2 and SPA-3 Monthly Check (AP 308-10)	Checked by: _____	Date: _____
	Emergency Generator Test	Checked by: _____	Date: _____
	CHECKED BY: _____	DATE: _____	
	REVIEWED BY: _____	DATE: _____	
	Senior Chem/Rad Assistant or H.P.		

Copy to: Emergency Preparedness Coordinator

ATTACHMENT 7.2

EMERGENCY LOCKER EQUIPMENT INVENTORY
 LOCATION: Warehouse A or Administration Building
 (Circle One)

NUMBER REQUIRED		NUMBER IN LOCKER	BATTERY CHECK	SERIAL NUMBER	CALIBRATION DUE
1	Portable Dose Rate Inst. (ION CHAMBER)	_____	_____	_____	_____
1	Portable Count Rate Inst.	_____	_____	_____	_____
1 ea	Hi-Vol Air Sampler and Box of Filters	_____	_____	_____	_____
1 ea	Low-Vol Air Sampler and Box of Filters and 1" x 2" Head	_____	_____	_____	_____
1	Portable Walkie Talkie and Batteries	_____	_____		
3	Dosimeters (0-200 mR)	_____			Color _____
3	Dosimeters (0-1 R)	_____			Color _____
3	Dosimeters (0-100 R)	_____			Color _____
1	Dosimeter Charger	_____	_____	_____	
2	Hand Calculators	_____	_____	_____	
1	Stop Watch	_____	_____	_____	
2 ea	Spot lights w/spare batteries	_____	_____		
2 ea	Flashlights and Batteries	_____	_____		
1 ea	Megaphone and Spare Battery	_____	_____		
3 ea	MSA Full Face Masks and Particulate Filters	_____	_____	_____	_____

2	MSA Self-contained Air Respirators	_____	_____	_____	_____
20	Protective Clothing-Coveralls	_____			
20	Surgeons Caps	_____			

ATTACHMENT 7.2-contd.

EMERGENCY LOCKER EQUIPMENT INVENTORY
 LOCATION: Warehouse A or Administration Building
 (Circle One)

NUMBER REQUIRED		NUMBER IN LOCKER
21	Hoods	_____
51 pr	Shoe Covers	_____
51 pr	Gloves	_____
11 ea	Poly Bags (Large and Small)	_____
6	Plastic Sample Containers	_____
1 roll	Blotting Paper	_____
5	Area Maps	_____
12	Offsite Radiation Survey Information Sheets (AP 518-5)	_____
1	Assembly Point Instruction	_____
5	Ruled Tablets	_____
5	Quadrille Tablets	_____
24	Pencils	_____
5	Ballpoint Pens (Black)	_____
5	Flair Pens	_____
1	Marking Pen	_____
25 btl.	Thyro-Block Tablets	_____
2	Instrument Check Sources (Cs 7A a8uci Cs137)	_____
111	Smears	_____
5	Silver Zeolite Filters (1" x 2")	_____
1	Site Emergency Plan	_____

ATTACHMENT 7.2-contd.

EMERGENCY LOCKER EQUIPMENT INVENTORY
LOCATION: Warehouse A or Administration Building
(Circle One)

NUMBER REQUIRED	NUMBER IN LOCKER
1 Emergency Response Team Kit:	
(10) Smear packets of 10 smears each	_____
(1) Radeco 1" x 2" 1 and Part. Head	_____
(2) Silver Zeolite Cartridges (1" x 2")	_____
(5) Impregnated Charcoal Cartridges (1" x 2")	_____
(8) Offsite Radiation Survey Information Sheet (AP 508-5)	_____
(2) Radio Operating Procedure	_____
(1) Writing Tablet and 3 Pens	_____
(10) Low-Vol Filters	_____
(10) Hi-Vol Filters	_____
Skin Decontamination Kit:	
(6) Soft Scrubbing Brushes	_____
(6) Mild Hand Soap Containers	_____
(1) Box 1" Smear Papers	_____
(1) Package Cotton Swabs	_____
(2) Packages 4" x 4" Gauze	_____
(2) Marking Pens	_____
(2) Bottles 4 Percent Potassium Permanganate	_____
(2) Bottles 4 Percent Sodium Bisulfite	_____
(1) Bottle 3 percent Hydrogen Peroxide	_____
(1) Hand Lotion	_____

Emergency Generator Test Checked by: _____

Date: _____

CHECKED BY: _____ DATE: _____

REVIEWED BY: _____ DATE: _____

Senior Chem/Rad Assistant
or H.P.

Copy to: Emergency Preparedness Coordinator

ATTACHMENT 7.3

Ione Fire Academy Emergency Locker Inventory

NUMBER REQUIRED		NUMBER IN LOCKER	BATTERY CHECK	SERIAL NUMBER	CALIBRATION DUE
1	AP 500 w/Procedures	_____			
1	INPO Manual	_____			
4	R02A or equivalent	_____	_____	_____	_____
2	RM-14 W/HP210 or equivalent	_____	_____	_____	_____
2	PRM-6 W/HP210 or equivalent	_____	_____	_____	_____
2	Air Sampler w/Sampling Head	_____		_____	_____
20	Silver Zeolite Cartridges	_____			
2 boxes	Particulate Filters	_____			
25	Dosimeters (0-200 mR)	_____		Color	_____
25	Dosimeters (0-1R)	_____		Color	_____
2	Dosimeter Chargers	_____	_____	_____	
4	Batteries AA	_____			
5 boxes	D	_____			
14	9 Volt	_____			
4	Respirators w/Filters	_____			
4	SCBAs	_____			
5 boxes	Swipes	_____			
12	Full Sets of Anti-Cs	_____			
12	Flashlights	_____			
6 rolls	Masking Tape (2")	_____			
2 rolls	Radiation Tape	_____			
1 roll	Radiation Ribbon (plastic)	_____			
2 rolls	Radiation Rope	_____			
12	Radiation Signs w/Inserts	_____			

ATTACHMENT 7.3-contd.

Ione Fire Academy Emergency Locker Inventory

NUMBER REQUIRED		NUMBER IN LOCKER
6	Flashers	_____
6	Stanchions for Flashers	_____
6	Clipboards/Pens/Pencils	_____
6	Writing Tablets	_____
40 sheets	Graph Paper	_____
1	Skin Decon Kit	_____
1	Ambulance Kit	_____
2	Stretchers	_____
1	First Aid Kit	_____
6	Blankets	_____
2	Medical Oxygen Bottles	_____
6	Sponges	_____
1 box	Soap	_____
2	Buckets	_____

Checked by/Date: _____

Reviewed by: _____
Emergency Preparedness Coordinator

ATTACHMENT 7.4

Herald Fire Department Emergency Locker Inventory

NUMBER REQUIRED		NUMBER IN LOCKER	BATTERY CHECK	SERIAL NUMBER	CALIBRATION DUE
1	AP 500 w/Procedures	_____			
1	INPO Manual	_____			
4	RO2A or equivalent	_____	_____	_____	_____
2	RM-14 W/HP210 or equivalent	_____	_____	_____	_____
2	PRM-6 W/HP210 or equivalent	_____	_____	_____	_____
2	Air Sampler w/Sampling Head	_____		_____	_____
20	Silver Zeolite Cartridges	_____			
2 boxes	Particulate Filters	_____			
25	Dosimeters (0-200 mR)	_____		Color	_____
25	Dosimeters (0-1R)	_____		Color	_____
2	Dosimeter Chargers	_____	_____	_____	
4	Batteries AA	_____			
5 boxes	D	_____			
14	9 Volt	_____			
4	Respirators w/Filters	_____			
4	SCBAs	_____			
5 boxes	Swipes	_____			
12	Full Sets of Anti-Cs	_____			
12	Flashlights	_____			
5 rolls	Masking Tape (2")	_____			
2 rolls	Radiation Tape	_____			
1 roll	Radiation Ribbon (plastic)	_____			
2 rolls	Radiation Rope	_____			
12	Radiation Signs w/Inserts	_____			

ATTACHMENT 7.4-contd.

Herald Fire Department Emergency Locker Inventory

NUMBER REQUIRED		NUMBER IN LOCKER
6	Flashers	_____
6	Stanchions for Flashers	_____
6	Clipboards/Pens/Pencils	_____
6	Writing Tablets	_____
40 sheets	Graph Paper	_____
1	Skin Decon Kit	_____
1	Ambulance Kit	_____
2	Stretchers	_____
1	First Aid Kit	_____
6	Blankets	_____
2	Medical Oxygen Bottles	_____
6	Sponges	_____
1 box	Soap	_____
2	Buckets	_____

Checked by/Date: _____

Reviewed by: _____
Emergency Preparedness Coordinator

ATTACHMENT 7.5

Sutter Memorial Hospital Emergency Locker Inventory

NUMBER REQUIRED		NUMBER IN LOCKER	BATTERY CHECK	SERIAL NUMBER	CALIBRATION DUE
1	RO-1 or equivalent	_____	_____	_____	_____
1	RM-14 w/HP-260 or equivalent	_____	_____	_____	_____
1	PRM-4 w/HP-260 or equivalent	_____	_____	_____	_____
1	Check Source	_____			
6	Dosimeters (0-500MR)	_____		Color	_____
2	(0-5R)	_____		Color	_____
2	(0-200R)	_____		Color	_____
1	Dosimeter Charger w/Battery	_____	_____	_____	
6	Respirators	_____			
6	Plastic Aprons	_____			
50	Shoe Covers	_____			
20 pair	Latex Gloves	_____			
2 rolls	Masking Tape (2")	_____			
2 rolls	Radiation Tape	_____			
2 rolls	Radiation Ribbon	_____			
10	Radiation Tags (Contaminated)	_____			
6	Signs - Radiation Area	_____			
6	High Radiation Area	_____			
12	Radioactive Material	_____			
2	Garbage Cans w/Tops	_____			
2 btls.	Decon Soap (Nonhex)	_____			
1 roll	Clear Poly Sheeting	_____			
2 rolls	Blotting Paper (Benchkote)	_____			

ATTACHMENT 7.5-contd.

Sutter Memorial Hospital Emergency Locker Inventory

NUMBER REQUIRED		NUMBER IN LOCKER	BATTERY CHECK	SERIAL NUMBER	CALIBRATION DUE
12	Plastic Bags	_____			
2	Cabinets (6' double door)	_____			

Checked by/Date: _____

Reviewed by: _____
Emergency Preparedness Coordinator

ATTACHMENT 7.6

University Medical Center Emergency Locker Inventory

NUMBER REQUIRED		NUMBER IN LOCKER	BATTERY CHECK	SERIAL NUMBER	CALIBRATION DUE
6	Dosimeters 0-200MR	_____		Color	_____
2	0-500MR	_____		Color	_____
2	0-1R	_____		Color	_____
2	0-100R	_____		Color	_____
1	Dosimeter Charger w/Battery	_____	_____	_____	
12	Plastic Aprons	_____			
50	Shoe Covers	_____			
6 pair	Latex Gloves	_____			
1 box	Disposable Gloves	_____			
6 rolls	Masking Tape 2"	_____			
2 rolls	Radiation Tape 2"	_____			
1 roll	Radiation Ribbon (Plastic)	_____			
6	Signs - Radiation Area	_____			
6	- High Radiation Area	_____			
12	- Radioactive Material	_____			
1	Cabinet (Roller)	_____			

Checked by/Date: _____

Reviewed by: _____
Senior Chem/Rad Assistant, or H.P.

Copy to: Emergency Preparedness Coordinator

ATTACHMENT 7.7
DECONTAMINATION KIT INVENTORY

NUMBER REQUIRED	NUMBER IN KIT	INITIAL	CONTENTS
6	_____	_____	1. Soft scrubbing brush.
1	_____	_____	2. Mild hand soap.
1 bx.	_____	_____	3. 1" smear papers.
1 pkg.	_____	_____	4. Smear-tipped applicators.
2 pkg.	_____	_____	5. 4" x 4" gauze.
2	_____	_____	6. Marking pencil.
2 btls.	_____	_____	7. 4% solution of Potassium Permanganate.
2 btls.	_____	_____	8. 4% solution of Sodium Bisulfite.
1 btl.	_____	_____	9. 3% Hydrogen Peroxide.
1	_____	_____	10. Hand lotion.
6	_____	_____	11. Individual skin decontamination forms.

LOCATION:

1. First Aid Room
2. Auxiliary Building Personnel Change Room
3. Emergency Locker (Ione)
4. Emergency Locker (Herald)
5. Emergency Locker (Administration Building)*
6. Emergency Lock (Warehouse "A")

CHECKED BY: _____ DATE: _____

 REVIEWED BY: _____ DATE: _____
 Senior Chem/Rad Assistant, H.P./
 Emergency Preparedness Coordinator

Copy to: Emergency Preparedness Coordinator

*SEE Attachment 7.2

ATTACHMENT 7.8
 AMBULANCE EMERGENCY KIT INVENTORY

NUMBER REQUIRED	NUMBER IN KIT	INITIAL	CONTENTS
		_____	1. Plastic sheeting for inside of ambulance.
		_____	2. Miscellaneous plastic bags.
2 rolls	_____	_____	3. Masking tape.
3	_____	_____	4. Coveralls.
3 pr.	_____	_____	5. Boot covers.
3 pr.	_____	_____	6. Canvas gloves.
3	_____	_____	7. Face masks with filters.
2	_____	_____	8. Lanterns flashlights
1	_____	_____	9. AP 514, "Personnel Injury"
1	_____	_____	10. AP 516, "Personnel Decontamination"

LOCATION:

1. First Aid Room
2. Security Building
3. Emergency Locker (Ione)
4. Emergency Locker (Herald)

CHECKED BY: _____ DATE: _____

REVIEWED BY: _____ DATE: _____
 Senior Chem/Rad Assistant, H.P., or
 Emergency Preparedness Coordinator

Copy to: Emergency Preparedness Coordinator

SMUD - RANCHO SECO
EMERGENCY PLAN PROCEDURE

AP 501

RECOGNITION AND CLASSIFICATION OF EMERGENCIES

TABLE OF CONTENTS

	<u>Page No.</u>	
1.0 PURPOSE.	2	
2.0 RESPONSIBILITY	2	
3.0 INITIATING CONDITIONS.	2	
4.0 PRECAUTIONS AND LIMITATIONS.	3	
5.0 INSTRUCTIONS	3	
6.0 REFERENCES	4	2
7.0 ATTACHMENTS.	4	

1.0 PURPOSE

1.1 This procedure describes the immediate actions to be taken to recognize and classify an emergency condition. Attachment 7.1 of this procedure identifies the four emergency classifications: Notification of Unusual Event, Alert, Site Area Emergency and General Emergency.

2.0 RESPONSIBILITY

- 2.1 The Emergency Coordinator (Shift Supervisor, until properly relieved) is responsible for implementation of the actions prescribed in this procedure. | 2
- 2.2 The Emergency Coordinator shall declare the appropriate emergency condition as soon as an event has been indicated and verified. An Unusual Event, Alert or Site Area Emergency shall be declared as soon as possible after the initial indication of the event. A General Emergency Classification shall be declared as soon as possible after the verified event. If the conditions are less than apparent for a General Emergency, the Emergency Coordinator shall insure that the appropriate lower classification has been declared. | 2
- 2.3 The Emergency Coordinator may delegate responsibilities except for the following:
- 2.3.1 Decision to notify offsite emergency management agencies.
 - 2.3.2 Making protective action recommendations as necessary to offsite emergency management agencies. (Responsibility shifts to the Emergency Manager upon activation of the EOF.)
 - 2.3.3 Classification of emergency event.
 - 2.3.4 Determining the necessity for assembly and/or evacuation of onsite personnel. | 2
 - 2.3.5 Authorization for emergency workers to exceed the Rancho Seco Administrative radiation exposure limits.

3.0 INITIATING CONDITIONS

3.1 An off-normal event, corresponding to one of the initiating events described in Attachment 7.2, has occurred and has been verified by using redundant instrument channels, comparison to other related plant parameters, physical observations, and field measurements, as applicable.

4.0 PRECAUTIONS AND LIMITATIONS

- 4.1 Continued surveillance and assessment of plant conditions are necessary to ensure that the emergency classification is appropriately revised as conditions change, or as more identification is obtained.
- 4.2 This emergency procedure does not replace any plant operating procedures. During an emergency condition, continue to use the appropriate plant procedure in parallel to this and other Emergency Plan Procedures.

5.0 INSTRUCTIONS

- 5.1 Review the Table of Initiating Conditions, Attachment 7.2, to see if the event is listed.
- 5.2 If listed, go to the Tab number indicated, Attachment 7.3, and match the off-normal information to one of the four Emergency Conditions.
- 5.3 If the off-normal event is not listed, make the decision of whether, and at what level, an Emergency Action Level should be assigned using Attachment 7.1 Action Level Criteria for Classification of Emergency Conditions.

NOTE: With combinations of off-normal events occurring at the same time, initiate the higher Emergency Classification.

- 5.4 Determine the Emergency Classification and implement the appropriate Emergency Procedure:

AP 502	Notification of Unusual Event
AP 503	Alert
AP 504	Site Area Emergency
AP 505	General Emergency

- 5.5 During the course of the emergency, complete Attachment 7.4 Emergency Coordinator's Emergency Classification Guidance and Checklist to obtain records of the actions taken.

5.5.1 Subparts of Attachment 7.4

- 1.0 Initial Emergency Classification
- 2.0 Emergency Coordinator Sign In Sheet
- 3.0 Implemented Plan Procedures
- 4.0 Emergency Classification Status
- 5.0 General Notes and Comments
- 6.0 Emergency Close Out Checklist

2

6.0 REFERENCES

- 6.1 AP 500 Section 4.0 Rancho Seco Emergency Plan
- 6.2 Rancho Seco Plant Operations Manual
- 6.3 Rancho Seco Technical Specifications
- 6.4 AP 305-3 "Rancho Seco Radiation Control Manual,"
Vol. I, par. 2.1.1.1, Vol. II, AP 305-3, par. 3.8

| 2

7.0 ATTACHMENTS

Revision No.

- | | |
|--|----------|
| 7.1 Action Level Criteria for Classification of
Emergency Conditions. | Original |
| 7.2 Table of Initiating Conditions. | Original |
| 7.3 TAB Index and TABS. | Original |
| 7.4 Emergency Coordinator Emergency Classification
Guidance, Comments and Closeout Checklist. | Original |

ATTACHMENT 7.1

ACTION LEVEL CRITERIA FOR CLASSIFICATION
OF EMERGENCY CONDITIONS

1.0 General description of the Four Emergency Classifications:

- 1.1 Notification of Unusual Event - Off-normal event(s) that could indicate a potential degradation of the safety level of the plant. There is no expectation of radioactivity release.
- 1.2 Alert - Off-normal event(s) that indicate an actual degradation of the safety level of the plant. There may also be limited releases of radioactive materials.
- 1.3 Site Area Emergency - Off-normal event(s) that involve actual or imminent major failures of plant functions needed for the protection of the public. There is actual or clear potential for significant release of radioactive materials.
- 1.4 General Emergency - Off-normal event(s) that involve actual or imminent substantial fuel degradation with the potential loss of containment integrity. There is also an actual or imminent potential for significant release of radioactive materials.

ATTACHMENT 7.2

TABLE OF SOME TYPICAL INITIATING CONDITIONS

1. Gaseous effluent release High activity	see Tab 4
2. Liquid effluent release High activity	see Tab 4
3. Offsite dose calculations High	see Tab 4
4. High coolant activity (possible fuel damage) Tech Spec 3.1.4.1	see Tab 3
5. Fuel handling accident with observed damage or radiation release	see Tab 1
6. Primary system leak rate High	see Tab 11
7. Primary-to-secondary leak rate High	see Tab 11
8. Primary to secondary leak rate High with loss of offsite power	see Tab 11
9. Major steam line break with greater than 10 gpm primary to secondary leakage	see Tab 9
10. Loss of feed and condensate systems and extended failure of emergency feedwater system and ECCS	see Tab 9
11. Rapid secondary depressurization	see Tab 9
12. Reactor coolant system pressure High or Low	see Tab 8
13. Reactor coolant system temperature High or Low	see Tab 8
14. ECCS Initiation	see Tab 6
15. Reactor coolant pump rotor locked w/ fuel damage	see Tab 7
16. Loss of cold shutdown capabilities	see Tab 14
17. Loss of hot shutdown capabilities	see Tab 14
18. Loss of Non-Nuclear Instrumentation	see Tab 13
19. Loss of vital radiation assessment equipment	see Tab 13
20. Loss of Engineered Safety Feature equipment	see Tab 22
21. Reactor Protection System failure	see Tab 14

TABLE OF INITIATING CONDITIONS-contd.

22. Loss of Fire Protection System functions	see Tab 22
23. Loss of AC Power	see Tab 15
24. Loss of DC Power	see Tab 15
25. Loss of Containment Integrity	see Tab 5
26. Evacuation of Control Room	see Tab 12
27. Fire (onsite)	see Tab 17
28. Earthquake	see Tab 18
29. Tornado/High Winds	see Tab 19
30. Aircraft	see Tab 20
31. Train derailment	see Tab 20
32. Explosion	see Tab 20
33. Toxic or Flammable Gas	see Tab 20
34. Turbine Generator failure w/casing penetration	see Tab 20
35. Security Compromise	see Tab 21
36. Transportation of contaminated personnel	see Tab 16
37. Relief Valve Failure	see Tab 10
38. High Area Radiation	see Tab 2
39. Abnormal Reactor Coolant Flow	see Tab 7
40. Loss of Operational Instrumentation	see Tab 13
41. Loss of Most or All Alarms	see Tab 13
42. Loss of Steam and Power Conversion System Function	see Tab 14
43. Uncompensated Reactivity Addition	see Tab 23
44. Control Rod Ejection	see Tab 23

ATTACHMENT 7.3

TAB INDEX AND TABS

<u>TAB NO.</u>	<u>TITLE</u>
1.	Fuel Handling Accident
2	High Area Radiation
3	High Coolant Activity
4	High Effluent Activity
5.	Loss of Containment Integrity
6	ECCS Initiation
7	Loss of Reactor Coolant System Flow
8	Abnormal Coolant Temp/Press
9	Secondary Depressurization/Loss of Secondary Coolant
10.	Relief Valve Failure
11	Loss of Coolant
12	Loss of Control Room
13	Loss of Instrumentation
14	Loss of Shutdown Capability
15.	Loss of Power AC/DC
16	Contaminated Personnel
17	Fire
18	Earthquake
19	Tornado/High Winds
20.	Onsite Hazards
21	Sabotage/Civil Disturbance
22	Loss of Safety or Fire Protection Equipment
23	Abnormal Positive Reactivity Addition

TAB 1

FUEL HANDLING ACCIDENT

INITIATING CONDITIONS

EMERGENCY ACTION LEVEL

UNUSUAL EVENT

1. Fuel handling accident with observed damage to spent fuel assembly.

1. Observation of damage to spent fuel assembly.

ALERT

1. Fuel handling accident with release of radioactivity to Reactor Building or Fuel Building

1. Observation of damage to spent fuel assembly;

and

- a. R15001B (Rx. Bldg/Purge Gas) high alarm - 15,000 cpm when purging, R15027 (Fuel Handling Bridge Area) high alarm -1,000 mrem/hr after accident in Containment;

or

- b. R15028 (Spent Fuel Pool) or R15029 (New Fuel Storage Area) high alarm -100 mrem/hr after accident in Fuel Building.

SITE AREA EMERGENCY

1. Major damage to more than one spent fuel assembly in Reactor or Fuel Building leading to clad rupture (e.g., large object damages fuel or water loss below fuel level).

1. a. Observation of major damage to more than one spent fuel assembly;

or

- b. Spent Fuel Pool water below fuel level;

and

1. R15001, R015025 (Personnel Access Hatch Area) high alarm -100 mrem/hr, R15026 (Incore Instrument Area) high alarm -1,000 mrem/hr, R15027 (Fuel Handling Bridge Area) -1,000 mrem/hr high alarm for accident in Reactor Building;

or

TAB 1-cont.

SITE AREA EMERGENCY-cont.

2. R15028 (Spent Fuel Pool Area)
high alarm -100 mrem/hr, R15029
(New Fuel Stg. Area) 100 mrem/hr
high alarm for accident in Fuel
Building.

GENERAL EMERGENCY

See TAB 4 HIGH EFFLUENT ACTIVITY

TAB 2

HIGH AREA RADIATION

INITIATING CONDITIONS

EMERGENCY ACTION LEVEL

UNUSUAL EVENT

Not Applicable

ALERT

1. Sustained high radiation levels or high airborne contamination which indicates a severe degradation in the control of radioactive materials (e.g., increase of factor of 1000 in direct radiation readings).

- 1. a. Unexpected Area Radiation
Monitor readings as follows:
 - 1. R15028 Spent Fuel Pool Area
 - R15029 New Fuel Storage Area
 - R15031 Rad/Chem Lab Area
 - R15032 Control Area Toilet Area
 - R15033 Drum Decon Load Area
 - R15034 Radwaste Sump Pump Area
 - R15035 Aux System Equipment Area
 - R15036 Vent Room Equipment Area
 - R15037 East DHR Pump Room

The above area monitors greater than 2.5 R/hr.

or

- 2. R15025 Personnel Access Hatch
 - R15026 Incore Instrument Area
 - R15027 Fuel Handling Bridge Area
- The above area monitors greater than 100 R/hr.

or

- 3. R15030 Control Room Area greater than 1R/hr.

or

- b. Unexpected general area iodine or particulate airborne concentration greater than 1000 MPC in Table 1, column 1 of 10CFR20.

SITE AREA AND GENERAL EMERGENCY

See TAB 4 HIGH EFFLUENT ACTIVITY

TAB 3

HIGH COOLANT ACTIVITY

INITIATING CONDITIONS

EMERGENCY ACTION LEVEL

UNUSUAL EVENT

1. Possible fuel damage.
(Technical Specification 3.1.4.1)

1. Technical Specification for total fission product activity exceeded $43/\bar{E}$ uCi/gm

or

Analysis indicates a total failed fuel of one percent.

ALERT

1. Fuel damage indication.

1. Analysis which indicates a total failed fuel of 5 percent.

SITE AREA EMERGENCY

Not Defined.

GENERAL EMERGENCY

Not Defined.

TAB 4

HIGH EFFLUENT ACTIVITY

INITIATING CONDITIONS

EMERGENCY ACTION LEVEL

UNUSUAL EVENT

1. Gaseous effluent instantaneous release rate Technical Specification limits exceeded. (Appendix B Technical Specification 2.6.3)
2. Liquid effluent concentration Technical Specification limits exceeded. (Appendix B Technical Specification 2.6.1)

1. Any of the following gaseous effluent monitors valid high alarm mode:
R15001A (Reactor Bldg/Purge Part.) alarm during purge (100,000 cpm)
R15001B (Reactor Bldg/Purge Gas) alarm during purge (15,000 cpm)
R15002A (Aux Bldg Stack Part.) alarm (25,000 cpm)
R15002B (Aux Bldg Stack Gas) alarm (14,000 cpm)
2. Valid Liquid Effluent Monitor readings which are greater than:
R15020 (Regenerant Holdup Tanks Disch): high alarm setpoint established in discharge permit;

and

release fails to terminate.

ALERT

1. Radiological effluent release rate exceeding 10 times Technical Specification instantaneous limits.

1. Any of the following valid radiation monitor readings.
 - a. 10 times alarm setpoint for R15001B (Rx Bldg/Purge Gas) when purging or R15002B (Aux Bldg Stack Gas) -14,000 cpm;
 - b. 10 times alarm setpoints for R15020 (Regenerant Holdup Tanks Discharge) - Tank Activity + 3000 cpm. - established in discharge permit;

or

and

release fails to terminate.
(Due to radioactivity releases to the environment.)

TAB 4-cont.SITE AREA EMERGENCY

1. Effluent monitors detect levels corresponding to greater than 50 mrem/hr whole body for 0.5 hr. or greater than 500 mrem/hr whole body for 2 min. (or five times these levels to the thyroid) at the exclusion area boundary for adverse meteorology (Pasquill F stability less than 0.6-m/sec wind velocity).
 2. These dose rates are projected based on radiation monitor readings and/or other plant parameters or are measured at the exclusion area boundary.
1. Any of the following valid Process Radiation Monitor readings:
 - a. R15001B (Rx Bldg/Purge Gas) readings and analysis shows equivalent I-131 release rate greater than 0.55 Ci/hr. for 0.5 hr.

or

greater than 5.50 Ci/hr. for 2 minutes.

 - b. R15001 readings and analysis shows equivalent Xe-133 release rate greater than 234 Ci/hr for 0.5 hr.

or

greater than 2340 Ci/hr for 2 minutes.
 2. a. Reading or dose rate outside Reactor Building coupled with Reactor Building leak rate results in calculated dose rate at exclusion area boundary greater than 50 mrem/hr whole body for 0.5 hr;

or

500 mrem/hr whole body for 2 min.

 - b. Radiation Monitoring Teams measure dose rates greater than 50 mrem/hr for 0.5 hr;

or

greater than 500 mrem/hr for 2 min (beta & gamma) at the exclusion area boundary.

GENERAL EMERGENCY

1. Offsite dose calculations indicate 1 rem/hr whole body or 5 rem/hr thyroid at the exclusion area boundary under actual meteorological conditions.
1. Calculation on Dose Assessment Forms indicates levels exceeding 1 rem/hr whole body or 5 rem/hr thyroid at the exclusion area boundary using Radiation Monitor readings and effluent stream flow rates (measured or assumed) for actual meteorological conditions.

TAB 5

LOSS OF CONTAINMENT INTEGRITY

INITIATING CONDITIONS

EMERGENCY ACTION LEVEL

UNUSUAL EVENT

1. Loss of Containment Integrity
(Technical Specification 3.6.6)

1. Operator response is unable to correct
any of the following conditions:
a. Any manual containment valve or blind
flange not closed as required;

or

b. Inoperable automatic containment
isolation valve during critical
operations not put in Safety Features
position;

or

c. Indicated leakage requiring Technical
Specification shutdown (T.S. 4.4.1).

ALERT

Not Defined.

SITE AREA EMERGENCY

Not Defined.

GENERAL EMERGENCY

Not Defined.

TAB 6

ECCS INITIATION

INITIATING CONDITIONS

EMERGENCY ACTION LEVEL

UNUSUAL EVENT

1. ECCS initiated (coincident with positive finding that initiating is not spurious).

1. Inadvertent Safety Features Actuation Signal verified by redundant indication with no loss of RCS inventory.

SEE TAB 9 SECONDARY DEPRESSURIZATION

SEE TAB 11 LOSS OF COOLANT

ALERT

Not Defined.

SITE AREA EMERGENCY

Not Defined.

GENERAL EMERGENCY

Not Defined.

TAB 7

LOSS OF REACTOR COOLANT SYSTEM FLOW

INITIATING CONDITIONS

EMERGENCY ACTION LEVEL

UNUSUAL EVENT

1. Abnormal reactor coolant flow.

1. Operation outside the power-imbalance flow or power-pump comparator limits.

ALERT

1. Reactor coolant pump locked rotor with fuel damage.

1. Reactor coolant pump auto trip alarm;

and

a. Reactor trip on low coolant flow (131×10^6 lbm/hr Total, 65.5×10^6 lbm/hr single loop);

and

b. Reactor coolant pump phase over current relay actuation;

and

c. Analysis indicates increase in coolant activity of 10 uCi/ml (.1 percent increase in Failed Fuel).

SITE AREA EMERGENCY

Not Defined.

GENERAL EMERGENCY

Not Defined.

TAB 8

ABNORMAL COOLANT TEMP/PRESS

INITIATING CONDITIONS

EMERGENCY ACTION LEVEL

UNUSUAL EVENT

- | | |
|---|--|
| <p>1. Abnormal reactor coolant temperature and/or pressure that would indicate an abnormal fuel temperature, a loss of subcooling margin or overpressurization.</p> | <p>1. a. Reactor coolant T_{avg} greater than 619°F;
<u>or</u>
b. RCS pressure greater than 2500 psig;
<u>or</u>
c. a. RCS pressure less than 1765 psig;
<u>and</u>
b. local coolant temperature greater than 619°F as indicated by a valid incore thermocouple;
<u>or</u>
d. Core Subcooling Monitor less than 20°F margin following reactor trip.</p> |
|---|--|

ALERT

See TAB 3 HIGH COOLANT ACTIVITY

SITE AREA EMERGENCY

- | | |
|--|---|
| <p>1. Degraded core with possible loss of coolable geometry.</p> | <p>1. Reactor Coolant System indicates superheat condition.
Indications may include:
a. Valid readings on incore thermocouples above 700°F;
<u>and</u>
b. T_{hot} and T_{cold} rapidly diverging (dT rapidly increasing);
<u>or</u>
c. no dT across core.</p> |
|--|---|

TAB 8-cont.

GENERAL EMERGENCY

Not Defined.

TAB 9

SECONDARY DEPRESSURIZATION/LOSS OF SECONDARY COOLANT

INITIATING CONDITIONS

EMERGENCY ACTION LEVEL

UNUSUAL EVENT

- | | |
|--|--|
| <p>1. Rapid secondary system depressurization.</p> | <p>1. a. A rapid cooldown in excess of Technical Specification limits as indicated by increased steam flow;
<u>and</u>
b. Reduced RCS temperature and pressure;
<u>or</u>
2. Observation of break in secondary system.</p> |
|--|--|

ALERT

- | | |
|--|--|
| <p>1. Major steam line break (e.g., greater than 6 in. equivalent diameter) with significant (e.g., greater than 10 gpm) primary-to-secondary leak rate.</p> | <p>1. a. Rapidly decreasing reactor coolant T_{avg}, RCS pressure, and pressurizer level;
<u>and</u>
b. R15004 (Condenser Air Ejector) high alarm (400 cpm);
<u>and</u>
1. Steam line failure logic system signal;
<u>and</u>
High Reactor Building pressure alarm (1.2 psig);
<u>and</u>
R15001 C, D, E (RBAP Part., Iodine, Gas) high alarms (150,000 cpm) for rupture in Containment, (break inside containment);
<u>or</u>
2. Steam line failure logic system signal;</p> |
|--|--|

TAB 9-cont.

ALERT-cont.

and

R15056 (Steam Line A) or R15058
(Steam Line B) in alarm (10 mr)
(break outside containment).

SITE AREA EMERGENCY

1. Major steam line break with (greater than 50 gpm) primary-to-secondary leakage and indication of fuel damage.

1. a. Rapidly decreasing reactor coolant T_{avg} , RCS pressure, and pressurizer level;

and

b. R15004 (Condenser Air Ejector) high alarm (400 cpm);

and

1. Steam line failure logic system signal;

and

High Reactor Building pressure alarm (1.2 psig);

and

R15001 E (RBAP Gas) high alarms (150,000 cpm) for rupture in Containment, (break inside containment);

or

2. Steam line failure logic system signal;

and

R15056 (Steam Line A);

or

R15058 (Steam Line B) in alarm (10 mr) (break outside containment).

TAB 9-cont.

SITE AREA EMERGENCY-cont.

and

3. Analysis indicates increase in coolant activity of 10 uCi/ml (increase of 0.1 percent Failed fuel).

GENERAL EMERGENCY

1. Transient initiated by loss of feedwater and condensate systems (principal heat removal system) followed by failure of emergency feedwater systems and ECCS for extended period. Core melting possible in several hours. Ultimate failure of Containment possible if core melts.

1. a. Reactor trip on low feedwater flow (600×10^3 lbm/hr);

and

- b. decreasing wide-range steam generator levels toward off-scale low on all steam generators;

and

- c. failure of the Auxiliary Feedwater Pump

1. Auxiliary feedwater flow indicators indicate zero flow;

or

2. Status lamps indicate auxiliary feedwater pumps not running;

and

auxiliary feedwater cannot be restored.

TAB 10

RELIEF VALVE FAILURE

INITIATING CONDITIONS

EMERGENCY ACTION LEVEL

UNUSUAL EVENT

- | | |
|--|---|
| <p>1. Failure of a pressurizer relief valve to reset (exceeding normal weepage).</p> <p>2. Failure of a steam generator safety or relief valve to reseal (exceeding normal weepage).</p> | <p>1. a. EMOV fails to close and operator is unable to close block valve;</p> <p style="text-align: center;"><u>or</u></p> <p>b. Code safety valve opens and then fails to reset.</p> <p>2. Steam generator safety or relief valve opens and then fails to reset followed by a rapid cooldown as indicated by reduced RCS temperature and pressure.</p> |
|--|---|

ALERT

See TAB 9 SECONDARY DEPRESSURIZATION
See TAB 11 LOSS OF COOLANT

SITE AREA EMERGENCY

See TAB 9 SECONDARY DEPRESSURIZATION
See TAB 11 LOSS OF COOLANT

GENERAL EMERGENCY

See TAB 11 LOSS OF COOLANT

TAB 11

LOSS OF COOLANT

INITIATING CONDITIONS

EMERGENCY ACTION LEVEL

UNUSUAL EVENT

1. Exceeding Technical Specification primary to secondary or primary system leak rates requiring shutdown (Technical Specification 3.1.6. 3.10).

1. I-131 activity in secondary side of steam generator greater than 0.2 uCi/cc,

or

primary system leak rate greater than those specified in Technical Specification 3.1.6 by RCS leakage evaluation.

- a. Any leakage exists through non-isolable fault,

or

- b. Greater than 1 gpm unidentified,

or

- c. Greater than 10 gpm identified RCS leakage,

or

- d. Greater than 30 gpm controlled leakage.

ALERT

1. Rapid gross failure of one steam generator tube with loss of offsite power.

1. RCS low pressure alarm and reactor trip

 - a. (1900 psig);

and

Pressurizer low level alarm (180");

and

- b. R15056 (Steam Line A);

or

R15058 (Steam Line B) alarm (10 mr/hr);

TAB 11-cont.

ALERT-cont.

and

- c. lifting of steam generator safety valves;

and

- d. RCS low pressure safety features actuation signal;

and

- e. Undervoltage alarms on 4A and 4B buses.

- 2. Rapid failure of several steam generator tubes (e.g., several hundred gpm primary-to-secondary leak rate).

- 2. RCS low pressure alarm and reactor trip (1900 psig);

and

- a. Pressurizer low level alarm (180");

and

- b. R15004 (Condenser Air Ejector) high alarm (400 cpm);

and

- c. R15056 (Steam Line A) or R15058 (Steam Line B) in alarm (10 mr/hr);

and

- d. Lifting of steam generator safety valves.

- 4. Reactor coolant leakage rate exceeds makeup pump capacity.

- 4. Pressurizer level continues to decrease with makeup pump operating.

TAB 11-cont.

SITE AREA EMERGENCY

1. Known Loss-of-Coolant Accident (LOCA) greater than makeup high pressure injection system capacity.
1. Loss of Reactor Coolant with inability of makeup system to maintain Reactor Coolant System Inventory. Indications may include:
 - a. RCS low pressure reactor trip (1900 psig);
and
 - b. RCS low pressure safety features actuation signal;
and
 - c. High Reactor Building pressure (1.2 psig);
and
 - d. High Reactor Building sump level (1 ft.);
and
 - e. High Reactor Building humidity (75 percent);
and
 - f. R15001E (RBA Gas) high alarm (150,000 cpm);
and
 - g. Alarms on R15025 (Personnel Access Hatch Area) -100 mr/hr, R15026 (Incore Instrument Area) -1000 mr/hr, R15027 (Fuel Handling Bridge Area) -1000 mr/hr.
2. Rapid failure of several steam generator tubes (several hundred gpm primary-to-secondary leak rate) with loss of offsite power.
2. RCS low pressure alarm and reactor trip (1900 psig),
and
 - a. Pressurizer low-level alarm (180");

TAB 11-cont.

SITE AREA EMERGENCY-cont.

and

- b. R15004 (Condenser Air Ejector) -400 cpm, R15056 (Steam Line A), R15058 (Steam Line B) high alarm (10 mr/hr);

and

- c. Undervoltage alarms on 4A and 4B buses;

and

- d. Possible lifting of steam generator safety valves.

GENERAL EMERGENCY

- 1. Small and large LOCAs with failure of ECCS to perform leading to severe core degradation or melt. Ultimate failure of Containment possible for meltdown sequences (Several hours available for response.)

- 1. Safety features actuation signal plus reactor trip;

and

- a. Status lamps indicate safety injection system and decay heat removal pumps not running;

or

- b. Flow indicators for safety injection systems read zero;

and

- 1. RM15001E (RBA Gas) high alarm (150,000 cpm);

and

- 2. RM15025 (Personnel Access Hatch) high alarm (100 mr/hr);

and

TAB 11-cont.

GENERAL EMERGENCY-cont.

2. Small LOCA and initially successful ECCS Subsequent failure of decay heat removal system over several hours could lead to core melt and possible failure of the Containment.
3. RM15026 (Incore Instrument Area) high alarm (1000 mr/hr);
and
4. RM15027 (Fuel Handling Bridge Area) high alarm (1000 mr/hr).
2. RCS low pressure reactor trip (1900 psig),
and
RCS low pressure safety features actuation signal;
and
a. Decay heat removal pump status lights shown pumps not operating when shift to decay heat removal is attempted and for greater than 2 hr. subsequently;
or
b. Decay heat removal flow indicators show zero flow after shift to decay heat removal is attempted and for greater than 2 hr. subsequently;
and
RCS temperature rising above 460°F.
3. Loss of two of three fission product barriers with imminent loss of the third barrier (e.g., loss of fuel integrity and primary coolant boundary and high potential for radioactivity release from Containment).
3. a. LOCA as identified in Site Emergency;
and
Reactor Building status panel indicates incomplete isolation;
or

TAB 11-cont.

GENERAL EMERGENCY-cont.

b. LOCA as identified in Site Emergency;

and

RM15001E (RBA Gas) high alarm
-150,000 cpm;

and

RM15025 (Personnel Access Hatch Area),
RM15026 (Incore Instrument Area) and
RM15027 (Fuel Handling Bridge Area)
readings greater than 10^4 R/hr.

TAB 12

LOSS OF CONTROL ROOM

INITIATING CONDITIONS

EMERGENCY ACTION LEVEL

UNUSUAL EVENT

1. Evacuation of Control Room anticipated.

1. Same as initiating condition

ALERT

1. Evacuation of control room required with control of shutdown systems established from local stations.

1. Same as initiating condition.

SITE AREA EMERGENCY

1. Evacuation of control room and control of shutdown systems not established from local stations in 15 min.

1. Same as initiating condition.

GENERAL EMERGENCY

Not Defined.

TAB 13

LOSS OF INSTRUMENTATION

INITIATING CONDITIONS

EMERGENCY ACTION LEVEL

UNUSUAL EVENT

1. Loss of operational instrumentation (Technical Specifications 3.5.1)

1. Loss of minimum instrumentation requirements required by Technical Specifications Table 3.5.1-1;

and

not returned to operable status within the specified time limitations.

ALERT

1. Loss of Non Nuclear Instrumentation X, Y, or Z.
2. Loss of most or all alarms.

1. Observation by Operator.
2. Observation by Operator.

SITE AREA EMERGENCY

1. Loss of Non Nuclear Instrumentation X, Y, or Z and Plant Computer for more than 15 minutes; and Plant transient initiated or in progress.

1. Observation of event.

GENERAL EMERGENCY

Not Defined.

TAB 14

LOSS OF SHUTDOWN CAPABILITY

INITIATING CONDITIONS

EMERGENCY ACTION LEVEL

UNUSUAL EVENT

1. Loss of steam and power conversion system function (Technical Specification 3.4)

1. Any of the following systems declared inoperable and not returned to operable within the limitations specified in the Technical Specifications:
 - a. Condensate
 - b. Feedwater and Auxiliary Feedwater
 - c. Turbine Bypass
 - d. Condensate Storage Tanks
 - e. Steam Safety Valves

ALERT

1. Loss of functions needed for Plant cold shutdown.

1. Decay heat removal system not functional and inability to sustain natural or forced circulation.

SITE AREA EMERGENCY

1. Loss of functions needed for Plant hot shutdown.

1. Inability to establish high pressure injection;

and

Inability to establish feed the OSTG's.

GENERAL EMERGENCY

1. Transient requiring operation of shutdown systems with failure to trip; core damage possible. Additional failure of core cooling and makeup systems would lead to core melt.

1. Reactor remains critical after trip;

and

- a. Flow indicators on safety injection systems and decay heat removal systems show zero flow with safety injection initiated;

and

- b. Status lights show safety injection systems and decay heat removal pumps not running with safety injection initiated.

TAB 15

LOSS OF POWER AC/DC

INITIATING CONDITIONS

EMERGENCY ACTION LEVEL

UNUSUAL EVENT

1. Total loss of offsite power or loss of onsite a-c power capability.

1. Undervoltage alarms on 4A and 4B;

or

Inability to energize 4A and 4B buses from diesel generators.

ALERT

1. Loss of offsite power and loss of all onsite a-c power.

1. Undervoltage alarms on 4A and 4B buses;

and

Inability to energize 4A and 4B buses from diesel generators.

2. Loss of all onsite d-c power.

2. D-C bus undervoltage alarms on all buses.

SITE AREA EMERGENCY

1. Loss of offsite power and loss of onsite a-c power for more than 15 min.

1.

a. Undervoltage alarms on 4A and 4B buses;

and

b. Inability to energize 4A and 4B buses from diesel generators for greater than 15 min.

2. Loss of all vital onsite d-c power for more than 15 min.

2. D-C bus undervoltage alarms (all buses);

and

Loss of all D-C buses for greater than 15 min.

TAB 15- cont.

GENERAL EMERGENCY

1. Failure of offsite and onsite power along with total loss of emergency feedwater makeup capability for several hours. Could lead to eventual core melt and possible failure of the Containment.
1. Undervoltage alarms on 4A and 4B buses;
and
Inability to energize buses from diesel generators;
and
Flow indicators on Auxiliary Feedwater System show no flow.

TAB 16

CONTAMINATED PERSONNEL

INITIATING CONDITIONS

EMERGENCY ACTION LEVEL

UNUSUAL EVENT

1. Transportation of overexposed and/or contaminated, injured individual from site to hospital.

1. Same as initiating condition.

ALERT

Not Defined.

SITE AREA EMERGENCY

Not Defined.

GENERAL EMERGENCY

Not Defined.

TAB 17

FIRE

INITIATING CONDITIONS

EMERGENCY ACTION LEVEL

UNUSUAL EVENT

1. Fire lasting more than 10 min. within the Control Room, Fuel, Auxiliary, Turbine or Reactor Buildings which may affect operation of safety-related equipment.

1. Observation

or

fire detection device alarm with confirming observation indicating a fire lasting more than 10 min. in an area affecting safety-related equipment.

ALERT

1. Fire defeating one safety system train (or function), with potential to spread into other safety system trains.

1. Observation of fire that defeats one safety system train and threatening another safety feature train.

SITE AREA EMERGENCY

1. Fire defeating redundant safety system trains or functions.

1. Observation of major fire that defeats redundant safety system trains or functions.

GENERAL EMERGENCY

Not Defined.

TAB 18
EARTHQUAKE

INITIATING CONDITIONS

EMERGENCY ACTION LEVEL

UNUSUAL EVENT

1. Earthquake.

1. XSH-00016 (Seismic recording system) start indication at 0.13g.

ALERT

1. Earthquake greater than Operating Basis Earthquake (OBE) level.

1. Seismic alarm (XSH-00017 at 0.19g).

SITE AREA EMERGENCY

1. Earthquake greater than Safe Shutdown Earthquake (SSE) levels.

1. Seismic monitor alarm (XSH-00018 at 0.25g).

GENERAL EMERGENCY

1. Earthquake substantially in excess of SSE level which causes massive common damage to plant systems resulting in General Emergency Initiating Conditions as defined in other TAB's.

1. Earthquake substantially in excess of 0.25g;

and

massive damage to plant systems.

TAB 19

TORNADO/HIGH WINDS

INITIATING CONDITIONS

EMERGENCY ACTION LEVEL

UNUSUAL EVENT

1. Tornado on site.

1. Observation of event.

ALERT

1. Tornado striking facility with damage to structures.

1. Observation of event.

SITE AREA EMERGENCY

1. Sustained winds in excess of design levels.

1. Wind speed greater than 100 mph on site.

GENERAL EMERGENCY

1. Winds substantially in excess of design levels which could cause massive common damage to plant systems resulting in General Emergency Initiating Conditions as defined in other TAB's

1. Wind speed substantially in excess of 100 mph;

and

Causes massive damage to plant systems.

TAB 20

ONSITE HAZARDS

INITIATING CONDITIONS

EMERGENCY ACTION LEVEL

UNUSUAL EVENT

1. Onsite aircraft crash.
2. Onsite train derailment with resulting or potential facility damage.
3. Observation of explosion or warning from activities).
4. Onsite toxic or flammable gas release of a magnitude that threatens personnel.
5. Turbine generator failure causing casing penetration.

1. Observation of event.
2. Observation of event.
3. Onsite explosion (excluding planned offsite
4. Observation of release or warning from offsite.
5. Turbine trip and observation of penetration of casing.

ALERT

1. Aircraft crash on facility.
2. Missile impacts on facility with resultant damage.
3. Known explosion at facility resulting in major damage to Plant structures or equipment.
4. Entry of toxic or flammable gases into facility vital area that threatens to render redundant safety-related equipment inoperable or inaccessible.

1. Observation of aircraft crash into Plant structures.
2. Observation of missile impacts on Plant structures or components.
3. Observation of damage by explosion.
4. Observation, warning, or detection of gases using portable instrumentation which exist in concentrations which exceed either the limits of flammability or toxicity.

SITE AREA EMERGENCY

1. Aircraft crash into vital structures.

1. Aircraft crash causing damage or fire in any of the following:
 - a. Reactor Building
 - or
 - b. Control Room
 - or
 - c. Auxiliary Building
 - or
 - d. Fuel Building
 - or

TAB 20-cont.

SITE AREA EMERGENCY-cont.

e. Turbine Building

or

2. Missile or explosion impact on facility rendering severe damage to shutdown equipment.

2. Loss of all functions needed for hot shutdown. Inability to establish high pressure injection;

and

Inability to establish auxiliary feedwater flow.

3. Entry of toxic or flammable gases above toxic or explosive levels into vital areas which involve a significant degradation of Plant safety.

3. Entry of toxic or flammable gases above toxic or explosive levels into any of the following:

a. Control Room

or

b. Cable spreading rooms

or

c. Containment

or

d. Switchgear room

or

e. Safe shutdown panels

or

f. Emergency diesel generator rooms; as detected by portable instrumentation

and

which renders redundant safety-related system inoperable or inaccessible.

GENERAL EMERGENCY

Not Defined.

TAB 21

SABOTAGE OR CIVIL DISTURBANCE

INITIATING CONDITIONS

EMERGENCY ACTION LEVEL

UNUSUAL EVENT

- | | |
|---|---|
| <p>1. Any act that threatens the safety of the nuclear power plant or site personnel, or the security of special nuclear material, including instances of sabotage or attempted sabotage.</p> | <p>1. Any act that threatens the safety of the nuclear power plant or site personnel, or the security of special nuclear material, including instances of sabotage or attempted sabotage.</p> |
|---|---|

ALERT

- | | |
|---|--|
| <p>1. Ongoing severe security threat involving the physical attack on the facility.</p> | <p>1. Security safeguards contingency event which results in adversaries commandeering an area of the plant, but not control of shutdown capability.</p> |
|---|--|

SITE AREA EMERGENCY

- | | |
|---|--|
| <p>1. Security threat involving imminent loss of physical control of the plant.</p> | <p>1. Physical attack of the plant involving imminent occupancy of control room and auxiliary shutdown panels.</p> |
|---|--|

GENERAL EMERGENCY

- | | |
|--|--|
| <p>1. Security threat resulting in loss of physical control of the facility.</p> | <p>1. Physical attack on the plant has resulted in occupation of the control room and the auxiliary shutdown panels by unauthorized personnel.</p> |
|--|--|

TAB 22

LOSS OF SAFETY OR FIRE PROTECTION EQUIPMENT

INITIATING CONDITIONS

EMERGENCY ACTION LEVEL

UNUSUAL EVENT

- | | |
|--|---|
| 1. Loss of engineered safety feature or fire protection system function requiring Technical Specification shutdown (Technical Specifications 3.3 and 3.14) | 1. a. Any of the following systems declared inoperable and not returned to operable status within the time limitations specified by Technical Specifications 3.3.2
1) Injection
2) Core Flooding
3) Nuclear service cooling/raw water cooling
4) Reactor Building Spray
5) Reactor Building Emergency Cooling
b. Loss of fixed fire suppression systems which cannot be restored or for which alternative protection cannot be provided within the time limitations specified by Technical Specifications 3.14. |
|--|---|

ALERT

Not Defined

SITE AREA EMERGENCY

Not Defined

GENERAL EMERGENCY

Not Defined

TAB 23

ABNORMAL POSITIVE REACTIVITY ADDITION

INITIATING CONDITIONS

EMERGENCY ACTION LEVEL

UNUSUAL EVENT

1. Uncompensated positive reactivity addition.
1. a. Reactor coolant T_{avg} greater than 619°F
- or
- b. RCS pressure greater than 2500 psig;
- or
- c. Operation in excess of RPS power/imbalance/flow limits.

ALERT

1. Rapid reactivity addition resulting from ejected control rod with fuel damage indication.
1. a. Reactor coolant T_{aug} greater than 619°F;
- or
- RCS pressure greater than 2500 psig;
- and
- Analysis indicates a total failed fuel of 1 percent;
- or
- b. Analysis which indicates a total failed fuel of 5 percent.

SITE AREA EMERGENCY

Not Defined

GENERAL EMERGENCY

Not Defined

RANCHO SECO NUCLEAR GENERATING STATION

ATTACHMENT 7.4

EMERGENCY COORDINATOR'S EMERGENCY CLASSIFICATION GUIDANCE,
COMMENTS AND CLOSEOUT CHECKLIST

1.0 Initiating Condition (Initial Indication) _____
Date _____ Time _____
Classification of Emergency _____

2.0 As the Emergency Coordinator position is assumed and relinquished, the
oncoming Emergency Coordinator will sign for the position below.

____ Assumed Emergency Coordinator duties.

____ EC signature _____ Time _____ Date _____

____ Assumed Emergency Coordinator duties.

____ EC signature _____ Time _____ Date _____

____ Assumed Emergency Coordinator duties.

____ EC signature _____ Time _____ Date _____

____ Assumed Emergency Coordinator duties.

____ EC signature _____ Time _____ Date _____

____ Assumed Emergency Coordinator duties.

____ EC signature _____ Time _____ Date _____

____ Assumed Emergency Coordinator duties.

____ EC signature _____ Time _____ Date _____

____ Assumed Emergency Coordinator duties.

____ EC signature _____ Time _____ Date _____

EMERGENCY COORDINATOR'S EMERGENCY CLASSIFICATION GUIDANCE, COMMENTS AND
CLOSEOUT CHECKLIST-contd.

3.0 As Emergency Plan Procedures are implemented by the Emergency Coordinator during the emergency, list them in chronological order below.

AP- _____ :
Time Activated _____
Date: _____
Comments: _____

AP- _____ :
Time Activated _____
Date: _____
Comments: _____

AP- _____ :
Time Activated _____
Date: _____
Comments: _____

AP- _____ :
Time Activated _____
Date: _____
Comments: _____

AP- _____ :
Time Activated _____
Date: _____
Comments: _____

AP- _____ :
Time Activated _____
Date: _____
Comments: _____

AP- _____ :
Time Activated _____
Date: _____
Comments: _____

AP- _____ :
Time Activated _____
Date: _____
Comments: _____

4.0 Emergency Classification Status

Emergency Classification _____ Time _____ Date _____

Comments: _____

Emergency Classification _____ Time _____ Date _____

Comments: _____

Emergency Classification _____ Time _____ Date _____

Comments: _____

Emergency Classification _____ Time _____ Date _____

Comments: _____

Emergency Classification _____ Time _____ Date _____

Comments: _____

Emergency Classification _____ Time _____ Date _____

Comments: _____

Emergency Classification _____ Time _____ Date _____

Comments: _____

6.0 EMERGENCY CLOSE OUT CHECKLIST

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

Emergency Coordinator: _____

Existing Emergency: _____ No. _____ - _____

CRITERIA

CRITERIA MET

- | | | |
|-----|--|-------|
| 6.1 | Initiating Condition is:
a) Known and,
b) Under control (stabilized) or
c) Corrected or
d) No longer at an EAL | _____ |
| 6.2 | 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. | _____ |
| 6.3 | All Technical Specifications Limiting
Conditions for Operation are met. | _____ |
| 6.4 | Radiation levels and airborne
concentrations in all areas are
determined to be stable or decreasing. | _____ |
| 6.5 | Uncontrolled radiological releases
from the site are terminated. | _____ |
| 6.6 | Fires are extinguished, flooding
conditions are under control and/or
any site damage is under control. | _____ |
| 6.7 | Injured personnel have been transported to
the hospital or have received medical treatment. | _____ |
| 6.8 | Other
(Specify): _____
_____ | |

6.9 Approval to terminate the emergency _____
_____ Date _____ Time _____

6.10 Notifications made to offsite agencies
Date _____ Time _____

NOTE: After this checklist is completed and is not required for immediate use, forward it to the Technical Report Coordinator.

SMUD - RANCHO SECO
EMERGENCY PLAN PROCEDURE

AP 502

NOTIFICATION OF UNUSUAL EVENT

TABLE OF CONTENTS

	<u>Page No.</u>	
1.0 PURPOSE	2	
2.0 RESPONSIBILITY	2	
3.0 INITIATING CONDITIONS.	2	
4.0 PRECAUTIONS AND LIMITATIONS.	3	
5.0 INSTRUCTIONS	3	
6.0 REFERENCES	5	3
7.0 ATTACHMENTS.	5	

1.0 PURPOSE

1.1 This procedure describes the actions to be taken in the event that a Notification of Unusual Event has been declared at the Rancho Seco Nuclear Generating Station. This procedure also designates necessary pre-planned response actions and references applicable procedures that prescribe the necessary supplementary actions.

2.0 RESPONSIBILITY

- 2.1 The Emergency Coordinator (Shift Supervisor, until properly relieved by a designated alternate) is responsible for the completion of the prescribed actions in this procedure.
- 2.2 The Emergency Coordinator may delegate responsibilities except for the following:
- 2.2.1 Decision to notify offsite emergency management agencies.
 - 2.2.2 Making protective action recommendations as necessary to offsite emergency management agencies. (Responsibility shifts to the Emergency Manager upon activation of the EOF.)
 - 2.2.3 Classification of emergency event.
 - 2.2.4 Determining the necessity for assembly and/or evacuation of onsite personnel.
 - 2.2.5 Authorization for emergency workers to exceed the Rancho Seco Administrative Exposure Limits.

3.0 INITIATING CONDITIONS

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 Emergency Procedure AP 501, "Recognition and Classification of Emergencies."

4.0 PRECAUTIONS AND LIMITATIONS

- 4.1 No releases of radioactive material requiring off-site response or monitoring are expected unless further degradation of the situation occurs.
- 4.2 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.

5.0 INSTRUCTIONS

5.1 IMMEDIATE ACTIONS

- 5.1.1 Ensure that the Appropriate actions of the Plant Emergency or Casualty Procedures have been initiated to combat the emergency before commencing the following steps.
- 5.1.2 Announce to Control Room personnel that _____
(name)
has assumed the duties of Emergency Coordinator.
- 5.1.3 Announce or have announced the following message over the public address system:

"ATTENTION ALL PERSONNEL, ATTENTION ALL PERSONNEL:
AN UNUSUAL EVENT HAS BEEN DECLARED. ALL PERSONNEL SHOULD
CONTINUE WITH THEIR NORMAL DUTIES UNLESS FURTHER
INSTRUCTIONS ARE GIVEN."

(Repeat the announcement.)
- 5.1.4 Designate a Communicator and a Technical Report Coordinator from available Control Room Staff personnel.
- 5.1.5 Implement AP 506 "Notification/Communications".
 - a. Complete the Offsite Agency Initial Notification Form, Attachment 7.2.
 - b. Complete the NRC Notification Form, Attachment 7.4.
 - c. Direct the communicator to initiate the Emergency Notification Call List, Attachment 7.1.

3

3

5.0 INSTRUCTIONS-contd.

5.2 SUBSEQUENT ACTIONS

- 5.2.1 Consider the augmentation of additional personnel. If necessary, direct the site switchboard operator to make the notifications.
- 5.2.2 Implement additional Emergency Plan Procedures as necessary.

5.3 RECURRING ACTIONS

- 5.3.1 Continuously assess plant conditions.
- 5.3.2 Complete the Offsite Agency Followup Information Form, AP 506, Attachment 7.3, as information becomes available.
- 5.3.3 Direct the communicator to transmit the follow-up messages to the Counties of Sacramento, Amador, and San Joaquin, and the State Office of Emergency Services.
- 5.3.4 Provide information to the Nuclear Public Information Coordinator for the news releases.

5.4 ESCALATION

- 5.4.1 If the emergency condition has been reclassified to a higher level, implement the appropriate procedure.
 - a. AP 503 "Alert"
 - b. AP 504 "Site Area Emergency"
 - c. AP 505 "General Emergency"

5.5 CLOSE OUT

- 5.5.1 Direct the communicator to notify all parties initially contacted (AP 506, Attachment 7.1) of the close out of the Unusual Event.
- 5.5.2 Direct the Technical Report Coordinator to prepare a written summary of the unusual event.
- 5.5.3 Review, approve, and direct that a copy of the report be mailed to the following agencies:
 - a. Sacramento County
 - b. Amador County
 - c. San Joaquin County
 - d. State Office of Emergency Service
 - e. NRC

3

6.0 REFERENCES

6.1 AP 501 "Recognition and Classification of Emergencies"

6.2 Rancho Seco Plant Operations Manual

6.3 AP 305-3 "Rancho Seco Radiation Control Manual",
Vol. I, par. 2.1.1.1; Vol II, AP 305-3, par. 3.8

| 3

7.0 ATTACHMENTS

7.1 N/A

SMUD - RANCHO SECO
EMERGENCY PLAN PROCEDURE

AP 503

ALERT

TABLE OF CONTENTS

	<u>Page No.</u>
1.0 PURPOSE	2
2.0 RESPONSIBILITY	2
3.0 INITIATING CONDITIONS.	2
4.0 PRECAUTIONS AND LIMITATIONS.	3
5.0 INSTRUCTIONS	3
6.0 REFERENCES	7
7.0 ATTACHMENTS.	7

| 3

1.0 PURPOSE

- 1.1 This procedure describes the actions to be taken in the event that an Alert has been declared at the Rancho Seco Nuclear Generating Station. This procedure also designates necessary pre-planned response actions and references applicable procedures that prescribe the necessary supplementary actions.

2.0 RESPONSIBILITY

- 2.1 The Emergency Coordinator (Shift Supervisor, until properly relieved by a designated alternate) is responsible for the completion of the prescribed actions in this procedure.
- 2.2 The Emergency Coordinator may delegate responsibilities except for the following:
 - 2.2.1 Decision to notify offsite emergency management agencies.
 - 2.2.2 Making protective action recommendations as necessary to offsite emergency management agencies. (Responsibility shifts to the Emergency Manager upon activation of the EOF).
 - 2.2.3 Classification of emergency event.
 - 2.2.4 Determining the necessity for assembly and/or evacuation of onsite personnel.
 - 2.2.5 Authorization for emergency workers to exceed The Rancho Seco Administrative Exposure Limits.

3.0 INITIATING CONDITIONS

- 3.1 An Alert has been declared based on the occurrence of events which indicate an actual degradation of the level of safety of the plant. Events characterized as Alerts are described in Emergency Procedure AP 501, "Recognition And Classification of Emergencies."

OR

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

4.0 PRECAUTIONS AND LIMITATIONS

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.

5.0 INSTRUCTIONS

5.1 Immediate Actions

5.1.1 Ensure that the Appropriate Actions of the Plant Emergency or Casualty Procedures have been initiated to combat the emergency before commencing the following steps. | 3

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

5.1.3 Initiate personnel assembly and accountability. | 3

a. Select assembly point.

Wind direction from 0°-179° - Administration Building
Wind direction from 180°-359° - Warehouse A

b. Direct that the Emergency Alarm be sounded for ten seconds.

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

"ATTENTION ALL PERSONNEL, ATTENTION ALL PERSONNEL:
ALERT DECLARED. ALL EMERGENCY PERSONNEL REPORT TO YOUR
AREA OF ASSIGNMENT, ALL OTHER PERSONNEL REPORT TO THE
(ADMINISTRATIVE BUILDING/WAREHOUSE A) ASSEMBLY AREA."

(Repeat alarm and message.)

*5.1.4 If the emergency occurs during non-normal working hours, assign an individual to assume the responsibilities of the following positions until relieved by designated personnel per AP 506 Notifications/Communications:

a. Communicator

b. Technical Report Coordinator

c. Plant Assembly Point Coordinator

* If previous accomplished, disregard.

5.0 INSTRUCTIONS-contd.

- 3
- *5.1.5 Implement AP 506 "Notification/Communications".
 - a. Complete the Offsite Agency Initial Notification Form Attachment 7.2.
 - b. Complete NRC Notification Form Attachment 7.4.
 - c. Direct the communication to initiate the Emergency Notification Call List Attachment 7.1.
 - 5.1.6 Implement AP 550 "Activation and Operation of the Technical Support Center".
 - 5.1.7 Instruct the site switchboard operator to notify the Onsite Emergency Organization personnel per procedure AP 506, Attachment 7.5 "Notification/Communication", if the emergency occurs during non-normal working hours.

5.2 Subsequent Actions

- 5.2.1 Consider augmentation of additional personnel with specific skills. If necessary, direct the site switchboard operator to make the notification.
- 5.2.2 Assess the emergency condition and implement additional emergency plan procedures as necessary.
- 5.2.3 Verify personnel accountability.
- 5.2.4 Contact the Sacramento EOC and request that the Rancho Seco Park be closed.
- 5.2.5 Notify Design City to relocate to the SMUD General Office.
- 5.2.6 Direct the Visitors Center to be closed.
- 5.2.7 Direct the Radiation Assessment Coordinator to:
 - a. Dispatch onsite and offsite Radiation Monitoring Teams per AP 507 "Onsite Radiological Monitoring" and AP 508 "Offsite Radiological Monitoring."
 - b. Dispatch a Health Physics Technician to the Assembly Point.
 - c. Commence AP 511 "TSC Dose Calculation."
 - d. Ensure AP 515 "Emergency Personnel Dosimetry" and AP 527 "Emergency Exposure Guidelines" requirements have been carried out.

* If previously accomplished, disregard.

5.0 INSTRUCTIONS-contd.

- e. Establish decontamination stations and control points in accordance with "AP 305 Rancho Seco Radiation Control Manual".
- f. Initiate AP 506 Attachment 7.8 "Radiation Release Notification and Check List".

5.2.8 Direct the Communicator to notify the Advisor to the County Emergency Organizations of the emergency in progress and have him report to the Sacramento County EOC.

5.3 Recurring Actions

- 5.3.1 Continuously assess plant conditions.
- 5.3.2 Complete the Offsite Agency Follow-up Information Form AP 506, Attachment 7.3, as information becomes available.
- 5.3.3 Direct the communicator to transmit the follow-up messages to the counties of Sacramento, Amador, and San Joaquin, and the State Office of Emergency Services.
- 5.3.4 Provide information to the Nuclear Public Information Coordinator for the news releases.

5.4 Escalation/Descalation

- 5.4.1 If the emergency condition has been reclassified to a higher level, implement the appropriate procedure:
 - a. AP 504 "Site Area Emergency."
 - b. AP 505 "General Emergency."
- 5.4.2 If the emergency condition has been downgraded to an Unusual Event:
 - a. Direct the communicator to notify all parties initially contacted in AP 506, Attachment 7.1.
 - b. Initiate appropriate actions in accordance with AP 502 "Unusual Event."

5.5 Close Out

- 5.5.1 Direct the communicator to notify all parties initially contacted in AP 506, Attachment 7.1 of the close out of the Alert.
- 5.5.2 Direct the Technical Report Coordinator to prepare a written summary of the Alert.

5.5.3 Review, approve and direct that a written report be mailed to the following agencies.

- a. Sacramento County
- b. Yuba County
- c. San Joaquin County
- d. State Office of Emergency Services
- e. NRC

3

6.0 REFERENCES

6.1 AP 501 "Rancho Seco Emergency Plan Procedure"

6.2 Rancho Seco Plant Operations Manual

6.3 AP 305-3 "Rancho Seco Radiation Control Manual",
Vol. I, par. 2.1.1.1; Vol. II, AP 305-3, par. 3.8

6.4 AP 306 "Rancho Seco Chemistry and Radio Chemistry Manual"

|3

7.0 ATTACHMENTS

7.1 N/A.

SMUD - RANCHO SECO
EMERGENCY PLAN PROCEDURE

AP 504

SITE AREA EMERGENCY

TABLE OF CONTENTS

	<u>Page No.</u>	
1.0 PURPOSE	2	
2.0 RESPONSIBILITY	2	
3.0 INITIATING CONDITIONS	2	
4.0 PRECAUTIONS AND LIMITATIONS	3	
5.0 INSTRUCTIONS	3	
6.0 REFERENCES	7	3
7.0 ATTACHMENTS	7	

1.0 PURPOSES

- 1.1 This procedure describes the actions to be taken in the event that a Site Area Emergency has been declared at the Rancho Seco Nuclear Generating Station. This procedure also designates necessary pre-planned response actions and references applicable procedures that prescribe the necessary supplementary actions.

2.0 RESPONSIBILITY

- 2.1 The Emergency Coordinator (Shift Supervisor, until properly relieved by a designated alternate) is responsible for the completion of the prescribed actions in this procedure.
- 2.2 The Emergency Coordinator may delegate responsibilities except for the following: | 3
- 2.2.1 Decision to notify offsite emergency management agencies.
 - 2.2.2 Making protective action recommendations as necessary to offsite emergency management agencies. (Responsibility shifts to the Emergency Manager upon activation of the EOF).
 - 2.2.3 Classification of emergency event.
 - 2.2.4 Determining the necessity for assembly and/or evacuation of onsite personnel. | 3
 - 2.2.5 Authorization for emergency workers to exceed the Rancho Seco Administrative Exposure Limits.
- 2.3 The Emergency Manager, upon activation of the EOF, will be responsible for the offsite notification followups and close out reporting.

3.0 INITIATING CONDITIONS

- 3.1 A Site Area Emergency has been declared based on the occurrence of events which involve actual or imminent major failures of plant functions needed for the protection of the public. Events characterized as Site Area Emergencies are described in Emergency Procedure AP 501 "Recognition And Classification of Emergencies." | 3

OR

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

4.0 PRECAUTIONS AND LIMITATIONS

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

5.0 INSTRUCTIONS

5.1 Immediate Actions

- 5.1.1 Ensure that the Appropriate Actions of the Plant Emergency or Casualty Procedures have been initiated to combat the emergency before commencing the following steps.
- *5.1.2 Announce to Control Room personnel that _____
(name)
has assumed the duties of Emergency Coordinator.
- *5.1.3 Initiate personnel assembly and accountability.
 - a. Select assembly point

Wind direction from 0-179° Administration Building
wind direction from 180-359 Warehouse A.
 - b. Direct that the Emergency Alarm be sounded for 10 seconds.
 - c. Announce or have announced the following message over the public address system:

"ATTENTION ALL PERSONNEL, ATTENTION ALL PERSONNEL:
SITE AREA EMERGENCY DECLARED. ALL EMERGENCY PERSONNEL
REPORT TO YOUR AREA OF ASSIGNMENT, ALL OTHER PERSONNEL
REPORT TO THE (ADMINISTRATION BUILDING/WAREHOUSE A)
ASSEMBLY AREA VIA.

(Repeat alarm and message)

3

* If previously accomplished, disregard.

5.0 INSTRUCTIONS-contd.

- 3
- *5.1.4 If the emergency occurs during non-normal working hours assign an individual to assume the responsibilities of the following positions until relieved by designated personnel per AP 506 Notifications/Communications:
 - a. Communicator
 - b. Technical Report Coordinator
 - c. Plant Assembly Point Coordinator
 - *5.1.5 Implement AP 506 "Notification/Communications"
 - a. Complete the Offsite Agency Initial Notification Form Attachment 7.2
 - b. Complete NRC Notification Form Attachment 7.4.
 - c. Direct the communicator to initiate the Emergency Notification Call List Attachment 7.1.
 - *5.1.6 Implement AP 550 "Activation and Operation of the Technical Support Center"
 - *5.1.7 Instruct the site switchboard operator to notify the Onsite Emergency Organization personnel per procedure AP 506, Attachment 7.5 "Notification/Communication", if the emergency occurs during non-normal working hours.

5.2 Subsequent Actions

- 5.2.1 Consider augmentation of additional personnel with specific skills. If necessary, direct the site switchboard operator to make the notifications.
- 5.2.2 Direct the SMUD General Office switchboard operator to notify Security to initiate activation of Emergency Offsite Facility (EOF).
- 5.2.3 Instruct the SMUD General Office switchboard operator to notify the Offsite Emergency Organization personnel per AP 506, Attachment 7.6 "Notifications/Communications."
- 5.2.4 Assess the emergency condition and implement additional emergency plan procedures as necessary.
- *5.2.5 Verify personnel accountability.

* If previously accomplished, disregard.

5.0 INSTRUCTIONS-contd.

3

- 5.2.6 Instruct the Plant Assembly Point Coordinator and the Security Coordinator to initiate AP 519, "Site Evacuation".

Note: If evacuation is to be by the west gate, instruct the communicator to notify the Sacramento EOC and request transportation.

- 5.2.7 Contact the Sacramento EOC and request that the Rancho Seco Park be evacuated, and recommend public protection activities out to two miles.
- *5.2.8 Notify Design City to relocate to the SMUD General Office.
- 5.2.9 Direct the Visitors Center to be evacuated.
- *5.2.10 Direct the Radiation Assessment Coordinator to:
- a. Dispatch onsite and offsite Radiation Monitoring Teams per AP 507 "Onsite Radiological Monitoring" and AP 508 "Offsite Radiological Monitoring."
 - b. Dispatch a Health Physics Technician to the Assembly Point.
 - c. Commence AP 511 "TSC Dose Calculation."
 - d. Ensure AP 515 "Emergency Personnel Dosimetry" and AP 527 "Emergency Exposure Guidelines" requirements have been carried out.
 - e. Establish decontamination stations and control points in accordance with "AP 305 Rancho Seco Radiation Control Manual".
 - f. Initiate AP 506 Attachment 7.8 "Radiation Release Notification and Check List."
- 5.2.11 Direct the Technical Support Center Coordinator to dispatch an Emergency Team for assessment of emergency conditions.

5.3 Recurring Actions

- 5.3.1 Complete the Offsite Agency Follow-up Information Form AP 506, Attachment 7.3 as information becomes available.
- 5.3.2 Direct the communicator to transmit the follow-up messages to the counties of Sacramento, Amador, and San Joaquin, and the State Office of Emergency Services.

* If previously accomplished, disregard.

5.0 INSTRUCTIONS-contd.

- 5.3.3 Provide information to the Nuclear Public Information Coordinator for the news release.
- 5.3.4 Continuously assess plant conditions.
- 5.3.5 Periodic meteorological assessments and dose estimates.

5.4 Escalation/Descalation

- 5.4.1 If the emergency condition has been reclassified to a General Emergency implement AP 505.
- 5.4.2 If the emergency condition has been downgraded to an Unusual Event or Alert classification:
 - a. Direct the communicator to notify all parties initially contracted in AP 506, Attachment 7.1
 - b. Initiate the actions in the appropriate procedure.

5.5 Close Out

- 5.5.1 Direct the communicator to notify all parties initially contacted in AP 506 Attachment 7.1 of the close cut.
- 5.5.2 Direct the Technical Report Coordinator to prepare a written summary of the Site Area Emergency.
- 5.5.3 Review, approve and direct that the written report be mailed to the following agencies.
 - a. Sacramento County
 - b. Amador County
 - c. San Joaquin County
 - d. State Office of Emergency Services
 - e. NRC

6.0 REFERENCES

- 6.1 AP 501 "Recognition and Classification of Emergencies"
- 6.2 Rancho Seco Plant Operations Manual
- 6.3 AP 305-3 "Rancho Seco Radiation Control Manual",
Vol. I, par. 2.1.1.1; Vol. II, AP 305-3, par. 3.8
- 6.4 AP 306 Rancho Seco Chemistry and Radio Chemistry Manual

| 3

7.0 ATTACHMENTS

- 7.1 N/A

SMUD - RANCHO SECO
EMERGENCY PLAN PROCEDURE

AP 505

GENERAL EMERGENCY

TABLE OF CONTENTS

	<u>Page No.</u>
1.0 PURPOSE	2
2.0 RESPONSIBILITY	2
3.0 INITIATING CONDITIONS	2
4.0 PRECAUTIONS AND LIMITATIONS	3
5.0 INSTRUCTIONS	3
6.0 REFERENCES	7
7.0 ATTACHMENTS	7

1.0 PURPOSE

- 1.1 This procedure describes the actions to be taken in the event that a General Emergency has been declared at the Rancho Seco Nuclear Generating Station. This procedure also designates necessary pre-planned response actions and references applicable procedures that prescribe the necessary supplementary actions.

2.0 RESPONSIBILITY

- 2.1 The Emergency Coordinator (Shift Supervisor, until properly relieved by a designated alternate) is responsible for the completion of the prescribed actions in this procedure.
- 2.2 The Emergency Coordinator may delegate responsibilities except for the following: | 3
- 2.2.1 Decision to notify offsite emergency management agencies.
 - 2.2.2 Making protective action recommendations as necessary to offsite emergency management agencies. (Responsibility shifts to the Emergency Manager upon activation of the EOF).
 - 2.2.3 Classification of emergency event.
 - 2.2.4 Determining the necessity for assembly and/or evacuation of onsite personnel. | 3
 - 2.2.5 Authorization for emergency workers to exceed the Rancho Seco Administrative Exposure Limits.
- 2.3 The Emergency Manager, upon activation of the EOF, will be responsible for the offsite notification followups, protective action recommendations and close out reporting.

3.0 INITIATING CONDITIONS

- 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. There is also an actual or imminent potential for significant releases of radioactive materials. Events characterized as General Emergencies are described in Emergency Procedure AP 501, "Recognition And Classification of Emergencies." | 3

OR

- 3.2 A lesser emergency has 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.

4.0 PRECAUTIONS AND LIMITATIONS

- 4.1 Continued surveillance and assessment of plant conditions is 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.

5.0 INSTRUCTIONS

5.1 Immediate Actions

- 5.1.1 Ensure that the Appropriate actions of the appropriate Plant Emergency or Casualty Procedures or of other measures have been initiated to combat the emergency before commencing the following steps. | 3
- *5.1.2 Announce to Control Room personnel that _____ (name) has assumed the duties of Emergency Coordinator. | 3
- *5.1.3 Initiate personnel assembly and accountability
 - a. Select assembly point
 - wind direction from 0-179° Administration Building
 - wind direction from 180-359° Warehouse A
 - b. Direct that the Emergency Alarm be sounded for 10 seconds
 - c. Announce or have announced the following message over the public address system:

"ATTENTION ALL PERSONNEL, ATTENTION ALL PERSONNEL:
GENERAL EMERGENCY DECLARED. ALL EMERGENCY PERSONNEL REPORT TO YOUR AREA OF ASSIGNMENT, ALL OTHER PERSONNEL REPORT TO THE (ADMINISTRATION BUILDING/WAREHOUSE A) ASSEMBLY AREA

(Repeat alarm and message)
- *5.1.4 If the emergency occurs during non-normal work hours assign an individual to assume the responsibilities of the following positions until relieved by designated personnel per AP 506 Notification/Communications.
 - a. Communicator
 - b. Technical Report Coordinator
 - c. Plant Assembly Point Coordinator

*If previously accomplished, disregard.

5.0 INSTRUCTIONS - contd.

- *5.1.5 Implement AP 506 "Notification/Communications"
 - a. Complete the Offsite Agency Initial Notification Form Attachment 7.2.
 - b. Complete NRC Notification Form Attachment 7.4.
 - c. Direct the communicator to initiate the Emergency Notification Call List Attachment 7.1.
- *5.1.6 Implement AP 550" Activation and Operation of the Technical Support Center.
- *5.1.7 Instruct the site switchboard operator to notify the Onsite Emergency Organization personnel per procedure AP 506 Attachment 7.5 "Notification/Communication" if the emergency occurs during non-normal working hours.

5.2 Subsequent Actions

- 5.2.1 Consider augmentation of additional personnel with specific skills. If necessary, direct the site switchboard operator to make the notifications.
- *5.2.2 Direct the SMUD General Office switchboard operator to notify Security to initiate activation of Emergency Offsite Facility (EOF).
- *5.2.3 Instruct the SMUD General Office switchboard operator to notify the Offsite Emergency Organization Personnel per AP 506, Attachment 7.6 "Notifications/Communications".
- 5.2.4 Assess the emergency condition and implement additional Emergency Plan Procedures as necessary.
- *5.2.5 Verify personnel accountability
- 5.2.6 Instruct the Plant Assembly Point Coordinator and the Security Coordinator to initiate AP 519, "Site Evacuation."

Note: If evacuation is to be by the west gate, instruct the communicator to notify the Sacramento EOC and request transportation.
- *5.2.7 Contact the Sacramento EOC and request the Rancho Seco Park be evacuated, and recommend public protection activities out to five miles.
- *5.2.8 Notify Design City to relocate to the SMUD General Office.

* If previously accomplished, disregard.

5.0 INSTRUCTIONS - contd.

- *5.2.9 Direct the Visitors Center to be evacuated.
- *5.2.10 Direct the Radiation Assessment Coordinator to:
 - a. Dispatch onsite and offsite Radiation Monitoring Teams per AP 507 "Onsite Radiological Monitoring" and AP 508 "Offsite Radiological Monitoring."
 - b. Dispatch a Health Physics Technician to the Assembly Point.
 - c. Commence AP 511 "TSC Dose Calculation."
 - d. Ensure AP 515 "Emergency Personnel Dosimetry" and AP 527 "Emergency Exposure Guidelines" requirement have been carried out.
 - e. Establish decontamination stations and control points in accordance with "AP 305 Rancho Seco Radiation Control Manual".
 - f. Initiate AP 506 Attachment 7.8 "Radiation Release Notification and check list."
- *5.2.11 Direct the Technical Support Center Coordinator to dispatch an Emergency Team for assessment of emergency conditions.

5.3 Recurring Actions

- 5.3.1 Continuously assess plant conditions.
- 5.3.2 Complete the Offsite Agency Followup Information Form AP 506, Attachment 7.3, as information becomes available.
- 5.3.3 Direct the communicator to transmit the follow-up messages to the counties of Sacramento, Amador, and San Joaquin, and the State Office of Emergency Services.
- 5.3.4 Provide information to the Nuclear Public Information Coordinator for the new releases.
- 5.3.5 Periodic meteorological assessments and dose estimates.

5.4 Descalation

- 5.4.1 If the emergency condition has been downgraded to an Unusual Event, Alert or Site Area Emergency Classification:
 - a. Direct the communicator to notify all parties initially contacted in AP 506 Attachment 7.1.

* If previously accomplished, disregard.

5.0 INSTRUCTIONS - contd.

- b. Initiate the actions in the appropriate procedure.

5.5 Close Out

- 5.5.1 Direct the communicator to notify all parties initially contacted in AP 506 Attachment 7.1 of the close out.
- 5.5.2 Direct the Technical Report Coordinator to prepare a written summary of the General Emergency.
- 5.5.3 Review, approve and direct that the written report be mailed to the following agencies:
 - a. Sacramento County
 - b. Amador County
 - c. San Joaquin County
 - d. State Office of Emergency Services
 - e. NRC

3

6.0 REFERENCES

- 6.1 AP 501 "Rancho Seco Emergency Plan Procedure"
- 6.2 Rancho Seco Plant Operations Manual
- 6.3 AP 305-3 "Rancho Seco Radiation Control Manual",
Vol. I, par. 2.1.1.1; Vol. II, AP 305-3, par. 3.8
- 6.4 AP 306 "Rancho Seco Chemistry and Radio Chemistry Manual"

| 3

7.0 ATTACHMENTS

- 7.1 N/A

SMUD - RANCHO SECO
EMERGENCY PLAN PROCEDURE

AP 506

NOTIFICATION/COMMUNICATION

TABLE OF CONTENTS

	<u>Page No.</u>
1.0 PURPOSE.	2
2.0 RESPONSIBILITY	2
3.0 INITIATING CONDITIONS.	2
4.0 PRECAUTIONS AND LIMITATIONS.	3
5.0 INSTRUCTIONS	3
6.0 REFERENCES	7
7.0 ATTACHMENTS.	7

1.0 PURPOSE

- 1.1 This procedure provides instructions for notification of the SMUD Onsite Emergency Organization, Offsite Emergency Organization and offsite agencies in the event an emergency is declared at the Rancho Seco Nuclear Generating Plant.

2.0 RESPONSIBILITY

- 2.1 The Emergency Coordinator is responsible for implementation of the actions described in this procedure.
- 2.2 The Communicators shall be responsible for coordinating all required communications as directed by the Emergency Coordinator and the Emergency Manager and maintaining the Message Record Sheet. | 2
- 2.3 The Emergency Coordinator is responsible for verifying the accuracy of information contained in the Initial (Attachment 7.2) and the Follow-up (Attachment 7.3) Notification Forms prior to their release. | 2

3.0 INITIATING CONDITIONS

- 3.1 An emergency has been declared by the Emergency Coordinator in accordance with AP 501 "Recognition and Classification of Emergency" and the Emergency Plan has been implemented via AP 502, AP 503, AP 504, or AP 505.
- 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 AND LIMITATIONS

- 4.1 No press releases on the incident shall be made prior to completion of all notifications, and will be made only by the Media Center Coordinator in accordance with AP 569 "Release of Information to the Public and Media".
- 4.2 The Emergency Coordinator or his designee will notify the NRC within one hour of the onset of the emergency (as required by 10 CFR 50.72) use Attachment 7.4, Page 1, NRC Initial Notification Form and within two hours using Attachment 7.4, Pages 2 & 3, NRC Follow-up Notification Form. | 2

5.0 INSTRUCTIONS

5.1 Notification of Offsite Agencies

- 5.1.1 Upon receipt of the Initial Notification Form (Attachment 7.2) from the Emergency Coordinator, use Attachment 7.1 "Emergency Notification Call List". Contact each organization or individual by direct (dedicated) line or by dialing the individual number listed. If there is no answer or the telephones are inoperative, utilize the specified alternate.
- 5.1.2 When the party answers, note the name of the individual contacted and the time of the contact on Attachment 7.1.
- 5.1.3 Instruct the individual to obtain his copy of the form, or blank paper on which to record the notification.
- 5.1.4 Read the line number followed by the information for each line of the notification. DO NOT READ THE ENTIRE TEXT OF THE NOTIFICATION. | 2
- 5.1.5 Read the notification back, and if questioned, correct any errors.
- 5.1.6 Direct the party contacted to notify the appropriate individuals in their organizations in accordance with their emergency plans. Remind the party contacted that a call-back is required from the designated individual if the direct (dedicated) emergency phone is not used.
- 5.1.7 Proceed to the next party on the call-list.
- 5.1.8 If personnel in a position cannot be contacted initially, bypass that position and proceed down the list. After the other notifications are complete, re-attempt to contact any bypassed personnel. If personnel still cannot be reached, notify the Emergency Coordinator. | 2

5.0 INSTRUCTIONS-contd.

- 5.1.9 If a radiation release has or will occur and a site evacuation is initiated, continue the notification process using Attachment 7.8 "Radiation Release Notification and Checklist".
- 5.1.10 Develop a completed Attachment 7.3, "Follow-up Notification Form", by consulting with the Emergency Coordinator and other key emergency leaders. The Control Room shall continue to use Attachment 7.2 as their follow-up form until the TSC becomes operational. | 2
- 5.1.11 When directed by the Emergency Coordinator, pass the Follow-up Notification information to the offsite agencies in the same manner as steps 5.1.1 through 5.1.8.
- 5.1.12 When a party calls back for further information, note the time and the name of the individual on the call-list. Provide the information available from the current Follow-up Notification Form. If the party requests information not on the form, inform the Emergency Coordinator. He will make the decision as to the release of the information or refer TSC personnel to take the call. Maintain a log of all lines of communications.
- 5.1.13 If a party not specified on the call-list requests information, refer the party to either the SMUD Media Center Coordinator or to the local emergency services organization in his/her community.
- 5.1.14 Keep a log of events using Attachment 7.10 "Message Record Sheet" and obtain assistance from other available TSC personnel during times of heavy communication. | 2
- 5.1.15 After completion of checklists and when they are no longer required for immediate use, forward to the Technical Report Coordinator.

5.2 Notification of Onsite Emergency Organization Personnel

NOTE: No notification of Onsite Emergency Organization Personnel may be required during periods of normal working hours (M-F 7 AM - 4 PM). All individuals with assignments to the Onsite Emergency Organization will report to their designated areas upon the announcement of an emergency. The asteristed (primary) individual on Attachment 7.5 "Onsite Emergency Organization personnel" will assume the position. If the primary individual is not available, the first alternate to arrive will assume the position. The others will relocate at the Plant Assembly Point and await further instructions. | 2

NOTE: If positions remain unfilled, the Emergency Coordinator will direct the Site switchboard operator to contact an individual on Attachment 7.5.

5.0 INSTRUCTIONS-contd.

- 5.2.1 When directed by the Emergency Coordinator, contact each asterisked (primary) individual on Attachment 7.5 "Unsite Emergency Organization Personnel". During normal working hours use the SMUD extension numbers. During the off-hours and Saturday-Sunday use the home telephone numbers. | 2
- 5.2.2 Where the asterisked personnel cannot be reached, call the next (alternate) person for that position until one of the alternates has been contacted.
- 5.2.3 When the party answers, note the name of the individual contacted and the time on Attachment 7.5 checklist. | 2
- 5.2.4 Read the notification message at the top of the checklist. | 2
- 5.2.5 If personnel in a position cannot be contacted initially, bypass that position and proceed down the list. After the other notifications are complete, reattempt to contact the bypassed personnel. If personnel still cannot be reached, notify the Emergency Coordinator for action.
- 5.2.6 After completion of the checklist and when it is no longer required for immediate use, forward to the Technical Report Coordinator.

5.3 Notification of Offsite Emergency Organization Personnel

- 5.3.1 When directed by the Emergency Coordinator/Emergency Manager, the general office switchboard operators will contact each asterisked (primary) individual on Attachment 7.6 "Offsite Emergency Organization Personnel". During normal working hours use the SMUD extension numbers. During the off-hours and Saturday-Sunday use the home telephone numbers. | 2
- 5.3.2 Where the asterisked personnel cannot be reached, call the next (alternate) person for that position until one of the alternates has been contacted.
- 5.3.3 When the party answers, note the name of the individual contacted and the time on Attachment 7.6 checklist. | 2
- 5.3.4 Read the notification message at the top of the checklist. | 2
- 5.3.5 If personnel in a position cannot be contacted initially, bypass that position and proceed down the list. After the other notifications are complete, reattempt to contact the bypassed personnel. If personnel still cannot be reached, notify the Emergency Coordinator/Emergency Manager for action. | 2

5.0 INSTRUCTIONS-contd.

5.4 Offsite Assistance Request

- 5.4.1 When directed by the Emergency Coordinator/Emergency Manager call the primary telephone number listed on Attachment 7.7. If no response, call the secondary number if listed. | 2
- 5.4.2 If/When the party answers, record the name of the individual contacted and the time in the "Message Record Sheet" (Attachment 7.10). | 2
- 5.4.3 Inform the Emergency Coordinator/Emergency Manager of the contact or lack of.
- 5.4.4 If contact has been made, transfer the call to the Emergency Coordinator/Emergency Manager or his designee.

6.0 REFERENCES

- 6.1 AP 502 "Notification of Unusual Event"
- 6.2 AP 503 "Alert"
- 6.3 AP 504 "Site Area Emergency"
- 6.4 AP 505 "General Emergency"
- 6.5 AP 500 Rancho Seco Emergency Plan

7.0 ATTACHMENTSRevision No.

- | | |
|---|----------|
| 7.1 Emergency Notification Call-List | Rev. 2 |
| 7.2 Initial Notification Form | Rev. 2 |
| 7.3 Follow-up Notification Form | Rev. 2 |
| 7.4 NRC Notification Forms | Original |
| 7.5 Onsite Emergency Organization Notification List and Checklist | Rev. 2 |
| 7.6 Offsite Emergency Organization Notification List and Checklist | Rev. 2 |
| 7.7 Offsite Assistance Telephone Numbers. | Rev. 2 |
| 7.8 Radiation Release Notification and Checklist | Rev. 2 |
| 7.9 Notification Requirements for Using the Ione Fire Academy and Herald Fire Department During an Emergency. | Original |
| 7.10 Message Record Sheet | Original |

DATE: _____

TIME: _____

Primary method of notification:
 a. Control Room - Direct Dedicated Phone
 b. TSC - Direct Dedicated Phone

ATTACHMENT 7.1

Alternate method of notification:
 Control Room (Shift Supervisor's
 Office)

EMERGENCY NOTIFICATION CALL-LIST

Technical Support Center

<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 Direct (Dedicated) Phone)
1. Sacramento County Office of Emergency Operations	Direct Dedicated Phone	UHF Radio	_____	_____	_____
2. Amador County Office of Emergency Operations (Sheriff's Dispatch Station)	Direct Dedicated Phone	(None)	_____	_____	_____
3. San Joaquin County of Emergency Operations (Sheriff's Communications Center)	Direct Dedicated Phone	(None)	_____	_____	_____
4. California Office of Emergency Services	Direct Dedicated Phone		_____	_____	_____

Radio through the Sacramento County Office of Emergency Operations

DATE: _____

ATTACHMENT 7.1 (cont'd)

TIME: _____

EMERGENCY NOTIFICATION CALL-LIST

<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 Direct (Dedicated) Phone)
5.**Nuclear Public Information Public Information Representative, Brad Thomas or Ron Scott, Carney Ouye			*Home Telephone _____	_____	
6.**Watch Commander	Security Intercom		Plant Paging _____	_____	Not required
7.**SMUD System Dispatcher	Control Room Microwave Ringdown		PT&P Control Room Ringdown _____	_____	Not required
8.**SMUD Operator	(Use Telephone) Tell Operator hold all Ranch Seco calls until notification of closeout.	(None)	_____	_____	Not required
9.**NRC Bethesda, Maryland	Direct Line (Red Phone)		_____	_____	Not required

* Telephone numbers available at the control room, technical support center, Rancho Seco site switchboard operator, and SMUD operator which is manned 24 hours per day.

** Disregard after initial notification.

ATTACHMENT 7.2

FORM A*
INITIAL NOTIFICATION FORM
RANCHO SECO NUCLEAR GENERATING FACILITY

1. This is _____
(Name)
2. This is a/an Drill Actual Emergency
 Exercise
3. This is a/an Notification of Site Area Emergency
 Unusual Event General Emergency
 Alert Closeout
4. Declared at _____ / /
(24 hour time) Date
5. Offsite Radiological Release in Progress: Yes
 No
6. Consider Public Protective Actions: Yes
 No
7. Wind is: Calm
 From _____ ° at _____ mph
8. Downwind Affected Sectors: None
 Circle A B C D E F G H J K L M N P Q R
9. Initiating Conditions: Tab Number _____
10. Offsite Support Needed: None Law Enforcement
 Ambulance Other _____
 Fire Support
11. Special Comments (if appropriate): _____

Approved for Release: _____
Emergency Coordinator

* The Control Room is to continue using this as their follow-up notification form until the TSC is operational.

ATTACHMENT 7.2 (contd.)

TAB NUMBER DEFINITIONS

<u>TAB NUMBER</u>	<u>DEFINITION</u>
1	Fuel Handling Accident
2	High Area Radiation
3	High Coolant Activity
4	High Effluent Activity
5	Loss of Containment Integrity
6	ECCS Initiation
7	Loss of Reactor Coolant Systems Flow
8	Abnormal Coolant Temp/Press
9	Secondary Depressurization/Loss of Secondary Coolant
10	Relief Valve Failure
11	Loss of Coolant
12	Loss of Control Room
13	Loss of Instrumentation
14	Loss of Shutdown Capability
15	Loss of Power AC/DC
16	Contaminated/Injured Personnel
17	Fire
18	Earthquake
19	Tornado/High Winds
20	Onsite Hazards
21	Sabotage/Civil Disturbance
22	Loss of Safety or Fire Protection Equipment
23	Abnormal Positive Reactivity Addition

ATTACHMENT 7.3

FORM B
FOLLOW-UP NOTIFICATION FORM
RANCHO SECO NUCLEAR GENERATING FACILITY

1. This is _____
(Name)

2. This is a/an Drill Actual Emergency
 Exercise

3. This is a/an Notification of Unusual Event Site Area Emergency
 Alert General Emergency
 Closeout

4. Declared at _____ / /
(24 hour time) Date

5. Offsite Radiological Release in Progress:

Yes

Release Started at _____ (24 hour time)
Estimated Duration _____ (hours)

No

Potential for Release None Low
 High

Estimated Start Time _____ (24 hour time)
Estimated Duration _____ (hours)

6. Type of Release: None Liquid
 Atmosphere

7. Reaction Shutdown Time _____

8. Source: None
 Noble Gas _____ Ci/sec. at _____ Time
 Iodine _____ Ci/sec. at _____ Time
 Particulates _____ Ci/sec. at _____ Time
 Other _____ Ci/sec. at _____ Time

9. Height of Release: Not Applicable
 Ground Level
 Elevated Height _____ ft.

ATTACHMENT 7.3 (cont'd)

FORM B
 FOLLOW-UP NOTIFICATION FORM
 RANCHO SECO NUCLEAR GENERATING FACILITY

10. Best Available Dose Information: Not Applicable

	Whole Body (Rem)	Child Thyroid (Rem)	Ground Contamination (DPM/100 cm ²)
A. Site Boundary	_____	_____	_____
B. 2 miles	_____	_____	_____
C. 5 miles	_____	_____	_____
D. 10 miles	_____	_____	_____
E. ___ miles	_____	_____	_____

11. Current Site Weather: Windspeed _____ mph Clear Overcast
 Direction _____ Rain Fog
 Stability _____

12. Downwind Affected Areas: None
 Circle A B C D E F G H J K L M N P Q R

13. Plant Status as of: _____ / /
 (24 hour time) Date

A. Primary System Temperature/Pressure Stable
 Decreasing
 Increasing

B. Containment Building Temperature/Pressure Stable Isolated
 Decreasing Breached
 Increasing

C. Estimated Fuel Damage None
 Less than 5%
 greater than 5% Estimated _____ %

14. Potential for Escalation (Hours)

Stable
 Escalation
 Deescalation
 Estimated Time _____ (hours)

15. Offsite Support Needed: None Law Enforcement
 Ambulance Other _____
 Fire

ATTACHMENT 7.3 (cont'd)

FORM B
FOLLOW-UP NOTIFICATION FORM
RANCHO SECO NUCLEAR GENERATING FACILITY

16. SMUD Emergency Response Measures Underway

- | | | | |
|--------------------------|----------------------------|--------------------------|-----------------------------|
| <input type="checkbox"/> | Emergency Team | <input type="checkbox"/> | Offsite Rad Monitoring Team |
| <input type="checkbox"/> | Fire Brigade | <input type="checkbox"/> | Search and Rescue |
| <input type="checkbox"/> | Repair Team | <input type="checkbox"/> | Security Personnel |
| <input type="checkbox"/> | Onsite Rad Monitoring Team | <input type="checkbox"/> | Other _____ |

17. Consider Additional Protection Actions: Yes
 No

18. Special Comments (if appropriate): _____

Approved For Release: _____
Emergency Coordinator

ATTACHMENT 7.4

NRC INITIAL NOTIFICATION FORM

Part I
HQ Duty Officer Name _____

This is a _____
Drill/Exercise/Actual Emergency

Complete Part I for all incident notifications

A. IDENTIFICATION: Facility _____ Caller's Name _____
Phone Number _____ Date/Time _____

B. EVENT CLASSIFICATION:
Notification of Unusual Event _____ 50.72 _____ Other _____
Alert* _____ Site Area Emergency* _____ General Emergency* _____
(*Immediately contact Region for conference with licensee, then contact EO)

C. DESCRIPTION:
What Happened: _____
_____ Event Time _____
Cause: _____
_____ Consequences: _____
_____ Actions: _____
_____ Current Status: _____

D. NOTIFICATIONS: (What notifications have been made by the licensee.)
STATE(S) _____ LICENSEE MANAGEMENT _____
LOCAL _____ OTHER _____
NRC RESIDENT _____ OTHER _____

E. PRESS RELEASE: Has a press release been made or planned? (Yes/No)

Note: For NOUE, 50.72, and Other complete part II, then notify the Region.

Part II
NRC FOLLOW-UP NOTIFICATION FORM

Further Licensee Actions:

Taken _____
Planned _____
Property Damage _____

Radioactivity Released (or Increased Release)?

Liquid/Gas? _____ Location/Source of Release _____ Elevation _____
Release Rate _____ Duration _____ Stopped? _____
Release Monitored? _____ Amount of Release _____
Tech. Specs. _____

Increased Radiation Levels in Plant: Location(s) _____

Radiation Level(s) _____ Areas Evacuated _____
Maximum offsite dose rates _____
Integrated dose _____ Location _____

Meteorology

Wind Direction from _____
Wind Speed _____ (Meter/sec or miles/hr)
%T _____ (°C or °F) Sigma Theta _____ Temperature _____ (°C or °F)
Stability Class A B C D E F Raining (Yes/No)

Projected Doses:

	Dose Rates	Integrated Dose
2 mi	_____	_____
5 mi	_____	_____
10 mi	_____	_____
Sectors	_____	_____
Contamination (Surface):	inplant _____	Onsite _____ offsite _____

Reactor Operations:

Reactor System Status _____ Power Level _____
Pressure _____ Temp. _____ Flow (pumps on) _____
Cooling Mode _____ ECCS Operating/Operable _____
Containment Status _____
Containment Isolated? _____ Containment Temp. _____
Containment Press _____ Containment Radiation _____ R/hr.
Standby Gas Treat Sys (BWR) _____
Reactivity Controls _____
Control Rods Inserted _____ Status of Emer. Boration System _____

Part II

NRC FOLLOW-UP NOTIFICATION FORM

Steam Plant Status: S/G Levels _____ Equip. Failures _____
 Feedwater Source/Flow _____ S/G Isolated? _____
 MSIV's (BWR) Closed _____
Electrical Dist. Status: Normal Offsite Power Available? _____
 Major Busses/Loads Lost _____
 Safeguards Busses Power Source _____
 D/G Running? _____ Loaded? _____

Security/Safeguards:

Bomb Threat: Search Conducted? _____
 Search Results _____ Site Evacuated? _____
Extortion: Source (Phone, letter, etc.)? _____
 Location of Letter _____
Intrusion: Insider? _____ Outsider? _____
 Furthest Point of intrusion _____
 Fire arms related? _____ Stolen/Missing Material? _____
RX Oper./Demonstration: Size of Group _____ Demands _____
 Violence? _____ Fire arms related? _____
Sabotage/Vandalism: Radiological? _____ Arson Involved? _____
 Stolen/Missing Material? _____

Transportation:

Mode (Road/Rail/Air/etc.) _____ Carrier _____
 Exact Location _____
 Type of Material (HEU/Spent Fuel/Cat III/Other) _____
 Description of Shipment _____
 Labels: (On material package) _____ (On Vehicle) _____
 Spillage _____ Surveys _____
 Physical damage to container? _____
 Fire/Smoke _____ Missing material? _____

Materials and Fuel Facilities:

Kind of Licensee (processor, radiographer, medical, etc.) _____
 _____ Isotopes involved _____
 Solid/Liquified? _____ Sealed/Loose? _____

ATTACHMENT 7.5 (cont'd)
 ONSITE EMERGENCY ORGANIZATION
 NOTIFICATION LIST AND CHECKLIST

<u>Position</u>	Person Contacted	Time
3. <u>Radiological Assessment Coordinator</u>		
*Chemistry and Radiation Supervisor	R. Miller	_____
Assistant Chem/Rad Supervisor	F. Kellie	_____
Health Physicist	J. Reese	_____
Nuclear Chemist	Vacant	_____
4. <u>Maintenance Coordinator</u>		
*Nuclear Maintenance Supervisor	G. A. Coward	_____
Electrical I & C Supervisor	N. C. Brock	_____
Senior Mechanical Engineer	R. Lawrence	_____
Maintenance Supervisor	D. B. Cass	_____
5. <u>Technical Support Center Coordinator</u>		
*Nuclear Plant Analyst	R. W. Colombo	_____
Plant Scheduler	T. Tucker	_____
Supervisor, STA	S. J. Redeker	_____
Nuclear Instructor	M. W. Meredith	_____
6. <u>Nuclear Public Information Coordinator</u>		
*Nuclear Public Information Specialist	B. Thomas	_____
Consumer Education Specialist	R. Scott	_____
Consumer Education Specialist	C. Ouye	_____
7. <u>Communicators</u>		
*Engineering Technician	R. L. Hollingsworth	_____
*Nuclear Plant Inspector	G. G. Curry	_____
Nuclear Plant Inspector	J. E. Griffith	_____
Nuclear Plant Inspector	J. Rogers	_____
Nuclear Plant Inspector	C. Woodside	_____

*First person to be called for in that particular emergency organization position.

ATTACHMENT 7.5 (cont'd)
ONSITE EMERGENCY ORGANIZATION
NOTIFICATION LIST AND CHECKLIST

<u>Position</u>	<u>Person Contacted</u>	<u>Time</u>
8. <u>Telephone Operators</u>		
*Senior Secretary, Plant Manager	J. Richofsky	_____
Senior Secretary, Plant Superintendent	S. J. Cox	_____
Secretary, Administrative Sup.	B. K. Shirley	_____
Utility Typist	R. Meredith	_____
9. <u>Technical Report Coordinator</u>		
*Associate Nuclear Engineer	S. L. Crunk	_____
Nuclear Engineering Technician	J. J. Edwards	_____
Q. C. Coordinator	J. M. Dowson	_____
Surveillance Engineering Technician	W. J. Price	_____
10. <u>Nuclear Engineering Coordinator</u>		
*Senior Nuclear Engineer	M. Oren	_____
Associate Nuclear Engineer	R. Meyers	_____
Associate Nuclear Engineer	W. Marsh	_____
Assistant Nuclear Engineer	G. S. Keney	_____
11. <u>Instrument and Control Coordinator</u>		
*Senior Electrical Engineer	R. H. Low	_____
I & C Foreman	D. Wiles	_____
Senior Electrical Engineer	C. Linkhart	_____
Assistant Electrical Engineer	S. L. Carmichael	_____

*First person to be called for in that particular emergency organization position.

ATTACHMENT 7.5 (cont'd)
 ONSITE EMERGENCY ORGANIZATION
NOTIFICATION LIST AND CHECKLIST

<u>Position</u>	<u>Person Contacted</u>	<u>Time</u>
<u>12. Computer Information Coordinator</u>		
*1 & C Foreman	T. Robison	_____
Principle Engineering Technician	J. Love	_____
Associate Electrical Engineer	M. Sheridan	_____
Associate Electrical Engineer	F. Sheehan	_____
<u>13. Engineering & Q.C. Coordinator</u>		
*Senior Mechanical Engineer	R. P. Wichert	_____
Associate Mechanical Engineer	J. Uhl	_____
Assistant Mechanical Engineer	R. W. Thomas	_____
Assistant Mechanical Engineer	T. J. Fauble	_____
Assistant Mechanical Engineer	Q. Coleman	_____
<u>14. Administrative Coordinator</u>		
*Administrative Supervisor	W. Wells	_____
Records Management Supervisor	C. A. Caldwell	_____
Principle Clerk	J. I. Mueller	_____
<u>15. Plant Assembly Point Coordinator</u>		
*Station Training Supervisor	J. Mau	_____
Associate Mechanical Engineer	M. S. Price	_____
Associate Mechanical Engineer	B. A. Stiver	_____
Assistant Mechanical Engineer	S. Wellsfry	_____

*First person to be called for in that particular emergency organization position.

ATTACHMENT 7.5 (cont'd)
 ONSITE EMERGENCY ORGANIZATION
NOTIFICATION LIST AND CHECKLIST

<u>Position</u>	<u>Person Contacted</u>	<u>Time</u>
16. <u>Maintenance Logistics Coordinator</u>		
*Nuclear Electric Foreman	D. Yount	_____
Nuclear Electric Foreman	A. Locy	_____
I & C Foreman	J. J. Elliott	
Mechanical Foreman	R. E. Turner	
Mechanical Foreman	T. L. Watson	
Electrical Technician Foreman	A. J. Rainey	
17. <u>Chem/Rad Logistics Coordinator</u>		
Senior Chemical Radiation Assistants (6)	D. Gardiner	_____
	W. Wilson	_____
	J. Newey	
	S. Nicolls	
	M. Bua	
	R. Bowser	

*First person to be called for in that particular emergency organization position.

ATTACHMENT 7.6 (cont'd)
 OFFSITE EMERGENCY ORGANIZATION
NOTIFICATION LIST AND CHECKLIST

<u>Position</u>	Person Contacted	Time
4. <u>Security Coordinator</u>		
*Supervising Special Agent	R. Moore	_____
Special Agent	B. Viley	_____
Security Lieutenant	D. Jensen	_____
5. <u>Media Center Coordinator</u>		
*Senior Public Information Representative	J. Marx	_____
Public Information Specialist	C. Rich	_____
Principal Consumer Education Specialist	R. Schneider	_____
6. <u>Communicators</u>		
*Associate Electrical Engineer	L. T. Conklin	_____
*Assistant Electrical Engineer	B. C. Dilts	_____
Assistant Civil Engineer	E. Gillis	_____
Assistant Electrical Engineer	J. D. Jones	_____
Assistant Electrical Engineer	H. Knieriem	_____
Assistant Mechanical Engineer	Vacant	_____
Assistant Nuclear Engineer	Vacant	_____
7. <u>Telephone Operators</u>		
*Senior Secretary	D. L. Johns	_____
Senior Typist Clerk	N. K. Evans	_____
Senior Typist Clerk	C. A. Hackney	_____
Senior Typist Clerk	S. Santiago	_____

*First person to be called for in that particular emergency organization position.

ATTACHMENT 7.6 (cont'd)
OFFSITE EMERGENCY ORGANIZATION
NOTIFICATION LIST AND CHECKLIST

<u>Position</u>	<u>Person Contacted</u>	<u>Time</u>
8. <u>Plant Status and Technical Information Coordinator</u>		
*Senior Nuclear Engineer	R. A. Dieterich	_____
Senior Nuclear Engineer	R. Roehler	_____
Associate Nuclear Engineer	D. L. Cox	_____
Senior Mechanical Engineer	J. J. Fields	_____
Senior Electrical Engineer	D. H. Thorpe	_____
9. <u>Technical Support Coordinator</u>		
*Supervising Electrical Engineer	R. E. Daniels	_____
Supervising I & C Engineer	L. W. Stephenson	_____
Supervising Mechanical Engineer	L. R. Keilman	_____
Supervising Nuclear Engineer	R. L. Powers	_____
10. <u>Technical and Logistical Support Coordinator</u>		
*Manager Generation Engineering	D. G. Raasch	_____
Principal Project Engineer	J. V. McColligan	_____
Resident Engineer (Rancho Seco)	W. Jurkovich	_____
Supervising Civil Engineer	V. C. Lewis	_____
11. <u>Logistics Support Coordinator</u>		
*Manager Purchases and Stores	G. Merrill	_____
Supervisor Material Control	V. Osborn	_____
Supervisor Office Services	C. Cheung	_____
Principle Buyer	N. Wood	_____
Principle Buyer	W. Thomas	_____
12. <u>Clerical Support</u>		

*First person to be called for in that particular emergency organization position.

ATTACHMENT 7.7

OFFSITE ASSISTANCE
TELEPHONE NUMBERS

The following telephone numbers provide an up-to-date list for agencies and persons that may provide assistance to SMUD in an emergency.

1. Doctors (Onsite Assistance)

Cordova Medical Group Inc. (9-9)

2. Hospitals

Methodist Hospital (only if not contaminated) (9-9)
(Ask for E.R.)

Sutter General Hospital (9-9)
(only if contaminated or exposed) (Ask for E.R. Nursing
Program)

University Medical Center (backup to
Sutter General) (9-9, Emer. Rm.)

3. Ambulance Service

Galt Fire Department (89)

Sacramento County Emergency Operations Direct line or
(9-9) 366-2911

4. Helicopter Service

Capital Aviation & Helicopter Services (9-9)
P.O. Box 133 (9-9)
Rancho Cordova, Calif. 95670

5. Fire Support

Herald Fire Department (89)

ATTACHMENT 7.7 (cont'd)

OFFSITE ASSISTANCE
TELEPHONE NUMBERS

6. Radiological Medical Assistance

California Department of Health	(9-9)
Radiological Health Section	
744 P Street	(9-9)
Sacramento, CA 95814	

7. Radiological Laboratory Assistance

Lawrence Livermore National Laboratory	(9-0)	switchbd.
Livermore, California		
LLNL Division Leader, Rad. Safety	(9-0)	

8. Law Enforcement

County of Sacramento's Sheriff Department	(9-9)
711 G Street	
Sacramento, CA	

9. Meteorological Information

National Weather Service	(9-9)
1641 Resources Building	(9-9)
1416 Ninth Street	(24 Hours)
Sacramento, CA	
Recording	(9-9)
	(24 Hours)

10. Seismic Information

Earthquake Center	(9-0) give SMUD Operator
U. of C. Berkeley	
Berkeley, CA	
Recording	(9-0) give SMUD Operator

ATTACHMENT 7.7 (cont'd)

OFFSITE ASSISTANCE
TELEPHONE NUMBERS

11. Federal Radiological Assistance (Onsite)

DOE Region VII Radiological Assessment Team (RAT) (9-0) give SMUD operator

12. Industry Assistance

Babcock & Wilcox Emergency Response Team (9-0) Give SMUD Operator

Bechtel (9-0) Give SMUD Operator
corporate (8 am - 5 pm)
W.A. Brandes (home)
P.L. Goodman (home)

INPO (9-0) give SMUD Operator

INPO Emergency Number

EPRI and NSAC (9-0) Give SMUD Operator
8 am - 5 pm
(In off hours let the phone ring and the guard will answer. The guard will be able to help you correct NSAC personnel)

NOTEPAD Emergency Coordinator will make the decision on use and transmittal of information on Notepad.

San Onofre Nuclear Generating Station (Southern California Edison) (9-0) give SMUD Operator

Diablo Canyon Nuclear Generating Station (Pacific Gas and Electric) (9-0) give SMUD Operator

ATTACHMENT 7.8

RADIATION RELEASE NOTIFICATION AND CHECK LIST

Date: _____

<u>Location</u>	<u>Telephone Number</u>	<u>Person Contacted</u>	<u>Time</u>
1. Rancho Seco Visitor's Center	(89) (9-9)	_____	_____
2. Rancho Seco Reservoir Park Office	(89)	_____	_____
3. Head Groundskeeper (Roy Marciel)	(89)	_____	_____
4. DOE Region VII RAT Team	(9-0) Give SMUD Operator	_____	_____
5. California Department of Health Radiological Health Section 744 P Street Sacramento, CA 95814	(9-9) (9-9)	_____	_____
6. Design City	..	_____	_____
7. Closest Downstream Resident (Howard and Susan Gore) (Liquid Release Only)	(89)	_____	_____

ATTACHMENT 7.9

NOTIFICATION REQUIREMENTS FOR USING THE IONE FIRE ACADEMY AND HERALD FIRE DEPARTMENT DURING AN EMERGENCY

A. IONE FIRE ACADEMY

Notify the applicable personnel or center, depending upon time of day, that the Ione Fire Academy must be used as the Offsite Emergency Facility.

<u>TIME</u>	<u>NAME</u>	<u>PHONE NUMBER</u>
0800-1700 Monday-Friday	Fire Academy	
1700-0800 Monday-Friday and All Day Saturday & Sunday	(1) Jim McFadden (2) Ron Watson (3) Steve Brown (4) Jack Bridges (5) Lloyd Wilcher (6) Sacramento Emergency Command Center (7) Command Center	

*All 209 area codes must be routed through the SMUD operator.

B. HERALD FIRE DEPARTMENT

Notify the Herald Fire Department that it must be used as the Offsite Emergency Facility.

Herald Fire Department

SMUD - RANCHO SECO
EMERGENCY PLAN PROCEDURE

AP 507

ONSITE RADIOLOGICAL MONITORING

TABLE OF CONTENTS

	<u>Page No.</u>
1.0 PURPOSE.	2
2.0 RESPONSIBILITY	2
3.0 INITIATING CONDITIONS.	2
4.0 PRECAUTIONS AND LIMITATIONS.	3
5.0 INSTRUCTIONS	3
6.0 REFERENCES	8
7.0 ATTACHMENTS.	8

1.0 PURPOSE

- 1.1 This procedure describes equipment, duties, survey data format and sample disposition for onsite monitoring teams.

2.0 RESPONSIBILITY

- 2.1 The Emergency Coordinator or Radiological Assessment Coordinator shall request onsite radiological surveys.
- 2.2 The Plant Assembly Point Coordinator shall dispatch survey teams either directly or through the Chem Rad Logistics Coordinator following assurance from security that area access is possible.
- 2.3 The Chem Rad Logistics Coordinator shall initiate additional surveys, as needed, to document radiological conditions at the Assembly Point.
- 2.4 The Chem Rad Support Team, Emergency Team, or Chem Rad members shall perform the required surveys and associated sampling.
- 2.5 All data transmitted during surveys shall be directed to the Chem Rad Logistics Coordinator unless specifically requested by the Radiological Assessment Coordinator.
- 2.6 Disposition of survey forms and samples shall be at the discretion of the Radiological Assessment Coordinator.

3.0 INITIATING CONDITIONS

- 3.1 Inplant survey data is needed to estimate or verify source term, or
- 3.2 Evaluate areas containing equipment requiring adjustment or repair, or
- 3.3 Evaluate habitability for recovery work, or
- 3.4 Onsite survey data is needed to verify source term estimates or document site boundary levels, or
- 3.5 Survey data is required to evaluate Emergency Response Facilities habitability.

4.0 PRECAUTIONS AND LIMITATIONS

- 4.1 Onsite Radiological Monitoring Teams (survey teams) should consist of at least two members.
- 4.2 Team members shall limit their exposure during required surveys such that their quarterly accumulated exposure does not exceed:
 - 2500 mRem - Whole Body
 - 15000 mRem - Extremities
 - 5000 mRem - Skin
- 4.3 The Emergency Coordinator shall have the sole authority to extend exposure limits to survey team members beyond the limits given in 4.2 above.
- 4.4 Survey paths shall be determined and access ensured before dispatching teams.
- 4.5 Constant radio contact between the survey team and the Chem Rad Logistics Coordinator shall be maintained.

5.0 INSTRUCTIONS

- 5.1 Survey team members complete Onsite Survey Team Checklists (Attachment 7.1 and 7.2) and check Onsite Emergency Monitoring Kit (Attachment 7.3).
- 5.2 Chem Rad Logistics Coordinator complete Presurvey section of Chem Rad Logistics Coordinator Onsite Survey Checklist (Attachment 7.4) and enter initial data on Assembly Point Survey Log Sheet (Attachment 7.5).
- 5.3 Survey teams proceed through areas of lowest risk considering radiological conditions and safety.
- 5.4 Perform surveys:
 - 5.4.1 As directed by the Emergency Coordinator or Radiological Assessment Coordinator in areas of interest.
 - 5.4.2 As teams and equipment are available at the:
 - a. Plant Assembly Point ensuring that potential exposure to occupants is less than 2 mRem/hr whole body.
 - b. Balance of the Restricted Area as needed.

5.0 INSTRUCTIONS-contd.

5.5 Record data on appropriate survey map (Attachment 7.6) if available, or Emergency Survey Information Sheet (Attachment 7.7) for the following:

5.5.1 The highest whole body exposure rates at the survey location.

- a. Entrance/Exit Route - Beta and Gamma
- b. Area of Interest - Beta and Gamma

5.5.2 Contact readings at areas of interest

- a. Suspected problem areas - Beta and Gamma
- b. Other exposure sources - Beta and Gamma

5.5.3 Contamination samples (smears)

- a. Entrance/Exit Route - large area smears
- b. Area of interest - localized 100 cm² smears

Note: Smears, air cartridges, air filters, and any other contamination samples should be individually packaged and labelled with location, time, and other pertinent data at the time of sampling to prevent cross-contamination and avoid confusion of samples at survey completion.

5.5.4 Spills or standing liquid

Note: Any spill encountered during emergencies should be treated as highly contaminated. Primary coolant exposure rates may exceed 1000 R/hr per liter at 1 meter.

- a. If a leak is occurring and/or standing liquid is encountered and exposure rates are prohibitive:

- Leave the affected area immediately
 - Notify the Radiological Assessment Coordinator
 - Post area access
 - Await instructions from the Radiological Assessment Coordinator

- b. If a leak is occurring and/or standing liquid is encountered and exposure rates permit:

5.0 INSTRUCTIONS-contd.

- a. Notify the Radiological Assessment Coordinator and as directed:
 - . Identify the source if possible
 - . Attempt to divert any flow to an available drain
 - . Use available absorbant
 - . Obtain a air sample per Attachment 7.8
 - . Obtain a sample from the source if possible
- b. Post area access on departure

5.5.5 Air samples at:

- a. Area of interest, see Attachment 7.8.
- b. Remote sample locations, see Attachment 7.9, 7.12, 7.14, 7.17, or 7.18 as appropriate.

5.6 Communicate with the Chem Rad Logistics Coordinator during surveys. If the Radiological Assessment Coordinator needs specific information or wishes to give direction, the channel is open to the TSC. Transmissions by the survey team should be preceded by team designator and location.

5.7 Post areas as follows:

5.7.1 Survey Teams should, as time and exposure permit, post areas for:

- a. Radiation - Radiation Area, High Radiation Area, or Secured/High Radiation Area as appropriate.
- b. Contamination - Obvious leak or spill areas should be posted as potential Radioactive Contamination Areas.
- c. Airborne - If Control Room monitors indicate levels above 25 percent of MPC airborne contamination, the area should be posted Airborne Radioactivity Area.

NOTE: Any area requiring posting should be examined before and during the survey for usable physical barriers such as doors or gates which may be posted to restrict access. Overstating the size of the radiation area is preferable to exposure received from localizing the exact area with barrier tape.

5.7.2 Follow up survey teams should post areas for:

- a. Radiation - current levels (to include significant hot spots if time permits).
- b. Contamination - as determined by previous survey and any additional potential areas.

5.0 INSTRUCTIONS-contd.

- c. Airborne - as determined by previous survey or other indications (Control Room Monitors, NMC Monitors, etc.)
- 5.8 When leaving a survey area, if conditions permit, consolidate and bag generated trash and protective clothing and place in existing bags on exit route.
- 5.9 At survey completion survey team members shall:
- 5.9.1 Log out with the Chem Rad Logistics Coordinator and note updated exposure.
 - 5.9.2 Document surveys on appropriate Survey Maps (Attachment 7.6) as follows:
 - a. All data shall be legible in ink.
 - b. Attachments shall be noted and stapled or otherwise fastened to the map.
 - c. All blanks should be filled in.
 - d. Instruments and air samplers used shall be noted including:
 - a. Model, serial number, and
 - b. Calibration due date.
 - e. Surveyor's name (not signature or initials) shall be noted.
 - f. Denote mRem/hr (γ dose rate) as a number
 - g. Denote mRem/hr (γ contact) with asterisk (*)
 - h. Denote mRad/hr (β) as such including "dose rate" or "contact"
 - i. Circle smear location numbers
 - j. Emergency Survey Information Sheet (Attachment 7.7) data should be transcribed to the appropriate survey map, if available.
 - k. Area conditions should be noted on maps or attachments and brought to the attention of the Radiological Assessment Coordinator if followup surveys may require specific instructions or equipment.
 - l. Number the survey as directed by the Chem Rad Logistics Coordinator.

5.0 INSTRUCTIONS-contd.

- 5.9.3 Rebag samples as necessary and label all samples with:
 - a. Location
 - b. Time/Date - start and stop if air
 - c. Flow Rate - if air
 - d. Survey number associated with the sample
 - e. Sample number from Chem Rad Logistics Coordinator
 - f. Surveyor's name, not initials or signature
 - g. Radiation/Contamination levels of sample
- 5.9.4 Submit surveys and samples to the Chem Rad Logistics Coordinator.
- 5.9.5 Replenish Onsite Emergency Monitoring Kit from available supplies and report any deficiencies to the Chem Rad Logistics Coordinator.
- 5.10 At survey completion the Chem Rad Logistics Coordinator shall:
 - 5.10.1 Notify the Radiological Assessment Coordinator of survey completion.
 - 5.10.2 Have samples analyzed as directed by the Radiological Assessment Coordinator.
 - 5.10.3 Complete Chem Rad Logistics Coordinator Onsite Survey Checklist (Attachment 7.4).
 - 5.10.4 Fill out Assembly Point Survey Log Sheet assigning survey and sample numbers (Attachment 7.5).
- 5.11 The Emergency Coordinator or Radiological Assessment Coordinator may initiate, as required:
 - 5.11.1 AP 508, Offsite Radiological Monitoring
 - 5.11.2 AP 307, Environmental Monitoring
- 5.12 The Radiological Assessment Coordinator shall incorporate actual radiological data into projected calculations as soon as possible.
- 5.13 The Radiological Assessment Coordinator shall transmit pertinent information to the EOF/UDAC.
- 5.14 All samples shall be retained for further analysis or disposed of at the discretion of the Radiological Assessment Coordinator.

6.0 REFERENCES

- 6.1 AP 508 "Offsite Radiological Monitoring"
- 6.2 AP 307 "Environmental Monitoring"

7.0 ATTACHMENTSRevision No.

- | | |
|--|----------|
| 7.1 Onsite Survey Team Checklist - Surveyor | Original |
| 7.2 Onsite Survey Team Checklist - Recorder | Original |
| 7.3 Onsite Emergency Monitoring Kit | Original |
| 7.4 Chem Rad Logistics Coordinator Onsite Survey Checklist | Original |
| 7.5 Assembly Point Survey Log Sheet | Original |
| 7.6 Survey Map Example | Original |
| 7.7 Emergency Survey Information Sheet | Original |
| 7.8 Ambient Airborne Radioactivity Sampling | Original |
| 7.9 Ventilation System Gas Air Sampling | Original |
| 7.10 Auxiliary Building +20 Level | Original |
| 7.11 VSG Sampling Apparatus | Original |
| 7.12 Auxiliary Building Stack Air Sampling via the ABS Monitor | Original |
| 7.13 ABS/RBA/RBS Sampling Apparatus | Original |
| 7.14 ABS/RBS Sampling at the +40 Level | Original |
| 7.15 Stack Sampling Location +40 | Original |
| 7.16 Stack Sampling Apparatus | Original |
| 7.17 Reactor Building Atmosphere (RBA) and Reactor Building Stack (RBS) Air Sampling via RBA/RBS Monitors (Aux. +20) | Original |
| 7.18 RBA Air Sampling Following Reactor Building Isolation | Original |

ATTACHMENT 7.1

ONSITE SURVEY TEAM CHECKLIST - SURVEYOR

Initials

Actions Items

_____ Survey area familiarization including all available documentation, previous surveys and alternate entry/exit routes, if available.
Brief partner.

NOTE: Emergency conditions may involve very high exposure rates. Attention should be given to dose estimation using exposure rates per minute or second and timing of survey tasks after initial survey measurements.

Time, distance, and shielding exposure reductions should be considered at all times.

Physical exertion and stress require a methodical, calculated approach, and careful attention to detail.

_____ High range beta/gamma instrument check
Note serial number and calibration due date
Battery check
Zero
Source check if possible
Beta window function and integrity
Beta correction factor
Protection from potential contamination

_____ Air Sampler (see Attachment 7.8 for preparation) check
Serial Number
Calibration due date
Function
On-Off
Flow meter
Battery

_____ Other needed instrumentation, extendable probe, etc.

_____ Protective clothing and respiratory protection as required.

_____ Dosimetry including any extra which may be needed (outside coveralls, extremity, etc.)

_____ Emergency Light as needed.

ATTACHMENT 7.1 (Continued)

Initials

Actions Items

If spill or leak suspected:
Container(s) for sample(s)
Boots or extra shoe covers
Towels/absorbants
Step off pad/trash bag

Stop watch, bagged

Log in with Chem Rad Logistics Coordinator including team designator review. This designator or survey team ID will distinguish your team from others who may be reporting to the Assembly Point or Technical Support Center.

SCBA checkout if necessary

NOTE: You must leave the work area and remove the respiratory protection equipment immediately if you experience psychological or physiological discomfort to the extent that it might endanger the health of you or your fellow workers or compromise the effectiveness of the respiratory protection equipment.

ATTACHMENT 7.2

ONSITE SURVEY TEAM CHECKLIST - RECORDER

- _____ Area familiarization, briefing with partner
- _____ Exposure estimation and hazard evaluation
- _____ Onsite Emergency Monitoring Kit (Attachment 7.3)
- _____ Communication gear function
- _____ Watch, synchronized with Assembly Point, bagged, and readable
- _____ Protective clothing and respiratory protection as required
- _____ Dosimetry including extremity as required
- _____ Log in with Chem Rad Logistics Coordinator including team designator review. This designator or survey team ID will distinguish your team from others who may be reporting to the Assembly Point or Technical Support Center.
- _____ SCBA checkout if necessary

NOTE: You must leave the work area and remove the respiratory protection equipment immediately if you experience psychological or physiological discomfort to the extent that it might endanger the health of you or your fellow workers or compromise the effectiveness of the respiratory protection equipment.

ATTACHMENT 7.3

ONSITE EMERGENCY MONITORING KIT

Clipboard in plastic bag
2 Ball point pens (working?)
2 Magic Marker type, broad tip pens w/caps
Emergency Survey Information Sheets (Attachment 7.7)
Radiation Barrier Tape (1 roll)
Utility knife
6 each signs
 Radiation Area
 High Radiation Area
 Secured/High Radiation Area
 Airborne Radioactivity Area
 Radioactive Contamination Area
6 Hot Spot Stickers
Cloth tape (2 rolls)
Smears (2 dozen individually bagged)
Smears (1 box)
Silver Zeolite Cartridges (6) individually bagged
Air Sampler Filters (6) individually bagged
Zip lock bags (20)
Medium bags, 36 x 24 (3)
Masslinn Cloths, or similar (12)
Spare gloves (4 pr)
Liquid scintillation vials (3)
S-hook for suspending air sampler

(NOT TEXT - What does the above weigh and what is the size of this package? Consider Mailbag type carrier.)

ATTACHMENT 7.4

CHEM RAD LOGISTICS COORDINATOR ONSITE SURVEY CHECKLIST

PRESURVEY

- _____ Emergency Coordinator or Radiological Assessment Coordinator notified of intended survey and route
- _____ Information from Emergency Coordinator or Radiological Assessment Coordinator

- Access ensured
- Available monitor levels
 - Area Radiation
 - Airborne Concentration
 - Liquid Process

- _____ Information to Survey Team

- A number or team designator to avoid confusion with other teams/Survey area, route and conditions

NOTE: All available area information should be utilized including maps, P & IDs, and any other photographic or descriptive documentation.

- Anticipated exposure and potential hazards
- Protective clothing and respiratory requirements
- Dosimetry
 - Normally 1R and 100R Pocket dosimeters
 - TLD, if available and reader accessible
 - Extremity badges or TLDs
 - Film

- _____ Communication established and functional
- _____ Survey Team Checklist (Attachment 7.1, 7.2) completed
- _____ Assembly Point Survey Log Sheet (Attachment 7.5) initial entries made and survey number assigned

POST SURVEY

- _____ Emergency Coordinator and/or Radiological Assessment Coordinator notification of survey completion
- _____ Assembly Point Survey Log Sheet (Attachment 7.5) complete
- _____ Survey Team Members notified of updated exposure
- _____ Surveys numbered and documented
- _____ Samples labelled, numbered, and documented on Assembly Point Survey Log Sheet (Attachment 7.5)

ATTACHMENT 7.7

EMERGENCY SURVEY INFORMATION SHEET
(TO BE USED IN CONJUNCTION WITH SURVEY MAP ATTACHMENT 7.6)

Instrument Serial No. Cal Due

TIME IN TIME OUT

DATE SURVEY NO.

SURVEYORS 1.

2. Air Sampler

LOCATION - Building, Area, Room, Elevation, Valve Numbers, Other Area Descriptors, Distance from Reference Point

1. mRem/hr γ D/R - 4. mRad/hr β contact -

2. mRem/hr γ Contact - 5. Smear Number -

3. mRad/hr β D/R - 6. Air Sample Number -

COMMENTS/CONDITIONS/SAMPLES TAKEN
(Including α , β Readings if Applicable)

LOCATION -

1. 4.

2. 5.

3. 6.

COMMENTS -

LOCATION -

1. 4.

2. 5.

3. 6.

COMMENTS -

LOCATION -

1. 4.

2. 5.

3. 6.

COMMENTS -

ATTACHMENT 7.8

AMBIENT AIRBORNE RADIOACTIVITY SAMPLING

The air sampler should be prepared for the initial sample as follows:

Sampler body covered with plastic allowing unobstructed flow for inlet and exhaust and access to on/off switch and flow meters (for use in suspected hi-contamination areas).

Silver zeolite cartridge and particulate filter in place.

Sampler bagged and taped for transport to sample point.

Air sampling duration should be maximized by starting the sample at the earliest opportunity following exposure rate determination.

The sample should approximate breathing zone air near the source.

If a level surface is available and the sampler exhaust will not resuspend surrounding surface contamination into the inlet area, place the sampler on a clean Masslinn cloth or similar.

If a level surface is not available, the sampler may be suspended from local piping or other available structure. Check the suspension point for strength and motion before suspending the sampler.

Start the sampler noting the following on 2 sample bags:

Sample location
Start time and date
Flow rate and
Flow meter reading, if applicable

Continue area survey as appropriate in entry procedure and retreat to a low exposure area during sampling.

Stop the sampler noting stop time, flow rate and flow meter reading, if applicable.

Remove the sampler to a low exposure area covering the inlet or otherwise preventing further filter contamination.

Remove or replace outer gloves and disassemble the filter head.

Place the particulate filter and cartridge in separate bags ensuring that the following information is noted on each bag:

Sample location
Start, stop time, and date
Start and stop flow rates
Start and stop flow meter readings, if applicable

ATTACHMENT 7.8 (Continued)

Seal sample bags and place in a sample transport bag.

NOTE: Check transport bag for radiation levels to ensure that samples do not contribute unnecessarily to your exposure. Tape bag to extendable probe instrument for transport if necessary.

If further samples may be required, reload using clean gloves and rebag the sampler.

Remove any protective plastic on air sampler body after final sample and bag air sampler before returning to the assembly point.

Resume survey or sampling.

ATTACHMENT 7.9

VENTILATION SYSTEM GAS AIR SAMPLING

Sampling locations 1-6 below via the VSG monitor (Attachment 7.10)

Obtain sampling apparatus (Attachment 7.11) from +40 Auxiliary Building Emergency Locker opposite the Control Room. If this is not the initial sample at the VSG Monitor, the rotameter will be at the VSG monitor location near the end of the Rad Waste exhaust line.

Check exposure rates at the VSG monitor and seek approval from the Radiological Assessment Coordinator to initiate sampling.

If directed to obtain a sample, assemble sampling apparatus as shown in Attachment 7.11.

Remove the plastic cover over the VSG sample selection buttons and choose one of the following as directed:

- Location 1 - West decay heat pump room
- Location 2 - East decay heat pump room
- Location 3 - Waste gas compressor room
- Location 4 - East decay heat cooler room
- Location 5 - West decay heat cooler room
- Location 6 - Waste gas valve gallery

Push appropriate button to select area

Push the OVERRIDE BUTTON

Open gas chamber inlet and exhaust valves

Open VSG drain valve

Throttle the valve on discharge side of VSG flow indicator until rotameter in sampling line indicates approximately 50 cfh (Assure that rotameter is vertical when reading flow). Note sampling start time and flow rate.

Move to local low exposure area.

After approximately 1 minute, monitor exposure rates and gas chamber, and

- Close gas chamber exhaust valve
- Close VSG drain valve
- Close gas chamber inlet valve
- Remove gas chamber using tongs if necessary
- Connect tygon from rotameter outlet to Rad Waste exhaust line
- Open VSG drain valve

ATTACHMENT 7.9 (Continued)

Move to low exposure area.

Bag gas chamber and seal securely noting the following on bag:

VSG+20
Location as listed above
Gas sample time and date

As conditions permit, allow the sample to continue running for time requested by the Radiological Assessment Coordinator.

Close VSG drain after noting time and flow rate.

Monitor sample head and remove sampling apparatus.

Open VSG flow valve to original position.

Connect rotameter to RW exhaust line for several seconds to exhaust contaminated air. Leave rotameter near the end of the Rad Waste exhaust line in a plastic bag labelled "rotameter" and move to a low exposure area.

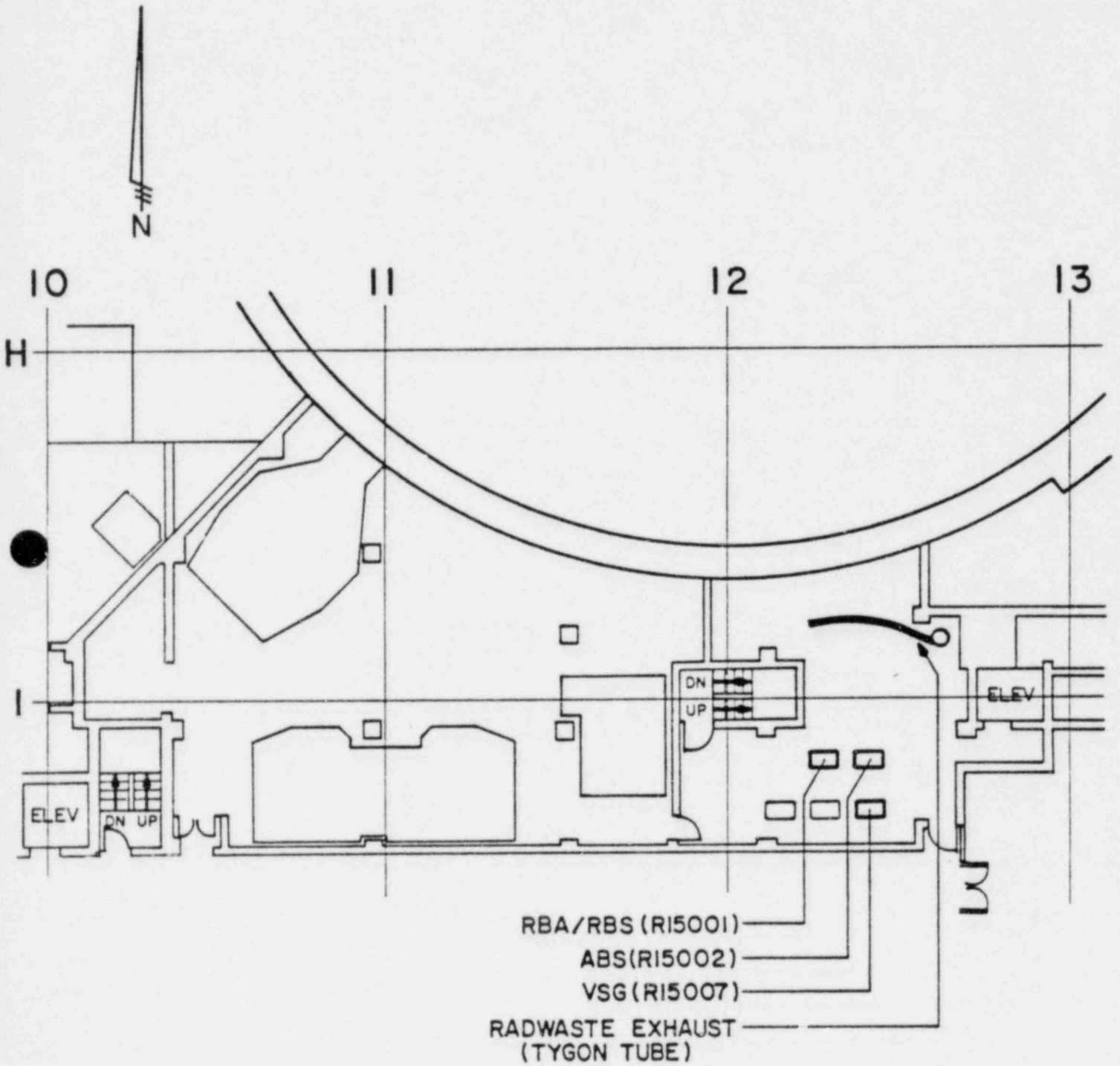
Bag sample head and seal securely noting the following on bag:

VSG +20
Location as listed above
Start and Stop time/date
Flow rate start/stop

Continue sampling, survey or return to point of origin on direction from Radiological Assessment Coordinator.

Request that sample head and gas chamber be returned to emergency locker as soon as possible following analysis and decontamination.

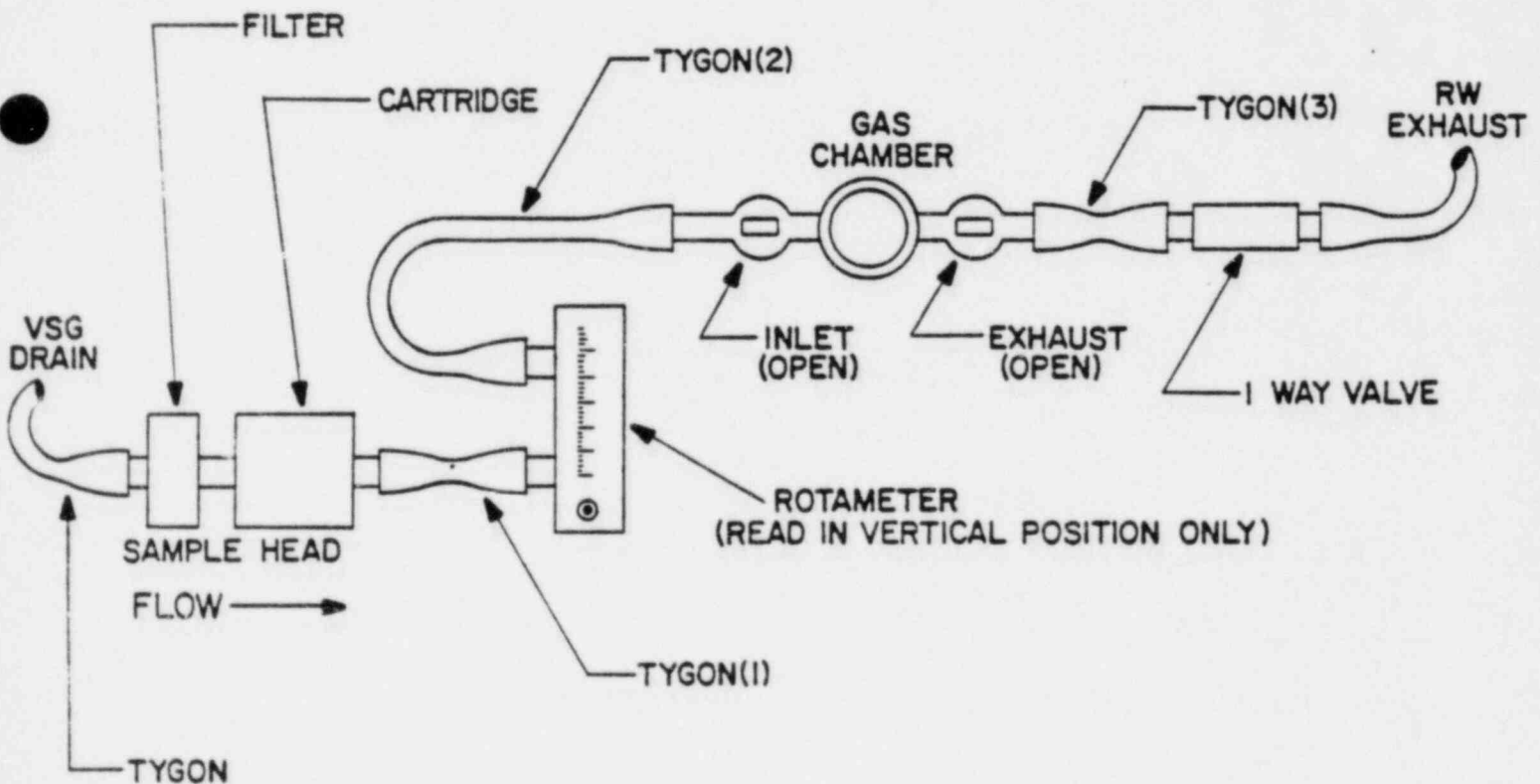
ATTACHMENT 7.10
AUXILIARY BUILDING +20 FT LEVEL



ATTACHMENT 7.IIVSG (R-15007) SAMPLING APPARATUS AND ILLUSTRATION

APPARATUS
 LOCATED AT: +40 AUXILIARY BUILDING EMERGENCY LOCKER (ACROSS THE HALL
 FROM THE CONTROL ROOM, KEY AT CONTROL ROOM)

REQUIRED: SAMPLE HEAD
 PARTICULATE FILTER
 AG ZEOLITE CARTRIDGE
 ROTAMETER (SEE ATTACHMENT 7.9, PARAGRAPH 1)
 GAS CHAMBER
 TYGON (1), (2), (3)
 TONGS (AT 20)



ATTACHMENT 7.12

AUXILIARY BUILDING STACK AIR SAMPLING VIA THE ABS MONITOR

See Attachment 7.10 for location of ABS monitor.

Obtain sampling apparatus (Attachment 7.13) from +40 Auxiliary Building Emergency Locker opposite the Control Room.

Check exposure rates at ABS monitor and seek approval from the Radiological Assessment Coordinator to initiate sampling.

If directed to obtain a sample, assemble gas chamber sampling line as shown in Attachment 7.13.

Open gas chamber inlet and exhaust valves.

Open ABS monitor drain valve and move to a local low exposure area.

After approximately 1 minute, monitor exposure rates and gas chamber, note time and:

- Close gas chamber exhaust valve
- Close ABS monitor drain valve
- Close gas chamber inlet valve

Remove gas chamber using tongs, if necessary, and move to a low exposure area.

Bag gas chamber and seal securely noting the following on bag:

- ABS +20
- Gas sample time and date

Request direction from the Radiological Assessment Coordinator to change inline filters.

If filter samples are requested:

- Prepare 2 sample bags noting location, flow rate, and time
- Valve off filter section
- Remove particulate filter and cartridge using tongs, if necessary, and bag separately
- Install a new particulate filter and silver zeolite cartridge
- Reestablish flow through filters

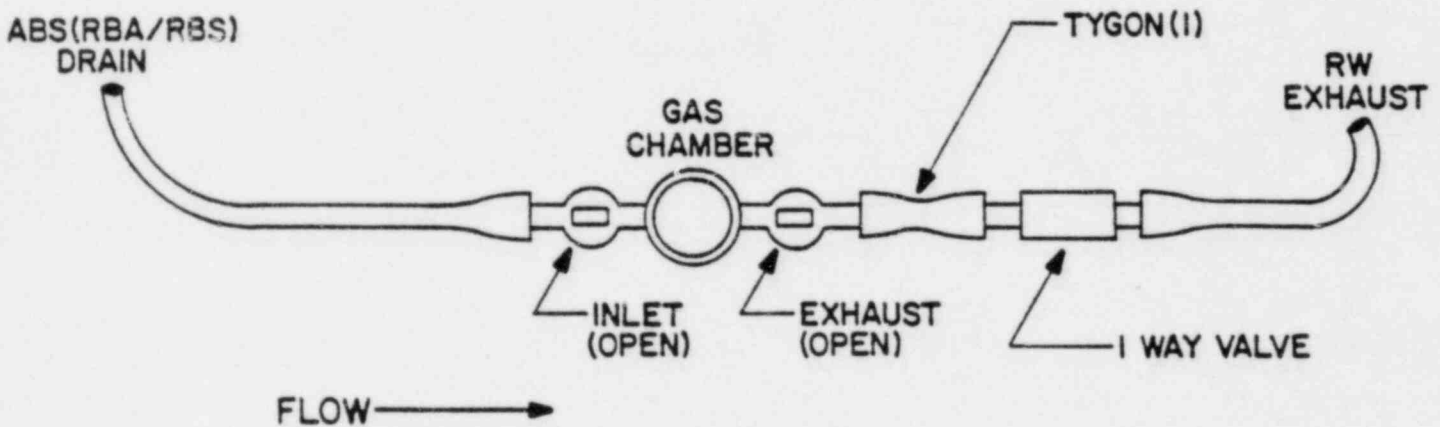
Continue survey or return to point of origin on direction from the Radiological Assessment Coordinator.

ATTACHMENT 7.13

ABS (RI5002) RBA/RBS (RI5001) SAMPLING APPARATUS AND ILLUSTRATION

APPARATUS
LOCATED AT: +40 AUXILIARY BUILDING EMERGENCY LOCKER (ACROSS THE HALL
FROM THE CONTROL ROOM, KEY AT CONTROL ROOM)

REQUIRED: GAS CHAMBER
TYGON (1)
TONGS (AT +20)



ATTACHMENT 7.14

ABS/RBS SAMPLING AT THE +40 LEVEL

See Attachment 7.15 for Stack sampling location.

Monitor exposure rates at sampling location and seek approval from the Radiological Assessment Coordinator to initiate sampling.

If directed, obtain sampling apparatus from locker at sampling location (Attachment 7.15).

Assemble sampling apparatus as shown in Attachment 7.16. If already assembled, check H₂O level in trap and replace as necessary.

Open gas chamber inlet and exhaust valves.

Open Valve A (Attachment 7.16).

Start vacuum pump and move to a local low exposure area noting time and flow rate (rotameter must be vertical for valid reading).

After approximately 1 minute:

- Monitor gas chamber
- Close gas chamber exhaust valve
- Close gas chamber inlet valve
- Stop vacuum pump
- Remove gas chamber from sampling line
- Connect outlet of rotameter to vacuum pump and restart pump
- Recheck flow rate

Move to a low exposure area with gas chamber using tongs if necessary.

Bag chamber and seal securely noting the following on bag:

- ABS or RBS, as appropriate, +40
- Time and date of sample

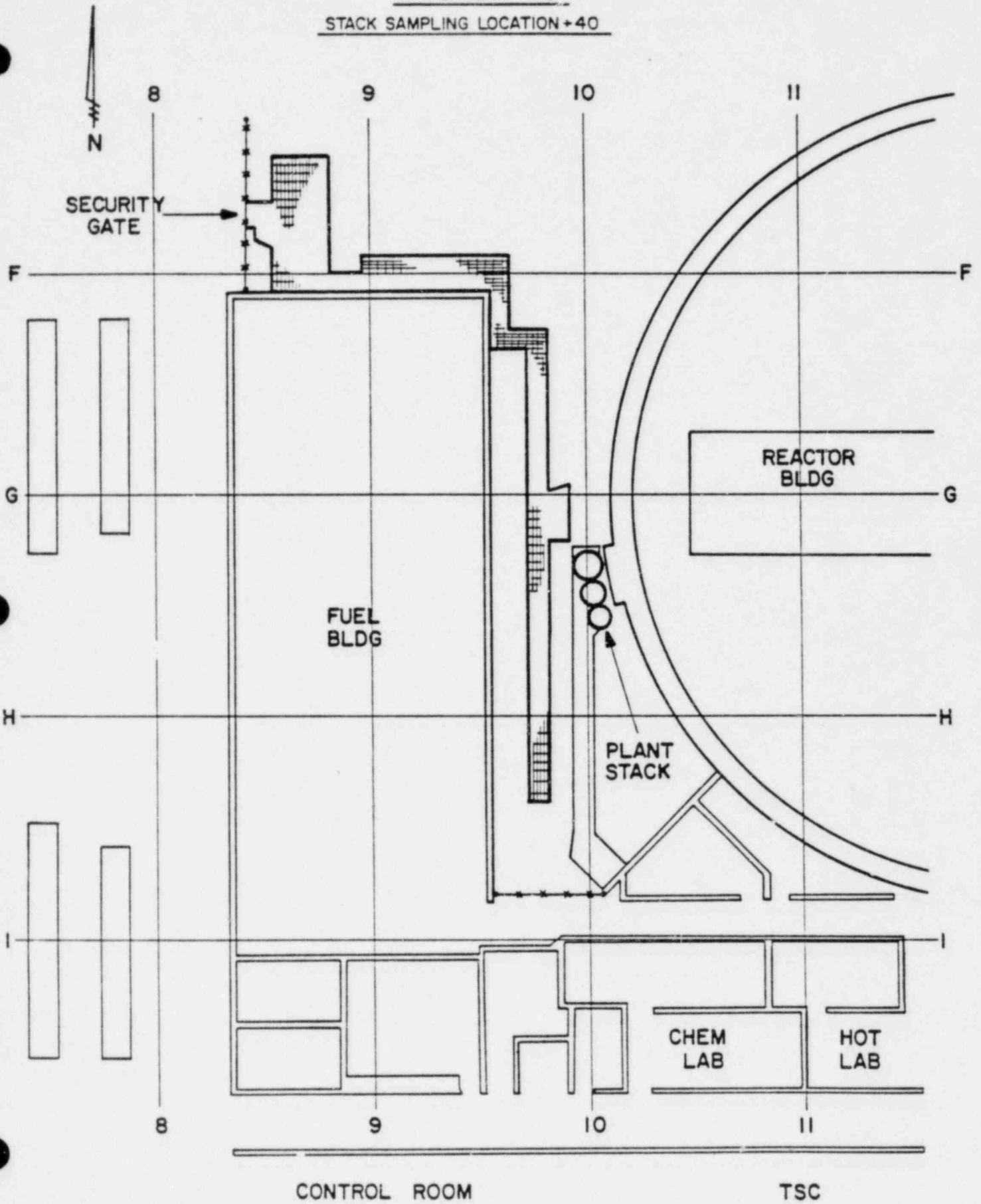
After sampling for requested time or as conditions permit:

- Close Valve A
- Stop vacuum pump
- Monitor sample head and place in a bag noting:

- ABS or RBS, as appropriate, +40
- Start/stop times and date
- Start/stop flow rate

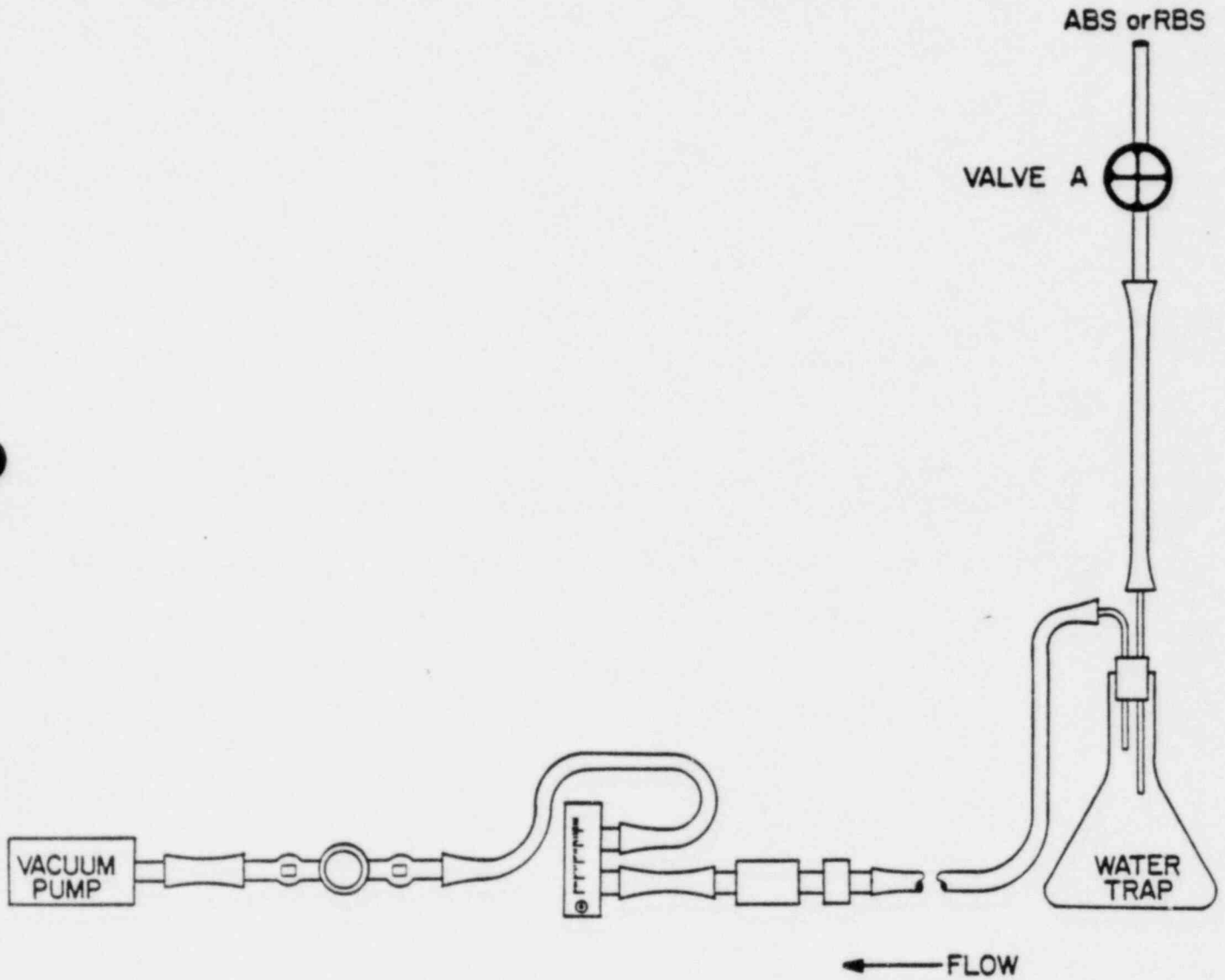
Continue survey or return to point of origin on direction from the Radiological Assessment Coordinator.

ATTACHMENT 7.15
STACK SAMPLING LOCATION +40



ATTACHMENT 7.16
STACK SAMPLING SETUP

APPARATUS
LOCATED AT: SAMPLING SITE



ATTACHMENT 7.17

REACTOR BUILDING ATMOSPHERE (RBA) AND REACTOR BUILDING STACK (RBS)

AIR SAMPLING VIA RBA/RBS MONITOR (AUX +20)

See Attachment 7.10 for location of RBA/RBS Monitor.

Obtain gas chamber and tygon tubing (Attachment 7.13) from +40 Auxiliary Building Emergency Locker across the hall from the Control Room.

Check exposure rates in the RBA/RBS (R-15001) Monitor area and seek approval from the Radiological Assessment Coordinator to initiate sampling.

If directed to obtain a sample, assemble sampling apparatus as shown in Att 7.13.

Open gas chamber inlet and exhaust valves.

Open Monitor drain valve and move to a local low exposure area.

After approximately 1 minute, monitor exposure rates and gas chamber, note time and:

- Close gas chamber exhaust valve
- Close monitor drain valve
- Close gas chamber inlet valve

Remove gas chamber using tongs, if necessary, and move to a low exposure area.

Bag gas chamber and seal securely noting the following on bag:

- R15001, RBA, or RBS as appropriate
- Sample time and date

Request direction from the Radiological Assessment Coordinator to change inline filters.

If filter samples are requested:

- Prepare 2 samples bags noting location, flow rate, and time
- Valve off filter section
- Remove particulate filter and cartridge using tongs, if necessary, and bag separately
- Install a new particulate filter and a silver zeolite cartridge
- Reestablish flow through filters

Continue survey or return to point of origin on direction from the Radiological Assessment Coordinator.

ATTACHMENT 7.18

RBA AIR SAMPLING FOLLOWING REACTOR BUILDING ISOLATION

Obtain gas chamber and tygon tubing (Attachment 7.13) from +40 Auxiliary Building Emergency Locker across the hall from the Control Room.

Review plant conditions with the Radiological Assessment Coordinator, specifically that RB isolation is in effect, that no known RB leakage paths would jeopardize a sampling operation and that RB pressure has dropped below 2 psig.

Proceed to sampling location (Attachment 7.10).

Survey radiation levels at the 20' elevation in the area of R15001 and routes of exit from that area (2 routes violate controlled area boundary).

If directed by the Radiological Assessment Coordinator to continue, assemble sampling apparatus as shown in Attachment 7.13.

With the sampling team in constant communications with the Control Room, request Operations open isolation valves SFV 53612 and SFV 53613 to permit normal sample flow through R15001.

Recheck exposure rates and seek approval from the Radiological Assessment Coordinator to initiate sampling.

If directed to obtain a sample, open gas chamber inlet and exhaust valves.

Open Monitor drain valve and move to a local low exposure area.

After approximately 1 minute, monitor exposure rates and gas chamber and:

- Close gas chamber exhaust valve
- Close monitor drain valve
- Close gas chamber inlet valve

Remove gas chamber and move to a low exposure area.

Bag gas chamber and seal securely noting the following on bag:

- R15001, RBA
- Sample time and date

Request direction from the Radiological Assessment Coordinator to change inline filters.

If filter samples are requested:

- Prepare 2 samples bags noting location, flow rate, and time

ATTACHMENT 7.18 (Continued)

Valve off filter section
Remove particulate and cartridge and bag separately
Install a new particulate filter and silver zeolite cartridge
Reestablish flow through filters

Continue survey or return to point of origin on direction from the
Radiological Assessment Coordinator.

SMUD - Rancho Seco
EMERGENCY PLAN PROCEDURE

AP 508

OFFSITE RADIOLOGICAL MONITORING

TABLE OF CONTENTS

	<u>Page No.</u>
1.0 PURPOSE	2
2.0 RESPONSIBILITY	2
3.0 INITIATING CONDITIONS	2
4.0 PRECAUTIONS AND LIMITATIONS	3
5.0 INSTRUCTIONS	3
6.0 REFERENCES	6
7.0 ATTACHMENTS	6

1.0 PURPOSE

1.1 This procedure describes equipment, duties, survey data format, and sample disposition for SMUD directed offsite monitoring teams.

2.0 RESPONSIBILITY

2.1 The Emergency Coordinator shall direct offsite radiological surveys.

2.2 The Radiological Assessment Coordinator shall dispatch offsite survey teams through the Chem-Rad Logistics Coordinator.

2.3 Chem Rad members shall perform the required surveys and associated sampling.

2.4 All data transmitted during surveys shall be directed to the Chem-Rad Logistics Coordinator unless specifically requested by the Radiological Assessment Coordinator.

2.5 Disposition of survey forms and samples shall be at the discretion of the Radiological Assessment Coordinator.

3.0 INITIATING CONDITIONS

3.1 Offsite survey data is needed to determine the radiological impact of plant effluent or verify offsite dose estimates.

3.2 Survey data is needed to inform offsite authorities of radiological conditions.

3.3 A SMUD directed offsite team is required until directed by the Emergency Coordinator.

4.0 PRECAUTIONS AND LIMITATIONS

- 4.1 Offsite Radiological Monitoring Teams (survey teams) should consist of at least 2 members.
- 4.2 Team members shall limit their exposure during required surveys such that their quarterly accumulated exposure does not exceed:
 - 2500 mRem - Whole Body
 - 15000 mRem - Extremities
 - 5000 mRem - Skin
- 4.3 Survey areas are defined and access paths determined before dispatching teams.
- 4.4 Constant radio contact shall be maintained to ensure that any required changes in sampling routes due to wind variations, or other, may be implemented.
- 4.5 Offsite authorities, Sheriff or Highway Patrol, have been notified of entries into evacuated areas and survey team has been identified.

5.0 INSTRUCTIONS

- 5.1 Survey team members complete Offsite Survey Team Checklists (Attachment 7.2 and 7.3) and check Offsite Emergency Monitoring Kit (Attachment 7.4).
- 5.2 Chem-Rad Logistics Coordinator complete Presurvey section of the Chem-Rad Logistics Coordinator Offsite Survey Checklist (Attachment 7.5) and enter initial data on Assembly Point Survey Log Sheet (Attachment 7.6).
- 5.3 Survey teams proceed to required survey locations through areas of lowest risk considering radiological conditions and safety, retain film badge when departing site.
- 5.4 Perform surveys as specified by the Radiological Assessment or Emergency Coordinator.
- 5.5 Record data on Survey Map (Attachment 7.1) if available, or Emergency Survey Information Sheet (Attachment 7.7) for the following:
 - 5.5.1 The highest whole body exposure rates at the survey locations for beta and gamma.
 - 5.5.2 Contact readings at survey locations for beta and gamma.
 - 5.5.3 Smears, 100 cm² on smooth surfaces.

NOTE: Samples should be individually packaged and labelled with location, time, and other pertinent data at the time of sampling to prevent cross contamination and avoid confusion of samples at survey completion.

5.0 INSTRUCTIONS-contd.

- 5.5.4 Air samples (see Attachment 7.8).
- 5.5.5 The Radiological Assessment Coordinator may initiate AP 307, "Environmental Monitoring" for additional samples.
- 5.6 Communicate with the Chem-Rad Logistics Coordinator during surveys. If the Radiological Assessment Coordinator needs specific information or wishes to give direction, the channel is open to the TSC. Transmissions by the survey team should be preceded by team designator and location.
- 5.7 Bag and remove any generated trash from survey locations and return it to the Plant Site.
- 5.8 At survey completion:
 - 5.8.1 Survey team members shall Log return with the Chem-Rad Logistics Coordinator and note updated exposure.
 - 5.8.2 Document surveys on Survey Map (Attachment 7.1) as follows:
 - a. All data shall be legible in ink.
 - b. Attachments shall be noted and stapled or otherwise fastened to the map.
 - c. All blanks should be filled in.
 - d. Instruments and air samplers used shall be noted including:
 - a. Model and serial number and
 - b. Calibration due date
 - e. Surveyor's name (not signature or initials) shall be noted.
 - f. Denote mRem/hr (γ dose rate) as a number.
 - g. Denote mRem/hr (γ contact) with an asterisk (*).
 - h. Denote mRad/hr (β) as such including "dose rate" or "contact".
 - i. Circle smear location numbers.
 - j. Emergency Survey Information Sheet (Attachment 7.7) data should be transcribed to an appropriate survey map.
 - k. Area conditions should be noted on maps or attachments and brought to the attention of the Radiological Assessment Coordinator if follow-up surveys may require specific instructions or equipment.

5.0 INSTRUCTIONS-contd.

1. Number the survey as directed by the Chem-Rad Logistics Coordinator.
- 5.8.3 Rebag samples as necessary and label all samples with:
- a. Location
 - b. Time/date
 - c. Air Samples:
 - . Start/stop times
 - . Flow rate
 - d. Survey number associated with the sample.
 - e. Sample number from Chem-Rad Logistics Coordinator.
 - f. Surveyor's name, not initials or signature.
 - g. Radiation/contamination levels of sample.
- 5.8.4 Submit surveys and samples to the Chem-Rad Logistics Coordinator.
- 5.8.5 Replenish Offsite Emergency Monitoring Kit from available supplies and report any deficiencies to the Chem-Rad Logistics Coordinator.
- 5.9 The Chem-Rad Logistics Coordinator shall:
- 5.9.1 Notify the Emergency Coordinator or Radiological Assessment Coordinator of survey completion.
 - 5.9.2 Have samples analyzed as directed by the Radiological Assessment Coordinator.
 - 5.9.3 Complete Chem-Rad Logistics Coordinator Offsite Survey Checklist (Attachment 7.5).
 - 5.9.4 Complete Assembly Point Survey Log Sheet (Attachment 7.6) entry assigning survey and sample numbers.
- 5.10 The Radiological Assessment Coordinator shall incorporate actual radiological data into projected calculations as soon as possible.
- 5.11 The Radiological Assessment Coordinator shall transmit pertinent information to the EOF/UDAC.
- 5.12 All samples shall be retained for further analysis or disposed of at the discretion of the Radiological Assessment Coordinator.

6.0 REFERENCES

6.1 AP 307 "Environmental Monitoring"

7.0 ATTACHMENTS

Revision No.

7.1 Offsite Survey Map	Original
7.2 Offsite Survey Team Checklist - Surveyor	Original
7.3 Offsite Survey Team Checklist - Recorder	Original
7.4 Offsite Emergency Monitoring Kit	Original
7.5 Chem-Rad Logistics Coordinator Offsite Survey Checklist	Original
7.6 Assembly Point Survey Log Sheet	Original
7.7 Emergency Survey Information Sheet	Original
7.8 Ambient Airborne Radioactivity Sampling	Original

ATTACHMENT 7.2

OFFSITE SURVEY TEAM CHECKLIST - SURVEYOR

- ___ Survey area familiarization including all available maps and other documentation, previous surveys, if any, and available alternate routes for survey areas. Brief partner.
- ___ Exposure estimation
- ___ High and low range beta/gamma instruments check:
 - Note serial numbers and calibration due dates
 - Battery check
 - Zero
 - Source check, if possible
 - Beta window function and integrity
 - Beta correction factor
- ___ Air Sampler (see att 7.8) check:
 - Serial number
 - Calibration due date
 - Function
 - On-Off
 - Flow meter
 - Battery
- ___ Protective clothing and respiratory protection as required
- ___ Dosimetry
- ___ Emergency light as needed
- ___ Log in with Chem-Rad Logistics Coordinator including team designator review. This designator or survey team ID will distinguish your team from others who may be reporting to the Assembly Point or Technical Support Center.
- ___ SCBA checkout if necessary

NOTE: You must leave the area and remove the respiratory protection equipment immediately if you experience psychological or physiological discomfort to the extent that it might endanger the health of you or your fellow workers or compromise the effectiveness of the respiratory protection equipment.

ATTACHMENT 7.3

OFFSITE SURVEY TEAM CHECKLIST - RECORDER

- Area familiarization, briefing with partner
- Exposure estimation
- Offsite Emergency Monitoring Kit check (Attachment 7.4)
- Obtain vehicle keys from Administrative Coordinator
- Watch, synchronized with Assembly Point, bagged, and readable
- Protective clothing and respiratory protection required
- Dosimetry
- Log in with Chem-Rad Logistics Coordinator including team designator review. This designator or survey team ID will distinguish your team from others who may be reporting to the Assembly Point or Technical Support Center.
- SCBA checkout if necessary

NOTE: You must leave the area and remove the respiratory protection equipment immediately if you experience psychological or physiological discomfort to the extent that it might endanger the health of you or your fellow workers or compromise the effectiveness of the respiratory protection equipment.

ATTACHMENT 7.4

OFFSITE EMERGENCY MONITORING KIT

Clipboard in plastic bag
2 Ball point pens (working?)
2 Magic Marker type broad tip pens w/caps
Emergency Survey Information Sheets (Attachment 7.7)
Cloth tape (2 rolls)
Smears (2 dozen individually bagged)
Smears (1 box)
Silver Zeolite cartridges (6, individually bagged)
Air sampler filters (6, individually bagged)
Ziplock bags (20)
Medium bags, 36 x 24 (3)
Maslinn cloths or similar (1 pkg)
Surgeons gloves (2 boxes)
S-hook for suspending air sampler
Rope for suspending air sampler
Utility knife
Mailbag type carrier
Obtain appropriate area survey maps if available (Attachment 7.1)

ATTACHMENT 7.5

CHEM RAD LOGISTICS COORDINATOR OFFSITE SURVEY CHECKLIST

PRE SURVEY

- ___ Emergency Coordinator or Radiological Assessment Coordinator notified of survey team dispatching
- ___ Emergency Manager/UDAC, if established at EOF, notified of intended survey and route
- ___ Information to Survey Team
 - A number or team designator
 - Survey Area
 - Survey route noting possibly locked areas
 - Anticipated exposure
 - Protective clothing and respiratory protection as needed
 - Dosimetry, normally 1R and 5R
- ___ Communication established and functional
- ___ Survey Team Checklists (Attachment 7.2, 7.3) complete
- ___ Survey Log Sheet (Attachment 7.6) initial entries made and survey number assigned

POST SURVEY

- ___ Emergency Coordinator notified of survey completion
- ___ Emergency Manager/UDAC notified of survey completion
- ___ Survey Log Sheet (Attachment 7.6) completed
- ___ Survey Team members notified of updated exposure
- ___ Survey sheets numbered per Survey Log Sheet (Attachment 7.4)
- ___ Samples labelled, numbered, and sent for analysis on direction of Radiological Assessment Coordinator

ATTACHMENT 7.7

EMERGENCY SURVEY INFORMATION SHEET
(TO BE USED IN CONJUNCTION WITH SURVEY MAP ATTACHMENT 7.1)

	Instrument	Serial No.	Cal Due
TIME IN			
TIME OUT			
DATE			
SURVEY NO			
SURVEYORS 1.			
2.	Air Sampler		
LOCATION - Building, Area, Room, Elevation, Valve Numbers, Other Area Descriptors, Distance from Reference Point			
1. mRem/hr γ D/R -		4. mRad/hr β Contact -	
2. mRem/hr γ Contact -		5. Smear Number -	
3. mRad/hr β D/R -		6. Air Sample Number -	
COMMENTS/ CONDITIONS/SAMPLES TAKEN (Including α , β Readings if Applicable)			
LOCATION -			
1.		4.	
2.		5.	
3.		6.	
COMMENTS -			
LOCATION -			
1.		4.	
2.		5.	
3.		6.	
COMMENTS -			
LOCATION -			
1.		4.	
2.		5.	
3.		6.	
COMMENTS -			

ATTACHMENT 7.8

AMBIENT AIRBORNE RADIOACTIVITY SAMPLING

The air sampler should be prepared for the initial sample as follows:

Sampler body covered with plastic allowing unobstructed flow for inlet and exhaust and access to on/off switch and flow meters (for use in suspected hi-contamination areas).

Silver zeolite cartridge and particulate filter in place.

Sampler bagged and taped for transport to sample point.

Air sampling duration should be maximized by starting the sample at the earliest opportunity following exposure rate determination.

The sample should approximate breathing zone air near the source.

If a level surface is available and the sampler exhaust will not resuspend surrounding surface contamination into the inlet area, place the sampler on a clean Masslinn cloth or similar material.

If a level surface is not available, the sampler may be suspended from local piping or other available structure. Check the suspension point for strength and motion before suspending the sampler.

Start the sampler noting the following on 2 sample bags:

Sample location
Start time and date
Flow rate and
Flow meter reading, if applicable

Continue area survey as appropriate in entry procedure and retreat to a low exposure area during sampling.

Stop the sampler noting stop time, flow rate and flow meter reading, if applicable.

Remove the sampler to a low exposure area covering the inlet or otherwise preventing further filter contamination.

Remove or replace outer gloves and disassemble the filter head.

Place the particulate filter and cartridge in separate bags ensuring that the following information is noted on each bag:

Sample location
Start, stop time, and date
Start and stop flow rates
Start and stop flow meter readings, if applicable

ATTACHMENT 7.8 (Continued)

Seal sample bags and place in a sample transport bag.

NOTE: Check transport bag for radiation levels to ensure that samples do not contribute unnecessarily to your exposure. Tape bag to extendable probe instrument for transport if necessary.

If further samples may be required, reload using clean gloves and rebag the sampler.

Remove any protective plastic on air sampler body after final sample and bag air sampler before returning to the assembly point.

Resume survey or sampling.

SMUD - RANCHO SECO
EMERGENCY PLAN PROCEDURE

AP 509

CONTROL ROOM DOSE CALCULATION

TABLE OF CONTENTS

	<u>Page No.</u>
1.0 PURPOSE	2
2.0 RESPONSIBILITY	2
3.0 INITIATING CONDITIONS	2
4.0 PRECAUTIONS AND LIMITATIONS	3
5.0 INSTRUCTIONS	3
6.0 REFERENCES	6
7.0 ATTACHMENTS	6

1.0 PURPOSE

- 1.1 This procedure provides instructions and calculations necessary to predict offsite dose rates and integrated doses based upon actual meteorological data and release rates.
- 1.2 This procedure is designed explicitly for control room personnel with the intent that initial dose assessments, utilizing onsite meteorological data, can be obtained in 15 minutes.

NOTE: Dose refinements and updated dose calculations based upon additional information and offsite meteorological data shall be performed by personnel at the TSC in accordance with AP 511 "TSC Dose Calculation" or personnel at the EOF in accordance with AP 512 "EOF Dose Calculation".

- 1.3 Calculation of actual or projected doses at offsite locations provides a basis for decision making concerning recommendation of activating appropriate emergency response procedures and/or appropriate protective actions.

NOTE: Due to dose calculation methods used in this procedure, it is invalid for period exceeding two hours.

2.0 RESPONSIBILITY

- 2.1 The Emergency Coordinator is responsible for implementing this procedure.
- 2.2 Control Room personnel designated are responsible for performing dose calculations.

3.0 INITIATING CONDITIONS

- 3.1 An actual release has occurred or is projected to occur and it has become necessary to estimate actual or projected doses at offsite locations.

4.0 PRECAUTIONS AND LIMITATIONS

- 4.1 This procedure shall only be used in the Control Room.
- 4.2 This procedure shall not be used for more than two hours due to being a quick calculation only.
- 4.3 Once the TSC and/or EOF is established, this procedure shall not be used.

5.0 INSTRUCTIONS

NOTE: Reactor Building Vent Release - proceed to 5.1
Auxiliary Building Vent Release - proceed to 5.2

5.1 Reactor Building Vent release rate determinations using Attachment 7.1 Section A.

- 5.1.1 Enter date and time of reactor shutdown.
- 5.1.2 Enter date and time of monitor #R15001 B readings in column 1 and 2 of Attachment 7.1 Section A.
- 5.1.3 Enter effective age (time elapsed from core shutdown) in column 3 of Attachment 7.1 Section A.
- 5.1.4 Obtain the CPM reading from monitor #R15001 B and record value in column 4 of Attachment 7.1 Section A.
- 5.1.5 Determine the Reactor Building vent flow rate and record value in column 6 of Attachment 7.1 Section A.

Flow Rate = $3.50 \text{ E} + 07 \text{ cc/sec}$ (summer)
 = $8.50 \text{ E} + 06 \text{ cc/sec}$ (winter)
 = or other as determined (cc/sec)
- 5.1.6 Determine the release rate ratio of I-131/Noble Gases using the effective age from column 3 of Attachment 7.1 and Attachment 7.2. Record value in column 8 of Attachment 7.1 Section A.
- 5.1.7 Complete calculations on Attachment 7.1 Section A.
- 5.1.8 Enter results on Attachment 7.3.
 - a. Noble Gas release rate (column 7 Attachment 7.1) enter into Attachment 7.3 Section A column 2.
 - b. I-131 release rate (column 9 Attachment 7.1) enter into Attachment 7.3 Section B column 2.
 - c. Effective Age (column 3 Attachment 7.1) enter into Attachment 7.3 Section A column 1.

5.0 INSTRUCTIONS-contd.5.2 Auxiliary Building Vent release rate determination using Attachment 7.1 Section B.

- 5.2.1 Enter date and time of reactor shutdown.
- 5.2.2 Enter date and time of monitor #R15002 B readings in column 1 and 2 of Attachment 7.1 Section B.
- 5.2.3 Enter effective age (time elapsed from core shutdown) in column 3 of Attachment 7.1 Section B.
- 5.2.4 Obtain the CPM reading from monitor #R15002 B and record value in column 4 of Attachment 7.1 Section B.
- 5.2.5 Determine the Auxiliary Building vent flow rate and record value in column 6 of Attachment 7.1 Section B.
- Flow Rate = $2.0 \text{ E} + 07 \text{ cc/sec}$
= or other as determined (cc/sec)
- 5.2.6 Determine the release rate ratio of I-131/Noble Gases using the effective age from column 3 of Attachment 7.1 and Attachment 7.2. Record value in column 8 of Attachment 7.1 Section B.
- 5.2.7 Complete calculations on Attachment 7.1 Section B.
- 5.2.8 Enter results on Attachment 7.3.
- Noble Gas release rate (column 7 Attachment 7.1) enter into Attachment 7.3 Section A column 2.
 - I-131 release rate (column 9 Attachment 7.1) enter into Attachment 7.3 Section B column 2.
 - Effective Age (column 3 Attachment 7.1) enter into Attachment 7.3 Section A column 1.

5.3 Whole Body Gamma dose rates and integrated dose at site boundry using Attachment 7.3 Section A.

- 5.3.1 Obtain the X/Q value from the meteorological computer printout (Attachment 7.7) and record value in column 3 of Attachment 7.3 Section A.

NOTE: This is the X/Q value at the site boundry (700 meters).

Default value = $800 \text{ (E-06 sec/m}^3\text{)}$

5.0 INSTRUCTIONS-contd.

- 5.3.2 Obtain the gamma decay energy from Attachment 7.4 using the effective age of column 1 on Attachment 7.3. Record value in column 4 of Attachment 7.4 Section A.
- 5.3.3 Estimate the projected duration of the release (hours) and record in column 7 of Attachment 7.4 Section A.
- 5.3.4 Complete calculations on Attachment 7.3 Section A.

5.4 Inhalation Thyroid dose rates and projected dose from I-131 and total iodines using Attachment 7.3 Section B.

- 5.4.1 Obtain the X/Q value from the meteorological computer printout (Attachment 7.7) and record value in column 3 of Attachment 7.3 Section B.

NOTE: This is the X/Q value at the site boundary (700 meters). Default value is 800 (E-06 sec/m³).

- 5.4.2 Obtain the dose ratio of total iodines/I-131 from Attachment 7.5 using the effective age of Column 1 of Attachment 7.3. Record value in Column 5 of Attachment 7.3 Section B.
- 5.4.3 Estimate the projected duration of release (hours) and record in Column 6 of Attachment 7.3 Section B.
- 5.4.4 Complete calculations on Attachment 7.3 Section B.

6.0 REFERENCES

- 6.1 NRC REGULATORY GUIDE 1.109 "Calculation of Annual Doses to Man from Routine Releases of Reactor Effluents for the Purpose of Evaluating Compliance with 10 CFR 50, Appendix I"
- 6.2 NRC REGULATORY GUIDE 1.111 "Methods for Estimating Atmospheric Transport and Dispersion of Gaseous Effluents in Routine Releases from Light-Water-Cooled Reactors"
- 6.3 NRC REGULATORY GUIDE 1.145 "Atmospheric Dispersion Models for Potential Accident Consequence Assessments at Nuclear Power Plants"
- 6.4 NUREG 0172 "Age Specific Dose Commitment Factor For One Year Chronic Intake"
- 6.5 Official Journal of the Health Physics Society "Air Ground Interface Effect on Gamma-ray Submersion Dose" Jeffrey C. Ryman, et.al., page 759.

7.0 ATTACHMENTS

	<u>Revision No.</u>
7.1 Release Rate Determination	Original
7.2 Ratio of Release Rates from I-131 to Release Rates from Noble Gases as a Function of "Effective Age" of Mixture	Original
7.3 Dose Determination	Original
7.4 Average Gamma Decay Energy for Noble Gas Mixtures.	Original
7.5 Ratio of Thyroid Dose Rates From All Iodines to Thyroid Dose Rates From I-131 vs "Effective Age" of Mixture.	Original
7.6 Dose Rate Calculations and Parameter Descriptions	Original
7.7 Sample Meteorological Computer Hourly Printout	Rev. 1

Attachment 7.1
Release Rate Determination

Section A, Release Rate Determination for the Reactor Building Vent Monitor #R15001, Channel B

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Reactor Shutdown	Date:	Time:				Release Rate		Release Rate
Date	Time	Effective Age (hr)	Gross Gamma (CPM)	Conversion Factor (Ci/CPM-cc)	Flow Rate* (cc/Sec)	Noble Gas (Ci/sec)	Ratio I-131/NG	I-131 (Ci/sec)
_____	_____	_____	_____	x 2.5 E-14	x _____	= _____	x _____	= _____

* Flow Rate = 3.5 E+07 cc/sec (summer)
 = 8.5 E+06 cc/sec (winter)
 = or other as determined (cc/sec)

Section B, Release Rate Determination for the Auxiliary Building Vent Monitor #R15002, Channel B

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
		Effective Age	Gross Gamma	Conversion Factor	Flow Rate*	Release Rate		Release Rate
Date	Time	(hr)	(CPM)	(Ci/CPM-cc)	(cc/Sec)	Noble Gas (Ci/sec)	Ratio I-131/NG	I-131 (Ci/sec)
_____	_____	_____	_____	x 2.5 E-14	x _____	= _____	x _____	= _____

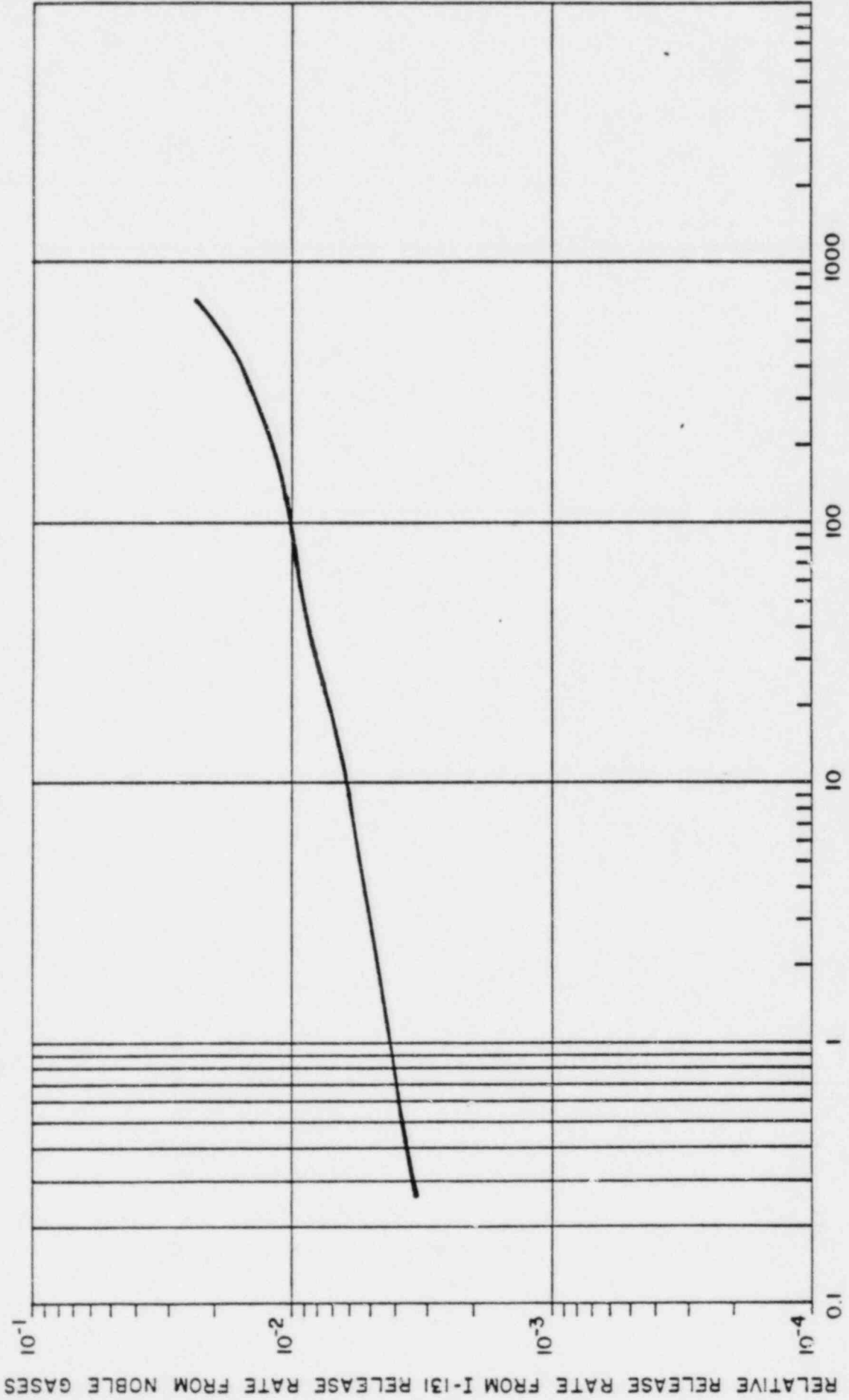
* Flow Rate = 2.0 E+07 cc/sec (summer)
 = or other as determined (cc/sec)

Preparer _____ (signature)
 Reviewer _____ (signature)
 Date _____ Time _____

ATTACHMENT 7.2

EFFECTIVE DATE: 3/15/82

RATIO OF RELEASE RATES FROM I-131 TO RELEASE RATES FROM NOBLE GASES AS
A FUNCTION OF "EFFECTIVE AGE" OF MIXTURE, RANCHO SECO



RELATIVE RELEASE RATE FROM I-131 TO RELEASE RATES FROM NOBLE GASES

TIME AFTER REACTOR SHUTDOWN ("EFFECTIVE AGE" OF MIXTURE) (HR)

Attachment 7.3

Dose Determination

Section A: Whole Body Dose Rates and Projected Doses

(1) Effective Age (hr)	(2) Noble Gas Release Rate (Ci/sec)	(3) X/Q* (E-06 sec/m ³)	(4) Gamma Decay Energy (MeV/dis)	(5) Dose Conversion Factor	(6) Dose Rate (mrem/hr)	(7) Duration of Release (hr)	(8) Projected Dose (mrem)
_____	_____	x _____	x _____	x 0.95	= _____	x _____	= _____

Section B: Thyroid Inhalation Dose Rates and Projected Doses

(1) Effective Age (hr)	(2) I-131 Release Rate (Ci/sec)	(3) X/Q* (E-06 sec/m ³)	(4) Dose Conversion Factor	(5) Ratio of Dose Total I/I-131	(6) Duration of Release (hr)	(7) Total Iodine Dose (rem)
_____	_____	x _____	x 1.86	x _____	x _____	= _____

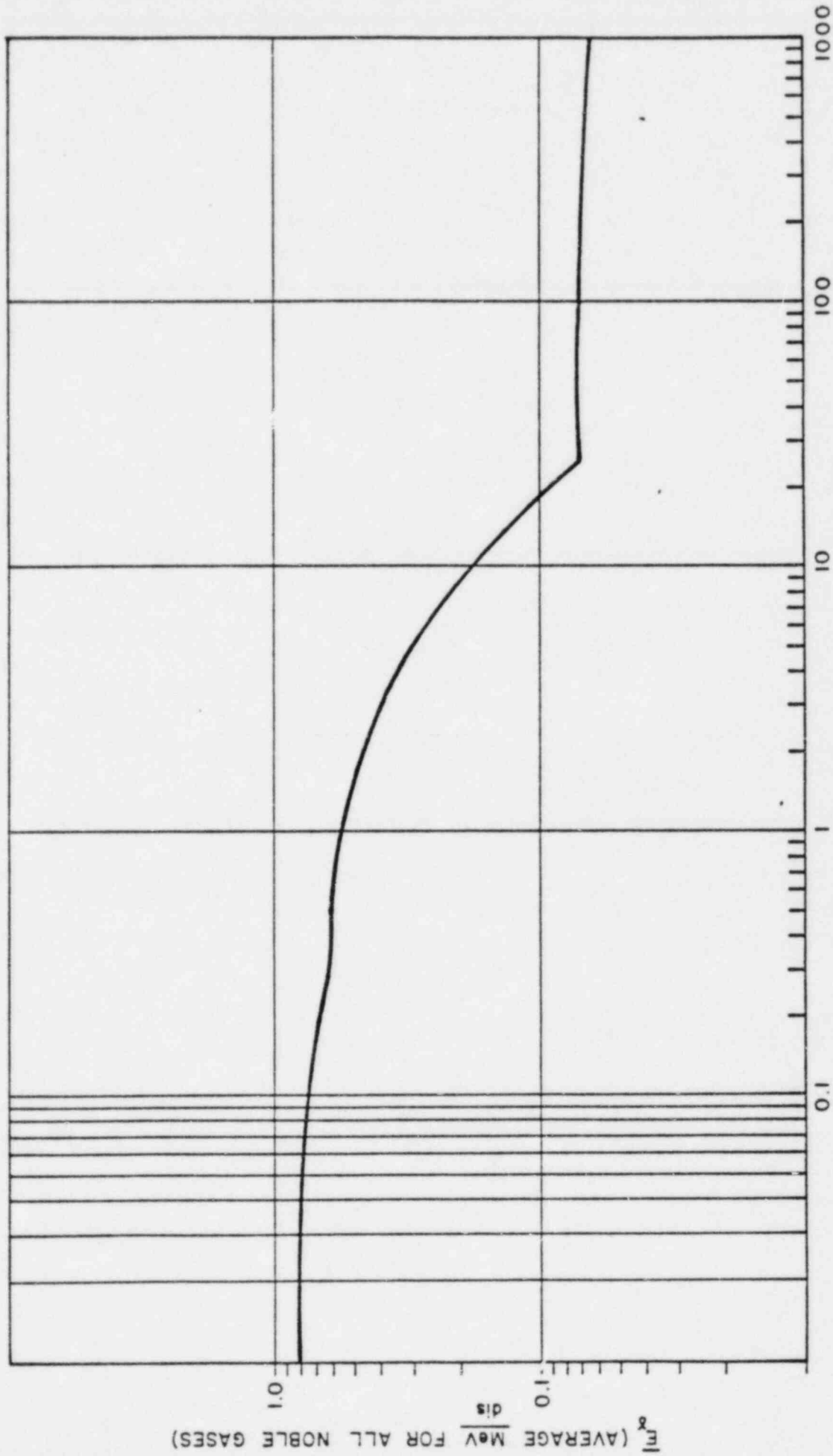
*X/Q = 800 (E-06 sec/m³)
 (default X/Q, adverse meteorology,
 stability Class F, 0.7 m/sec windspeed).

Preparer _____ (signature)
 Reviewer _____ (signature)
 Date _____ Time _____

ATTACHMENT 7.4

EFFECTIVE DATE: 3/15/82

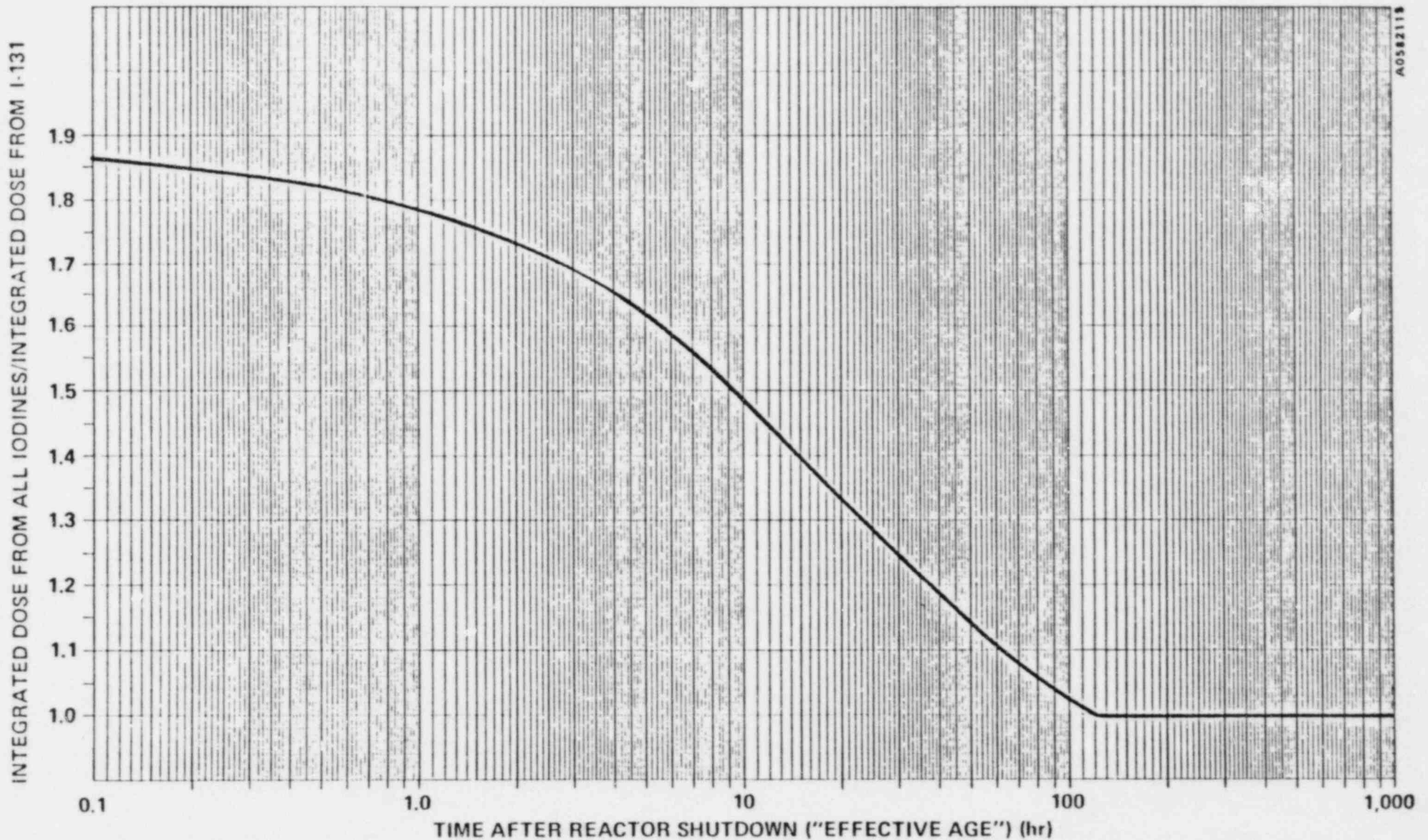
AVERAGE GAMMA DECAY ENERGY FOR NOBLE GAS MIXTURES,
RANCHO SECO



TIME SINCE REACTOR SHUTDOWN ("EFFECTIVE AGE") (HR)

ATTACHMENT 7.5

FIGURE : RATIO OF INTEGRATED THYROID DOSE FROM ALL IODINES TO INTEGRATED THYROID DOSE FROM I-131 VS "EFFECTIVE AGE" OF MIXTURE, RANCHO SECO



Attachment 7.6

Dose Rate Calculations and Parameter Descriptions

Whole Body Gamma Dose Rate

$$\text{Whole Body (mrem/hr)} = 0.95 \times \bar{E}_y \times RR_{ng} \text{ (Ci/sec)} \times X/Q$$

where:

0.95 = Dose conversion factor (E + 06) to determine dose rate from air concentration and average gamma decay energy in units of

$$\frac{\text{mr - disintegration - cc}}{\text{MeV - uCi - hr}} \quad \text{or} \quad \frac{\text{mr - disintegration - m}^3}{\text{MeV - Ci - hr}}$$

\bar{E}_y = average gamma decay energy (MeV/dis) for the isotopic mixture in the cloud.

RR_{ng} = Release Rate of Noble Gases (Ci/sec)

X/Q = relative concentration at the site boundary (E-06 sec/m³)

Whole Body (mrem/hr) = Whole body gamma dose rate at the site boundary.

Thyroid Inhalation Dose Commitment

I-131 Inhalation Dose Commitment:

$$D_{I-131} \text{ (rem)} = 1.86 \times RR_{I-131} \text{ (Ci/sec)} \times X/Q \times \frac{\text{Total Iodine Dose}}{\text{I-131 Dose}} \times \text{Delta T}$$

where:

1.86 = Dose conversion factor (E+06) for I-131 inhalation by an adult at a "working breathing rate" rem - m³/hr - Ci

RR_{I-131} (Ci/sec) = release rate of I-131 (Ci/sec)

X/Q = relative concentration at the site boundary (E-06 sec/m³)

D_{I-131} (rem/hr) = the Thyroid inhalation dose commitment from I-131 at the site boundary

Delta T estimated duration of release

Attachment 7.7

SAMPLE METEOROLOGICAL COMPUTER HOURLY PRINTOUT

This data is obtained by holding switch 0 up on the meteorological computer until the typewriter begins printing. No X/Q, SIG10 values will be printed if the data is manually requested. The computer automatically prints the data every hour, with X/Q and SIG10 values.

YEAR	DAY	ADT	BDT	ADP	AWS10	AWD10	SIG30	SIG10	SIG3	AWS60	X/Q	
	HOUR	BT60	AT60	BDP	BWS10	BWD10	SIG30	SIG10	SIG3	AWD60	SIG60	
A	1975	133	4.99	4.99	59.46	5.07	87.5	9.1	3.5	3.0	5.38	310.
B	310	6	4.99	71.56	59.51	5.53	121.6	10.1	3.6	2.4	128.1	3.6

Shown above is a typical Control Room anemograph printout. The "A" channel is to be used for determination of wind speed (AWS) and wind direction (AWD). Detailed explanation follows:

- ADT - (°F) Temperature difference between 10 meters and 60 meters (thermocouple)
- BDT - (°F) Temperature difference between 10 meters and 60 meters (duplicate thermocouple)
- BT60 - (°F) Temperature at 60 meters
- AT60 - (°F) Temperature at 60 meters (duplicate instrument)
- ADP - (°F) dew point
- BDP - (°F) dew point (duplicate)
- AWS10 - (MPH) Average wind speed at 10 meters
- BWS10 - (MPH) Average wind speed at 10 meters (duplicate instrument)
- AWD10 - (°) Angular degrees from due north. Average wind direction at 10 meters from which the wind blows
- BWD10 - (°) Angular degrees from due north. Average wind direction at 10 meters from which the wind blows:

0°	45°	90°	135°	180°	225°	270°	315°	360°
N	NE	E	SE	S	SW	W	NW	N

NOTE: The values can go from 0° - 540°. When values exceed 360°, subtract 360° from the value and the resultant figure can be used directly in the 0-360° chart.

SIG30, SIG10, SIG3 - Standard deviation of wind direction at 10 meters
(30, 10, and 3 minute averaging time respectively)

AWS60 - (MPH) Average wind speed at 60 meters.

AWD60 - (° degrees) Average wind direction at 60 meters from which the wind
blows (angle from due north)

X/Q - (E-06 sec/m³) Atmospheric dispersion factor at 700 meters

SIG60 - Standard deviation of wind direction at 60 meters (60 minute
averaging time)

SMUD - RANCHO SECO
EMERGENCY PLAN PROCEDURE

AP 510

EMERGENCY REACTOR COOLANT SAMPLING

TABLE OF CONTENTS

	<u>Page No.</u>
1.0 PURPOSE	2
2.0 RESPONSIBILITY	2
3.0 INITIATING CONDITIONS.	2
4.0 PRECAUTIONS AND LIMITATIONS.	3
5.0 INSTRUCTIONS	3
6.0 REFERENCES	6
7.0 ATTACHMENTS.	6

1.0 PURPOSE

1.1 This procedure describes reactor coolant sampling during emergencies.

2.0 RESPONSIBILITY

2.1 The Emergency Coordinator shall authorize coolant sampling.

2.2 The Chem Rad Support Team and additional Chem Rad members shall perform sampling.

2.3 The Radiological Assessment Coordinator shall direct sampling and subsequent analysis.

3.0 INITIATING CONDITIONS

3.1 A reactor coolant sample is required to determine:

- . Core condition
- . Shutdown margin (boron concentration)
- . Potential source term

4.0 PRECAUTIONS AND LIMITATIONS

- 4.1 Sampling teams shall consist of 2 members. A backup team shall be available for relief or completion of sampling.
- 4.2 Team members shall limit their exposure during sampling such that their quarterly accumulated exposure does not exceed:
 - 2500 mRem - Whole Body
 - 15000 mRem - Extremities
 - 5000 mRem - Skin
- 4.3 Area Radiation Monitor R-15031 shall be checked before any entry or reentry into the laboratory.
- 4.4 Ensure Auxiliary Building Exhaust ventilation is functioning during sampling. (sample hood suction)
- 4.5 Door AU320 (Hot Lab) shall have the key (from the Control Room) inserted to ensure accessibility during sampling operations.
- 4.6 Constant radio communication with the Radiological Assessment Coordinator or designate shall be maintained.
- 4.7 Auxiliary Building + 40 uncontrolled hallway shall be monitored during sampling.
- 4.8 All activities in the area of the laboratory should cease during sampling and locations resurveyed before reentry.

5.0 INSTRUCTIONS

- 5.1 See AP 507 "Onsite Radiological Monitoring" particularly Attachment 7.1 for preparation and cursory survey during sampling. An extendable probe instrument shall be available.
- 5.2 Obtain key to AU320 (Hot Lab) from the Control Room.
- 5.3 Following briefing with the Radiological Assessment Coordinator and dressout proceed to Hot Lab. AU320 entry violates the Controlled Area Boundary.
 - NOTE: Before entering laboratory set up a controlled area exit point. The standby team shall remain as close as possible to AU320 considering exposure and monitor radio.
- 5.4 Enter sampling area with continuous monitoring.
- 5.5 Check vaneometer to ensure a minimum of 50 ft/min. negative flow into the hood.
- 5.6 Erect shielding, mirror and remote valve manipulators per Attachment 7.1.

5.0 INSTRUCTIONS-contd.

- 5.7 Ensure that valve E (see Attachment 7.2) and RSS009 are closed and valve D handle points toward front of hood.
- 5.8 Open valves A, B, and C (see Attachment 7.2) in order. "CAUTION: Open slowly to avoid backspray." | 2
- 5.9 Position premarked sample container beneath Emergency Sample Delivery Tube (see Attachment 7.2). Place tongs* and sample pig* near container. | 2
- 5.10 Check shut RSS-005, RSS-008 and RSS-009 (on valve manifold and Whitey valve inside hood).
- NOTE: Monitor dose rates and maintain exposure ALARA.
- 5.11 Check open RSS-002 and RSS-003.
- 5.12 If same line is aligned for pressurizer, request Operations open SFV 7001 and 7002. If sample line is aligned for letdown open HV22024.
- 5.13 Throttle with RSS-023 to maintain 20 percent flow on F70202.
- 5.14 Recirculate for 10 minutes at 20 percent flow.
- 5.15 Shut RSS-003.
- 5.16 Open RSS 009.
- 5.17 Purge reactor coolant into sink for approximately 60 seconds. | 2
- 5.18 Close RSS 009.
- 5.19 Positive valve D handle toward rear of hood.
- 5.20 Open valve F (see Attachment 7.2) until liquid level on container (50 cc) is attained. Close valve C. | 2
- 5.21 Remove and cap container with tongs.
- 5.22 Place sample in pig and reposition valve D handle toward front of hood.
- 5.23 Open valve F and flush for 10-15 minutes or as air supply or exposure rates permit.
- 5.24 Shut RSS-023.
- 5.25 If sampling letdown shut HV22024. If sampling pressurizer notify Control Room to shut SFV7001 and 7002.
- 5.26 Close valves A and B.

5.0 INSTRUCTIONS-contd.

5.27 Depart area.

5.28 Sample handling and analysis shall be directed by the Radiological Assessment Coordinator.

5.29 Area conditions including sample pig location shall be documented on exit from area (see AP 507 for survey and documentation).

6.0 REFERENCES

- 6.1 AP 507 "Onsite Radiological Monitoring"
- 6.2 Plant Operations Manual, A.11 Reactor Sampling System

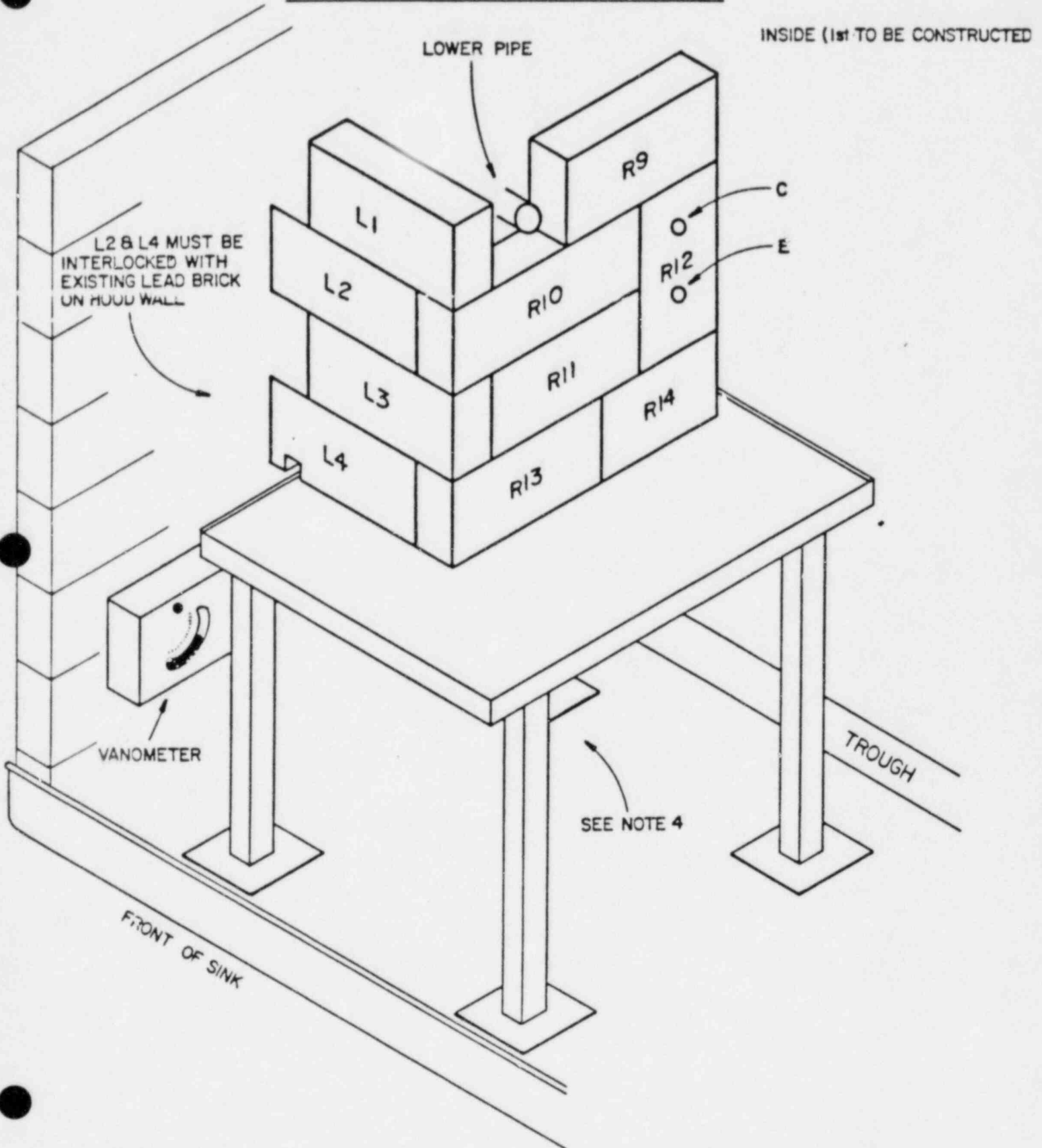
7.0 ATTACHMENTS

Revision No.

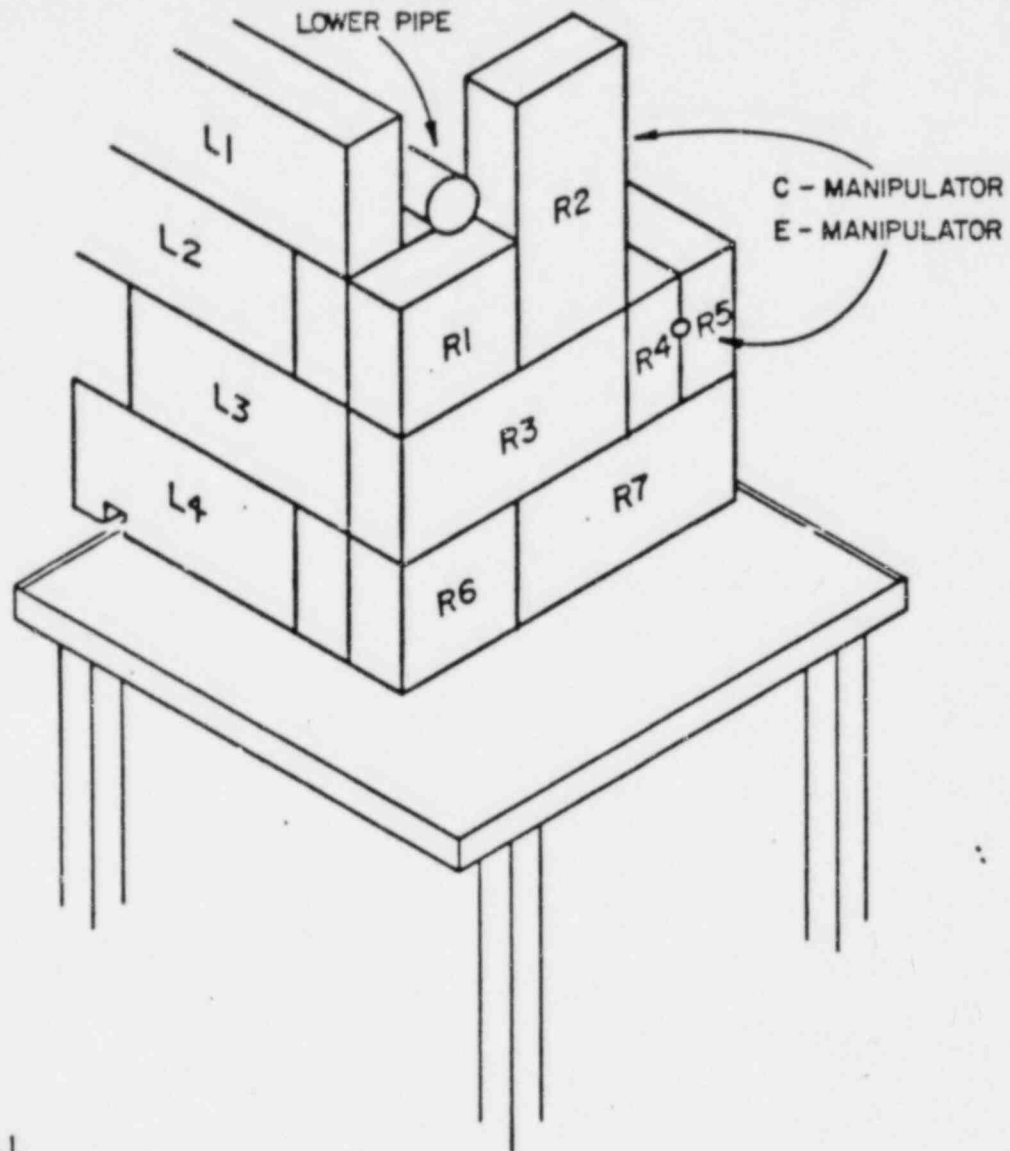
- | | |
|---|----------|
| 7.1 Sample Sink Configuration for
Emergency Coolant Sampling | Original |
| 7.2 Sample Sink Valve Diagram | Original |

ATTACHMENT 7.1

SAMPLE SINK CONFIGURATION FOR EMERGENCY COOLANT SAMPLING



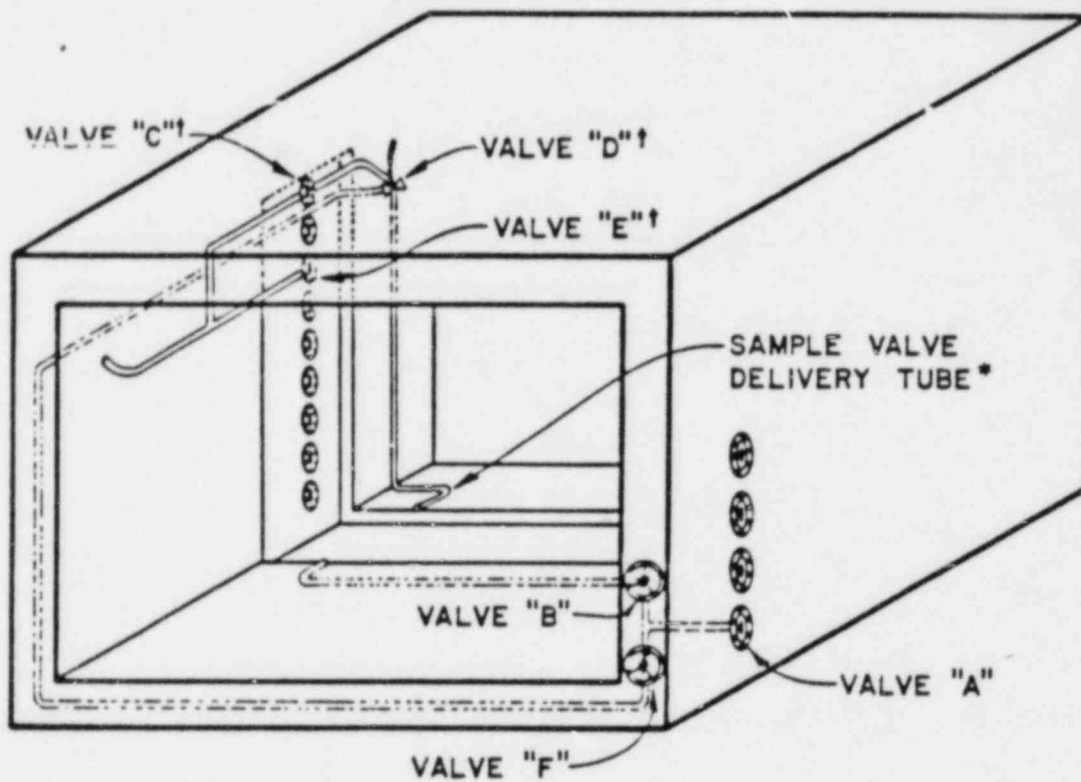
ATTACHMENT 7.1



OUTER SHELL
NOTES:

1. TABLE & LEAD BRICKS ARE UNDER BALANCE TABLE ADJACENT TO SINK.
2. PLACE TABLE IN POSITION AGAINST VALVE GALLERY.
3. INSTALL L4 FIRST AND CONTINUE WITH INNER SHELL ALIGNING R12 WITH C & E VALVES.
4. 5 WHOLE & 2 HALF BRICKS FOR ADDITIONAL SHIELDING UNDER TABLE ARE FOR FLUSH LINE AS NEEDED.

ATTACHMENT 7.2 SAMPLE SINK VALVE DIAGRAM



* ATTACH TYGON TUBE TO DRAIN (IN RIGHT END OF TROUGH)
BEFORE DRAINING LINE INTO TROUGH.

† THESE VALVES TO BE OPERATED BY EXTENDERS.

SMUD - RANCHO SECO
EMERGENCY PLAN PROCEDURE

AP 511

TECHNICAL SUPPORT CENTER DOSE CALCULATION

TABLE OF CONTENTS

	<u>Page No.</u>
1.0 PURPOSE	2
2.0 RESPONSIBILITY	2
3.0 INITIATING CONDITIONS	2
4.0 PRECAUTIONS AND LIMITATIONS	3
5.0 INSTRUCTIONS	3
6.0 REFERENCES	6
7.0 ATTACHMENTS	6

1.0 PURPOSE

- 1.1 This procedure provides instructions and calculations necessary to predict off-site dose rates and integrated doses based upon actual meteorological data, release rates (Ci/sec) of noble gases and I-131 (AP 534), and dispersion factor overlays. This procedure is designed explicitly for personnel manning the Technical Support Center and is intended to update and refine offsite dose estimates calculated according to AP 509 "Control Room Offsite Dose Calculations". Calculation of actual or projected doses at offsite locations provides a basis for decision making concerning recommendations of activating appropriate emergency response procedures and/or appropriate protective actions.

2.0 RESPONSIBILITY

- 2.1 The Radiological Assessment Coordinator is responsible for the implementation of this procedure.

3.0 INITIATING CONDITIONS

- 3.1 Upon the activation of the Technical Support Center for an emergency requiring a dose calculation.

4.0 PRECAUTIONS AND LIMITATIONS

- 4.1 Dose calculations are dependent upon the following:
- a) Release Rate of noble gases and iodines
 - b) Duration of the release
 - c) Effective Age (time since reactor shutdown)
 - d) Meteorological conditions
- 4.2 Update and refine dose assessments upon significant changes in one or more of the above parameters.

5.0 INSTRUCTIONS

- 5.1 Determine noble gas and I-131 release rates by performing AP 534 "Release Rate Determination"
- 5.1.1 Enter noble gas release rate into column 4 of Attachment 7.2 Section A.
 - 5.1.2 Enter I-131 release rate into column 4 of Attachment 7.2 Section B.
- 5.2 Determine the X/Q values for key receptor sites.
- 5.2.1 Determine the atmospheric stability category
 - a. Obtain SIG10 value from the meteorology computer printout. (Attachment 7.8)
 - b. Stability categories are defined as follows:

<u>"SIG 10"</u>	<u>PASQUILL CATEGORY</u>
25 to 20+	A
20 to 15+	B
15 to 10+	C
10 to 5+	D
5 to 2.5+	E
2.5 to 1.7+	F
Less than 1.7	G

99.9* this is a faulty reading. Proceed to Attachment 7.5 Record on Attachment 7.1

NOTE: For alternate stability class determinations and alternate sites providing meteorological data refer to Attachments 7.5 and 7.6.

5.0 INSTRUCTIONS-contd.

- 5.2.2 Orient the appropriate overlay on the base map and identify key receptor sites.
- Obtain wind direction at 10 meters (AWD 10) in degrees from which the wind blows from the meteorology computer printout (Attachment 7.8). Record in Attachment 7.1.
 - Rotate the overlay until the plume centerline is oriented in the direction of the compass heading.
 - Once the dispersion overlay is placed upon the base map, it is clear which receptor locations may be in the path of the dispersing plume. List key receptor site locations in column 3 of Attachment 7.1.

5.2.3 Determine \bar{X}/Q values for each key receptor site.

- Obtain the \bar{X}/Q values for each receptor site directly from the overlay and record in column 4 of Attachment 7.1.
- Obtain wind speed at 10 meters (AWS 10) from the meteorology computer printout (Attachment 7.8) and record value in column 5 of Attachment 7.1.
- Complete calculations on Attachment 7.1.
- Record X/Q values in column 5 of Attachment 7.2 Section A and B.

NOTE: A separate Attachment 7.2 will be required for each receptor site.

5.3. Calculate the Whole Body Gamma Dose Rates and Integrated Doses from noble gases for each receptor site. (Attachment 7.2 Section A)

NOTE: Dose rates will vary as a function of effective age.

5.3.1 Determine effective age of the noble gas at the receptor site.

- effective age @ receptor = effective age @ release
+ travel time

$$\text{travel time} = \frac{\text{distance @ receptor (miles)}}{\text{AWS10}}$$

- Enter effective age in column 3 of Attachment 7.2.

5.3.2 Obtain the gamma decay energy from Attachment 7.3 using the effective age from column 3 and record in column 6 of Attachment 7.2 Section A.

5.0 INSTRUCTIONS-contd.

- 5.3.3 Select a reasonable time period for this calculation and record in columns 11 and 12 of Attachment 7.2 Section A.
- 5.3.4 Complete calculations in Attachment 7.2 Section A.
- 5.4 Calculate the Thyroid Inhalation Dose Rates and Integrated Doses from I-131 for each receptor site (Attachment 7.2 Section B).
 - 5.4.1 Information recorded in columns 1, 2, 3, 5, 11, and 12 of Attachment 7.2 Section A will be the same for Attachment 7.2 Section B.
 - 5.4.2 Complete calculations in Attachment 7.2 Section B.
- 5.5 Calculate the Thyroid Inhalation Dose Rates and Integrated Doses for all iodines for each receptor site (Attachment 7.2 Section C).
 - 5.5.1 Information recorded in columns 1, 2, 3, 11, and 12 of Section A will be the same as for columns 1, 2, 3, 10, and 11 in Section C.
 - 5.5.2 Obtain Adult I-131 Dose Rate (column 7 Section B) and record in column 4 of Section C.
 - 5.5.3 Obtain ratio of release rates (total iodines/I-131) from Attachment 7.4 utilizing the effective age in column 3 and record value in column 5 of Section C.
 - 5.5.4 Complete calculations in Section C.
- 5.6 Update and refine dose assessments for critical receptor sites upon significant changes in one or more of the following parameters.
 - a. release rate
 - b. the duration of the release
 - c. effective age
 - d. existing meteorological conditions
- 5.7 The data recording and does calculations performed in steps 5.1 through 5.6 may also be performed by an Apple II program as an alternative to manual calculations. With the "Offsite Dose Calc" disk in disk slot number 2, the program may be run by the following keyboard entries:

RUN CLEAR, S6, D2 (RETURN)
RUN DOSE, S6, D2 (RETURN)

1

6.0 REFERENCES

- 6.1 NRC REGULATORY GUIDE 1.109 "Calculation of Annual Doses to Man from Routine Releases of Reactor Effluents for the Purpose of Evaluating Compliance with 10 CFR 50, Appendix I".
- 6.2 ICRP No. 59 "Permissible Dose For Internal Radiation".
- 6.3 Introduction to Nuclear Engineering, John R. La Marsh Addison Wesley Publishing Company, December 1977.
- 6.4 NUREG 0172 "Age Specific Dose Commitment Factor for One Year Chronic Intake"
- 6.5 Health Physics Journal, November 1981, Volume 41 No. 5, page 759.
- 6.6 Reg. Guide 1.145, August 1979; "Atmospheric Dispersion Models for Potential Accident Consequence Assessments at Nuclear Power Plants"
- 6.7 Reg. Guide 1.111, July 1, 1977; Revision 1, "Methods for Estimating Atmospheric Transport and Dispersion of Gaseous Effluents In Routine Releases From Light-Water-Cooled-Reactors"
- 6.8 EPA Manual of Protection Actions for Nuclear Industries, Appendix D, May 1980.

7.0 ATTACHMENTS

	<u>Revision No.</u>
7.1 Determination of X/Q	Original
7.2 Calculation of Dose Rates and Integrated Dose for Whole Body and Thyroid	Original
7.3 Average Gamma Decay Energy for Noble Gas Mixtures"	Original
7.4 Ratio of Thyroid Dose Rates from all Iodines to Thyroid Dose Rates from I-131 vs. "Effective Age" of Mixture"	Original
7.5 Atmospheric Stability Class Determination: Alternate Methods	Original
7.6 Offsite Meteorological Data	Original
7.7 Dose Rate Calculations and Parameter Descriptions	Original
7.8 Sample Meteorological Computer Hourly Printout	Original

ATTACHMENT 7.1

"Determination of X/Q"

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Date	Time	Receptor Site Location	$\frac{\bar{X}\bar{u}}{Q}$ (m ⁻²)	Wind speed at 10 meters (mph)	Conversion Factor $\frac{M/sec}{mph}$	$\frac{X}{Q}$ (sec ⁻³)
_____	_____	_____	_____	÷ (_____)	x 0.447)	= _____
_____	_____	_____	_____	÷ (_____)	x 0.447)	= _____
_____	_____	_____	_____	÷ (_____)	x 0.447)	= _____
_____	_____	_____	_____	÷ (_____)	x 0.447)	= _____
_____	_____	_____	_____	÷ (_____)	x 0.447)	= _____

Wind Direction _____

Stability Category _____

Preparer _____ (signature)

Reviewer _____ (signature)

ATTACHMENT 7.2

Receptor Location _____ CALCULATION OF DOSE RATES AND INTEGRATED DOSE FOR WHOLE BODY AND THYROID
 Reactor Shutdown Date: _____ Time: _____

Section A: Whole Body Dose Rates and Integrated Doses from Noble Gases as a Function of Effective Age.

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Date	Time	Effective Age (hr)	Release Rate Noble Gas (Ci/sec)	X/Q (sec/m3)	Gamma Decay Energy (MeV/dis)	Dose Conversion Factor	Dose Rate Noble Gas (mrem/hr)	Dose Rate Time 1 (mrem/hr)	Dose Rate Time 2 (mrem/hr)	time 2 (hr)	time 1 (hr)	Integrated Dose (mrem)
_____	_____	_____	_____	x _____	x _____	x _____	9.5E+05 = _____	(_____ + _____)	+ 2 x (_____ - _____)	_____	_____	_____
_____	_____	_____	_____	x _____	x _____	x _____	9.5E+05 = _____	(_____ + _____)	+ 2 x (_____ - _____)	_____	_____	_____
_____	_____	_____	_____	x _____	x _____	x _____	9.5E+05 = _____	(_____ + _____)	+ 2 x (_____ - _____)	_____	_____	_____
_____	_____	_____	_____	x _____	x _____	x _____	9.5E+05 = _____	(_____ + _____)	+ 2 x (_____ - _____)	_____	_____	_____
_____	_____	_____	_____	x _____	x _____	x _____	9.5E+05 = _____	(_____ + _____)	+ 2 x (_____ - _____)	_____	_____	_____
											Sum = _____	

Section B: Thyroid Inhalation Dose Rates and Integrated Doses (Adult and Child) from I-131 as a Function of Effective Age

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Date	Time	Effective Age (hr)	Release Rate I-131 (Ci/sec)	X/Q (sec/m3)	Dose Conversion Factor	Adult Dose Rate I-131 (rem/hr)	Child Dose Rate (rem/hr)	Child Dose Rate time 1 (rem/hr)	Child Dose Rate time 2 (rem/hr)	time 2 (hr)	time 1 (hr)	Child Integrated Dose (rem)
_____	_____	_____	_____	x _____	x _____	1.86E+06 = _____	x 2 = _____	(_____ + _____)	+ 2 x (_____ - _____)	_____	_____	_____
_____	_____	_____	_____	x _____	x _____	1.86E+06 = _____	x 2 = _____	(_____ + _____)	+ 2 x (_____ - _____)	_____	_____	_____
_____	_____	_____	_____	x _____	x _____	1.86E+06 = _____	x 2 = _____	(_____ + _____)	+ 2 x (_____ - _____)	_____	_____	_____
_____	_____	_____	_____	x _____	x _____	1.86E+06 = _____	x 2 = _____	(_____ + _____)	+ 2 x (_____ - _____)	_____	_____	_____
_____	_____	_____	_____	x _____	x _____	1.86E+06 = _____	x 2 = _____	(_____ + _____)	+ 2 x (_____ - _____)	_____	_____	_____
											Sum = _____	

Section C: Thyroid Inhalation Dose Rates and Integrated Doses from All Radioidines as a Function of Effective Age.

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Date	Time	Effective Age (hr)	Adult I-131 Dose Rate (rem/hr)	Dose Rate from all Iodines Dose Rate from I-131	Adult Dose Rate (rem/hr)	Child Dose Rate (rem/hr)	Child Dose Rate time 1 (rem/hr)	Child Dose Rate time 2 (rem/hr)	time 2	time 1	Child Integrated Dose (rem)
_____	_____	_____	_____	x _____	= _____	x 2 = _____	(_____ + _____)	+ 2 x (_____ - _____)	_____	_____	_____
_____	_____	_____	_____	x _____	= _____	x 2 = _____	(_____ + _____)	+ 2 x (_____ - _____)	_____	_____	_____
_____	_____	_____	_____	x _____	= _____	x 2 = _____	(_____ + _____)	+ 2 x (_____ - _____)	_____	_____	_____
_____	_____	_____	_____	x _____	= _____	x 2 = _____	(_____ + _____)	+ 2 x (_____ - _____)	_____	_____	_____
_____	_____	_____	_____	x _____	= _____	x 2 = _____	(_____ + _____)	+ 2 x (_____ - _____)	_____	_____	_____
											Sum = _____

Preparer _____ (signature)
 Reviewer _____ (signature)

ATTACHMENT 7.3

EFFECTIVE DATE: 3/15/82

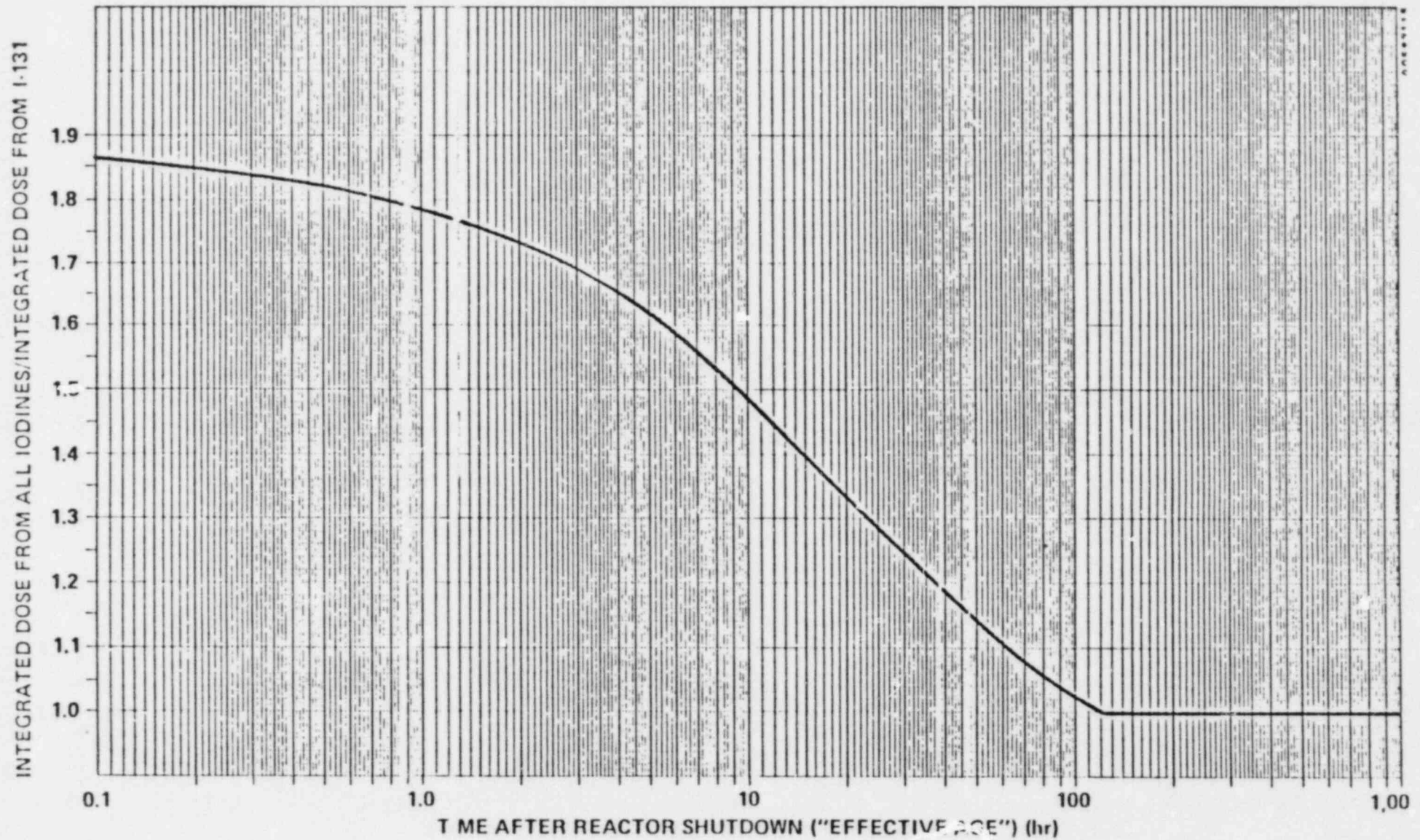
AVERAGE GAMMA DECAY ENERGY FOR NOBLE GAS MIXTURES,
RANCHO SECO



TIME SINCE REACTOR SHUTDOWN ("EFFECTIVE AGE") (HR)

ATTACHMENT 7.4

FIGURE : RATIO OF INTEGRATED THYROID DOSE FROM ALL IODINES TO INTEGRATED THYROID DOSE FROM I-131 VS "EFFECTIVE AGE" OF MIXTURE, RANCHO SEC O



AP 511 ATTACHMENT 7.4 PAGE 1 OF 1

ATTACHMENT 7.5

"Atmospheric Stability Class Determination: Alternate Methods"

Note: Atmospheric Stability Classes should be determined in accordance with AP 510, AP 511, or AP 512. The following methods are for use only as alternatives to determination by AP 509, 511, and 512. Alternatives are listed in order of preference.

1. Obtain the temperature difference at between 60 meters and 10 meters in °F (column ADT on the computer printout). Stability categories are defined as follows:

<u>PASQUILL CATEGORY</u>	<u>Delta °F = °F at 60 meters - °F at 10 meters</u>
A	-1.7
B	-1.7 to -1.5
C	-1.5 to -1.4
D	-1.4 to -0.45
E	-0.45 to 1.4
F	1.4 to 3.6
G	3.6

2. Delta T Method

Obtain the "Percent of full scale" reading from the meteorological computer strip chart recorder (column "DT" or "BDT"). Utilizing this value, stability categories are defined as follows:

<u>Percent of Full Scale</u>	<u>PASQUILL CATEGORY</u>
46	A
46 to 48	B
48 to 50	C
50 to 56	D
56 to 71	E
71 to 89	F
89	G

Note: If the "Percent of full scale" for column "DT" or "BDT" is a straight line on the chart, the reading is faulty. Proceed to alternate method 3.

3. Visual Observation and wind speeds at 10 meters.

STABILITY CLASSIFICATION KEY

33 Foot Wind Speed (m/sec)	<u>Day Time Insulation</u>			<u>Night Conditions</u>	
	<u>Strong</u>	<u>Moderate</u>	<u>Slight</u>	<u>Thin Overcast or $\geq 4/8$ cloudiness</u>	<u>< 3/8 cloudiness</u>
< 2	A	A-B	B	-	-
2-3	A-B	B	C	E	F
3-5	B	B-C	C	D	E
5-6	C	C	D	D	D
> 6	C	C	D	D	D

This neutral class, D, should be assumed for overcast conditions during day or night.

- sampling time of ten minutes
- Night refers to the period from 1 hour before sunset to 1 hour after sunrise.
- Class D may be assumed for overcast condition during day or night, regardless of wind speed.
- "Strong" incoming solar radiation; solar altitude greater than 60° with clear skies.
- "Slight" incoming solar radiation; solar altitude from 15° to 35° with clear skies.

4. Vertical Profile of the atmosphere at 0 ft. and 500 ft.
California Air Resources

Vertical profiles are determined each morning at 6:00 a.m. During the fall season an additional profile is determined at noon.

The state may request additional profiles for special cases.

ATTACHMENT 7.6

"OFFSITE METEOROLOGICAL DATA"

- A. National Weather Services 24 hr. telephone number
1641 Resources Building
1416 Ninth Street
Sacramento, CA

Attachment 7.7

Dose Rate Calculations and Parameter Descriptions

Whole Body Gamma Dose Rate

$$\text{Whole Body (mrem/hr)} = 9.5E+05 \times \bar{E}_y \times \text{RR}_{\text{ng}} \text{ (Ci/sec)} \times \text{X/Q}$$

where:

9.5E+05 = Dose conversion factor to determine dose rate from air concentration and average gamma decay energy in units of

$$\frac{\text{mr - disintegration - cc}}{\text{MeV - uCi - hr}} \quad \text{or} \quad \frac{\text{mr - disintegration - m}^3}{\text{MeV - Ci - hr}}$$

\bar{E}_y = average gamma decay energy (MeV/dis) for the isotopic mixture in the cloud.

RR_{ng} = Release Rate of Noble Gases (Ci/sec)

X/Q = relative concentration at the receptor site boundary

Whole Body (mrem/hr) = Whole body gamma dose rate at the receptor

Thyroid Inhalation Dose Rates

I-131 Inhalation Dose Rate:

$$D_{\text{I-131}} \text{ (rem/hr)} = 1.86E+06 \times \text{RR}_{\text{I-131}} \text{ (Ci/sec)} \times \text{X/Q}$$

where:

1.86E+06 = Dose conversion factor for I-131 inhalation by an adult at a "working breathing rate" rem - m³/hr - Ci

$\text{RR}_{\text{I-131}}$ (Ci/sec) = release rate of I-131 (Ci/sec)

X/Q = relative concentration at the receptor site (sec/m³)

$D_{\text{I-131}}$ (rem/hr) = the Thyroid inhalation dose rate from I-131 at the receptor

Total Radioiodine Inhalation Dose Rate:

$$D_{\text{Total I}} \text{ (rem/hr)} = D_{\text{I-131}} \text{ (rem/hr)} \times \frac{\text{total radioiodine dose rate}}{\text{I-131 dose rate}}$$

Attachment 7.8

SAMPLE METEOROLOGICAL COMPUTER HOURLY PRINTOUT

This data is obtained by holding switch 0 up on the meteorological computer until the typewriter begins printing. No X/Q or SIG10 values will be printed if the data is manually requested. The computer automatically prints the data every hour, with X/Q and SIG10 values.

YEAR	DAY	ADT	BDT	ADP	AWS10	AWD10	SIG30	SIG10	SIG3	AWS60	X/Q	
HOUR		BT60	AT60	BDP	BWS10	BWD10	SIG30	SIG10	SIG3	AWD60	SIG60	
A	1975	133	4.99	4.99	59.46	5.07	87.5	9.1	3.5	3.0	5.38	310.
B	310	6	4.99	71.56	59.51	5.53	121.6	10.1	3.6	2.4	128.1	3.6

Shown above is a typical Control Room anemograph printout. The "A" channel is to be used for determination of wind speed (AWS) and wind direction (AWD). Detailed explanation follows:

- ADT - (°F) Temperature difference between 10 meters and 60 meters (thermocouple)
- BDT - (°F) Temperature difference between 10 meters and 60 meters (duplicate thermocouple)
- BT60 - (°F) Temperature at 60 meters
- AT60 - (°F) Temperature at 60 meters (duplicate instrument)
- ADP - (°F) dew point
- BDP - (°F) dew point (duplicate)
- AWS10 - (MPH) Average wind speed at 10 meters
- BWS10 - (MPH) Average wind speed at 10 meters (duplicate instrument)
- AWD10 - (°) Angular degrees from due north. Average wind direction at 10 meters from which the wind blows
- BWD10 - (°) Angular degrees from due north. Average wind direction at 10 meters from which the wind blows:

0°	45°	90°	135°	180°	225°	270°	315°	360°
N	NE	E	SE	S	SW	W	NW	N

NOTE: The values can go from 0° - 540°. When values exceed 360°, subtract 360° from the value and the resultant figure can be used directly in the 0-360° chart.

SIG30, SIG10, SIG3 - Standard deviation of wind direction at 10 meters
(30, 10, and 3 minute averaging time respectively)

AWS60 - (MPH) Average wind speed at 60 meters.

AWD60 - (° degrees) Average wind direction at 60 meters from which the wind
blows (angle from due north)

X/Q - (E-06 sec/m³) Atmospheric dispersion factor at 700 meters

SIG60 - Standard deviation of wind direction at 60 meters (60 minute
averaging time)

SMUD - RANCHO SECO
EMERGENCY PLAN PROCEDURE

AP 512

EMERGENCY OPERATIONS FACILITY DOSE CALCULATION

TABLE OF CONTENTS

	<u>Page No.</u>
1.0 PURPOSE	2
2.0 RESPONSIBILITY	2
3.0 INITIATING CONDITIONS	2
4.0 PRECAUTIONS AND LIMITATIONS	3
5.0 INSTRUCTIONS	3
6.0 REFERENCES	5
7.0 ATTACHMENTS	5

| 1

1.0 PURPOSE

- 1.1 This procedure provides instructions and calculations necessary to predict off-site dose rates and integrated doses based upon actual meteorological data, release rates (Ci/sec) of noble gases and I-131 (AP 534), and dispersion factor overlays. This procedure is designed explicitly for personnel manning the Emergency Operations Facility and is intended to update and refine offsite dose estimates calculated according to AP 509 "Control Room Offsite Dose Calculations". Calculation of actual or projected doses at offsite locations provides a basis for decision making concerning recommendations of activating appropriate emergency response procedures and/or appropriate protective actions.

2.0 RESPONSIBILITY

- 2.1 The Environmental Assessment Coordinator is responsible for the implementation of this procedure.

3.0 INITIATING CONDITIONS

- 3.1 Upon the activation of the Emergency Operations Facility for an emergency requiring a dose calculation.

4.0 PRECAUTIONS AND LIMITATIONS

4.1 Dose calculations are dependent upon the following:

- a) Release Rate of noble gases and iodines
- b) Duration of the release
- c) Effective Age (time since reactor shutdown)
- d) Meteorological conditions

4.2 Update and refine dose assessments upon significant changes in one or more of the above parameters.

4.3 Method one for calculations will be using an Apple III computer (see operating procedures); in the absence of this the following manual method will be used.

5.0 INSTRUCTIONS

5.1 From Attachment 7.3 of AP 554 "TSC INPUT DATA SHEET", get the following information and fill in blanks on Attachment 7.1 "UDAC DOSE CALCULATION SHEET":

- a) Rx shutdown time
- *b) Stability class
- c) Wind speed
- **d) Release rates for Noble Gas and I-131
- ***e) Delta time

5.2 Determine effective age:

5.2.1 Effective age is time since reactor shutdown.

5.2.2 Effective age at receptor is the effective age at release plus travel time.****

5.2.3 Put effective age in appropriate blank on Attachment 7.1 "UDAC DOSE CALCULATION SHEET".

5.3 Determine $\frac{\text{MeV}}{\text{dis}}$

5.3.1 On Attachment 7.2 find the correct effective age; go to where curve intersects with this effective age and read off \overline{E}_γ from other axis.

5.3.2 Fill in blank B on Attachment 7.1 "UDAC DOSE CALCULATION SHEET".

5.3.3 OR use Attachment 7.3 to determine \overline{E}_γ .

* If not given go to Attachment 7.8.

** If not given go to Attachment 7.9.

*** If not given go to Attachment 7.9.

**** Travel time = $\frac{\text{distances at receptor (mile)}}{\text{Wind Speed (MPH)}}$

5.0 INSTRUCTIONS-contd.

- 5.4 Determine $\frac{\text{Total Iodine}}{\text{I-131}}$ ratio:
- 5.4.1 On Attachment 7.4 find effective age; go to where curve intersects with effective age and read off ratio.
 - 5.4.2 Fill in Blank D on Attachment 7.1.
 - 5.4.3 Or, use Attachment 7.5 to determine ratio.
- 5.5 Determine whole body normalized dose rate at 2, 5, and 10 miles:
- 5.5.1 On Attachment 7.6 "WHOLE BODY NORMALIZED DOSE RATE" find appropriate stability class; find number in that column which represents 2, 5, and 10 miles.
 - 5.5.2 Fill in blank F on Attachment 7.1 with appropriate values from Attachment 7.6.
- 5.6 Determine child thyroid normalized dose commitment for 2, 5, and 10 miles:
- 5.6.1 On Attachment 7.7 "CHILD THYROID NORMALIZED DOSE COMMITMENT" find appropriate stability class; find number in that column which represents 2, 5, and 10 miles.
 - 5.6.2 Fill in blank G on Attachment 7.1 with appropriate values from Attachment 7.7.
- 5.7 Perform calculation to determine whole body doses at 2, 5, and 10 miles and child thyroid dose at 2, 5, and 10 miles.
- 5.8 Use information from Attachment 7.1 to complete Attachment 7.4 from AP 553, "RADIOLOGICAL STATUS FORM", and prepare for EOF briefing.
- 5.9 Orient the appropriate isopleth overlay on the base map and determine areas of concern.
- 5.9.1 Verify dose calculation using field data where available.

6.0 REFERENCES

- 6.1 NRC REGULATORY GUIDE 1.109 "Calculation of Annual Doses to Man from Routine Releases of Reactor Effluents for the Purpose of Evaluating Compliance with 10 CFR 50, Appendix I".
- 6.2 ICRP No. 59 "Permissible Dose For Internal Radiation".
- 6.3 Introduction to Nuclear Engineering, John R. La Marsh Addison Wesley Publishing Company, December 1977.
- 6.4 NUREG 0172 "Age Specific Dose Commitment Factor for One Year Chronic Intake".
- 6.5 Health Physics Journal, November 1981, Volume 41 No. 5, page 759.
- 6.6 Reg. Guide 1.145, August 1979; "Atmospheric Dispersion Models for Potential Accident Consequence Assessments at Nuclear Power Plants".
- 6.7 Reg. Guide 1.111, July 1, 1977; Revision 1, "Methods for Estimating Atmospheric Transport and Dispersion of Gaseous Effluents In Routine Releases From Light-Water-Cooled-Reactors".
- 6.8 EPA Manual of Protection Actions for Nuclear Industries, Appendix D, May 1980.

7.0 ATTACHMENTS

	<u>Revision No.</u>
7.1 UDAC Dose Calculation Sheet	Original
7.2 Average Gamma Decay Energy for Noble Gas Mixture, Rancho Seco	Original
7.3 \bar{E}_γ (MeV/dis) Noble Gas	Original
7.4 Ratio of Integrated Thyroid Dose from ALL Iodines to Integrated Thyroid Dose from I-131 vs "Effective Age" of Mixture, Rancho Seco	Original
7.5 Total Iodine Integrated Thyroid Dose/ I-131 Integrated Thyroid Dose	Original
7.6 Whole Body Normalized Dose Rate	Original
7.7 Child Thyroid Normalized Dose Commitment	Original
7.8 Atmospheric Stability Class Determination	Original

1

7.0 <u>ATTACHMENTS</u> -contd.	<u>Revision No.</u>
7.9 Release Rate and Delta Time	Original
7.10 Sample Meteorological Computer Hourly Printout	Original
7.11 "Offsite Meteorological Data"	Original
7.12 Dose Rate Calculations and Parameter Descriptions	Original
7.13 Determining Doses for Other Than Centerline Key Receptor Sites	Original
7.14 "Determination of X/Q"	Original
7.15 Calculation of Dose Rates and Integrated Dose for Whole Body and Thyroid	Original

1

ATTACHMENT 7.1

UDAC DOSE CALCULATION SHEET

Sheet Number _____

Date/Time _____

Noble Gas Source Term (Ci/sec) _____
A

I-131 Source Term _____
C

Wind Speed (mph) _____
E

Effective Age _____

Rx Shutdown Time _____

Stability Class _____

Delta Time (hours) _____

	2 mi	5 mi	10 mi
Effective Age and Travel Time	_____	_____	_____
Mev/dis at eff. Age	B	B	B
Total Iodine 1-131 ratio	D	D	D
Whole Body Normalized Dose Rate (Rem/hr)	F	F	F
Child Thyroid Normalized Dose Commitment (REM)	G	G	G

Whole Body Dose:

	(A)	($\frac{B}{0.310}$)	($\frac{1}{E}$)	(F)	= Dose Rate	($\frac{Rem}{Hr}$)	(Δ time)	= REM
2 mi	_____	$\frac{0.310}{0.310}$	$\frac{1}{1}$	_____	=	_____	=	_____
5 mi	_____	$\frac{0.310}{0.310}$	$\frac{1}{1}$	_____	=	_____	=	_____
10 mi	_____	$\frac{0.310}{0.310}$	$\frac{1}{1}$	_____	=	_____	=	_____
_____	_____	$\frac{0.310}{0.310}$	$\frac{1}{1}$	_____	=	_____	=	_____

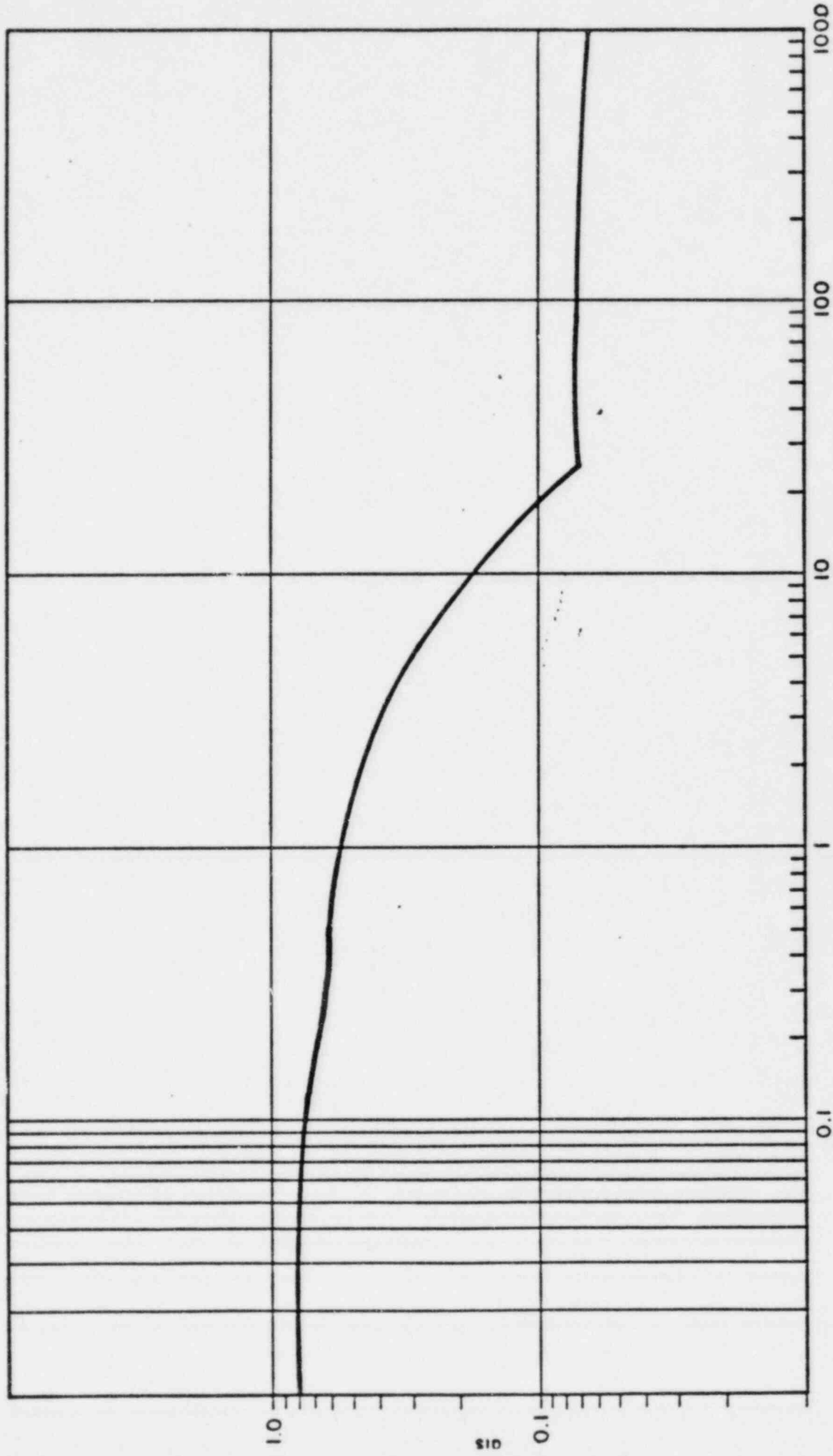
Child Thyroid Dose:

	(C)	($\frac{D}{1.62}$)	($\frac{1}{E}$)	(G)	= Dose Rate	($\frac{Rem}{Hr}$)	(Δ time)	= REM
2 mi	_____	$\frac{1.62}{1.62}$	$\frac{1}{1}$	_____	=	_____	=	_____
5 mi	_____	$\frac{1.62}{1.62}$	$\frac{1}{1}$	_____	=	_____	=	_____
10 mi	_____	$\frac{1.62}{1.62}$	$\frac{1}{1}$	_____	=	_____	=	_____
_____	_____	$\frac{1.62}{1.62}$	$\frac{1}{1}$	_____	=	_____	=	_____

ATTACHMENT 7.2

EFFECTIVE DATE: 3/15/82

AVERAGE GAMMA DECAY ENERGY FOR NOBLE GAS MIXTURES,
RANCHO SECO



TIME SINCE REACTOR SHUTDOWN ("EFFECTIVE AGE") (HR)

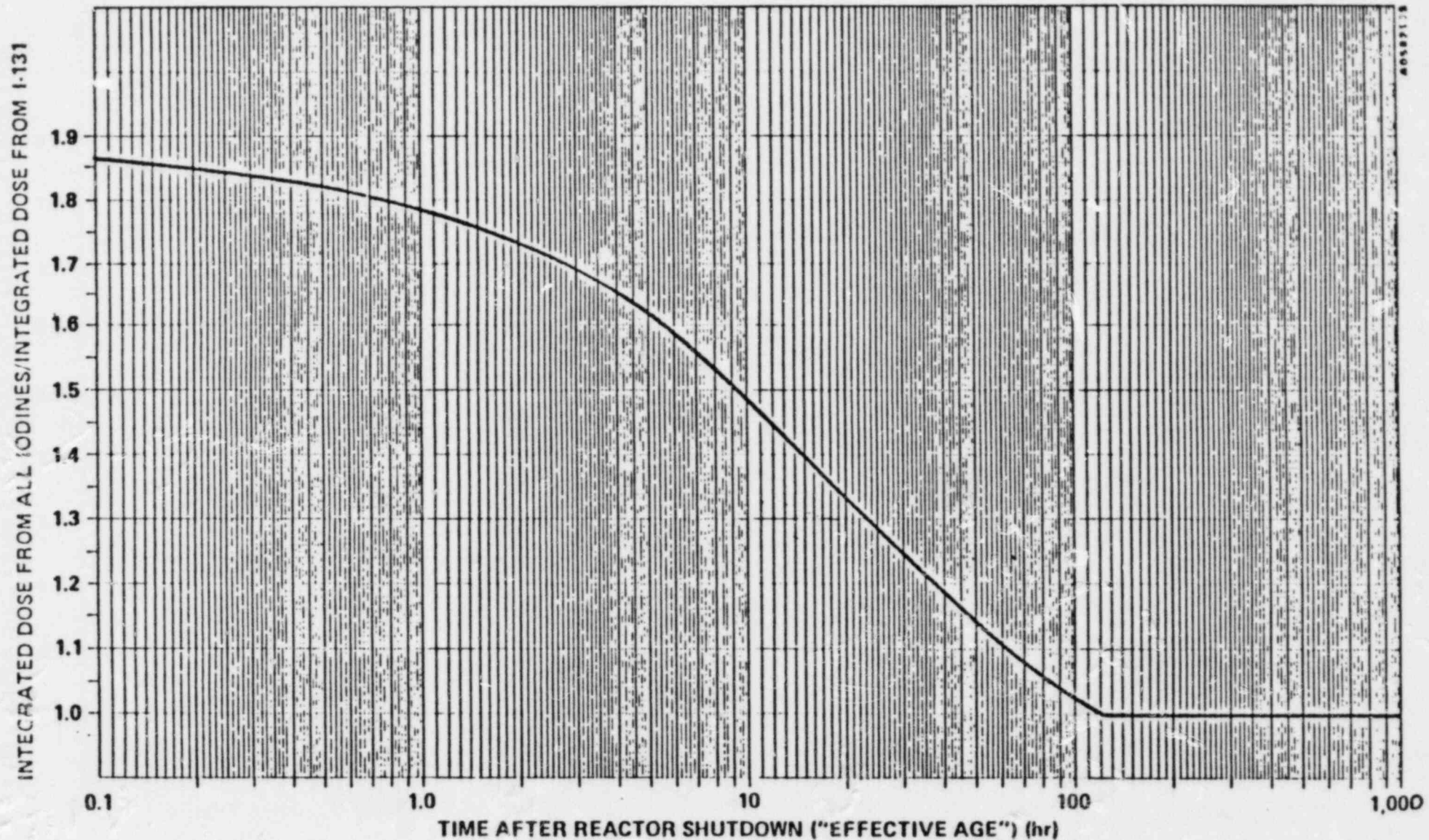
ATTACHMENT 7.3

 \bar{E}_γ (MeV/dis) NOBLE GASES

Effective Age (hours)	\bar{E}_γ
0.0	0.814
0.24	0.656
0.50	0.604
1.0	0.544
2.5	0.433
5.0	0.310
10	0.192
24	0.072
96	0.072
720	0.057

ATTACHMENT 7.4

FIGURE : RATIO OF INTEGRATED THYROID DOSE FROM ALL IODINES TO INTEGRATED THYROID DOSE FROM I-131 VS "EFFECTIVE AGE" OF MIXTURE, RANCHO SECO



ATTACHMENT 7.5

Total Iodine Integrated Thyroid Dose
I-131 Integrated Thyroid Dose

Effective Age (hours)	Ratio
0	1.86
0.24	1.84
0.50	1.82
1.0	1.79
2.5	1.71
5.0	1.62
10	1.49
24	1.29
96	1.03
720	1.00

ATTACHMENT 7.6

WHOLE BODY NORMALIZED DOSE RATE

(Rem/hour)

1 Ci/sec
1 mph
5 hour effective age

Miles	A	B	C	D	E	F	G
2	4.56 E-5	7.96 E-4	4.78 E-3	1.69 E-2	3.34 E-2	7.36 E-2	1.56 E-1
5	1.70 E-5	2.62 E-5	8.21 E-4	3.73 E-3	8.36 E-3	2.10 E-2	4.86 E-2
10	9.21 E-6	1.19 E-5	2.64 E-4	1.36 E-3	3.33 E-3	9.01 E-3	2.18 E-2
15	6.51 E-6	8.46 E-6	1.38 E-4	7.71 E-4	2.05 E-3	5.71 E-3	1.42 E-2
21	4.87 E-6	6.36 E-6	8.46 E-5	4.98 E-4	1.40 E-3	3.91 E-3	1.03 E-2
30	3.58 E-6	4.71 E-6	5.00 E-5	3.15 E-4	9.51 E-4	2.64 E-3	7.31 E-3

ATTACHMENT 7.7

CHILD THYROID NORMALIZED DOSE COMMITMENT

(Rem/hour)

1 Ci/sec
1 mph
5 hour effective age

Miles	A	B	C	D	E	F	G
2	9.36 E-1	1.63 E+1	9.81 E+1	3.46 E+2	6.86 E+2	1.51 E+3	3.18 E+3
5	3.48 E-1	5.36 E-1	1.70 E+1	7.61 E+3	1.71 E+2	4.29 E+2	9.96 E+2
10	1.89 E-1	2.43 E-1	5.41	2.79 E+1	6.81 E+1	1.85 E+2	4.46 E+2
15	1.33 E-1	1.73 E-1	2.83	1.58 E+1	4.19 E+1	1.17 E+2	2.91 E+2
21	9.96 E-2	1.30 E-1	1.73	1.02 E+1	2.87 E+1	8.01 E+1	2.10 E+2
30	7.36 E-2	9.66 E-2	1.03	6.41	1.94 E+1	5.41 E+1	1.50 E+2

ATTACHMENT 7.8

"ATMOSPHERIC STABILITY CLASS DETERMINATION: ALTERNATE METHODS"

1. Determine the atmospheric stability category
 - a. Obtain SIG10 value from the meteorology computer printout. (Attachment 7.10).
 - b. Stability categories are defined as follows:

<u>"SIG 10"</u>	<u>PASQUILL CATEGORY</u>
25 to 20+	A
20 to 15+	B
15 to 10+	C
10 to 5+	D
5 to 2.5+	E
2.5 to 1.7+	F
Less than 1.7	G

99.9* this is a faulty reading. Refer to 2. below.

2. Obtain the temperature difference between 60 meters and 10 meters in °F (column ADT on the computer printout). Stability categories are defined as follows:

<u>PASQUILL CATEGORY</u>	<u>Delta °F = °F at 60 meters - °F at 10 meters</u>
A	-1.7
B	-1.7 to -1.5
C	-1.5 to -1.4
D	-1.4 to -0.45
E	-0.45 to 1.4
F	1.4 to 3.6
G	3.6

3. Delta T Method

Obtain the "Percent of full scale" reading from the meteorological computer strip chart recorder (column "DT" or "BDT"). Utilizing this value, stability categories are defined as follows:

<u>Percent of Full Scale</u>	<u>PASQUILL CATEGORY</u>
46	A
46 to 48	B
48 to 50	C
50 to 56	D
56 to 71	E
71 to 89	F
89	G

If the "Percent of full scale" for column "DT" or "BDT" is a straight line on the chart, the reading is faulty. Proceed to alternate method 4.

4. Visual Observation and wind speeds at 10 meters.

STABILITY CLASSIFICATION KEY

<u>33 Foot Wind Speed (m/sec)</u>	<u>Day Time Insulation</u>			<u>Night Conditions</u>	
	<u>Strong</u>	<u>Moderate</u>	<u>Slight</u>	<u>Thin Overcast or $\geq 4/8$ cloudiness</u>	<u>< 3/8 cloudiness</u>
< 2	A	A-B	B	-	-
2-3	A-B	B	C	E	F
3-5	B	B-C	C	D	E
5-6	C	C	D	D	D
> 6	C	C	D	D	D

This neutral class, D, should be assumed for overcast conditions during day or night.

- sampling time of ten minutes

- Night refers to the period from 1 hour before sunset to 1 hour after sunrise.

- Class D may be assumed for overcast condition during day or night, regardless of wind speed.
- "Strong" incoming solar radiation; solar altitude greater than 60° with clear skies.
- "Slight" incoming solar radiation; solar altitude from 15° to 35° with clear skies.

5. Vertical Profile of the atmosphere at 0 ft. and 500 ft.

California Air Resources

Vertical profiles are determined each morning at 6:00 a.m. During the fall season an additional profile is determined at noon.

The state may request additional profiles for special cases.

ATTACHMENT 7.9

RELEASE RATES:

Determine Noble Gas and I-131 release rates by performing AP 534 "RELEASE RATE DETERMINATION".

DELTA TIME:

Δ time is the expected duration time for the release, but is not actual time.

NOTE: A factor which effects Δ time is the effective age:

For effective ages less than 10 hours Δ time must be less than or equal to 5. For effective ages greater than or equal to 10 hours, but less than 100 hours Δ time must be less than or equal to 10 hours.

Example:

Effective age	Δ time
1	1
2	2
3	3
4	4
5	5
6	5 + 1
7	5 + 2
10	5 + 5
11	10 + 1 or 5 + 5 + 1
12	10 + 2 or 5 + 5 + 2
14	10 + 4 or 5 + 5 + 4
15	10 + 5 or 5 + 5 + 5
18	10 + 5 + 3
20	10 + 10 or 10 + 5 + 5
22	10 + 10 + 2
24	10 + 10 + 4
25	10 + 10 + 5
30	10 + 10 + 10
35	10 + 10 + 10 + 5
etc.	

Attachment 7.10

SAMPLE METEOROLOGICAL COMPUTER HOURLY PRINTOUT

This data is obtained by holding switch 0 up on the meteorological computer until the typewriter begins printing. No X/Q or SIG10 values will be printed if the data is manually requested. The computer automatically prints the data every hour, with X/Q and SIG10 values.

YEAR	DAY	ADT	BDT	ADP	AWS10	AWD10	SIG30	SIG10	SIG3	AWS60	X/Q	
		HOUR	BT60	AT60	BDP	BWS10	BWD10	SIG30	SIG10	SIG3	AWD60	SIG60
A	1975	133	4.99	4.99	59.46	5.07	87.5	9.1	3.5	3.0	5.38	310.
B	310	6	4.99	71.56	59.51	5.53	121.6	10.1	3.6	2.4	128.1	3.6

Shown above is a typical Control Room anemograph printout. The "A" channel is to be used for determination of wind speed (AWS) and wind direction (AWD). Detailed explanation follows:

- ADT - (°F) Temperature difference between 10 meters and 60 meters (thermocouple)
- BDT - (°F) Temperature difference between 10 meters and 60 meters (duplicate thermocouple)
- BT60 - (°F) Temperature at 60 meters
- AT60 - (°F) Temperature at 60 meters (duplicate instrument)
- ADP - (°F) dew point
- BDP - (°F) dew point (duplicate)
- AWS10 - (MPH) Average wind speed at 10 meters
- BWS10 - (MPH) Average wind speed at 10 meters (duplicate instrument)
- AWD10 - (o) Angular degrees from due north. Average wind direction at 10 meters from which the wind blows:
- BWD10 - (o) Angular degrees from due north. Average wind direction at 10 meters from which the wind blows:

0°	45°	90°	135°	180°	225°	270°	315°	360°
N	NE	E	SE	S	SW	W	NW	N

NOTE: The values can go from 0° - 540°. When values exceed 360°, subtract 360° from the value and the resultant figure can be used directly in the 0-360° chart.

SIG30, SIG10, SIG3 - Standard deviation of wind direction at 10 meters
(30, 10, and 3 minute averaging time respectively)

AWS60 - (MPH) Average wind speed at 60 meters.

AWD60 - (° degrees) Average wind direction at 60 meters from which the wind
blows (angle from due north)

X/Q - (E-06 sec/m³) Atmospheric dispersion factor at 700 meters

SIG60 - Standard deviation of wind direction at 60 meters (60 minute
averaging time)

ATTACHMENT 7.11

"OFFSITE METEOROLOGICAL DATA"

- A. National Weather Services 24 hr. telephone number
1641 Resources Building
1416 Ninth Street
Sacramento, CA

Attachment 7.12

Dose Rate Calculations and Parameter Descriptions

Whole Body Gamma Dose Rate

$$\text{Whole Body (mrem/hr)} = 9.5E+05 \times \bar{E}_y \times RR_{ng} \text{ (Ci/sec)} \times X/Q$$

where:

9.5E+05 = Dose conversion factor to determine dose rate from air concentration and average gamma decay energy in units of

$$\frac{\text{mr} - \text{disintegration} - \text{cc}}{\text{MeV} - \text{uCi} - \text{hr}} \quad \text{or} \quad \frac{\text{mr} - \text{disintegration} - \text{m}^3}{\text{MeV} - \text{Ci} - \text{hr}}$$

\bar{E}_y = average gamma decay energy (MeV/dis) for the isotopic mixture in the cloud.

RR_{ng} = Release Rate of Noble Gases (Ci/sec)

X/Q = relative concentration at the receptor site boundary

Whole Body (mrem/hr) = Whole body gamma dose rate at the receptor

Thyroid Inhalation Dose Rates

I-131 Inhalation Dose Rate:

$$D_{I-131} \text{ (rem/hr)} = 1.86E+06 \times RR_{I-131} \text{ (Ci/sec)} \times X/Q$$

where:

1.86E+06 = Dose conversion factor for I-131 inhalation by an adult at a "working breathing rate" rem - m³/hr - Ci

RR_{I-131} (Ci/sec) = release rate of I-131 (Ci/sec)

X/Q = relative concentration at the receptor site (sec/m³)

D_{I-131} (rem/hr) = the Thyroid inhalation dose rate from I-131 at the receptor

Total Radioiodine Inhalation Dose Rate:

$$D_{\text{Total I}} \text{ (rem/hr)} = D_{I-131} \text{ (rem/hr)} \times \frac{\text{total radioiodine dose rate}}{\text{I-131 dose rate}}$$

WHOLE BODY NORMALIZED DOSE RATE

$$\left(\frac{1 \text{ Ci}}{\text{sec}} \right) \left(\frac{\bar{X}_u}{Q} \frac{1}{\text{m}^2} \right) \left(\frac{1}{1 \text{ mph}} \right) \left(0.310 \frac{\text{MeV}}{\text{dis}} \right) 9.5\text{E}+2 \frac{\text{Rem dis m}^3}{\text{MeV Ci hr}} = \frac{\text{Rem}}{\text{hr}}$$

$$(0.310) (9.5\text{E}+2) \left(\frac{\text{m/sec}}{\text{mph}} \right) \frac{\text{Rem}}{\text{hr}} = \frac{\text{Rem}}{\text{hr}}$$

$$\left(\frac{\text{m/sec}}{\text{mph}} \right) = \frac{1}{0.447}$$

$$(0.310) (9.5\text{E}+2) (0.447) = 1.316415\text{E}+2$$

CHILD THYROID NORMALIZED DOSE COMMITMENT

$$\left(1 \frac{\text{Ci}}{\text{sec}} \right) \left(\frac{\bar{X}_U}{Q} \frac{1}{\text{m}^2} \right) \left(\frac{1}{V} \frac{1}{\text{mph}} \right) \left(1.86\text{E}+6 \frac{\text{Rem m}^3}{\text{hr Ci}} \right) (1.62) (2) = \frac{\text{Rem}}{\text{hr}}$$

$$(1.86\text{E}+6) (1.62) (2) \left(\frac{\text{m/sec}}{\text{mph}} \right) \frac{\text{Rem}}{\text{hr}} = \frac{\text{Rem}}{\text{hr}}$$

$$\left(\frac{\text{m/sec}}{\text{mph}} \right) = \frac{1}{0.447}$$

$$(1.86\text{E}+6) (1.62) (2) (0.447) = 2.6938\text{E}+6$$

ATTACHMENT 7.13

DETERMINING DOSES FOR OTHER THAN CENTERLINE KEY RECEPTOR SITES

1. Enter noble gas release rate into column 4 of Attachment 7.15 Section A.
 2. Enter I-131 release rate into column 4 of attachment 7.15 Section B.
 3. Determine the X/Q values for key receptor sites.
 - a. Determine the atmosphere stability category.
 - b. Orient the appropriate overlay on the base map and identify key receptor site.
 - c. Determine \bar{X}/Q values for each receptor site.
 - .1 Obtain the \bar{X}/Q values for each receptor site directly from the overlay and record in column 4 of Attachment 7.14.
 - .2 Obtain wind speed at 10 meters (AWS 10) from the meteorology computer printout and record value in column 5 of Attachment 7.14.
 - .3 Complete calculations on Attachment 7.14.
 - .4 Record X/Q values in column 5 of Attachment 7.15 Section A and B.
- NOTE: A separate Attachment 7.15 will be required for each receptor site.
4. Calculate the Whole Body Gamma Dose Rates and Integrated Doses from Noble gases for each receptor site.
 5. Determine effective age of the noble gas at the receptor site.
 - a. Effective age at receptor = effective age at release + travel time
 Travel time = $\frac{\text{distance at receptor (miles)}}{\text{wind speed}}$
 - b. Enter effective age in column 3 of Attachment 7.14.
 6. Obtain the gamma decay energy from Attachment 7.2 using the effective age from column 3 and record in column 6 of Attachment 7.15 Section A.
 7. Select a reasonable time period for this calculation and record in columns 11 and 12 of Attachment 7.15 Section A.

8. Complete calculations in Attachment 7.15 Section A.
9. Calculate the Thyroid Inhalation Dose Rates and Integrated Doses from I-131 for each receptor site (Attachment 7.15 Section B).
 - a. Information recorded in columns 1, 2, 3, 5, 11, and 12 of Attachment 7.15 Section A will be the same for Attachment 7.15 Section B.
 - b. Complete calculations in Attachment 7.15 Section B.
10. Calculate the Thyroid Inhalation Dose Rates and Integrated Doses for all iodines for each receptor site (Attachment 7.15 Section C).
 - a. Information recorded in columns 1, 2, 3, 11, and 12 of Section A will be the same as for columns 1, 2, 3, 10, and 11 in Section C.
 - b. Obtain Adult I-131 Dose Rate (column 7 Section B) and record in column 4 of Section C.
 - c. Obtain ratio of release rates (total iodines/I-131) from Attachment 7.4 utilizing the effective age in column 3 and record value in column 5 of Section C.
 - d. Complete calculations in Section C, Attachment 7.15.

ATTACHMENT 7.14

"Determination of X/Q"

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Date	Time	Receptor Site Location	$\frac{\bar{X}u}{Q}$ (m ⁻²)	Wind speed at 10 meters (mph)	Conversion Factor $\frac{M/sec}{mph}$	$\frac{X}{Q}$ (sec/m ³)
_____	_____	_____	_____	_____	_____ x 0.447	= _____
_____	_____	_____	_____	_____	_____ x 0.447	= _____
_____	_____	_____	_____	_____	_____ x 0.447	= _____
_____	_____	_____	_____	_____	_____ x 0.447	= _____
_____	_____	_____	_____	_____	_____ x 0.447	= _____

Wind Direction _____
 Stability Category _____
 Preparer _____ (signature)
 Reviewer _____ (signature)

ATTACHMENT 7.15

Receptor Location _____ CALCULATION OF DOSE RATES AND INTEGRATED DOSE FOR WHOLE BODY AND THYROID
 Reactor Shutdown Date: _____ Time: _____

Section A: Whole Body Dose Rates and Integrated Doses from Noble Gases as a Function of Effective Age.

(1) Date	(2) Time	(3) Effective Age (hr)	(4) Release Rate Noble Gas (Ci/sec)	(5) X/Q (sec/m3)	(6) Gamma Decay Energy (MeV/dis)	(7) Dose Conversion Factor	(8) Dose Rate Noble Gas (mrem/hr)	(9) Dose Rate Time 1 (mrem/hr)	(10) Dose Rate Time 2 (mrem/hr)	(11) time 2 (hr)	(12) time 1 (hr)	(13) Integrated Dose (mrem)
_____	_____	_____	_____	x _____	x _____	x _____	9.5E+05	(_____ + _____)	+ 2 x (_____ - _____)	_____	_____	_____
_____	_____	_____	_____	x _____	x _____	x _____	9.5E+05	(_____ + _____)	+ 2 x (_____ - _____)	_____	_____	_____
_____	_____	_____	_____	x _____	x _____	x _____	9.5E+05	(_____ + _____)	+ 2 x (_____ - _____)	_____	_____	_____
_____	_____	_____	_____	x _____	x _____	x _____	9.5E+05	(_____ + _____)	+ 2 x (_____ - _____)	_____	_____	_____
_____	_____	_____	_____	x _____	x _____	x _____	9.5E+05	(_____ + _____)	+ 2 x (_____ - _____)	_____	_____	_____
											Sum = _____	

Section B: Thyroid Inhalation Dose Rates and Integrated Doses (Adult and Child) from I-131 as a Function of Effective Age

(1) Date	(2) Time	(3) Effective Age (hr)	(4) Release Rate I-131 (Ci/sec)	(5) X/Q (sec/m3)	(6) Dose Conversion Factor	(7) Adult Dose Rate I-131 (rem/hr)	(8) Child Dose Rate (rem/hr)	(9) Child Dose Rate time 1 (rem/hr)	(10) Child Dose Rate time 2 (rem/hr)	(11) time 2 (hr)	(12) time 1 (hr)	(13) Child Integrated Dose (rem)
_____	_____	_____	_____	x _____	x _____	1.86E+06	x 2	(_____ + _____)	+ 2 x (_____ - _____)	_____	_____	_____
_____	_____	_____	_____	x _____	x _____	1.86E+06	x 2	(_____ + _____)	+ 2 x (_____ - _____)	_____	_____	_____
_____	_____	_____	_____	x _____	x _____	1.86E+06	x 2	(_____ + _____)	+ 2 x (_____ - _____)	_____	_____	_____
_____	_____	_____	_____	x _____	x _____	1.86E+06	x 2	(_____ + _____)	+ 2 x (_____ - _____)	_____	_____	_____
_____	_____	_____	_____	x _____	x _____	1.86E+06	x 2	(_____ + _____)	+ 2 x (_____ - _____)	_____	_____	_____
											Sum = _____	

Section C: Thyroid Inhalation Dose Rates and Integrated Doses from All Radiodines as a Function of Effective Age.

(1) Date	(2) Time	(3) Effective Age (hr)	(4) Adult I-131 Dose Rate (rem/hr)	(5) Dose Rate from all Iodines / Dose Rate from I-131	(6) Adult Dose Rate (rem/hr)	(7) Child Dose Rate (rem/hr)	(8) Child Dose Rate time 1 (rem/hr)	(9) Child Dose Rate time 2 (rem/hr)	(10) time 2 (hr)	(11) time 1 (hr)	(12) Child Integrated Dose (rem)
_____	_____	_____	_____	x _____	x 2	_____	(_____ + _____)	+ 2 x (_____ - _____)	_____	_____	_____
_____	_____	_____	_____	x _____	x 2	_____	(_____ + _____)	+ 2 x (_____ - _____)	_____	_____	_____
_____	_____	_____	_____	x _____	x 2	_____	(_____ + _____)	+ 2 x (_____ - _____)	_____	_____	_____
_____	_____	_____	_____	x _____	x 2	_____	(_____ + _____)	+ 2 x (_____ - _____)	_____	_____	_____
_____	_____	_____	_____	x _____	x 2	_____	(_____ + _____)	+ 2 x (_____ - _____)	_____	_____	_____
											Sum = _____

Preparer _____ (signature)
 Reviewer _____ (signature)

SMUD - RANCHO SECO
EMERGENCY PLAN PROCEDURE

AP 513

PERSONNEL ACCOUNTABILITY

TABLE OF CONTENTS

	<u>Page No.</u>
1.0 PURPOSE.	2
2.0 RESPONSIBILITY	2
3.0 INITIATING CONDITIONS.	2
4.0 PRECAUTIONS AND LIMITATIONS.	3
5.0 INSTRUCTIONS	3
6.0 REFERENCES	5
7.0 ATTACHMENTS.	5

4

1.0 PURPOSE

- 1.1 To provide efficient means for conducting personnel accountability at the designated Plant Assembly Point.

2.0 RESPONSIBILITY

- 2.1 The Emergency Coordinator is responsible for initiating Personnel accountability.
- 2.2 The Plant Assembly Point Coordinator is responsible for implementing this procedure and supervising accountability at the Assembly Point.
- 2.3 The Security Watch Commander is responsible for assigning a Security Officer to open up the designated Plant Assembly Point during the back shifts. Additionally he is responsible for directing other Security Force action as prescribed by this procedure.

3.0 INITIATING CONDITIONS

- 3.1 The Emergency Coordinator declares that the plant is in an Alert, Site Area Emergency, or General Emergency status as defined in AP 501 "Recognition and Classification of Emergency"; or determines that personnel accountability is desirable, and announces the designated Assembly Point.

4.0 PRECAUTIONS AND LIMITATIONS

- 4.1 If during this procedure the Assembly Point appears likely to exceed 2 mrem/hr, a site evacuation in accordance with AP 519 "Site Evacuation" should be initiated:
- 4.2 If the Security Computer is inoperable, see Attachment 7.1 Manual Accountability Search.

5.0 INSTRUCTIONS

NOTE: During hours other than normal working hours, the Emergency Coordinator shall appoint an individual to assume the responsibilities of the Plant Assembly Point Coordinator.

5.1 Individual Actions

- 5.1.1 Upon the activation of a siren and an announcement over the public address system, immediately report to the designated Plant Assembly Point, either the Administration Building or Warehouse "A" (Attachment 7.2).
- a. Administration Building - Proceed up the stairs to the parking level, log in at the card reader, then enter the conference room and adjacent offices. If the parking level becomes overcrowded, the Assembly Point Coordinator, with assistance from Security, may relocate nonessential personnel to the L & D Building and adjacent trailers.
 - b. Warehouse - Proceed through the Machine Shop to the card reader at the main entrance. Card in and continue on through the locker room to the Machine Shop and await further instructions.
- 5.1.2 If dressed in protective coveralls, continue to wear them to the Assembly Point while removing other protective clothing at the point of exit from the controlled area.

NOTE: Be surveyed before entering the Assembly Point. If contamination is found, have decontamination performed in accordance with AP 516 "Personnel Decontamination."

- 5.1.3 The first Chem/Rad Assistance arriving at the Assembly Point should open the emergency locker in preparation for its use.

5.2 Security Force Action

- 5.2.1. The Lieutenant in charge of the security force, upon hearing the announcement for personnel to assemble, will:
- a. Insure that both the Central and Secondary Alarm Station (CAS & SAS) operators are promptly notified.

5.0 INSTRUCTIONS-contd.

- b. Instruct the CAS & SAS operators to activate the Assembly Point Location Reset Function in the security computer. This will clear all badge numbers from the computer files logged as PRESENT AT THE ASSEMBLY POINTS.
- c. If the Administration Building Conference Room is designated as the Assembly Point, two Security Officers should remain at the main gate and restrict access to the site for personnel authorized by the Watch Commander or the Emergency Coordinator.

5.2.2 If the Machine Shop is designated as the assembly point, the Watch Commander shall:

- a. Dispatch one officer to lock the main gate, then proceed to the warehouse.
- b. Dispatch two officers to the Westgate entrance with badge racks.
- c. Instruct Security Personnel to relocate to the warehouse or other locations designated at the discretion of the Watch Commander.

5.3 Plant Assembly Point Coordinator Action

5.3.1 Upon arriving at the Plant Assembly Point, immediately obtain from Security the time that the Security Computer was set.

5.3.2 When all personnel have carded in at the assembly point, the Assembly Point Coordinator shall:

- a. Call the Security Watch Commander and request a computer readout of personnel listed as ABSENT FROM THE ASSEMBLY POINT.
- b. If the comparison indicates personnel are missing, announce the following message twice over the PA system.
"NAME OF PERSON" PLEASE CALL EXTENSION ____ AND REPORT YOUR LOCATION.
- c. If personnel are still unaccounted for, contact the appropriate supervisor(s) to determine the last known work location.

NOTE: Security may be able to assist in locating missing personnel by use of the Security Computer to determine locations an individual carded in at.

- d. If the individual is still unaccounted for, contact the Emergency Coordinator and request activation of a Search and Rescue Team (AP 518).

6.0 REFERENCES

- 6.1 AP 400 Rancho Seco Physical Security Plan
- 6.2 AP 518 "Search and Rescue"
- 6.3 AP 519 "Site Evacuation"

7.0 ATTACHMENTS

Revision No.

- | | | | |
|-----|---|----------|---|
| 7.1 | Specific Instructions for Manual
Accountability Search | Rev. 2 | 4 |
| 7.2 | Plant Personnel Assembly Points | Original | |
| 7.3 | Example, Security Master List | Rev. 1 | |

ATTACHMENT 7.1

SPECIFIC INSTRUCTIONS
FOR MANUAL ACCOUNTABILITY SEARCH

1. MANUAL ACCOUNTABILITY SEARCH

a. The Security Officers posted at the badge racks will:

1. Insure that one copy of the Security Master List (Computer printout) and Visitors Register is promptly delivered to the Plant Assembly Point Coordinator.
2. Check off open rack slot numbers on the security copy of the Security Master List.
3. Enter the badge numbers and names of visitors currently onsite at the end of the Master List.
4. Forward the security copy of the Security Master List and the list of visitors on site to the Assembly Point Coordinator.
5. Upon completion of above task, and if warehouse "A" has been designated as the assembly point, move the racks to the west gate.

b. The Assembly Point Coordinator will:

1. Receive a copy of the Security Master List from Security.
2. Instruct those at the assembly point to check in with him. (Stress the importance of this requirement and request assistance in completing this task as quickly as possible.) Insure that visitors are included.
3. Check off each individual on the Security Master List as he/she arrives and reports their badge number.
4. Obtain a list of all badge numbers of persons accounted for at the Control Room, Technical Support Center, and Security Building and check off the badge numbers on the Security Master List.

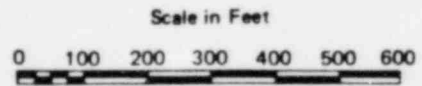
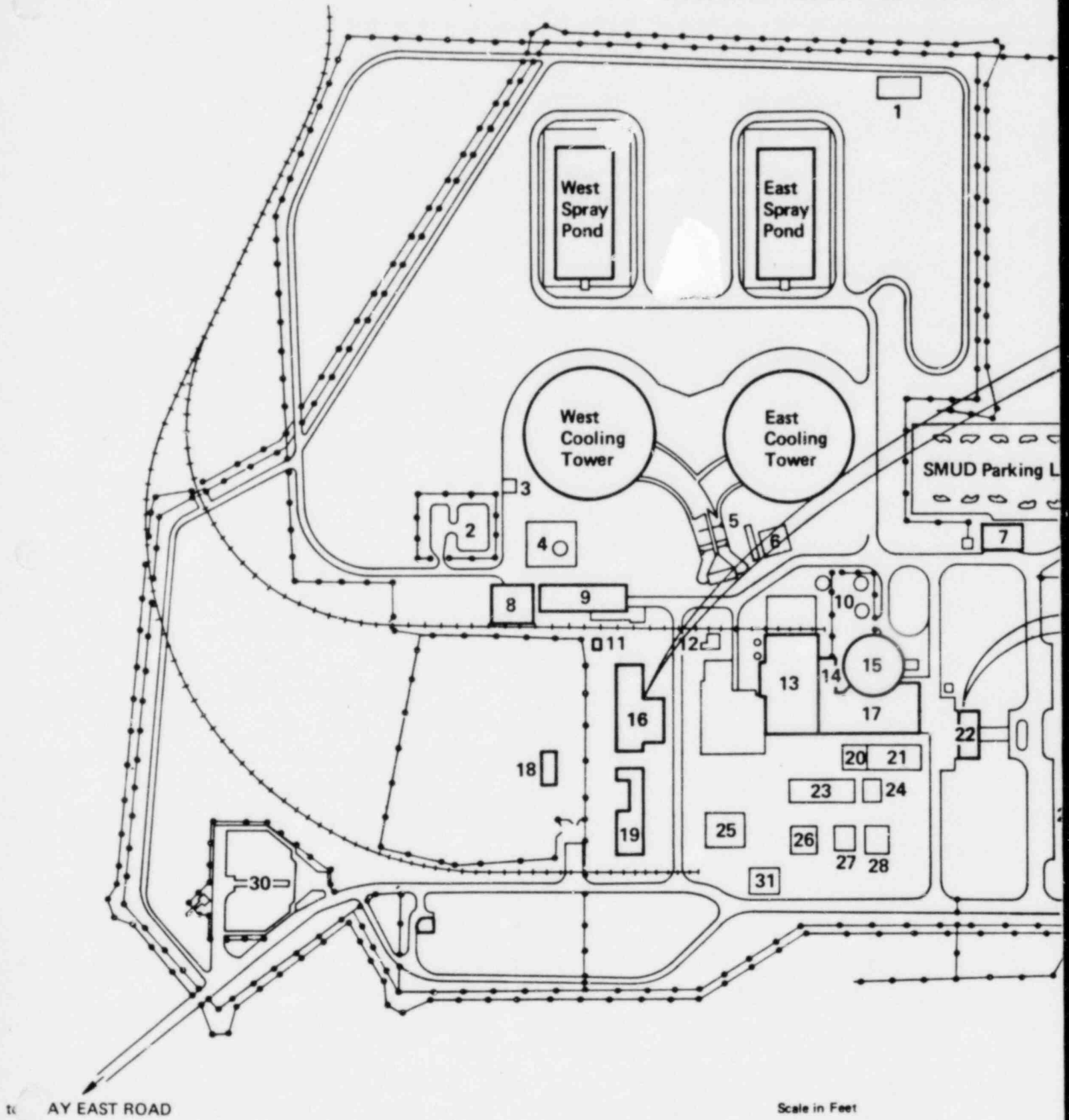
(If badge numbers are not available, a list of names can be used in conjunction with the list of individuals unaccounted for.)

5. Receive from the Security Force the lists prepared at the badge racks.
6. Compare the lists of persons logged onsite (prepared by Security at the badge racks) with the Assembly Point Accountability List.

7. If personnel are missing, announce the following message twice over the PA system.

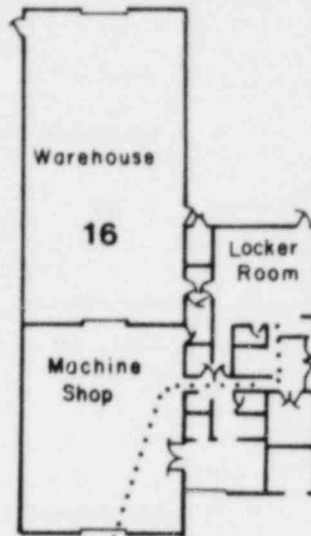
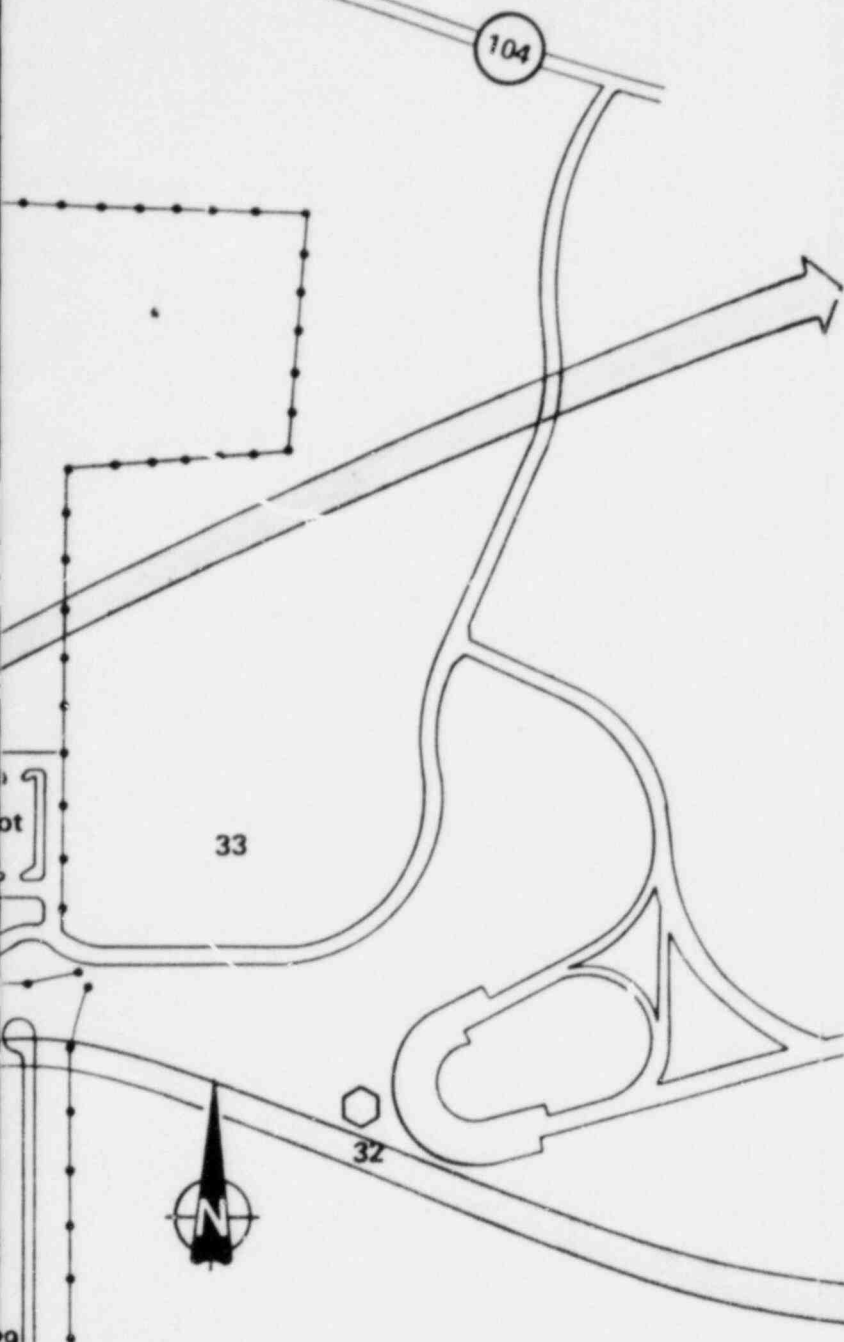
"NAME OF PERSON" PLEASE CALL EXTENSION ____ AND REPORT YOUR LOCATION".
 8. If personnel are still unaccounted for, contact the appropriate supervisor(s) to determine the last known work location.
 9. If personnel are still unaccounted for, contact the Emergency Coordinator and request activation of a Search and Rescue Team (AP 518).
- c. The validity of the Manual Accountability Search is predicated on timely and accurate maintenance of the badge racks and the Security Master List. To insure this is accomplished, the Security Administrative Staff will:
1. Tape over slot numbers whenever an employee is terminated, or receives a badge with a new number.
 2. Whenever a new badge is issued, a new slot number will be opened up, the name and new badge number will also be written into the appropriate sections of the Master List.
 3. Insure that two copies of the current Master List are provided to the Security Officers posted at the badge racks.
- d. Should it become necessary to evacuate the badge issue area, Security Officers posted at the badge racks will:
1. Insure both copies of the Master List, Visitors List and the badge racks are transported to the designated Assembly Point utilizing any available vehicle.

ATTACHMENT 7.2
PLAN PERSONNEL ASSEMBLY POINTS

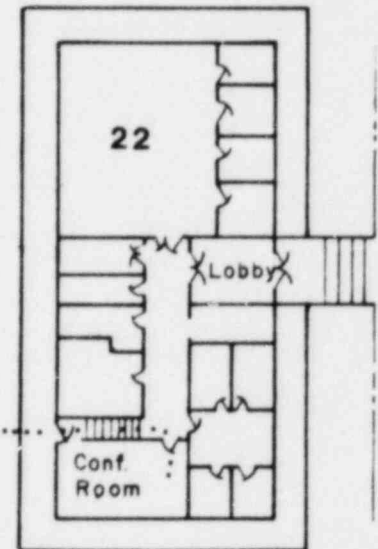


to HEARLD
and 99

EFFECTIVE DATE 3/1/82



Enter Machine Shop,
proceed to Locker Room.



Go upstairs to
parking level,
then enter the
Conference
Room.

Administration Building

- | | |
|--|-----------------------------------|
| 1. Misc. Equip. Storage | 17. Auxiliary Bldg. |
| 2. Radwaste Drum Storage | 18. Switchyard Bldg. |
| 3. Microwave Bldg. | 19. Bechtel Bldg. |
| 4. Diesel Fuel Storage Tk. | 20. Nuc. Serv. Elect. Bldg. |
| 5. Chlorine Bldg. | 21. Training & Records Bldg. |
| 6. Water Treatment Area | 22. Administration Bldg. |
| 7. Security Bldg. (PAP) | 23. Tool Issue/First Aid/Safety |
| 8. Carpenter Shop | 24. Security Equip. Bldg. |
| 9. Whse. 'B' | 25. Fab. Shop |
| 10. Yard Controlled Area | 26. Gen. Eng. Whse. |
| 11. Gasoline Pumps | 27. Elect. Prefab Shop |
| 12. Aux. Boilers/Acid-Caustic Stor. Tks. | 28. Diesel Gen. Bldg. |
| 13. Turbine Bldg. | 29. Training (L & D Bldg.) |
| 14. Spent Fuel Bldg. | 30. Retention Basins |
| 15. Reactor Bldg. | 31. Whse. 'C' |
| 16. Whse. 'A'/Machine Shop | 32. Visitor Center |
| | 33. Design City Trailers Location |

Effective Date: 3/1/82

ATTACHMENT 7.3
EXAMPLE SECURITY MASTER LIST

MASTER LIST
(ALL)
BADGES A001 THROUGH P511
DEPARTMENT H

BADGE NO. NAME BADGE TYPE LOC HIP WC MC CARD CODE WORK FUNC SHIFT CODE VITAL AREAS AUTHORIZED

1

SMUD - RANCHO SECO
EMERGENCY PLAN PROCEDURE

AP 514

PERSONNEL INJURY

TABLE OF CONTENTS

	<u>Page No.</u>
1.0 PURPOSE	2
2.0 RESPONSIBILITY	2
3.0 INITIATING CONDITIONS.	2
4.0 PRECAUTIONS AND LIMITATIONS.	3
5.0 INSTRUCTIONS	3
6.0 REFERENCES	i1
7.0 ATTACHMENTS.	11

1.0 PURPOSE

To delineate the methods used for the treatment of injured and/or contaminated injured personnel. Transportation of personnel to an offsite medical facility is also covered.

2.0 RESPONSIBILITY

- 2.1 The Emergency Coordinator is responsible for having this procedure implemented.
- 2.2 Emergency Team and Chem/Rad members are responsible for performing the required actions in this procedure.
- 2.3 A Communicator will be designated and be responsible for communications to the medical facilities.
- 2.4 Security will be responsible for providing escort and vehicle inspection as required.

3.0 INITIATING CONDITIONS

- 3.1 A person has been injured or requires medical attention.

4.0 PRECAUTIONS AND LIMITATIONS

- 4.1 If a severe injury involves contamination, immediate medical treatment is of the highest priority and radiological controls are considered secondary.
- 4.2 If transport of injured personnel offsite is required, first consideration should be the use of the site emergency vehicle. However, the site emergency vehicle can only be used under the following conditions. If any one of the criteria cannot be met, it will be necessary to call an offsite ambulance.
- a. Site emergency vehicle is operated within the boundaries of Sacramento County.
 - b. Site emergency vehicle is driven by a SMUD employee who is at least 18 years old and holds a valid California drivers license.
 - c. Site emergency vehicle is staffed with an attendant qualified as provided by law (a certified Emergency Medical Technician I, a California licensed physician or registered nurse, or a county certified paramedic).
 - d. Emergency ambulance service is being provided only for those people temporarily or permanently employed at the Rancho Seco facility.
- 4.3 If an offsite ambulance is called, plastic and tape from the Ambulance Emergency Kit should be used to protect the floors and walls of the vehicle used to transfer a contaminated patient.

5.0 INSTRUCTIONS

5.1 Immediate Actions

5.1.1 At the scene:

- a. The person discovering the injury shall render first aid, if possible.
- b. Report the following information to the Emergency Coordinator:

Location
Number and name(s) of personnel involved
Injury description
Contaminated personnel
Contaminated area
Other emergency conditions present (i.e., fire, etc.)
Additional assistance required

5.0 INSTRUCTIONS-contd.

5.1.2 In the Control Room

- a. Emergency Coordinator direct a Communicator to announce the following over the PA system twice:

"PERSONNEL INJURY NO. PERSON(S) INJURED AT
(LOCATION)."

5.2 Subsequent Actions

5.2.1 Treatment of Non-Contaminated Injured Personnel

- a. Emergency Team Leader:
 - 1. Evaluate injured person's condition.
 - 2. Report to the Emergency Coordinator the status of the injured person and the assistance required.
- b. Emergency Team:
 - 1. Administer first aid.
 - 2. The patient should be moved to the First Aid Station when such a move would not endanger him.
- c. Emergency Coordinator:
 - 1. If hospitalization is required perform the actions of Section 5.2.3.
 - 2. If onsite medical assistance is required direct that a physician be notified in accordance with AP 506 "Notification/Communication" Attachment 7.6.
 - 3. Notify additional offsite assistance as required.

5.2.2 Treatment of Contaminated Injured Personnel

- a. Emergency Team Leader:
 - 1. Evaluate the injured person's medical condition.
 - 2. Report to the Emergency Coordinator the status of the contaminated injured person and assistance required.
- b. Emergency Team:
 - 1. Don the appropriate protective equipment and clothing.

5.0 INSTRUCTIONS-contd.

Note: If the injury is severe, immediate medical treatment is of the highest priority and radiological controls are considered secondary.

2. Implement appropriate first aid techniques, making efforts to prevent the spread of contamination.
3. Survey any wound areas for contamination, and complete a body map (Attachment 7.1) showing contaminated and/or injured areas of the body. If hospitalization is required the body map must accompany the individual.
4. After a survey of the patient, the Emergency Coordinator should promptly be informed of the following:
 - (a) The seriousness of the injury.
 - (b) The contamination levels.
 - (c) Whether the patient is believed to have received an acute radiation dose in excess of 5000 mrem.
 - (d) Whether there is any evidence of an internal deposition.
5. If the patient is externally contaminated, initially perform essential first aid treatment necessary to keep the patient alive. After the essential treatment is completed, take the following additional actions:

NOTE: Perform decontamination in accordance with AP 516 "Personnel Decontamination."

- (a) Move the patient from the contaminated area.
 - (b) If the condition of the patient permits, flush contaminated areas with lukewarm water.
 - (c) Remove contaminated clothing by cutting it off as long as that action will not aggravate the wound.
6. Perform the following actions if hospitalization is required.
 - (a) Attempt to decontaminate the patient. Efforts should be made to reduce the external contamination levels below 1000 cpm (by frisker probe).

5.0 INSTRUCTIONS-contd.

(b) If difficulty in decontamination is encountered, wrap the affected area (do not use plastic to wrap) and use a felt-tipped pen to outline the affected area and number it on the outside of the covering. Take precautions to prevent overheating the individual due to excessive wrapping.

c. Emergency Coordinator:

1. If hospitalization is required perform the actions of Section 5.2.3.a thru 5.2.3.b.
2. If onsite medical assistance is required direct that a physician be notified in accordance with AP 506 Attachment 7.6.
3. Notify additional offsite assistance as required.

5.2.3 Transportation to Hospital

a. The injured person(s) will be transported to one of the following hospitals depending upon his condition.

- o If the individual is contaminated Sutter General Hospital (Sutter), (Attachment 7.7).
- o If the individual is contaminated University Medical Center (UMC) (back-up to Sutter) (Attachment 7.8).
- o If the individual is not contaminated Methodist Hospital (Attachment 7.6).

b. Emergency Coordinator or designee, perform the following to transport the individual to the appropriate hospital:

1. Direct the use of the onsite emergency vehicle to transport the patient to the hospital if available.
2. If the onsite emergency vehicle is not available or its use inadvisable, instruct the Communicator to notify offsite ambulance service by performing the actions in Attachment 7.3 Notifying Offsite Ambulance Service.
3. Direct a member of the plant staff or notify security to:
 - (a) Meet the ambulance at the site entrance.
 - (b) Obtain the ambulance emergency kit from Security, if required.

5.0 INSTRUCTIONS-contd.

- (c) Accompany the ambulance to the patient's location, and if the patient is contaminated, prepare the ambulance for receipt of a contaminated person.
 - 4. Notify Security of the impending arrival of any offsite assistance and the location of the victim.
 - 5. Instruct an individual to complete the Hospital Information Form (Attachment 7.2) prior to notifying hospital.
 - 6. Instruct a Communicator to call the appropriate hospital (AP 506 Attachment 7.6) and report the information as recorded on the Hospital Information Form.
 - 7. If time permits have the Supervisor's Report of Accident (Attachment 7.9) filled out and sent with the patient to the hospital.
 - 8. Assign a member of the Chem/Rad Group or other knowledgeable member of the plant staff involved in the patient's care to accompany the patient for monitoring purposes and to give directions with a map (Attachment 7.6, 7.7 or 7.8) of the route to the correct hospital entrance for contaminated patients.
- c. Emergency Team Leader direct the following actions in preparation for transport of individuals to the hospital.
- 1. Transportation of a contaminated individual.
 - (a) Place "Caution, Radioactive Contamination" tags (located in the 40' level Auxiliary Building Decontamination Cabinet) on the individual in the following manner.
 - Right wrist: patient's name
patient's address
patient's home phone number
description of injuries
first aid performed
 - Left wrist: patient's name
(Yellow and magenta tag) patient's address
patient's home phone number
patient's external radiation exposure
contamination (utilize Body Map Attachment 7.1)

5.0 INSTRUCTIONS-contd.

<u>Area Number</u>	<u>Contamination Level (CPM) Frisker Probe</u>
1	xxx
2	xxx
etc.	xxx

- (b) Notify the Emergency Coordinator that the individual is ready for transport to the hospital.
- 2. Transportation of a non-contaminated individual.
 - (a) Place a tag on the patient's right wrist with the following information on it (the tag must not be the yellow and magenta radiation contamination tag).
 - patient's name
 - patient's address
 - patient's home phone number
 - description of injuries
 - first aid performed
 - (b) Notify the Emergency Coordinator that the individual is ready for transport to the hospital.
- d. Requirements for accompanying a contaminated individual to the hospital.
 - 1. Insure that the transporting vehicle uses the appropriate hospital receiving area. (Attachment 7.6, 7.7, or 7.8 as appropriate.)
 - 2. Disembark from the Emergency Vehicle after being checked for contamination and when directed to do so by a health physicist.
 - 3. Assist as requested by the hospital staff.
 - 4. If protective plastic has been used in the transport vehicle, carefully remove and bag it for return to Rancho Seco.

5.0 INSTRUCTIONS-contd.

5. If the vehicle is contaminated, insure that it and the transport personnel are surveyed by a health physics staff prior to being released.
 - (a) The personnel, if contaminated, shall be decontaminated at the hospital.
 - (b) The vehicle shall be decontaminated at Rancho Seco.
 6. Retain dosimeters and film or TLD badges issued to personnel accompanying the patient to the hospital and return them to the Rancho Seco Health Physicist or Chem/Rad Assistant Supervisor.
 7. Keep the Emergency Coordinator informed as pertinent information concerning the patient becomes available.
 8. If the onsite emergency vehicle is used, maintain communications with the hospital via the Control Room.
- 5.2.4 If onsite medical attention is required, Emergency Coordinator or designee perform the following actions:
- a. Notify a physician that his assistance is needed per AP 506 "Notification/Communication" Attachment 7.6.
 - b. Notify Security that a physician is coming on site.
 - c. Assign a member of the plant staff or security to meet the physician at the site entrance and accompany him to the patient's location.
- 5.2.5 Security Watch Commander perform the following actions as required:
- a. Notify the Emergency Coordinator when the doctor or ambulance arrives.
 - b. If required have the Ambulance Emergency Kit available for the ambulance when it arrives.
 - c. Assure a member of the plant staff or security escorts the doctor or ambulance inside the restricted area to the patients location.
 - d. At the discretion of the Emergency Coordinator or Chem/Rad Group, dosimetry may be permitted to leave the site. Collect the security badge portion if the film badge is to leave the site.

5.0 INSTRUCTIONS-contd.

5.2.6 Injured's supervisor or foreman perform the following actions:

a. Non-contaminated Injury

Complete Supervisor's Report of Accident (Attachment 7.9) in triplicate. Keep a copy for files, send the original and extra copy to the site Safety Technician.

b. Contaminated Injury

Complete a Supervisor's Report of Accident (Attachment 7.9) in triplicate. Attach a copy of the decontamination record. Keep a copy for files, send the original to the Chemical Radiation Supervisor for entry into the individual's HP file, send the third copy to the Site Safety Technician.

5.2.8 Safety Technician perform the following actions:

- a. Establish communications with the hospital and the patient's family.
- b. Conduct an investigation into the cause of the accident.
- c. Prepare the necessary government reports.

6.0 REFERENCES

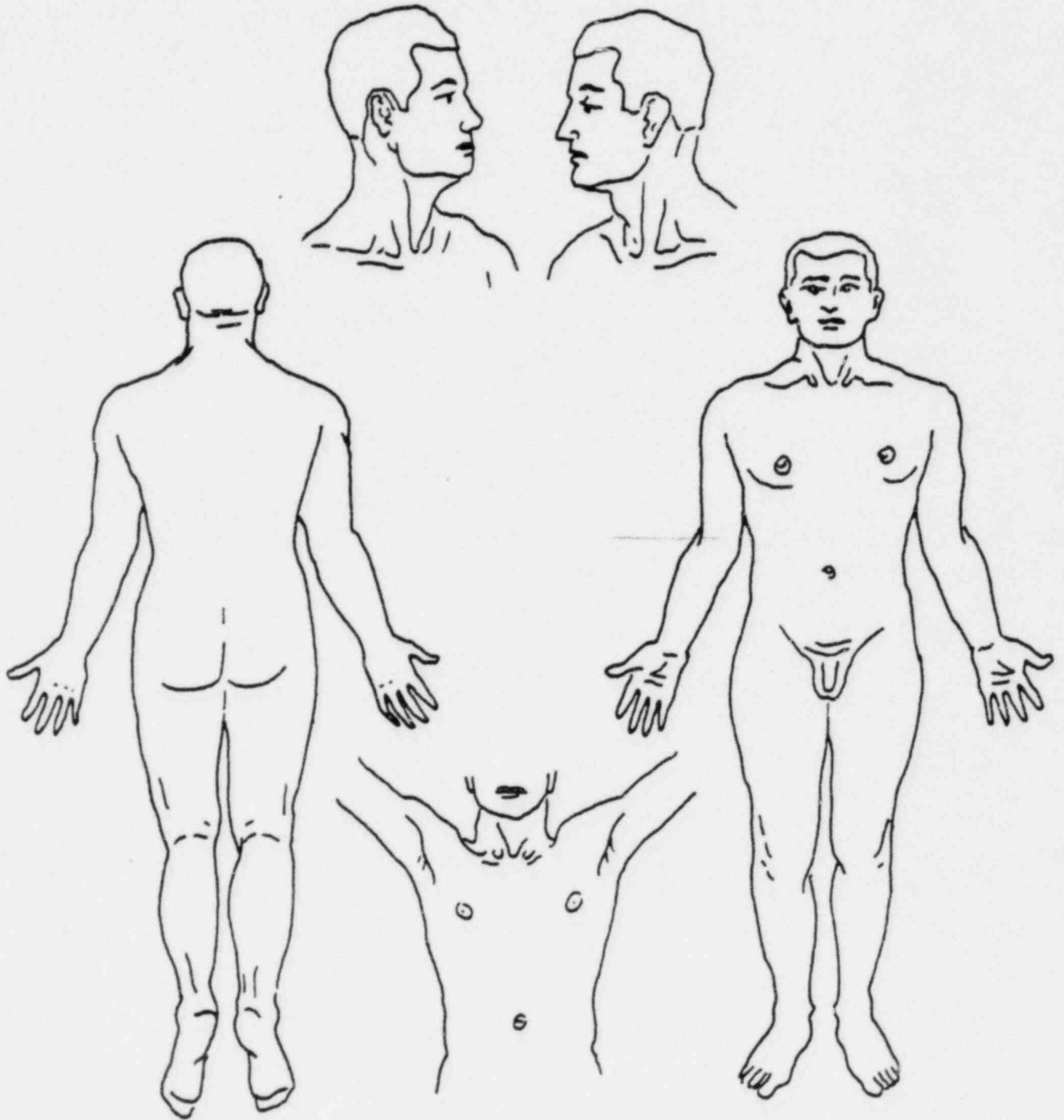
- 6.1 AP 305 "Radiation Control Manual"
- 6.2 AP 506 "Notification/Communication"
- 6.3 AP 516 "Personnel Decontamination"
- 6.4 AP 517 "Radiation Overexposure"
- 6.5 AP 525 "Security"
- 6.6 AP 529 "Offsite Support and Assistance"
- 6.7 AP 569 "Release of Information to the Public & Media"

7.0 ATTACHMENTS

	<u>Revision No.</u>
7.1 Body Map	Original
7.2 Hospital Information Form	Original
7.3 Notifying Outside Ambulance Service	Original
7.4 Medical Supplies Location	Original
7.5 First Aid Station Location	Original
7.6 Methodist Hospital Emergency Route	Original
7.7 Sutter General Hospital Emergency Route	Original
7.8 University Medical Center Emergency Route	Original
7.9 Supervisors Report of Accident Form.	Original

ATTACHMENT 7.1 BODY MAP

INDICATE WOUNDS AND/OR CONTAMINATED AREAS
(USE ADDITIONAL SHEETS AS NECESSARY)



NAME: _____
COMPANY/DEPT. _____ / _____
TIME / DATE: _____ / _____

ATTACHMENT 7.2

HOSPITAL INFORMATION FORM

INJURED PERSON'S NAME _____

INJURED PERSON'S SOCIAL SECURITY NUMBER _____

INJURED PERSON'S ADDRESS _____

INJURED PERSON'S HOME PHONE NUMBER _____

(This information may be obtained from the Rancho Seco Access List)

NATURE OF THE INJURY (lacerations, broken bones, burns, eye, head, neck, back injuries, etc.).

THE PATIENT IS (CONSCIOUS/UNCONSCIOUS)

A RESUSCITATOR (IS/IS NOT) REQUIRED

THE EXPECTED TIME OF ARRIVAL IS _____
(Allow 40 minutes from time of departure for Methodist Hospital)
(Allow one hour from time of departure for Sutter or UMC)

THE INSURANCE CARRIER IS: G. A. B. Business Service
P.O. Drawer 1317
Sacramento, CA 95806
(Phone)

ADDITIONAL INFORMATION REQUIRED FOR SUTTER OR UMC ONLY

THE PATIENT (IS/IS NOT) EXTERNALLY CONTAMINATED

If the patient is, the maximum CPM value for the contamination is _____

THE PATIENT MAY HAVE RECEIVED A WHOLE BODY EXPOSURE IN EXCESS OF 5,000 mrem. YES/NO

If Yes, an estimate of the exposure is _____ mrem

THE PATIENT MAY HAVE RECEIVED AN INTERNAL DEPOSITION OF RADIOACTIVE MATERIAL YES/NO

The Patient's family has been notified. YES/NO.

ATTACHMENT 7.3

NOTIFYING OFFSITE AMBULANCE SERVICE

1. Transportation to Methodist Hospital.
 - a. Notify Galt Emergency Services in accordance with AP 506 Attachment 7.6 and give the following information:
 - (1) An ambulance is needed at the Rancho Seco Nuclear Station.
 - (2) The patient is not externally contaminated or overexposed to radiation.
 - (3) The patient must be taken to Methodist Hospital.
 - b. Notify Security that an offsite ambulance is coming.
 - c. Notify Methodist Hospital in accordance with AP 506 Attachment 7.6 and ask for the Emergency Room explaining to the personnel there that an injured person will be arriving from the Rancho Seco Nuclear Station in approximately 40 minutes.
2. Transportation to Sutter General Hospital (Sutter) or University Medical Center (UMC).
 - a. Notify Galt Emergency Services in accordance with AP 506 Attachment 7.6 and give the following information.
 - (1) An ambulance is needed at the Rancho Seco Nuclear Station.
 - (2) The patient is contaminated, or exposed in excess of 5000 mrem.
 - (3) The patient must be taken to Sutter or UMC.
 - b. Notify Security that an offsite ambulance is coming and that the Ambulance Emergency Kit located in the Security building should be placed in the vehicle upon its arrival.
 - c. Notify Sutter or UMC in accordance with AP 506 Attachment 7.6 and ask for the Emergency Room Nursing Supervisor explaining that an injured person with contamination or exposure in excess of 5000 mrem will be arriving in approximately one hour.

ATTACHMENT 7.4

MEDICAL SUPPLIES LOCATION

1. Medical Supplies

a. First-Aid Kit Locations

1. Control Room (1)
2. Auxiliary Locker Room (1)
3. Containment Building (2)
6C' level
below grade
4. Spent Fuel Building (1)
Turbine Deck Level
5. Turbine Building (2)
40' level
grade level
6. Chemistry Labs (2)
Hot Lab
Cold Lab
7. Auxiliary Building (3)
Hallway on mezzanine level
Hallway on grade level
Hallway below grade level
8. Administration Building (1)
Main floor
9. Guardhouse (1)
10. Warehouse Building No. 2 (1)
11. Chemical Treatment Building (1)
12. Switchyard Building (1)
13. Canal Pumping Station (1)

b. First-Aid Room Location

1. East side of the temporary construction warehouse. (Attachment 7.5)

c. Ambulance Emergency Kit Location

1. Emergency Vehicle
2. Security Guardhouse

d. Stretcher Locations

1. Reactor Containment Building
-40' level
2. Auxiliary Building Locker Room
3. Rancho Seco First-Aid Room
4. Canal Pumping Station

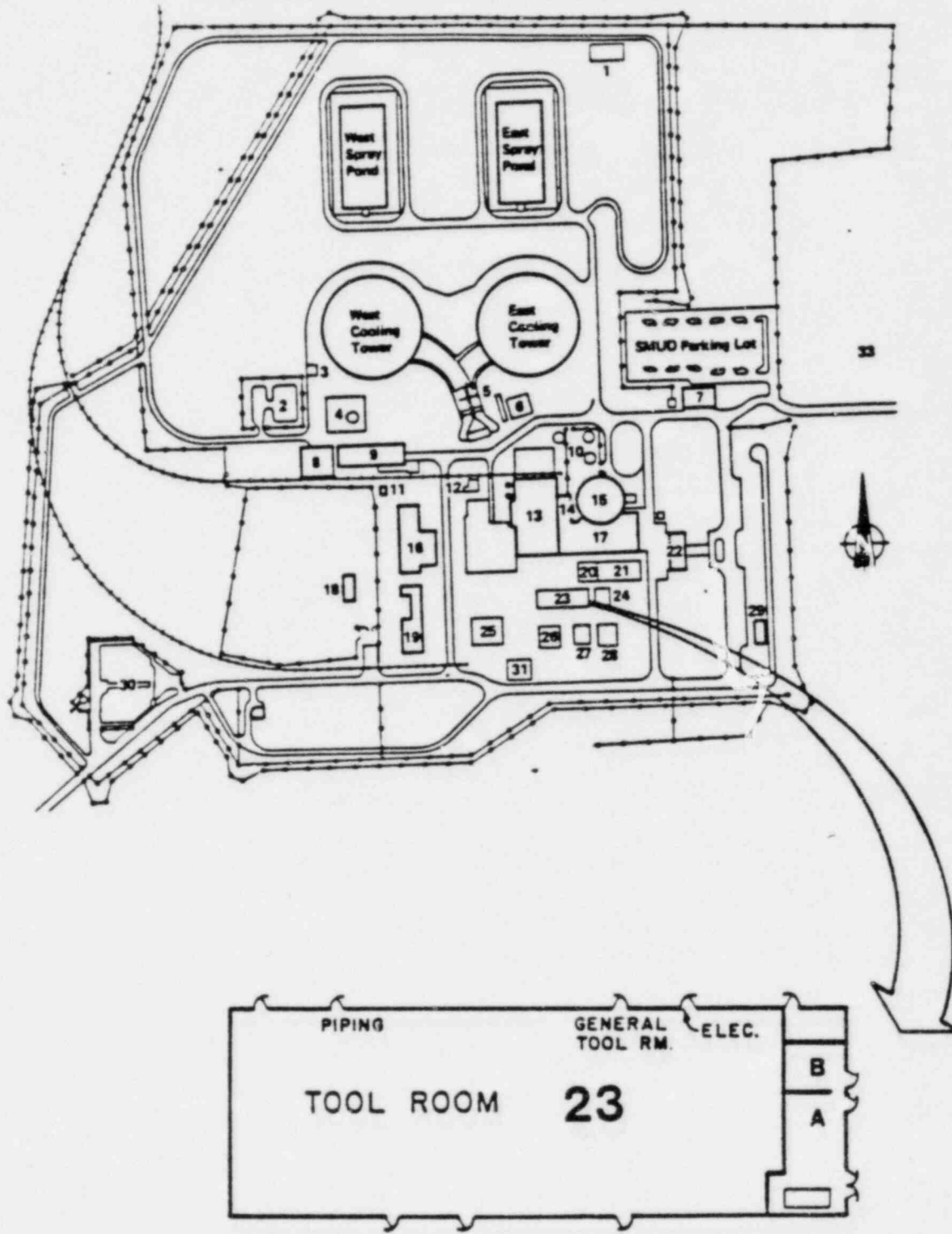
ATTACHMENT 7.4 (cont'd)

e. Fire Blanket Locations

1. Cold-Chemistry Lab
2. Lube Oil Storage Area
3. Diesel Generator Area
4. 4160 V. Switchgear Area

ATTACHMENT 7.5

FIRST AID STATION LOCATION

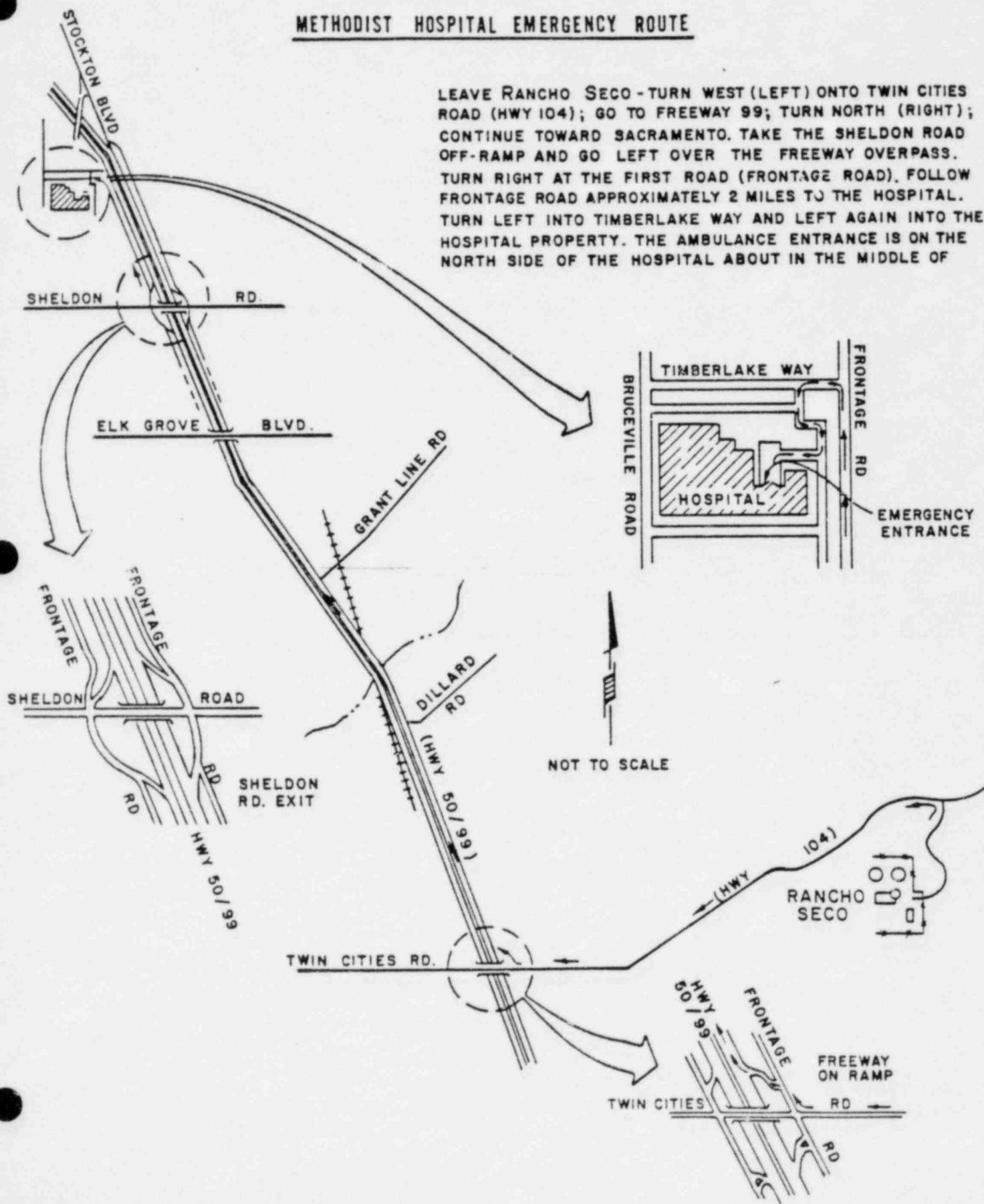


A - FIRST AID ROOM
B - SAFETY DEPARTMENT

ATTACHMENT 7.6

METHODIST HOSPITAL EMERGENCY ROUTE

LEAVE RANCHO SECO - TURN WEST (LEFT) ONTO TWIN CITIES ROAD (HWY 104); GO TO FREEWAY 99; TURN NORTH (RIGHT); CONTINUE TOWARD SACRAMENTO. TAKE THE SHELDON ROAD OFF-RAMP AND GO LEFT OVER THE FREEWAY OVERPASS. TURN RIGHT AT THE FIRST ROAD (FRONTAGE ROAD). FOLLOW FRONTAGE ROAD APPROXIMATELY 2 MILES TO THE HOSPITAL. TURN LEFT INTO TIMBERLAKE WAY AND LEFT AGAIN INTO THE HOSPITAL PROPERTY. THE AMBULANCE ENTRANCE IS ON THE NORTH SIDE OF THE HOSPITAL ABOUT IN THE MIDDLE OF



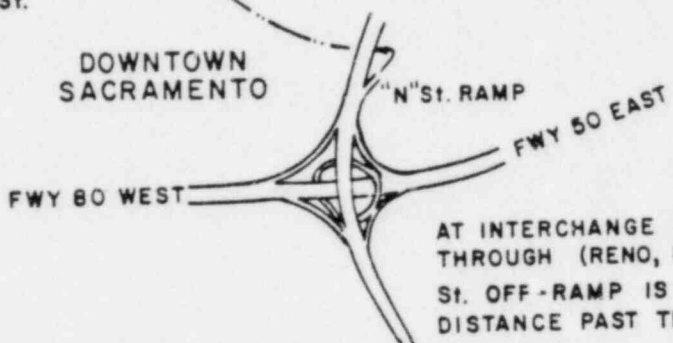
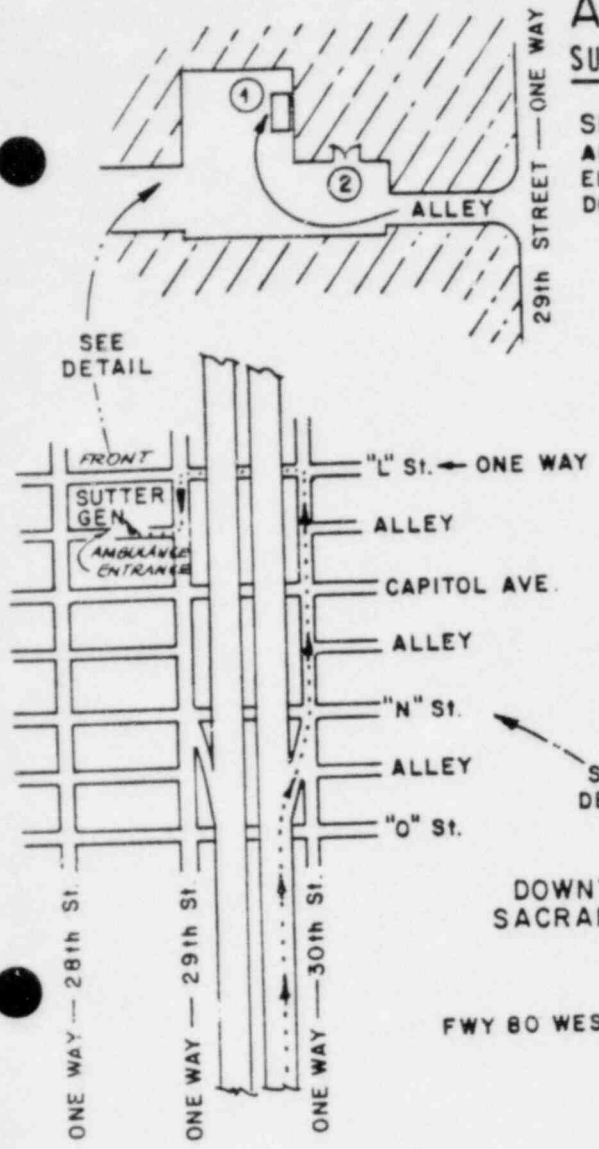
ATTACHMENT 7.7

EFFECTIVE DATE 2/1/82

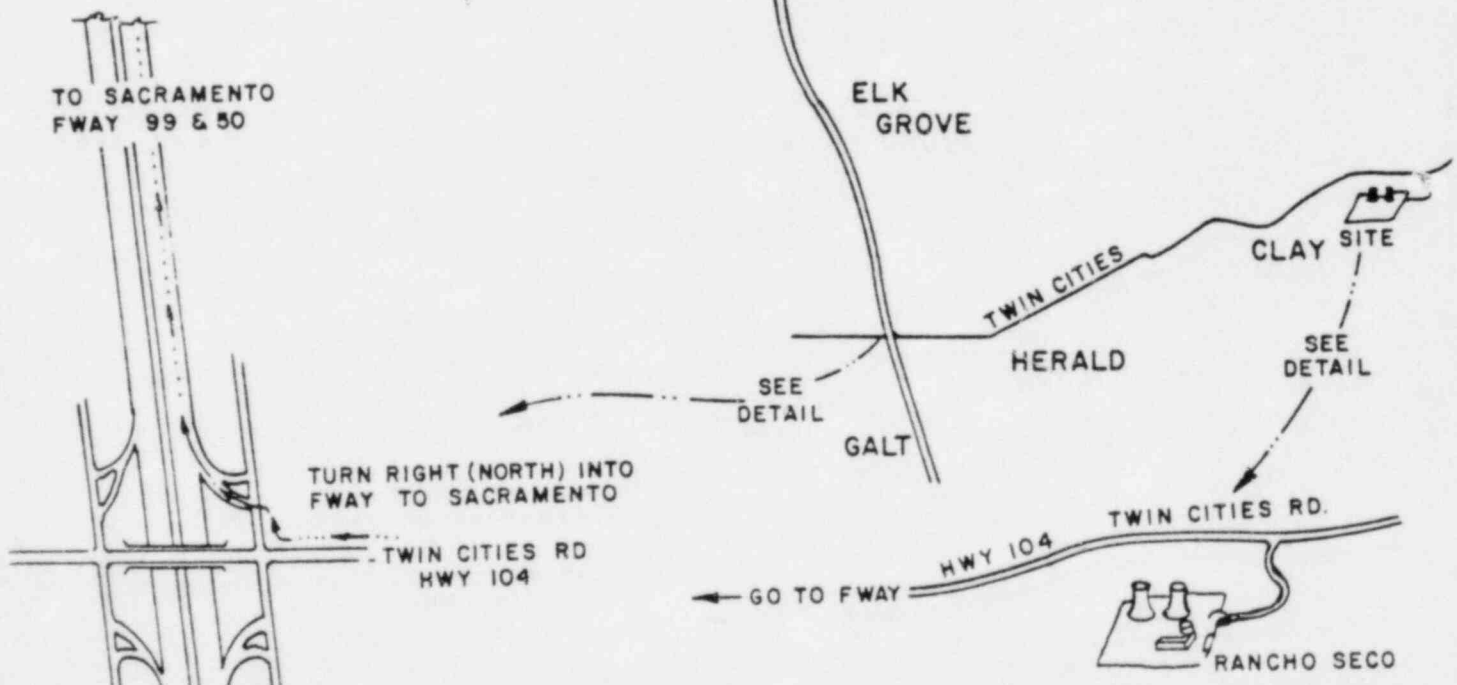
SUTTER GENERAL HOSPITAL EMERGENCY ROUTE

SMUD WILL PULL
AROUND TO OUTSIDE
ELEVATOR AT 1
DO NOT USE DOORS 2

LEAVE RANCHO SECO - TURN WEST (LEFT) ONTO TWIN CITIES RD. (HWY. 104); GO TO FREEWAY 99, 50; TURN NORTH (RIGHT); CONTINUE TO SACRAMENTO. AT THE 80 50, 90 INTERCHANGE GO STRAIGHT THROUGH (80 EAST, RENO DIRECTION) AND THEN TAKE THE "N" ST. OFF-RAMP. FROM THE RAMP ANGLE LEFT ONTO 30th ST. GO TWO BLOCKS NORTH TO "L" ST. AND TURN LEFT; GO ONE BLOCK TO 29th ST. TURN LEFT ONTO 29th ST. GETTING INTO THE RIGHT LANE; TURN RIGHT INTO THE FIRST ALLEY (GOES BEHIND THE HOSPITAL); AND THEN PULL AROUND TO THE OUTSIDE ELEVATOR BY THE AMBULANCE ENTRANCE.



AT INTERCHANGE GO STRAIGHT THROUGH (RENO, 80 EAST). "N" St. OFF-RAMP IS ONLY A SHORT DISTANCE PAST THE INTERCHANGE.



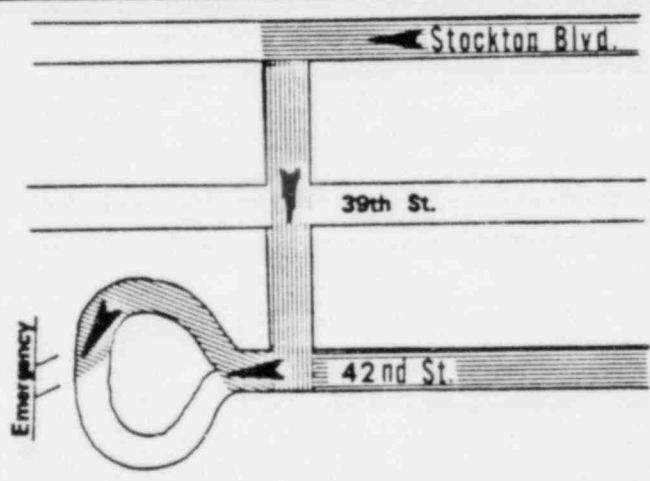
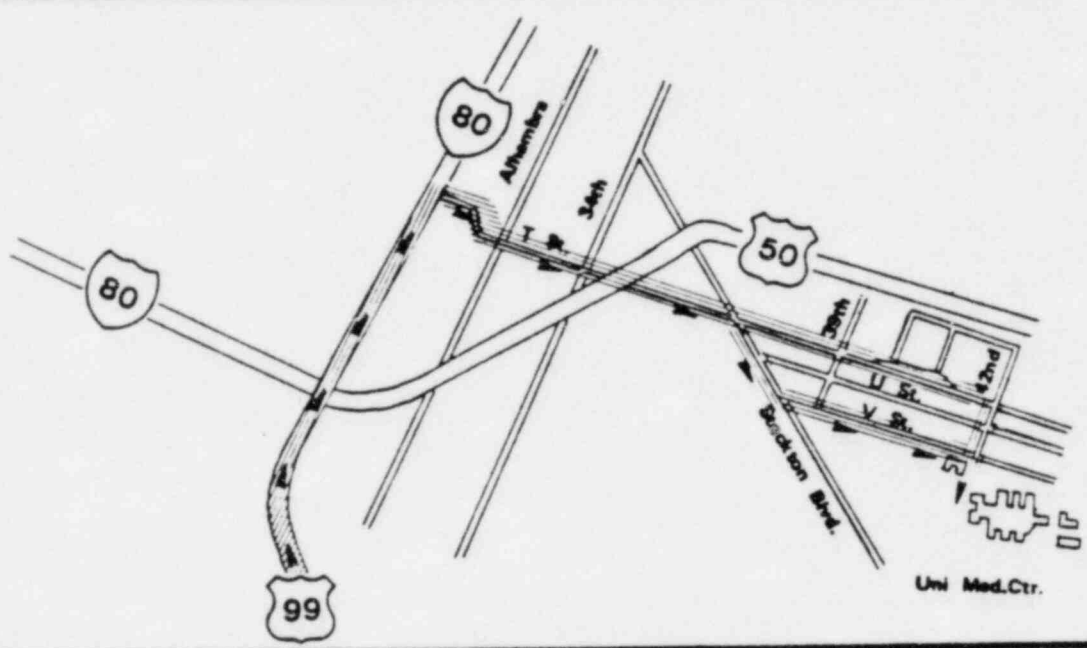
ATTACHMENT 7.8

UNIVERSITY MEDICAL CENTER — EMERGENCY ROUTE

US 99 North
I-80 East Reno
T St. Exit East

a) Stockton Blvd. South
V St. East
Rt. to Emergency Room

b) 42nd St. South
straight into Emergency



ATTACHMENT 7.9

SUPERVISOR'S REPORT OF ACCIDENT

Name of Injured.....

Area Title.....

Age..... Married..... Occupation.....

Date of Accident..... Hour..... A.M.
P.M.

Nature of Injury.....

Who gave first aid, if any?.....

Name and address of physician sent to.....

Did injured leave work?..... Date..... Time..... A.M.
P.M.

Did injured return to work?..... Date..... Time..... A.M.
P.M.

Was injured acting in regular line of duty?.....

Names of Witnesses.....

Where and how did accident occur?.....

.....

.....

.....

.....

What causes from above list on cover were involved in this accident?.....

.....

What steps have been taken to prevent a similar accident?.....

.....

.....

.....

.....

Foreman's Signature..... Date.....

Supervisor's Signature..... Date.....

SACRAMENTO MUNICIPAL UTILITY DISTRICT

SAFETY SUPERVISOR

SMUD-1028 1/82

PHYSICIAN

SMUD-1028 1/82

SUPERVISOR

SMUD-1028 1/82

SMUD - RANCHO SECO
EMERGENCY PLAN PROCEDURE

AP 515

EMERGENCY PERSONNEL DOSIMETRY

TABLE OF CONTENTS

	<u>Page No.</u>
1.0 PURPOSE	2
2.0 RESPONSIBILITY	2
3.0 INITIATING CONDITIONS.	2
4.0 PRECAUTIONS AND LIMITATIONS.	3
5.0 INSTRUCTIONS	3
6.0 REFERENCES	5
7.0 ATTACHMENTS.	5

1.0 PURPOSE

- 1.1 To provide guidance on the issuance of emergency dosimetry for personnel radiation exposure control.

2.0 RESPONSIBILITY

- 2.1 The Radiological Assessment Coordinator is responsible for insuring the implementation of this procedure and the assignment of specific duties to Chem/Rad personnel.
- 2.2 The Chem/Rad Group Personnel are responsible for issuing emergency dosimetry and for the reading/recording of resulting data.
- 2.3 The Chem/Rad Group Personnel at all control points/assembly points will be responsible for the update and maintenance of Radiation Dosimetry Record Forms. (Attachment 7.1)

3.0 INITIATING CONDITIONS

- 3.1 Upon the initiation of an Alert, Site Area, or General Emergency declaration.

4.0 PRECAUTIONS AND LIMITATIONS

- 4.1 Do not exceed the emergency exposure limits as listed in AP 527 "Emergency Exposure Guidelines." (Attachment 7.2)
- 4.2 Panasonic TLD Reader will be used.
- 4.3 Pocket ionization chambers will be used.

5.0 INSTRUCTIONS

5.1 IMMEDIATE ACTIONS

- 5.1.1 Upon declaration of an Alert, Site Area, or General Emergency, Chem/Rad personnel shall:
 - a. Transport the following TLD dosimetry equipment to the designated Plant Assembly Point.
 - 1. (1) Panasonic TLD Reader
 - 2. As many as available Panasonic TLD badges
 - 3. Radiation Dosimetry Record Forms (Attachment 7.1)
 - 4. Current exposure listing
 - b. Transport an ample supply of high and low range pocket ionization chambers and two pencil dosimeter chargers to the designated Plant Assembly Point.

Note: Each emergency locker has a pencil dosimeter charger.
 - c. After setting up the TLD reader per instructions, eliminate residual dose (anneal) on the TLD's that will be used.
 - d. Issue the TLD's and other emergency dosimetry as necessary to emergency personnel who will be entering controlled areas (i.e. Search and Rescue Teams) and to all Onsite and Offsite Radiological Monitoring Teams. The dosimetry issued should have range capabilities appropriate for the encountered situation (i.e., one low range pocket ionization chamber and one high range pocket ionization chamber).
 - e. Instruct each individual who is issued emergency dosimetry that he must turn it in to be read immediately upon exiting the controlled area.
 - f. See Attachment 7.2 for the emergency limits that will be adhered to.

5.2 SUBSEQUENT ACTIONS

- 5.2.1 Pocket Ionization Chambers must be read and the results recorded on the Radiation Dosimetry Record Forms after each entry at the personnel assembly points or health physics controlled entry areas.
- 5.2.2 Chem/Rad personnel shall ensure that all emergency exposures are added to the previous exposure to prevent the individual from exceeding the Whole Body Skin, and Extremities exposure limit (Rancho Seco Administrative Exposure Limits). Also, ensure documentation if the individual received in excess of the limit due to lifesaving, emergency sampling, etc.
- 5.2.3 Refer to 10 CFR 20.403 and 10 CFR 20.405 for the reporting requirements to the Nuclear Regulatory Commission.

6.0 REFERENCES

- 6.1 AP 308 Rancho Seco Counting Room Manual
- 6.2 AP 500 Rancho Seco Emergency Plan
- 6.3 AP 527 "Emergency Exposure Guidelines"
- 6.4 10 CFR 20
- 6.5 EPA Protective Action Guidelines

7.0 ATTACHMENTS

Revision No.

- | | |
|-------------------------------------|----------|
| 7.1 Radiation Dosimetry Record Form | Original |
| 7.2 Emergency Exposure Limits | Original |

ATTACHMENT 7.2

EMERGENCY EXPOSURE LIMITS

	<u>Corrective or Protective Actions</u>	<u>Lifesaving Actions**</u>
Whole body (rem)	25	75
Thyroid (rem)	125	No Limit***
Extremities (rem)	100*	300*

* NCRP Report No. 39, 1971.

** EPA Protective Action Guides, February 1980.

*** Thyroid exposure should be minimized to the extent feasible by the use of respiratory protection and/or thyroid prophylaxis. However, no upper limit is specified for lifesaving action since complete loss of thyroid function may be considered an acceptable risk for saving life.

SMUD - RANCHO SECO
EMERGENCY PLAN PROCEDURE

AP 516

PERSONNEL DECONTAMINATION

TABLE OF CONTENTS

	<u>Page No.</u>
1.0 PURPOSE.	2
2.0 RESPONSIBILITY	2
3.0 INITIATING CONDITIONS.	2
4.0 PRECAUTIONS AND LIMITATIONS.	3
5.0 INSTRUCTIONS	3
6.0 REFERENCES	9
7.0 ATTACHMENTS.	9

1.0 PURPOSE

- 1.1 To provide guidelines for the decontamination of station personnel during an emergency situation.
- 1.2 The objective of personnel decontamination techniques are to reduce radiation exposure promptly, to minimize intake of radionuclides into the body, and to prevent the spread of localized contamination. Contamination should be removed whenever it is found in amounts greater than normal background level. Personnel with the highest levels of contamination should receive priority in the decontamination process.

2.0 RESPONSIBILITY

- 2.1 A Senior Chem/Rad Assistant is responsible for implementing this procedure.
- 2.2 Chem/Rad Group personnel shall be responsible for supervising all personnel decontaminations performed under this procedure and collection of survey reports.

3.0 INITIATING CONDITIONS

- 3.1 Personnel are known to be contaminated. (Skin | 100 cpm gross beta-gamma above background).

4.0 PRECAUTIONS AND LIMITATIONS

- 4.1 Minimize the spread of contamination.
- 4.2 Lifesaving and/or medical attention to serious injuries take priority over the removal of contamination.
- 4.3 Wounds should be cleaned and decontaminated by personnel trained in First Aid.
- 4.4 Complete decontamination kits are maintained at:
 - 4.4.1 Change Room (Auxiliary Building, +40 foot level)
(Attachment 7.2)
 - 4.4.2 Emergency Lockers (Onsite and Offsite) (Attachment 7.2)
 - a. Administration Building - Large Conference Room
 - b. Warehouse "A" - Locker Room
 - c. Ione Fire Academy - Lab Room
 - d. Herald Fire Department
 - 4.4.3 First Aid Room

Each kit, as a minimum, will contain the material listed in Attachment 7.1.

- 4.5 If possible, no one should leave Rancho Seco contaminated. If necessary decontamination can be performed at the Herald Fire Department or Ione Fire Academy.
- 4.6 Whole body counts should be performed if ingestion above levels specified in 10 CFR 20, Table 1, Column 1, Appendix B has occurred or is suspected.

5.0 INSTRUCTIONS

5.1 IMMEDIATE ACTIONS

- 5.1.1 In the event of a serious injury involving contamination immediate medical treatment is of the highest priority and radiological controls are of secondary importance. (See AP 518 "Search And Rescue" and AP 514 "Personnel Injury").
- 5.1.2 Prepare decontamination area(s) as necessary:
 - a. If plant conditions do not require site evacuation and normal decontamination facilities are available:
 - 1. Obtain decontamination materials listed in Attachment 7.1 from the storage locations.

5.0 INSTRUCTIONS-contd.

NOTE: Personnel monitoring areas should have a background level less than or equal to 100 cpm, as measured with an RM-14 using a Eberline HP-260 probe, or equivalent.

2. Provide water supply to area if necessary.
 3. Establish an access control area. Take measures to avoid the further spread of contamination such as laying plastic down in the pathway to the assembly point and/or providing temporary shoe covers.
 4. Assemble individuals that need to be decontaminated into the temporary decontamination area.
 5. After personnel are decontaminated, provide a clean pathway out of the area with an exit point with personnel monitoring.
- b. If it is necessary to establish decontamination facilities at the reassembly points or temporary locations:
1. Establish a controlled decontamination area with a stepoff pad for entrance and exit and appropriate personnel monitoring.
 2. Provide water supply to area if necessary.
 3. Provide decontamination materials to location, obtain from onsite or offsite emergency locker.
 4. Provide for the collection, of contaminated clothing generated trash, etc.
 5. If access to normal decontamination supplies is not available, emergency supplies may be obtained by contacting a Senior Chem/Rad Assistant.
- 5.1.3 Personnel known to be contaminated shall be directed to the decontamination area(s) and treated pursuant to Section 5.2 of this procedure.

5.2 SUBSEQUENT ACTIONS

5.2.1 Decontamination of Personnel

A. Skin Decontamination Techniques

1. Localized Skin Decontamination

- a. Survey, paying particular attention to fingernails and skin folds.

5.0 INSTRUCTIONS-contd.

- b. Record survey results on Attachments 7.2 "Body Map" and 7.3 "Survey Report"
- c. Localize area of contamination as necessary with plastic sheet or other suitable material and tape to prevent further contamination of the individual.
- d. Remove loose contamination.
- e. Wash contaminated area with soap and warm (tepid) water.
- f. Rinse, pat dry, and resurvey.
- g. If contamination remains repeat cleansing until contamination is removed or until level of contamination does not appreciably decrease. If necessary, scrub with soft brush, do not break skin or let skin become abraded.
- h. If contamination persists, consider taking individual to hospital for further decontamination.

2. Minor Skin Breaks

- a. If wounds are serious, see section 5.2.1.g.
- b. Survey, recording results on Attachments 7.2 "Body Map" and 7.3 "Survey Report".
- c. Irrigate wound with copious amounts of water.

NOTE: Bleeding can be useful for decontamination, however, blood loss should be kept to a minimum.
- d. Carefully decontaminate intact skin surface around wound.
- e. Continue irrigation with water and survey until no contamination is detectable, or decontamination is ineffective.
- f. Treat wound using approved first aid methods.
- g. If contamination remains, take individual to hospital for further decontamination.

5.0 INSTRUCTIONS-contd.

3. General Body Decontamination Techniques

- a. Contaminated persons should shower.
 - (1) Make effort not to contaminate hairy areas if initially free of contamination.
 - (2) Use precautions to prevent contamination from entering body openings.
- b. Survey entire body noting highest levels found.
- c. Repeat 1 and 2, until contamination is removed or proceed to step d.
- d. For general whole body contamination with high levels of radioactivity, localized areas of contamination usually remain. When showering becomes ineffective and localized areas of contamination remain, shift to localized skin decontamination technique.
- e. Repeat surveys and record results.

B. Hair Decontamination Techniques

1. Have the individual put on a pair of surgeon's gloves.
2. Wrap or position patient to avoid spread of contamination.
3. Have the individual massage soap mixture into hair with gloved hands and then rinse.

NOTE: A sink should be used to avoid washing contamination from the head to the body.

4. Dry with clean uncontaminated towel.
5. Survey the hair and surrounding area after the hair is dry.
6. If contamination cannot be removed by three successive applications of the above procedure, notify the Senior Chem/Rad Assistant.

C. Mouth Decontamination

If the mouth is contaminated, begin flushing immediately with water. Keep head bent down to prevent water from reaching the throat and being swallowed. Notify Senior Chem/Rad Assistant and consider a followup whole body count.

5.0 INSTRUCTIONS-contd.D. Eye Decontamination

Apply the same principles as for mouth decontamination. Shift to normal saline solution as soon as possible. Survey the eye following decontamination. Contact the Senior Chem/Rad Assistant.

E. Nose Decontamination

1. Blow nose for decontamination prior to obtaining nasal smears.
2. Obtain nasal smears using cotton swabs. Two smears should be taken in each nostril. The first one dry and the second pre-wet with saline. Place in a plastic bag and mark for beta/gamma analysis with name etc..
3. Notify a Senior Chem/Rad Assistant and consider a followup whole body count.

F. Major Wounds and Injuries

1. Medical attention to serious injuries should take priority over the removal of contamination. If it is not possible to decontaminate a severe wound or injured area, cover with absorbent material to prevent spread of contamination.
2. Observe the condition of the skin before decontamination. If there are breaks or abrasions observed, flush with copious amounts of water. Pat dry and resurvey. Cover with plastic to prevent spread of contamination. Save all gauze, etc., which may have blood samples, in a plastic bag labeled with name, date and necessary information.
3. Contact Radiological Assessment Coordinator in the event of serious wounds.
4. Patient should be sent to hospital per AP 514 "Personnel Injury" to be decontaminated and treated by qualified personnel.

5.2.2 Perform an analysis of nasal smears, saliva samples, nose blows, etc. as soon as possible.

- a. Alpha activity greater than 40 dpm or beta-gamma activity greater than 100 dpm, measured in laboratory equipment, may indicate possible internal deposition. Contact the Radiological Assessment Coordinator immediately.

5.0 INSTRUCTIONS-contd.

- 5.2.3 Whole body counts and other bioassay procedures should be performed if ingestion above levels specified in 10 CFR 20, Table 1, Column 1, Appendix B has occurred or is expected.

6.0 REFERENCES

- 6.1 AP 514 "Personnel Injury"
- 6.2 AP 518 "Search and Rescue"
- 6.3 NCRP Report No. 65 April 15, 1980

7.0 ATTACHMENTS

Revision No.

- | | |
|---|----------|
| 7.1 Decontamination Kit Inventory | Original |
| 7.2 Body Map | Original |
| 7.3 Survey Report - Personnel Decontamination | Original |

ATTACHMENT 7.1

DECONTAMINATION KIT INVENTORY

Soft scrubbing brush
Mild hand soap
1" Smear papers
Smear-tipped applicators
4" x 4" Gauze
Marking pencil
4 percent Solution of Potassium Permanganate
4 percent solution of Sodium Bisulfite*
3 percent Hydrogen Peroxide
Hand lotion
Individual skin decontamination forms

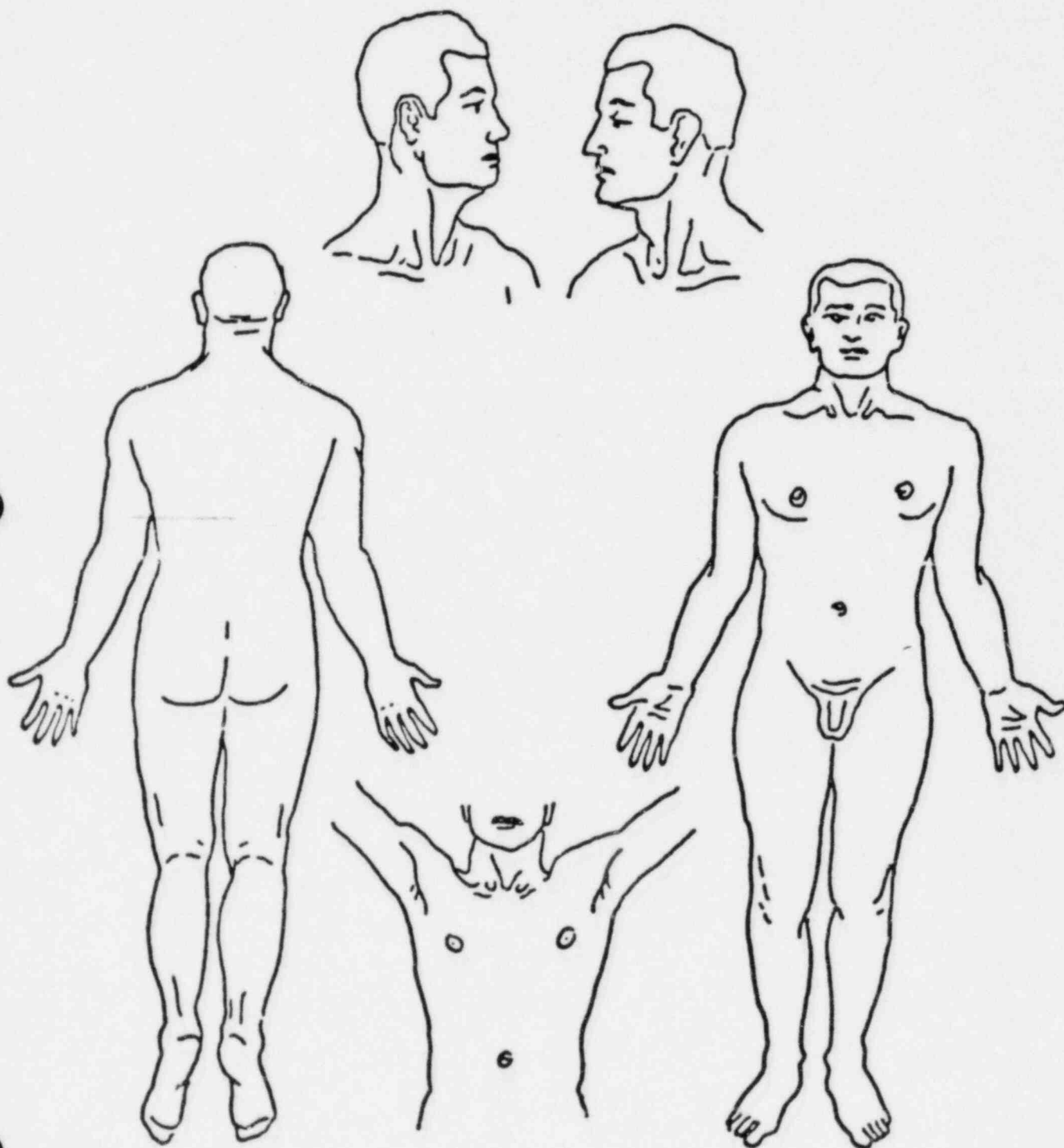
Note: Other supplies may be necessary in the event of injuries complicating contamination.

Other supplies may also be necessary to convert a facility for decontamination. These will depend on the location and conditions of the accident. The quantities of the above supplies depend upon accident conditions.

*The solution will have to be prepared.

ATTACHMENT 7.2

BODY MAP
INDICATE WOUNDS AND/OR CONTAMINATED AREAS
(USE ADDITIONAL SHEETS AS NECESSARY)



ATTACHMENT 7.3

SURVEY REPORT - PERSONNEL DECONTAMINATION

Name: _____ Date: _____
Film/TLD Badge Number: _____
Area: _____
Job Location: _____

INITIAL SURVEY

Date _____ Time _____ Instrument _____ Measurement _____ Contaminated Area _____
(use Body Map) (use Body Map)
Skin Condition Before Decontamination: _____

DECONTAMINATION

Time _____ Cleansing Agent _____ Body Area _____ Measurement
before after

Time	Cleansing Agent	Body Area	Measurement before	Measurement after

Skin Condition After Decontamination: _____

Remarks: _____

RELEASED

Person Performing Decontamination: _____ Person Decontaminated: _____
(signature) (signature)

SMUD - RANCHO SECO
EMERGENCY PLAN PROCEDURE

AP 517

RADIATION OVEREXPOSURE

TABLE OF CONTENTS

	<u>Page No.</u>
1.0 PURPOSE	2
2.0 RESPONSIBILITY	2
3.0 INITIATING CONDITIONS	2
4.0 PRECAUTIONS AND LIMITATIONS	3
5.0 INSTRUCTIONS	3
6.0 REFERENCES	6
7.0 ATTACHMENTS	6

1.0 PURPOSE

- 1.1 To provide guidance for handling personnel who have been overexposed to radiation, either externally or internally.

2.0 RESPONSIBILITY

- 2.1 The Emergency Coordinator is responsible for implementing this procedure.
- 2.2 Emergency Team Members and the Chem/Rad Personnel are responsible for performing the required actions of this procedure.
- 2.3 The Radiological Assessment Coordinator will decide whether or not Potassium Iodide administration (AP 533 "Potassium Iodide Administration") is desirable and make recommendations to the Emergency Coordinator.

3.0 INITIATING CONDITIONS

- 3.1 An actual or suspected external radiation exposure in excess of the Rancho Seco Administrative limits is reported. (Attachment 7.1)
- 3.2 An actual or suspected ingestion or inhalation of radioactive material has been reported.
- 3.3 Rancho Seco's Administrative Limit of 10 times the MPC limits listed in 10 CFR 20 Appendix B, Table 1 have been exceeded. (Concentrations in Air and Water Above Natural Background)
- 3.4 If information supplied by the Chem/Rad Group indicates an acute exposure greater than the following:

Whole Body	5000	mrem*
Skin of Whole Body	30000	mrem*
Extremities	75000	mrem*

4.0 PRECAUTIONS AND LIMITATIONS

None

5.0 INSTRUCTIONS

5.1 IMMEDIATE ACTIONS

- 5.1.1 Employees trained in first aid on the scene shall render assistance to injured personnel.
- 5.1.2 Employees on the scene shall notify the Emergency Coordinator.
- 5.1.3 If a person is injured, implement AP 514 "Personnel Injury".
- 5.1.4 Perform a detailed survey of individual, to determine if contaminated. (AP 516 "Personnel Decontamination", Attachments 7.2 and 7.3).

5.2 SUBSEQUENT ACTIONS

5.2.1 Overexposure from External Sources:

- a. Collect individual's personnel dosimetry, and process film badge as soon as possible, after removal from the area of radiation exposure. Estimate individuals exposure as accurately as possible.
- b. Fill out Attachment 7.2 Abnormal Dosimetry Report.
- c. If necessary implement AP 516 "Personnel Decontamination".
- d. Perform the following actions if exposure of 5000 mrem or greater is suspected as this will require the individual being sent to the hospital.
 - 1. To the extent practical, save all vomit, urine, feces or other samples which may assist in the evaluation of the accident. This is particularly important if significant ingestion of radioactive materials is suspected.

Note 1: If the patient shows signs of radiation sickness, such as nausea, vomiting, extreme sweating, weakness, diarrhea extreme anxiety, incoherence, sensitivity of the nerves (tingling or itching sensation), the person may have greatly exceeded the limit of 100 rem to the whole body.

5.0 INSTRUCTIONS-contd.

Note 2: The patient shows evidence of radiation dermatitis (skin damage). Except for extremely high skin doses (5000 rem), in which case pain occurs promptly and is intense, the symptoms at the time of exposure are a sensation of warmth and itching. Redness, blistering and other effects may not appear for several days.

- e. Notification of the NRC within 24 hours by telephone is required per 10 CFR 20.403.

5.2.2 Overexposure from Internal Sources

- a. Collect individual's dosimetry and process film badge as soon as possible.
- b. If any of the surveys performed per AP 516 "Personnel Decontamination" give indication of ingestion or inhalation of radioactive material, a whole body count should be performed.

1) Beta-Gamma activity (nasal smears, sputum samples, nose blows) is 100 dpm measured in laboratory equipment may indicate internal deposition.

- c. If available information indicates that the individual was exposed to airborne activity concentrations in excess of 10 times the 10 CFR 20 MPC limits (averaged over 40 hours) or if nasal smears indicate greater than 100 DPM, the person should shower, put on clean clothing, and have a whole body count performed. (See AP 516 "Personnel Decontamination").
- d. If above measurements (5.2.2.b or 5.2.2.c) indicate ingestion or inhalation of radioactive material, begin collection of a 24 hour urine sample per AP 305 Radiation Control Manual.
- e. Continue to take necessary medical and decontamination action.

Note: Lifesaving overrides decon and whole body counting, etc.

- f. Remove and retain for subsequent analysis the individual's clothing (if contaminated) and respirator (if the individual has one).
- g. Save decontamination material from individual as necessary for assessment of radiological evaluation.

5.0 INSTRUCTIONS-contd.

- h. Collect and save any feces, or vomit which is passed from the patient. The Radiological Assessment Coordinator may request that special urine samples be collected for bioassay. See AP 305, Radiation Control Manual)

See Notes 1 and 2 section 5.2.1.e.1.

- i. Question individual and personnel in the vicinity, if possible, as to details leading to internal contamination and log information on Abnormal Dosimetry Report (Attachment 7.2) and Investigation Form (Attachment 7.3).
- j. If an inhalation of iodine is even remotely suspected, implement AP 533 "Potassium Iodide (KI) Administration".
- k. If the results of the whole body count indicate an internal deposition in excess of one maximum permissible body burden for the critical organ, (per ICRP Report No. 2), the individual must be sent to the hospital for further analysis and treatment for the deposition. (AP 514 "Personnel Injury").
- l. Notify Radiological Assessment Coordinator and Emergency Coordinator of all results.
- m. Report to NRC as required in 10 CFR 20.403 or 10 CFR 20.405.

6.0 REFERENCES

- 6.1 10 CFR 20
- 6.2 AP 305 "Radiation Control Manual"
- 6.3 AP 514 "Personnel Injury"
- 6.4 AP 516 "Personnel Decontamination"
- 6.5 AP 533 "Potassium Iodide Administration"
- 6.6 AP 527 "Emergency Exposure Guidelines"
- 6.7 ICRP Report No. 2 "Permissible Dose for Internal Radiation"

7.0 ATTACHMENTS

Revision No.

- | | |
|---|----------|
| 7.1 Rancho Seco Administrative Exposure Limits | Original |
| 7.2 Abnormal Dosimetry Report | Original |
| 7.3 Factors to Consider in Making a Preliminary Investigation | Original |
| 7.4 Maximum Permissible Exposures | Original |

ATTACHMENT 7.1

RANCHO SECO ADMINISTRATIVE EXPOSURE LIMITS*

Whole Body	100 mrem/week**, 2500 mrem/quarter
Skin	5000 mrem/calendar quarter
Extremities	15000 mrem/calendar quarter

* From AP 305 "Radiation Control Manual"

** To exceed 100 mrem/week the individuals supervisor's approval is necessary;
To exceed 300 mrem/week the Plant Health Physicist's approval is necessary.

ATTACHMENT 7.2
ABNORMAL DOSIMETRY REPORT

Date: _____

Employee Name: _____

Dosimetry:

Type	Number	Reading	Comments
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Investigation: _____

Conclusion: _____

Estimated Exposure: _____ mrem

Recommendations: _____

Investigation by: _____
Chem-Rad Assistant

Approved by: _____
Chem-Rad Supervisor

Employee Signature: _____ Date: _____

ATTACHMENT 7.3

FACTORS TO CONSIDER IN MAKING A PRELIMINARY INVESTIGATION

It is important to conduct the preliminary investigation in a systematic manner to assure that potentially valuable evidence is not overlooked, lost, or destroyed. The following is a reference listing of items which should be checked (if they are applicable). Also, two other factors are important in conducting an investigation of this type, namely: a) information which is gathered should be written down in a comprehensive, neat manner, and b) all samples, clothing, or other articles which are collected should be put in sample bottles or plastic bags, and labeled with the patient's name, date, collection time, sample identification, and other pertinent data.

1. Factors Common to All Accidents

a. Date, time of occurrence. _____

b. Basic reconstruction of events. _____

c. Probable source(s) of radioactivity involved. _____

d. Names and addresses of all witnesses. _____

2. Considerations in Evaluating External Exposure _____

a. Exactly where was the patient located at the time of exposure?

b. How was patient physically oriented with respect to source (will help to evaluate nonuniform exposure)? _____

ATTACHMENT 7.3-cont.

c. On what part(s) of body was dosimetry being worn? _____

d. Were self-reading dosimeter readings recorded and all
nonself-reading types collected? _____

e. Are there any "natural" dosimeters available (belt buckles, wrist
watches, gold tooth fillings, and other such items are useful in
determining neutron dose)? _____

f. What was the time interval over which exposure occurred?

g. Are there any applicable dose rate measurements and if so, exactly
where and when were they made?

1) Portable monitors _____

2) Area monitors _____

3) Other _____

h. Reconstruction of the incident utilizing TLD's, film badges, etc. _____

3. Considerations in Evaluating Internal Exposure

a. Where was the patient located at time of exposure? _____

ATTACHMENT 7.3-cont.

- b. Exactly what was the time interval over which exposure occurred? _____

- c. Can sample(s) of liquids which were ingested be obtained? _____

- d. Can samples of airborne activity which were breathed be obtained before the area is purged? _____

- e. Are there any applicable monitor readings? _____

 - 1) Process monitors _____
 - 2) CAMs _____
 - 3) Area _____
 - 4) Other _____
- f. Can samples of patient's clothing, decontamination solutions, secretions, respirator filters, be saved? _____

- g. Can the region in the vicinity of the occurrence be smear tested, or can decontamination solutions be retained? _____

ATTACHMENT 7.4

MAXIMUM PERMISSIBLE EXPOSURES

Area Exposed	Table 2.1-1* (calendar quarter)	10 CFR 20.101 (A)
Whole Body	2500 mrem	3000 mrem
Skin	5000 mrem	7500 mrem
Extremities	15000 mrem	18750 mrem

*Rancho Seco Administrative Exposure Limits

SMUD - RANCHO SECO
EMERGENCY PLAN PROCEDURE

AP 518

SEARCH AND RESCUE

TABLE OF CONTENTS

	<u>Page No.</u>
1.0 PURPOSE	2
2.0 RESPONSIBILITY	2
3.0 INITIATING CONDITIONS	2
4.0 PRECAUTIONS AND LIMITATIONS	3
5.0 INSTRUCTIONS	3
6.0 REFERENCES	6
7.0 ATTACHMENTS	6

1.0 PURPOSE

1.1 To provide the guidance and requirements necessary for the Search and Rescue Teams to conduct efficient operations.

2.0 RESPONSIBILITY

2.1 The Emergency Coordinator is responsible for implementing this procedure on the request of the Plant Assembly Point Coordinator.

2.2 The Plant Assembly Point Coordinator is responsible for notifying the Emergency Coordinator that personnel are unaccounted for. He is also responsible for forming Search and Rescue Team(s) from available personnel.

3.0 INITIATING CONDITIONS

3.1 Personnel have been reported missing per AP 513 "Personnel Accountability."

4.0 PRECAUTIONS AND LIMITATIONS

- 4.1 Proper radiological controls should be adhered to during search and rescue operations.
- 4.2 Search and Rescue Team members are to be participating on a strictly volunteer basis and if radiation exposure is involved, within the following criteria:
 - a. Persons involved should be volunteers who are broadly familiar with the consequences of exposures in excess of Rancho Seco Administrative Limits.
 - b. Women of child-bearing age should not take part.
 - c. Use of volunteers above the age of 45 should receive first consideration.
 - d. Respiratory protection should be used when necessary.
 - e. Anti-C clothing providing the greatest contamination protection will be worn when necessary.
- 4.3 Planned exposures in excess of Rancho Seco Administrative Exposure limits:
 - 2500 mrem/qtr whole body
 - 5000 mrem/qtr skin
 - 15000 mrem/qtr extremities

shall be approved by the Emergency Coordinator prior to receiving the exposure and in accordance with AP 527 "Emergency Exposure Guidelines."

5.0 INSTRUCTIONS

- 5.1 The Plant Assembly Point Coordinator shall:
 - a. Complete the Plant Assembly Point Coordinator Action Checklist "Attachment 7.1".
 - b. Assemble a Search and Rescue Team or Teams of volunteers, each team consisting of three personnel. Of the three personnel, two should be trained in First Aid, one should be a Chem/Rad member and all three must be familiar with the plant. If possible, at least one person on each team should know the missing person(s).
 - c. Appoint one team member as the Team Leader.

- d. Provide the Search and Rescue Teams with the following information if known:
 - 1. Identification of each missing person.
 - 2. Last known location of each individual.
 - a. Check RWP if issued.
 - b. Check with Security for last carded in location.
 - 3. The job each individual was working on.
 - 4. Any significant details of the plant status that may affect the search and any special instructions.
 - 5. Provide radiation exposure limits if deemed necessary in accordance with AP 527 "Emergency Exposure Guidelines."
 - e. With the Radiological Assessment Coordinator ascertain radiation levels if possible, and determine the approximate stay times the team members will be allowed in the area.
 - f. Instruct the Team Leader to notify the Plant Assembly Point Coordinator immediately upon location and/or removal of personnel from the hazardous area.
 - g. Coordinate all Search and Rescue Teams so that duplication of effort and unnecessary radiation exposure does not occur.
 - h. Recall the Search and Rescue Team(s) when search and rescue operations are no longer necessary as determined by the Emergency Coordinator or when all missing persons are accounted for.
- 5.2 The Search and Rescue Team Leader conducting search and rescue operations shall:
- a. Ensure that the Team is dispatched with the following equipment:
 - 1. Personal dosimetry in accordance with AP 515 "Emergency Personnel Dosimetry."
 - 2. High range Beta/Gamma Survey instrumentation.
 - 3. Protective clothing, as required.
 - 4. Respiratory equipment, as required.
 - 5. First-Aid kit.
 - 6. Portable radio.

5.0 INSTRUCTIONS-contd.

- b. Keep the Plant Assembly Point Coordinator informed of all significant actions via the appropriate communication equipment.
- c. Inform the Plant Assembly Point Coordinator immediately upon locating any missing personnel.

5.3 The Chem/Rad member has the authority to secure the search and rescue operations for radiological reasons, and to order his team out of contaminated or high radiation areas. Additionally he shall:

- a. Be equipped with a high range beta-gamma dose rate meter and monitor radiation levels at all times during the search and rescue operations.
- b. Ensure that no team member receives a whole body dose greater than:
 - 2500 mrem/qtr whole body
 - 5000 mrem/qtr skin
 - 15000 mrem/qtr extremities

while conducting search and rescue operations unless the permission of the Emergency Coordinator has been obtained.

5.4 The Search and Rescue Team members shall:

- a. Proceed to last known location of the missing individual and if necessary expand the search to adjacent areas.
- b. Keep within sight or voice range of each other unless by direct permission of the Search and Rescue Team Leader.
- c. Provide first-aid if injured and transport or escort the individual(s) to a safe location as soon as possible. Perform AP 514 "Personnel Injury" as necessary.
- d. If the individual's condition is known to be such that excessive time is required to remove him from the area, consider portable shielding or other steps to reduce the exposure of the personnel involved.

5.5 The Search and Rescue Team members shall obtain authorization from the Emergency Coordinator to exceed the station Administrative exposure limits.

NOTE: Each person on the Team must be advised of his emergency exposure limits in accordance with AP 527 "Emergency Exposure Guidelines" Attachment 7.1.

6.0 REFERENCES

- 6.1 AP 305 Radiation Control Manual
- 6.2 AP 514 "Personnel Injury"
- 6.3 AP 515 "Emergency Personnel Dosimetry"
- 6.4 AP 517 "Radiation Overexposure"
- 6.5 AP 527 "Emergency Exposure Guidelines"

7.0 ATTACHMENTS

Revision No.

- 7.1 Plant Assembly Point Coordinator Action Checklist Original

ATTACHMENT 7.1

PLANT ASSEMBLY POINT COORDINATOR ACTION CHECKLIST

<u>Time*</u>	<u>Initial</u>	<u>Action</u>
_____	_____	1. Assemble Search and Rescue Team and appoint Leader.
_____	_____	2. Determine radiation levels and stay times if necessary.
_____	_____	3. Provide detailed instructions to Search and Rescue Team in accordance with Step 5.1.c.
_____	_____	4. Ensure the Team Leader has supplied the Team with the equipment listed in 5.2.a.
_____	_____	5. Recall Search and Rescue Teams

*Time action is initiated.

SMUD - RANCHO SECO
EMERGENCY PLAN PROCEDURE

AP 519

SITE EVACUATION

TABLE OF CONTENTS

	<u>Page No.</u>
1.0 PURPOSE	2
2.0 RESPONSIBILITY	2
3.0 INITIATING CONDITIONS.	2
4.0 PRECAUTIONS AND LIMITATIONS.	3
5.0 INSTRUCTIONS	3
6.0 REFERENCES	5
7.0 ATTACHMENTS.	5

| 2

1.0 PURPOSE

- 1.1 To delineate actions of emergency response personnel in order to provide efficient means for site evacuation of nonemergency personnel.

2.0 RESPONSIBILITY

- 2.1 The Emergency Coordinator is responsible for determining if an emergency condition exists (i.e., high radiation levels, fire, security threat, or other emergencies that may endanger human life or health) which warrants implementing this procedure.
- 2.2 The Plant Assembly Point Coordinator is responsible for:
- a. Communicating with the Emergency Coordinator to determine the conditions of the emergency and the evacuation routes to be used.
 - b. Providing information on the number of personnel and vehicles involved in the evacuation and any further personnel accountability required prior to site evacuation.
 - c. Transmitting information to assembled personnel and coordinating the evacuation with Security.
- 2.3. The Security Watch Commander is responsible for assisting the Plant Assembly Point Coordinator as necessary to conduct the evacuation.

3.0 INITIATING CONDITIONS

3.1 Site Evacuation

- 3.1.1 Following completion of AP 513 "Personnel Accountability," a site evacuation will take place if either of the following exist:
- a. A Site Area Emergency or General Emergency has been declared. | 2
 - b. If a radiation dose rate of 2 mrem/hr exists at the Plant Assembly Point a site evacuation should be initiated at the Emergency Coordinator's discretion. | 2
 - c. Other emergency conditions, such as fire, security threats, etc., where it is deemed necessary by the Emergency Coordinator to evacuate nonemergency personnel from the station.

4.0 PRECAUTIONS AND LIMITATIONS

- 4.1 All nonemergency personnel, once evacuated off site, should proceed to the designated Offsite Relocation Point via the applicable evacuation routes (Attachments 7.1 and 7.2).
- 4.2 Nonemergency personnel shall be considered as part of the general public for evacuation purposes once cleared from the relocation point and further evacuation should be via the applicable evacuation routes established in the Rancho Seco Offsite Emergency Response Plan.
- 4.3 This procedure is intended to apply to evacuations where persons may receive abnormal external exposure and/or persons or automobiles may be contaminated. It is recognized that in the event of an emergency it may be desirable to send personnel home before they are exposed to significant radiation and/or contamination levels. A case of this nature would be handled as an early dismissal from work. An orderly sequence of dismissal should be given by the Emergency Coordinator and Security should provide traffic control in this event.

5.0 INSTRUCTIONS

5.1 Immediate Actions

5.1.1 Emergency Coordinator shall notify the Security Watch Commander and the Plant Assembly Point Coordinator via any communication link except the PA that evacuation shall commence and instruct the following:

- a. Areas to be avoided;
- b. Based upon wind direction and velocity readings, the evacuation routes and Offsite Relocation Point will be selected as shown below.

- 1. Herald Fire Station, if the wind is from any one of the following directions:

South
Southwest
West
Northwest

All evacuating personnel will proceed through the west gate and board awaiting public transportation to Herald Fire Station.

NOTE: The Plant Assembly Point Coordinator shall call the Communicator and request that offsite transportation assistance be obtained via the Sacramento County Emergency Operations Center (EOC) in accordance with AP 506 Attachment 7.7.

5.0 INSTRUCTIONS-contd.

2. Ione Forestry Fire Fighting Academy, if the wind is from any one of the following directions:

North
Northeast
East
Southeast

All personnel shall evacuate by way of the main gate. Personnel shall proceed, via personnel vehicle, to the truck stalls at the Ione Fire Academy.

NOTE: At the discretion of the Emergency Coordinator, nonemergency personnel may be directed to proceed home.

- 5.1.2 Emergency Coordinator shall direct the communicators. To notify Herald Fire Station/Ione Fire Academy in accordance with AP 506 and request that the facility be opened for use as the Offsite Assembly Point.

5.2 Subsequent Actions

- 5.2.1 Plant Assembly Point Coordinator shall notify the Emergency Coordinator when the evacuation is complete.
- 5.2.2 Plant Assembly Point Coordinator shall direct one Chem/Rad Support Team to the Offsite Relocation Point to decontaminate personnel, as needed, in accordance with AP 516 "Personnel Decontamination."
- 5.2.3 The Plant Assembly Point Coordinator shall notify the Emergency Coordinator upon the activation of the Offsite Assembly Point (AP 552).

6.0 REFERENCES

- 6.1 AP 506 "Notification/Communication"
- 6.2 AP 507 "Onsite Radiological Monitoring"
- 6.3 AP 513 "Personnel Accountability"
- 6.4 AP 516 "Personnel Decontamination"
- 6.5 AP 518 "Search and Rescue"
- 6.6 AP 524 "Reentry and Recovery"
- 6.7 AP 529 "Offsite Support and Assistance"

2

7.0 ATTACHMENTS

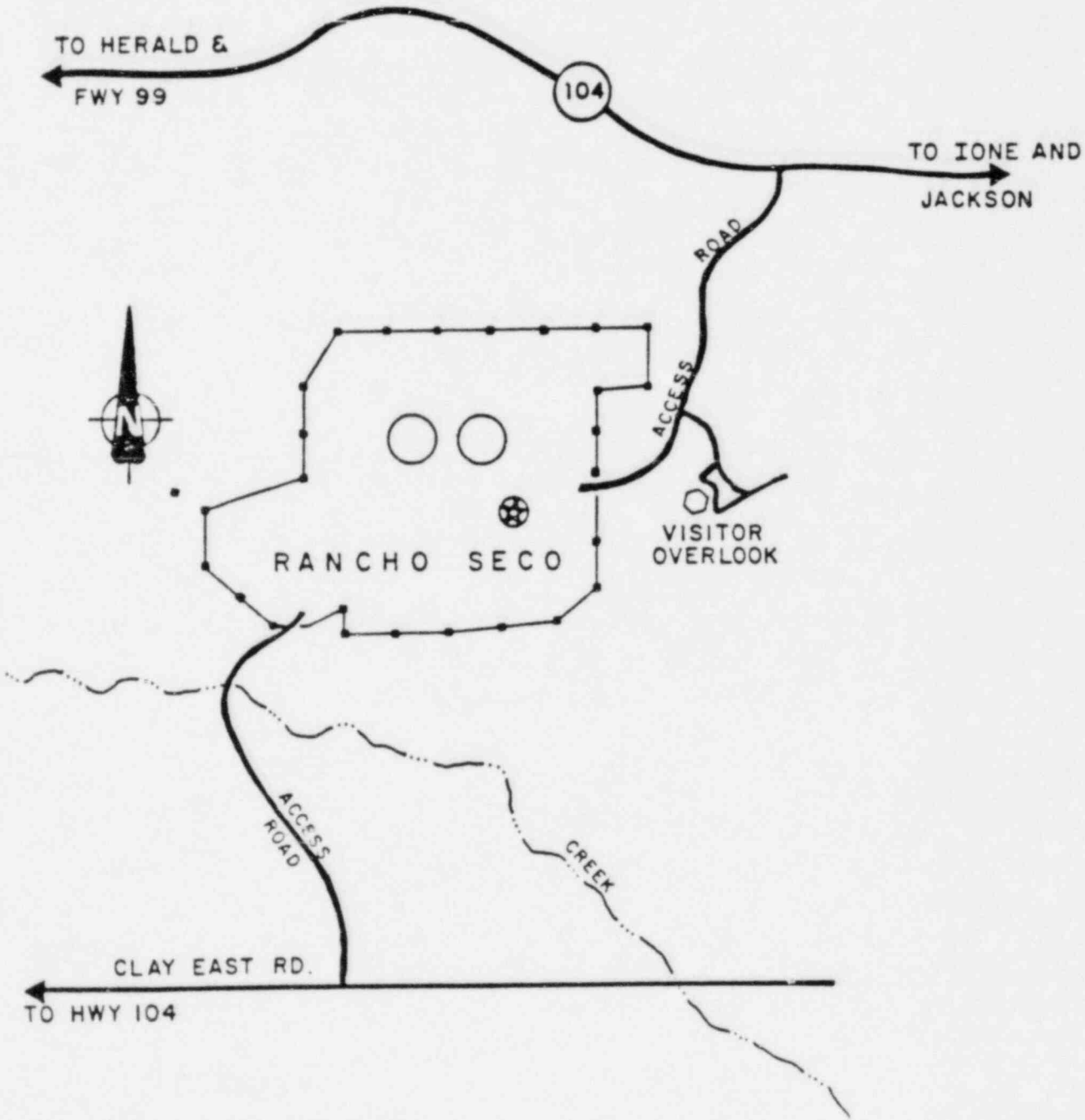
- 7.1 Rancho Seco Access Roads
- 7.2 Offsite Evacuation Reassembly Points

Revision No.

- Original
- Original

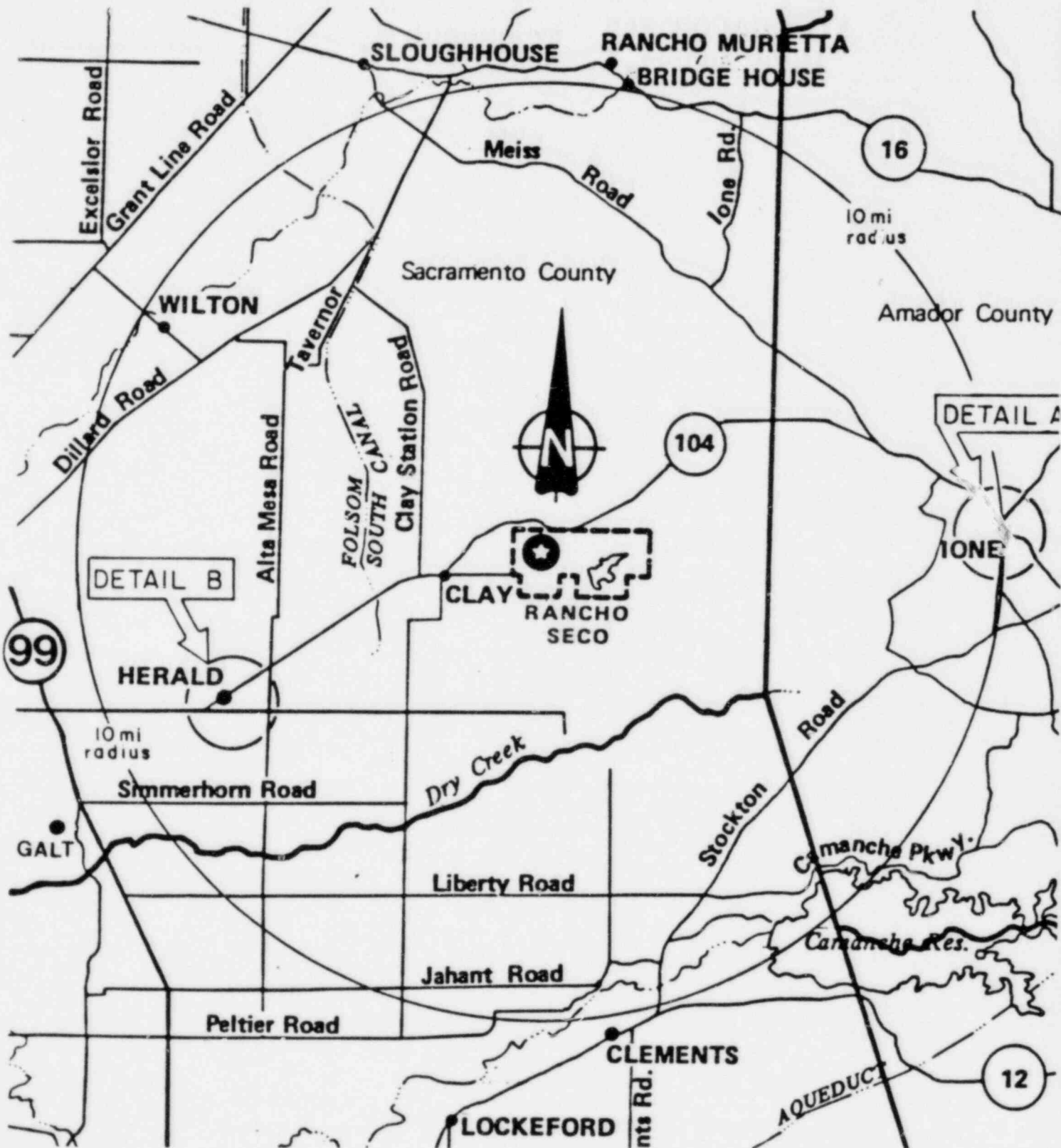
2

ATTACHMENT 7.1
RANCHO SECO ACCESS ROADS.

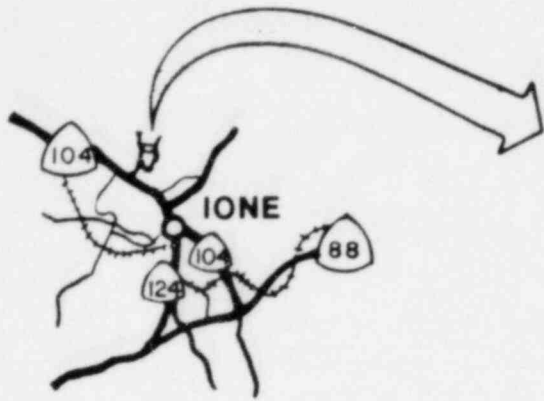


ATTACHMENT 7.2

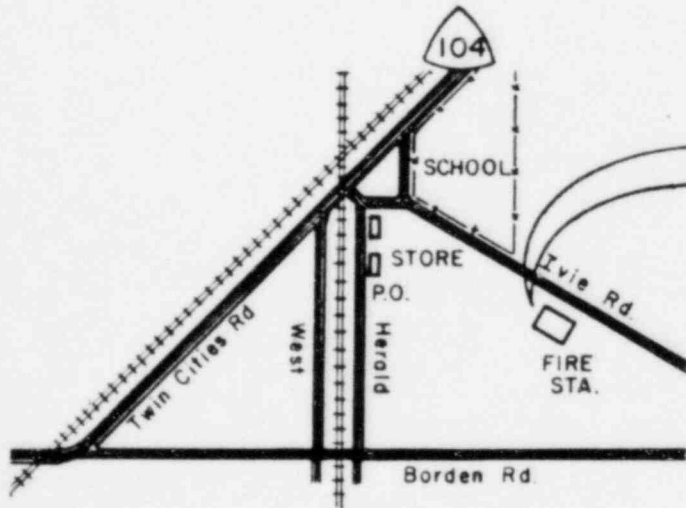
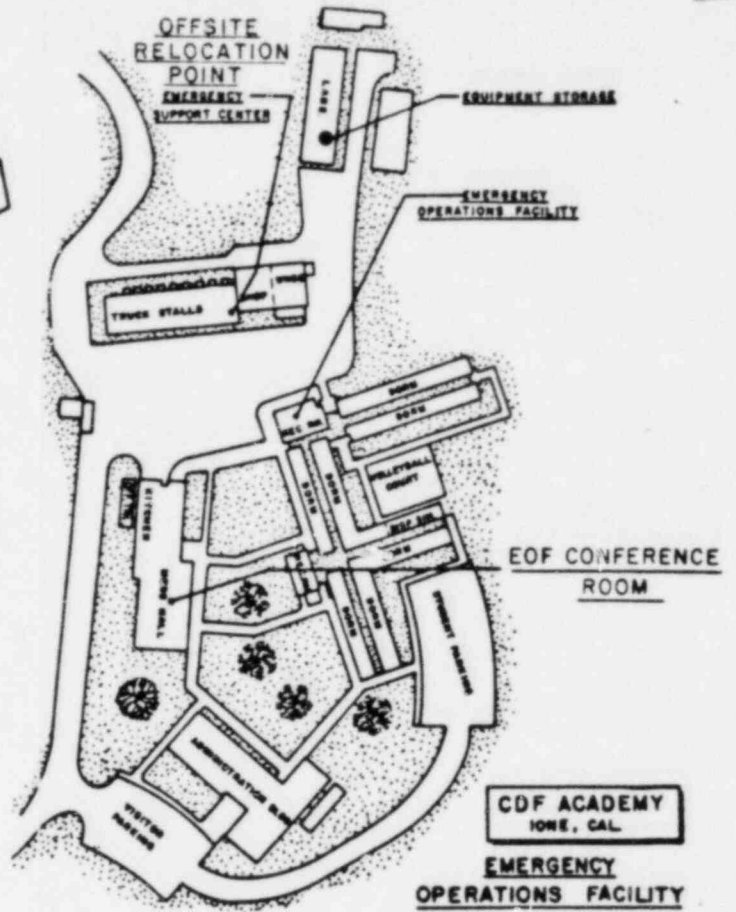
OFFSITE EVACUATION RELOCATION POINTS



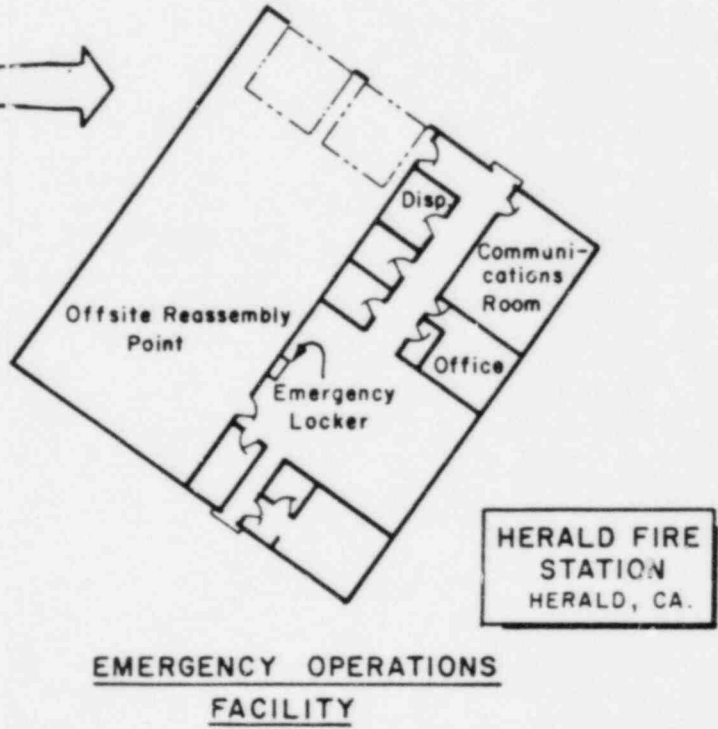
VICINITY MAP



DETAIL A



DETAIL B



SMUD - RANCHO SECO
EMERGENCY PLAN PROCEDURE

AP 520

FIRE

TABLE OF CONTENTS

	<u>Page No.</u>
1.0 PURPOSE.	2
2.0 RESPONSIBILITY	2
3.0 INITIATING CONDITIONS.	2
4.0 PRECAUTIONS AND LIMITATIONS.	3
5.0 INSTRUCTIONS	3
6.0 REFERENCES	7
7.0 ATTACHMENTS.	7

1.0 PURPOSE

- 1.1 To provide direction to personnel in the event of a fire at the Rancho Seco Nuclear Generating Station.

2.0 RESPONSIBILITY

- 2.1 The Emergency Coordinator is responsible for implementing this procedure.
- 2.2 The Fire Brigade Leader is a Senior Control Room Operator and is in charge of the fire fighting effort. He has the authority to order any plant personnel in suppressing the fire. In situations where local fire departments may be summoned, the Fire Brigade Leader retains his leadership role at the fire scene.
- 2.3 Personnel are assigned to the Fire Brigade as follows:
- a. Senior Control Room Operator - Fire Brigade Leader
 - b. Auxiliary Operator
 - c. Equipment Attendant/Power Plant Helper
 - d. Security Officer (2)

The Fire Brigade shall take necessary actions as directed by the Brigade Leader.

- 2.4 The Security Watch Commander is responsible for directing all other security personnel in the event of a fire.

3.0 INITIATING CONDITIONS

- 3.1 A fire is in progress that has reached or exceeded an Emergency Action Level (AP 501 "Recognition and Classification of Emergency").

4.0 PRECAUTIONS AND LIMITATIONS

- 4.1 This procedure assumes plant operators and security personnel have successfully completed the training program described by AP 700 "Rancho Seco Training Program."
- 4.2 SCBA must be worn at all times while fighting fires within any radiologically controlled and/or confined areas.
- 4.3 While fighting any fire in a radiologically controlled area, radiation exposure levels in excess of Rancho Seco Administrative limits:
 - 2500 mrem/qtr whole body
 - 5000 mrem/qtr skin
 - 15000 mrem/qtr extremities

shall be approved by the Emergency Coordinator prior to receiving the exposure and in accordance with AP 527 "Emergency Exposure Guidelines."

- 4.4 Conventional fire fighting clothing can be used in lieu of standard radiological protective clothing.

5.0 INSTRUCTIONS

5.1 Immediate Actions

5.1.1 At the Location of the Fire:

- a. Person discovering the fire, sound alarm if accessible and report the following to the Control Room:
 - o Type (if known) and size of fire
 - o Location
 - o Any injuries
 - o Any other pertinent information (e.g., source of fire, recommendations)
- b. Person discovering fire, maintain communication with the Emergency Coordinator unless otherwise directed, or if bodily harm is imminent.
- c. Knowledgeable personnel, attempt to fight the fire with available equipment while awaiting arrival of the Fire Brigade.
- d. Unnecessary personnel, evacuate the area.

5.0 INSTRUCTIONS-contd.

5.1.2 In the Control Room:

- a. Plant Operator sound the emergency alarm and announce over the PA system:

NOTE: Attachments 7.1 and 7.2 relate specific Fire Locker choice to fire scene.

"THERE IS A CLASS (A, B, C) (IF KNOWN) FIRE AT (LOCATION). FIRE BRIGADE RESPOND AND REPORT TO FIRE LOCKER AT (LOCATION)."

- b. Plant Operator manually initiate the appropriate fire protection systems in accordance with the "Fire Pre Plans."

5.1.3 Fire Brigade

Fire Brigade Leader, make a preliminary investigation of the fire to determine what equipment is needed to fight the fire, or if offsite assistance is needed.

- a. Fire Brigade members, report to the directed fire locker, breakout equipment, and standby for directions from Fire Brigade Leader.
- b. Fire Brigade Leader, direct the Fire Brigade in the following:

Establishing a strategy for fighting the fire in accordance with the "Fire Pre Plans" and ensuring that each member of the Fire Brigade knows his function.

Establishing fire boundaries.

De-energizing and isolating affected equipment.

- c. Fire Brigade Leader ensure the Emergency Coordinator is informed of the status of the fire.

5.2 Subsequent Actions

5.2.1 Fire Brigade, fight the fire.

5.2.2 Plant Operator, check radiation monitor levels for the affected area where possible, and secure ventilation systems as necessary.

5.0 INSTRUCTIONS-contd.

- 5.2.3 Emergency Coordinator, instruct the Communicator to contact the Herald Fire Department in accordance with AP 506 Attachment 7.6 and report the following information as soon as possible:
- a. Name and title at the station.
 - b. Whether assistance is required at Rancho Seco Nuclear Generating Station, or to remain in a standby status.
 - c. Type and location of fire.
 - d. Extent of fire, if known.
 - e. Stay on the line until the dispatcher indicates he has all the necessary information.
- 5.2.4 Emergency Coordinator or designee, notify the Security Watch Commander that offsite fire assistance is responding, as necessary.
- 5.2.5 Security shall:
- a. Provide an escort for the responding fire squad to ensure an expeditious passage to the fire scene.
 - b. Log the total number of firemen entering the site. Names and other information will be obtained when the firemen leave.
- 5.2.6 If the members of the offsite fire squad must enter a controlled area, Emergency Coordinator instruct an individual to obtain the necessary dosimetry from the Health Physics Office and issue dosimetry to each member of the fire squad in accordance with AP 515 "Emergency Personnel Dosimetry."
- 5.2.7 When the fire has been extinguished:
- a. Fire Brigade Leader, inform the Emergency Coordinator and station a reflash watch as necessary.
 - b. Plant Operator, announce over the PA system:
"SECURE FROM FIRE AT (LOCATION), RESTORE FIRE EQUIPMENT."
 - c. Emergency Coordinator, direct Chem/Rad Group personnel to monitor personnel and equipment, and to conduct radiological surveys as necessary.
 - d. Fire Brigade Leader, secure offsite response groups after completion of any required radiological monitoring and/or decontamination.

5.0 INSTRUCTIONS-contd.

- 5.2.8 Security, check the number of firemen who leave the site against the number logged in and obtain names. If there is any discrepancy between the number logged in and the number logged out, contact the Emergency Coordinator for further actions.

6.0 REFERENCES

- 6.1 AP 506 "Notification/Communication"
- 6.2 AP 515 "Emergency Personnel Dosimetry"
- 6.3 AP 527 "Emergency Exposure Guidelines"
- 6.4 AP 700 Rancho Seco Training Program
- 6.5 Fire Pre Plans

7.0 ATTACHMENTS

Revision No.

- | | |
|---|----------|
| 7.1 Fire Zones and Annunciators | Original |
| 7.2 Fire Zone Maps | Original |
| 7.3 Fire Locker Locations | Original |
| 7.4 Respiratory Protection Equipment
Storage Locations | Original |
| 7.5 Fire Station Locations | Original |

ATTACHMENT 7.1

FIRE ZONES AND ANNUNCIATORS

ZONE NO.	H3FPA ANNUNCIATOR	PANEL AREA CODE +	AREA	BUILDING
1	-	-	Turbine level	Turbine Bldg.
2-		-	Shift Sup/Eng. Office & Lunch Room	Auxiliary Bldg.
3	4	B	Control Room	Auxiliary Bldg.
4A*	12	B	Computer Room	Auxiliary Bldg.
4B*	12	B	Computer & Control Room Cabinets	Auxiliary Bldg.
5*	20	B	Southeast Turbine Level	Auxiliary Bldg.
6	28	B	Northeast Turbine Level	Auxiliary Bldg.
7*	36	B	Controlled Area, Turbine Level	Auxiliary Bldg.
8	43	-	Turbine Level	Fuel Storage Bldg.
9	32	-	+40' and +60' Level	Reactor Bldg.
10	17	A	Mezzanine Level	Turbine Bldg.
11	44	C	Battery Room, Mezzanine Level	Auxiliary Bldg.
12	5	C	West DC Control Room, Mezzanine Level	Auxiliary Bldg.
13	13	C	West 480 VAC Room, Mezzanine Level	Auxiliary Bldg.
14	21	C	West Cable Tray Area	Auxiliary Bldg.
15	29	C	East Cable Tray Area	Auxiliary Bldg.
16	37	C	East 480 VAC Room, Mezzanine Level	Auxiliary Bldg.
17	45	C	East DC Control Room, Mezzanine Level	Auxiliary Bldg.
18	6	B	Air Conditioning Equipment Room Mezzanine Room	Auxiliary Bldg.
19	14	B	Communications Room, Mezzanine Level	Auxiliary Bldg.
20*	22	B	Controlled Area, Mezzanine Level	Auxiliary Bldg.
21	40	B	Mezzanine Level	Reactor Bldg.
22A & B	10	A	Warehouse, Machine Shop and Construction Warehouse	--
23	18	A	Transformer Yard	--

*Alarm only

FIRE ZONES AND ANNUNCIATORS - cont.

ZONE NO.	H3FPA ANNUNCIATOR	PANEL AREA CODE	AREA	BUILDING
24	26	A	Startup Transformer No. 2	--
25	24	A	Unit Auxiliary Transformer No. 1	--
26	42	A	Unit Auxiliary Transformer No. 2	--
27	3	A	Main Transformer No. 1A	--
28	11	A	Main Transformer No. 1B	--
29	19	A	Startup Transformer No. 1	--
30	27	A	Nuclear Service Transformer	--
31	25	A	Auxiliary Lube Oil Area, Grade Level	Auxiliary Bldg.
32	33	A	Main Lube Oil Area, Grade Level	Turbine Bldg.
33	41	A	Hydrogen Seal Oil System, Grade Level	Turbine Bldg.
34	2	A	Grade Level	Turbine Bldg.
35A & B	35	A	Boiler Feedwater Pump Area	Turbine Bldg.
36	30	C	West Battery Room, Grade Level	Auxiliary Bldg.
37	38	C	West 4160 VAC Room	Auxiliary Bldg.
38	46	C	East 4160 VAC Room	Auxiliary Bldg.
39	7	C	East Battery Room	Auxiliary Bldg.
40	15	C	North Diesel Room	Auxiliary Bldg.
41	23	C	South Diesel Room	Auxiliary Bldg.
42	31	B	West Controlled Area, Grade Level	Auxiliary Bldg.
43	39	B	East Controlled Area, Grade Level	Auxiliary Bldg.
44	48	B	0' and -25' Level	Reactor Bldg.
45	47	B	Electrical Penetration Area, 0' Level	Reactor Bldg.
46	8	B	South and East -20' Level	Auxiliary Bldg.
47	16	B	North -20' Level	Auxiliary Bldg.
48	24	B	-45' Level	Auxiliary Bldg.
49	9	A, D	Switchyard House Basement and Tunnel	Switchyard House

FIRE ZONES AND ANNUNCIATORS - cont.

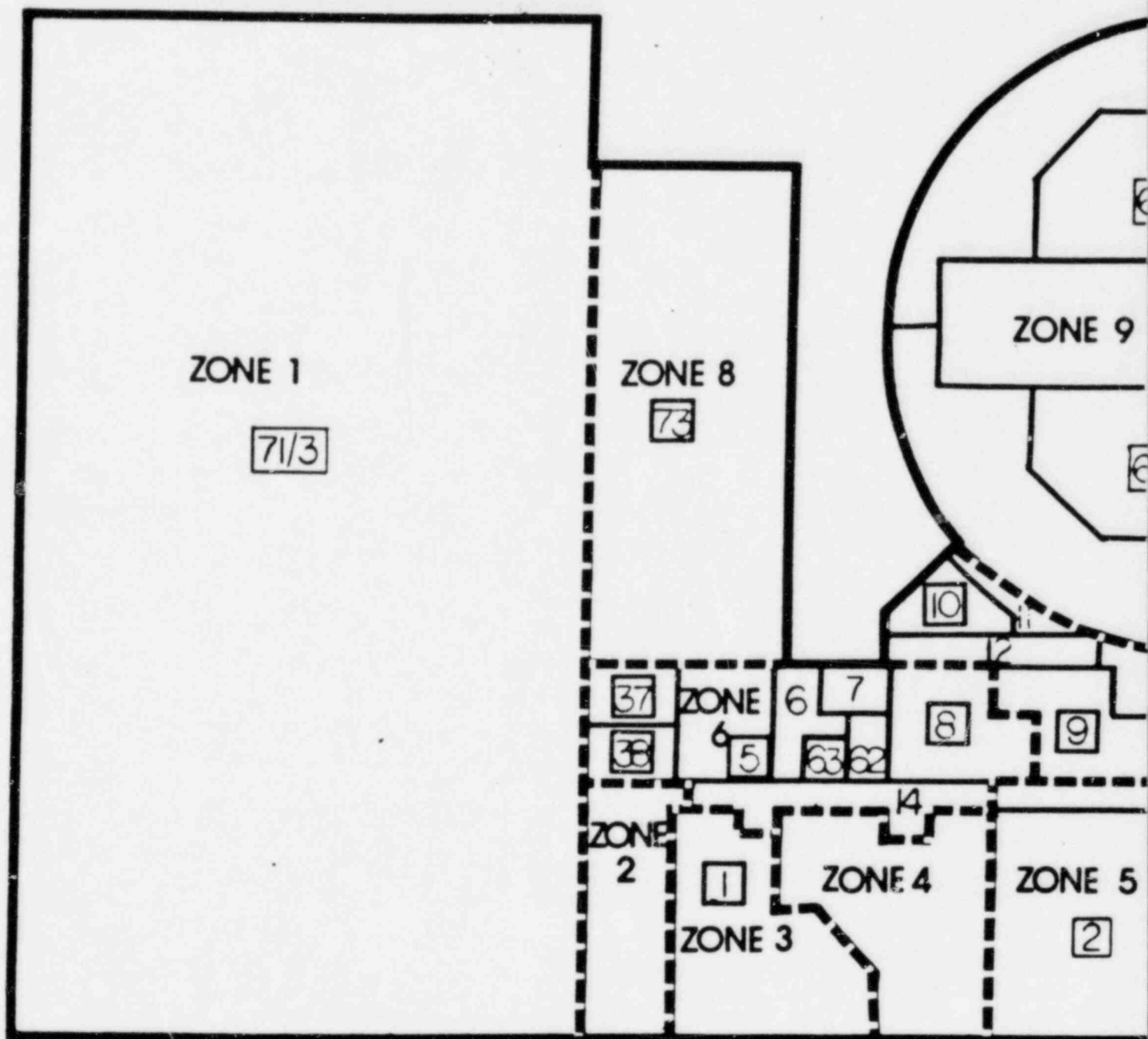
AREA CODE	EQUIPMENT NUMBER	LOCATION
A	H4FCP1	Turbine Building
B	H4FCP2	Auxiliary Building Mezzanine
C	H4DC02A	Control Area Grade
D	H4FCP3	Switchyard Basement

Reset zone by using appropriate toggle switch or push button on above panel(s).

*Zone 49 must be reset at H4FCP-3 first, then reset at H4FCP-1.

+ Panel Area Codes denote the Fire Control Panels for fire zones and the resetting of alarms and annunciators.

example: Fire Control Panel "B" (H4FCP2) located in the Communications Room Auxiliary Building Mezzanine level would control the alarm and annunciation for Zone No. 18; Annunciator 6 which is the air conditioning equipment room. Auxiliary Building Mezzanine level.



ZONE 1

71/3

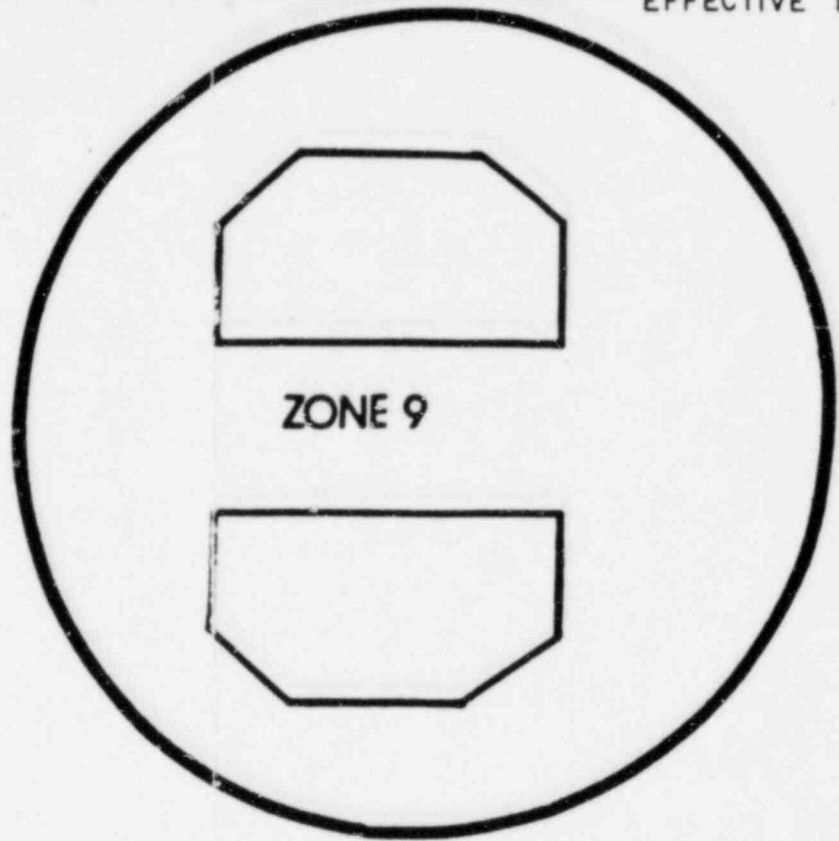
ZONE 8

73

ZONE 9

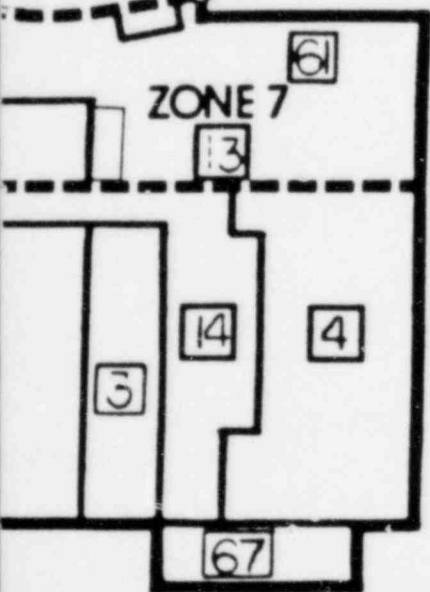
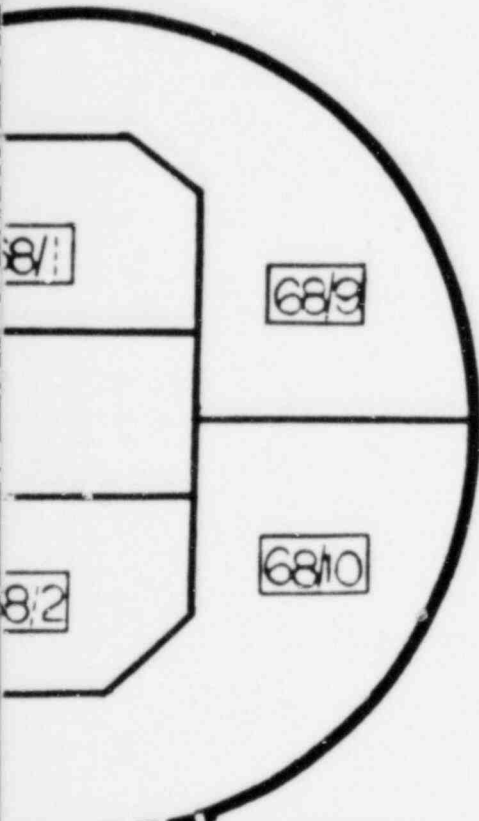
37 ZONE 6 7 8 9
38 6 5 63 62
ZONE 2 1 ZONE 4 ZONE 5
2 1 2

FIRE ALARM ZONES
PLAN AT TURBINE DECK LEVEL (+40')

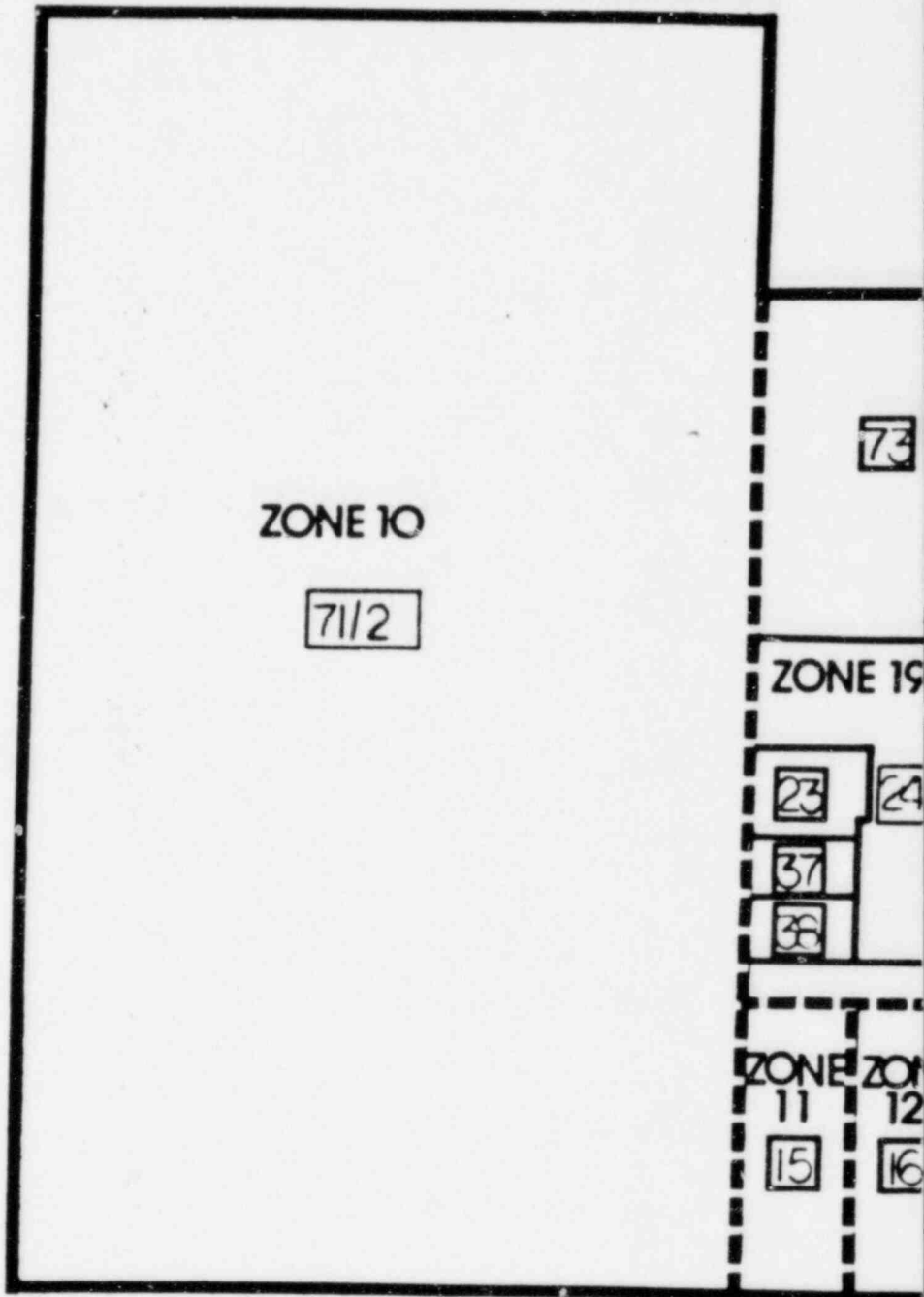


ZONE 9

FIRE ALARM ZONES
PLAN AT ELEVATION (+60)



FZ-1



ZONE 10

71/2

73

ZONE 19

23

24

37

38

ZONE 11

ZONE 12

11

12

15

16

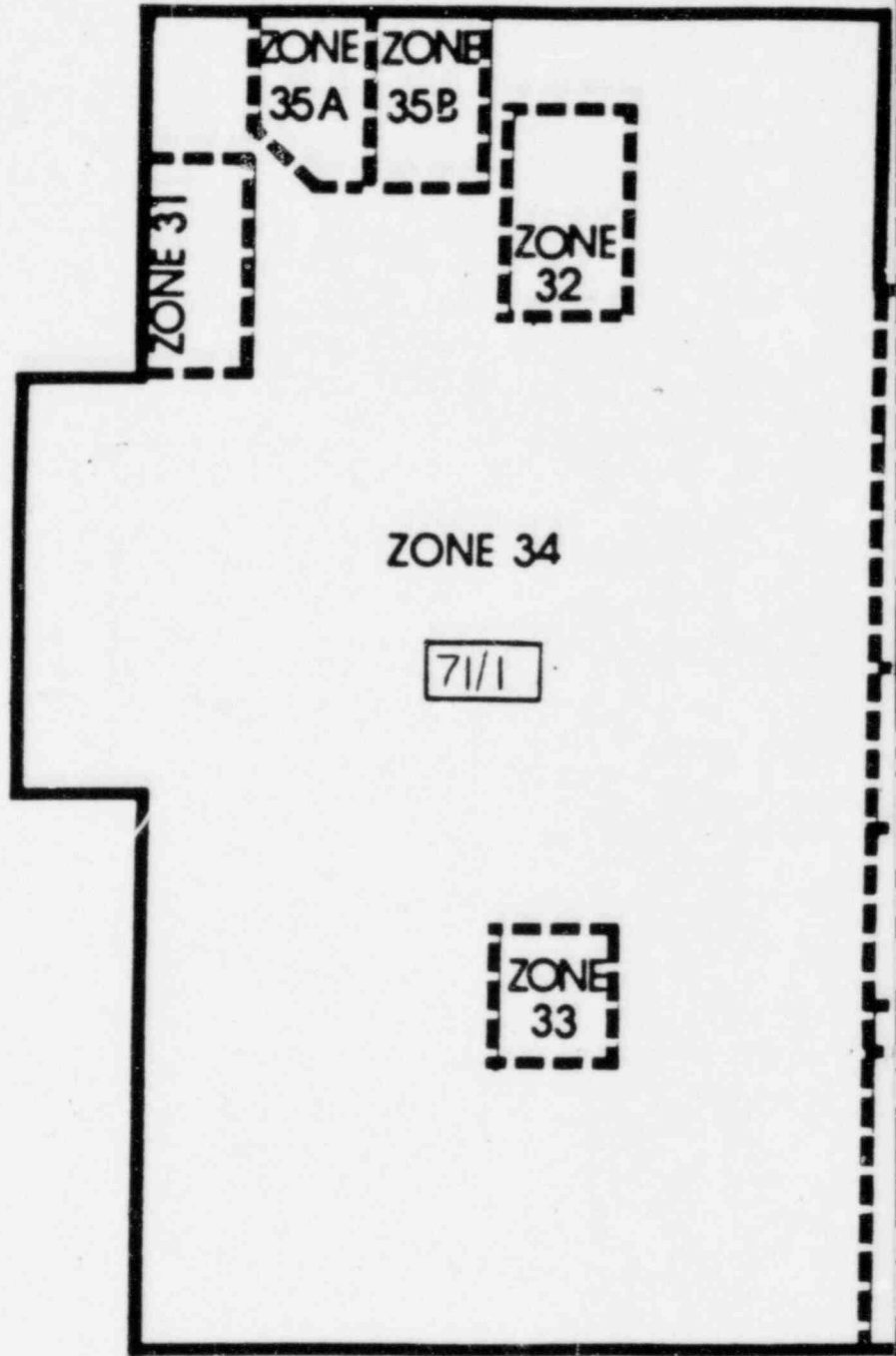
FIRE ALARM
PLAN AT ME



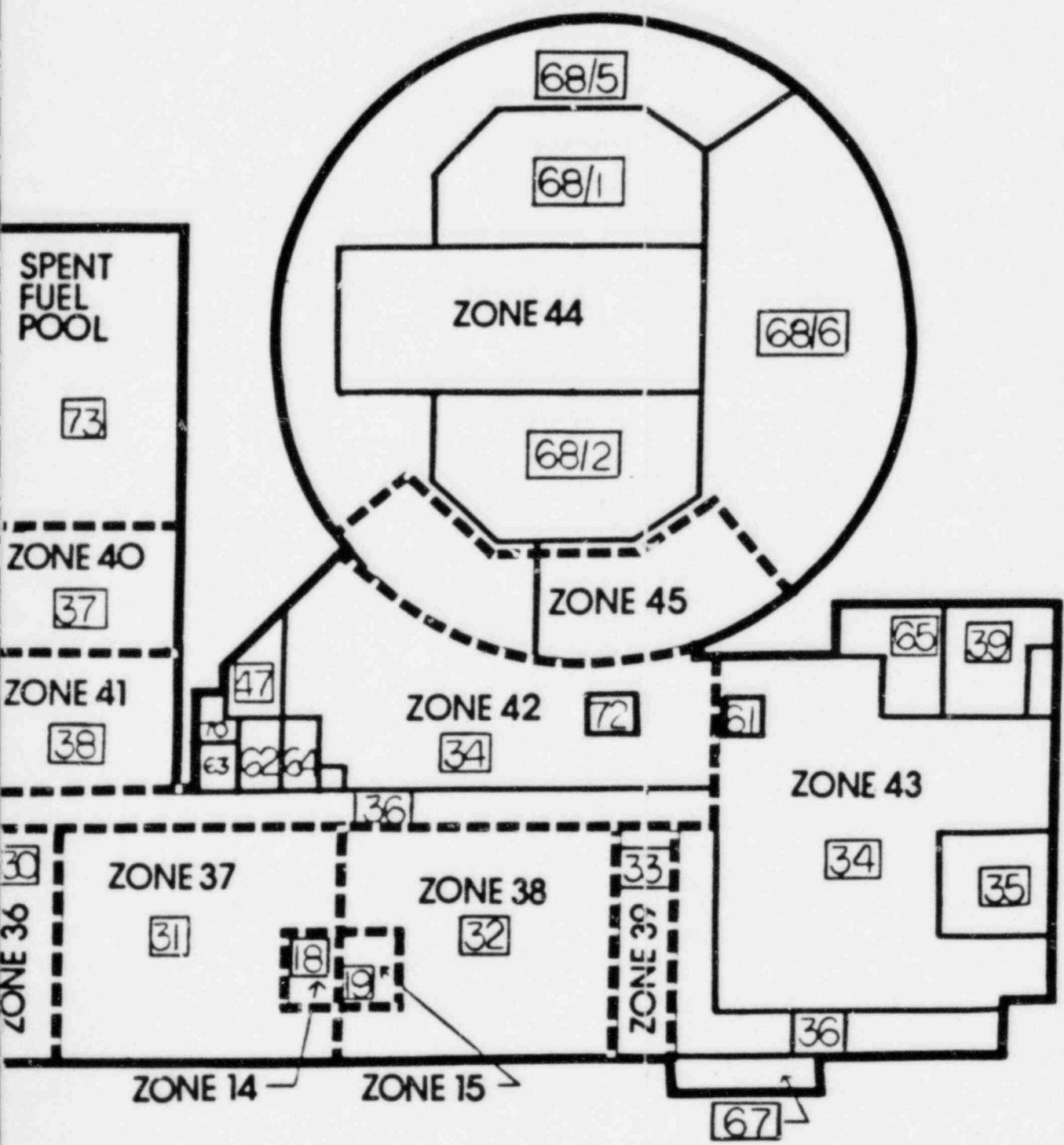
1 ZONES
ZZANINE



FZ-2

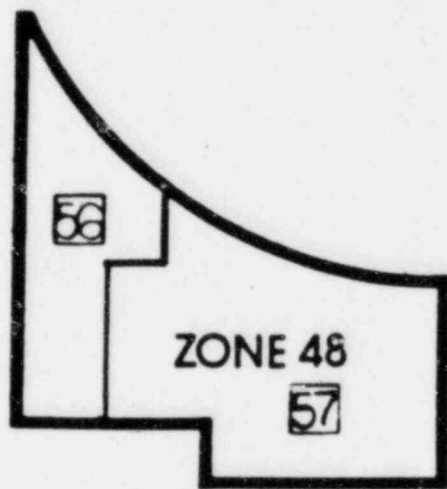


FIRE ALARM Z
PLAN AT GRAD

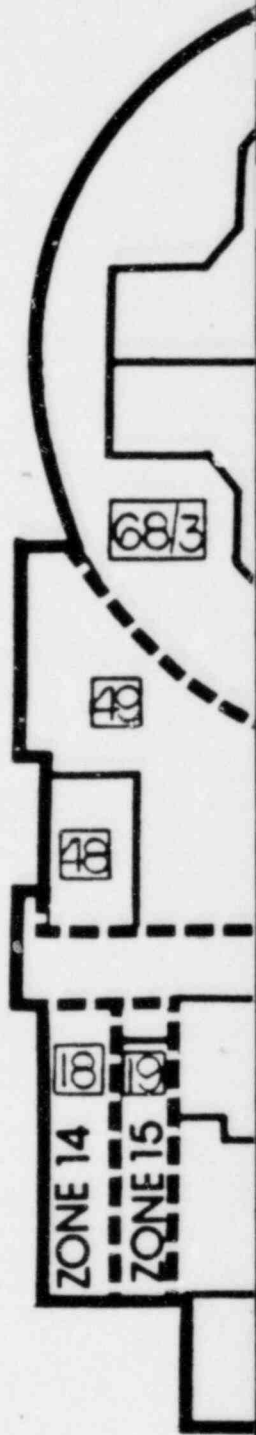


ZONES
LEVEL (0')

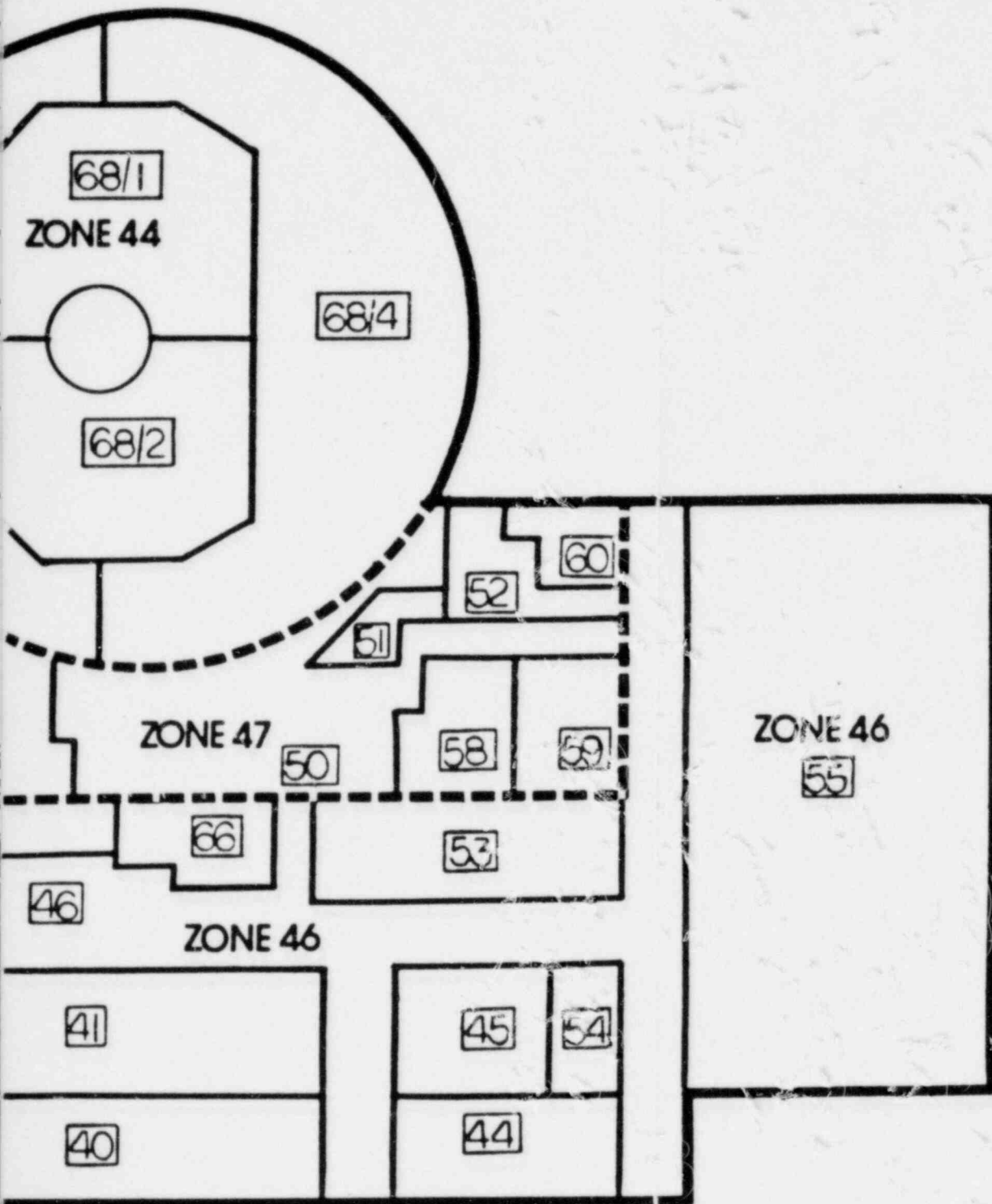




FIRE ALARM ZONES
AUXILIARY BUILDING
ELEVATION (-47')



NT 7.2

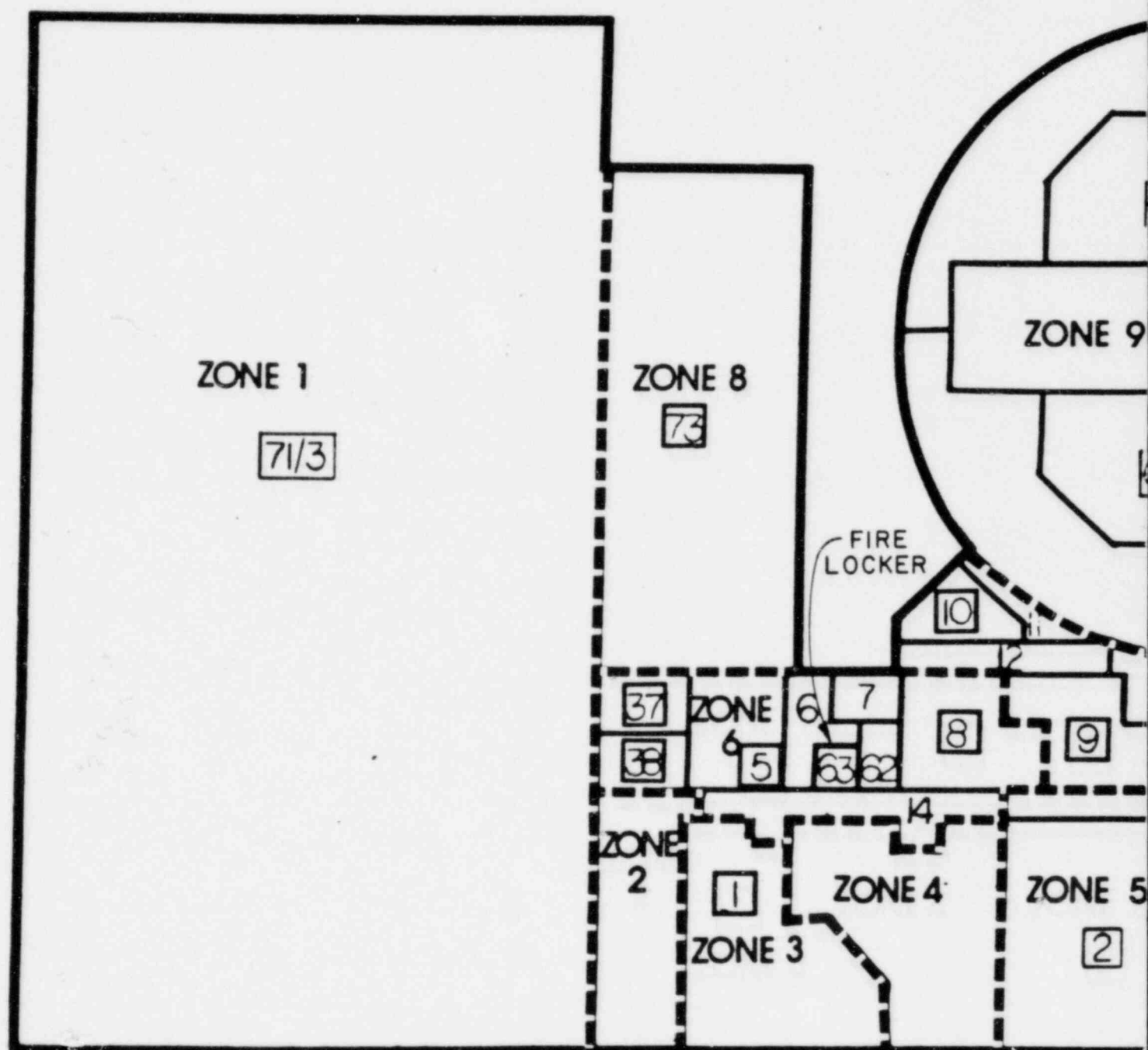


FIRE ALARM ZONES
ELEVATION (-20')

LOW GRADE



FZ-4



ZONE 1

71/3

ZONE 8

73

ZONE 9

FIRE LOCKER

10

37

ZONE 6

7

38

6

5

63

62

8

9

ZONE 2

2

1

ZONE 4

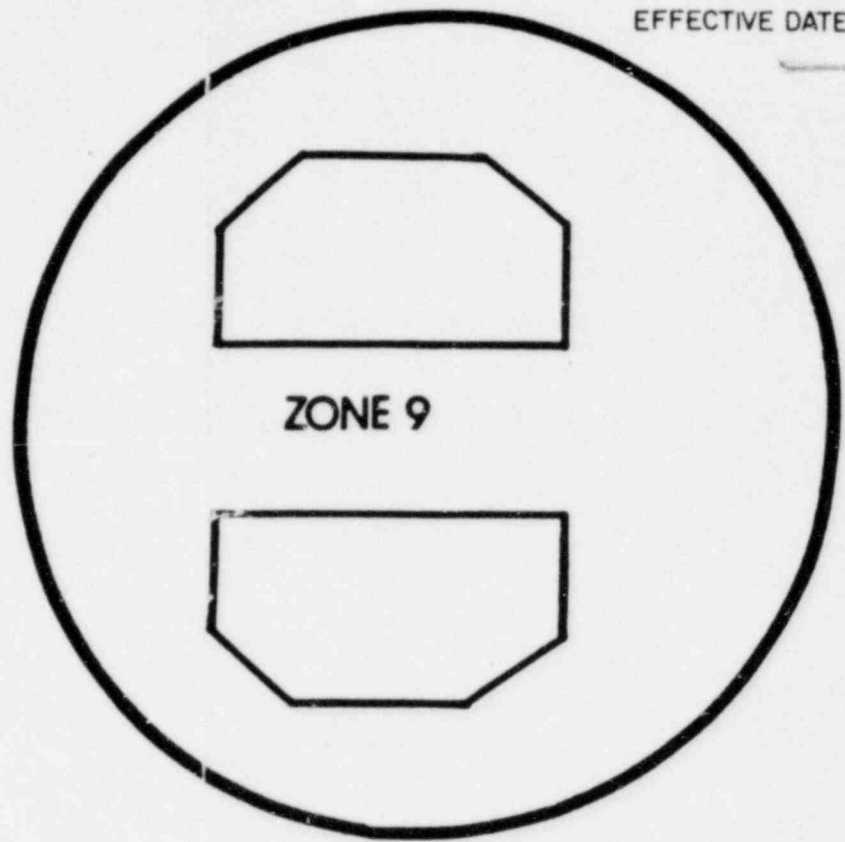
14

ZONE 3

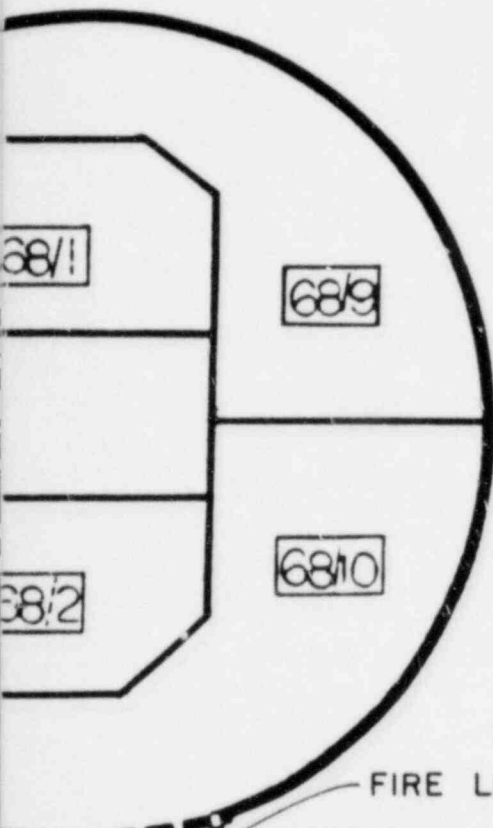
ZONE 5

2

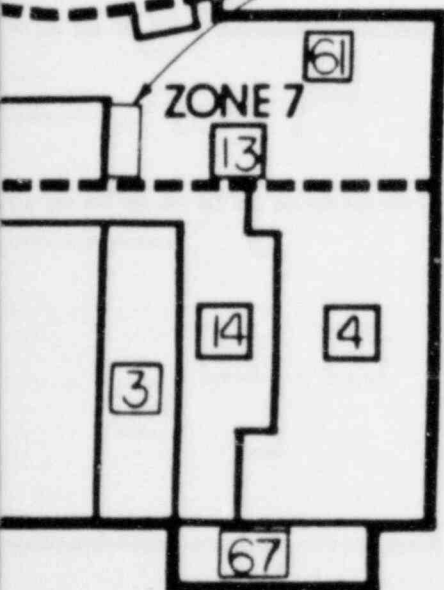
FIRE ALARM ZONES
PLAN AT TURBINE DECK LEVEL (+40')



FIRE LOCKER LOCATIONS
FIRE ALARM ZONES
PLAN AT ELEVATION (+60')



FIRE LOCKER

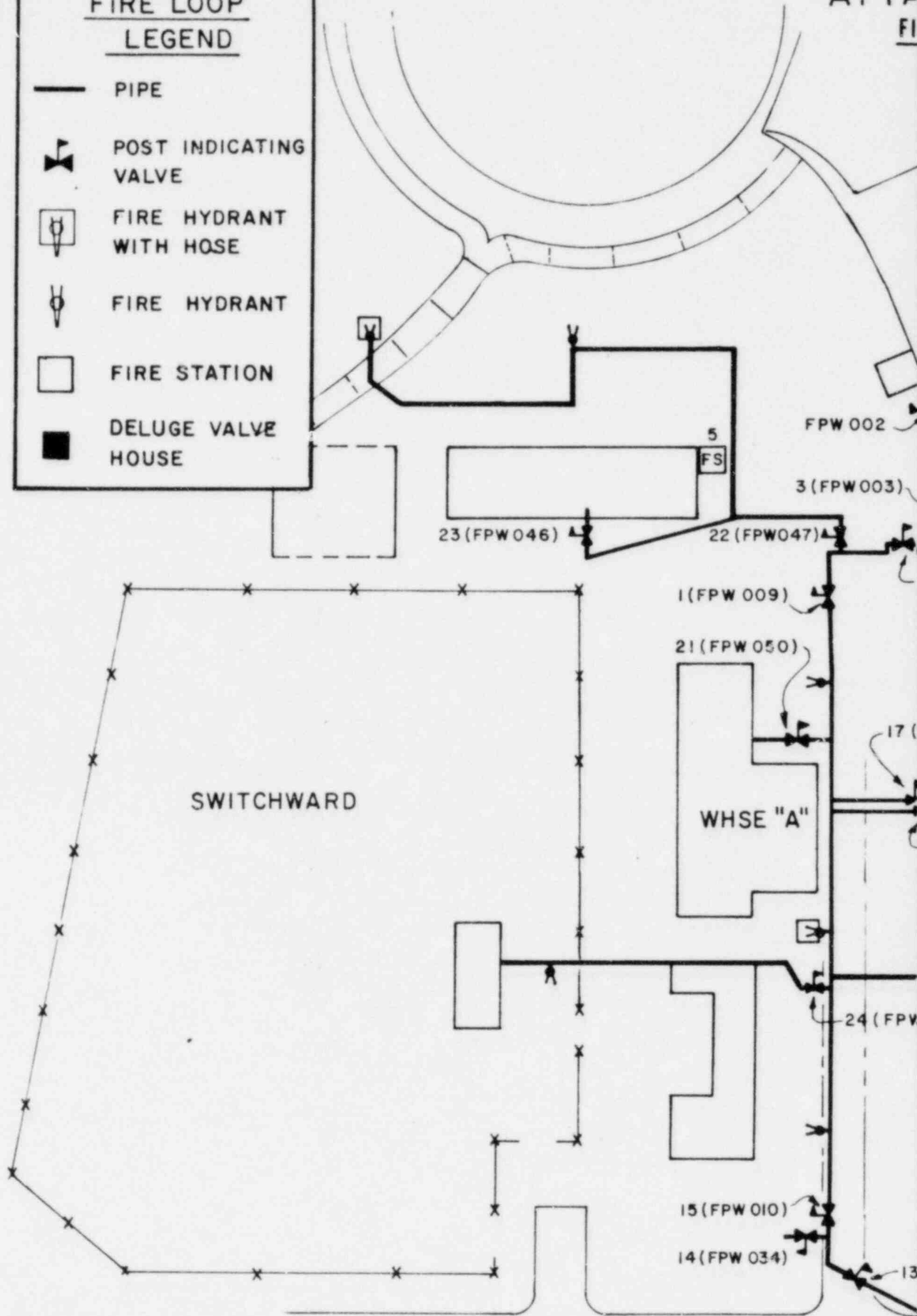
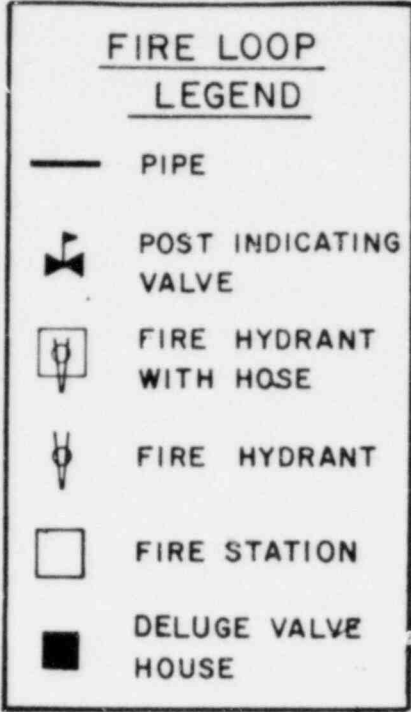


FZ-1

ATTACHMENT 7.4

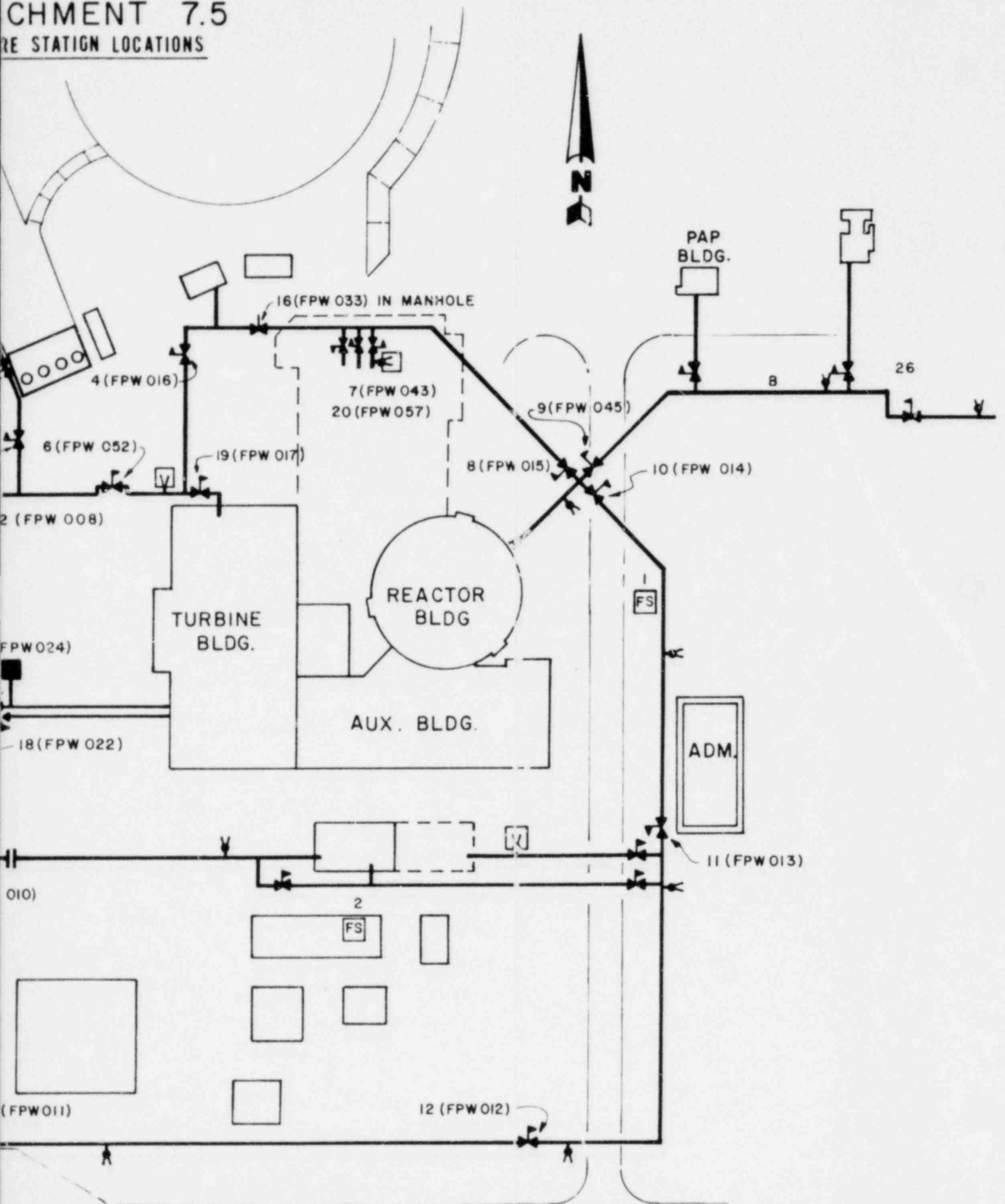
RESPIRATORY PROTECTION EQUIPMENT STORAGE LOCATIONS

<u>Location</u>	<u>Equipment</u>
1. Auxiliary Building (40 ft.)	
Xerox Room	SCBA (5)
Change Room Area	SCBA (5)
2. Administration Building Emergency Locker	SCBA (2)
3. Warehouse Emergency Locker	SCBA (2)
4. Chlorine Building Emergency Locker	SCBA (2)



Attachment 7.5

PIPE STATION LOCATIONS



SMUD - RANCHO SECO
EMERGENCY PLAN PROCEDURE

AP 521

TOXIC MATERIAL

TABLE OF CONTENTS

	<u>Page No.</u>
1.0 PURPOSE	2
2.0 RESPONSIBILITY	2
3.0 INITIATING CONDITIONS.	2
4.0 PRECAUTIONS AND LIMITATIONS.	3
5.0 INSTRUCTIONS	3
6.0 REFERENCES	4
7.0 ATTACHMENTS.	4

1.0 PURPOSE

- 1.1 To provide direction for protecting plant personnel in the event of a toxic material release onsite or offsite.

2.0 RESPONSIBILITY

- 2.1 The Emergency Coordinator is responsible for implementing this procedure.
- 2.2 Members of the Emergency Team shall be responsible for mitigating onsite releases of toxic materials and other actions as deemed necessary.

3.0 INITIAL CONDITIONS

- 3.1 Warning of a release of toxic material offsite which threatens plant structures, equipment or personnel.
- 3.2 An onsite toxic or flammable gas release is occurring or has occurred that threatens plant structures, equipment or personnel.

4.0 PRECAUTIONS AND LIMITATIONS

- 4.1 Appropriate attire shall be utilized in dealing with toxic materials (i.e. self-contained breathing apparatus, protective clothing).
- 4.2 If in a controlled radiation area, Rancho Seco's Administrative limits will not be exceeded unless authorized by the Emergency Coordinator.

5.0 INSTRUCTIONS

5.1 IMMEDIATE ACTIONS

- 5.1.1 Dispatch emergency team to assess the situation and report to the Emergency Coordinator.
- 5.1.2 Initiate Control Room Isolation and utilize appropriate respiratory equipment.
- 5.1.3 Notify the Safety Technician.

5.2 SUBSEQUENT ACTIONS

- 5.2.1 Emergency Team shall perform the following:
 - a. Make all entries into affected area with self-contained breathing apparatus and protective clothing. (See Attachment 7.1).

Note: If repair is impossible without additional equipment, determine what equipment is needed and then leave the area.

 - b. Notify the Emergency Coordinator when the repairs are completed and the toxic material release terminated.
 - c. Once the plume of toxic or flammable gas has dissipated return Control Room Ventilation to normal.
 - d. Complete written summary to NRC.

6.0 REFERENCES

- 6.1 AP 513 "Personnel Accountability".
- 6.2 AP 514 "Personnel Injury".
- 6.3 AP 519 "Site Evacuation".

7.0 ATTACHMENTS

- 7.1 Respiratory Protection Equipment Storage Locations.

Revision No.

Original

ATTACHMENT 7.1

RESPIRATORY PROTECTION EQUIPMENT STORAGE LOCATIONS

<u>Location</u>	<u>Equipment</u>
1. Auxiliary Building (40 ft.)	
Xerox Room.....	SCBA (5)
Change Room Area.....	SCBA (5)
2. Administration Building Emergency Locker.....	SCBA (2)
3. Warehouse Emergency Locker.....	SCBA (2)
4. Chlorine Building Emergency Locker.....	SCBA (2)

SMUD - RANCHO SECO
EMERGENCY PLAN PROCEDURE

AP 522

HIGH WIND

TABLE OF CONTENTS

	<u>Page No.</u>
1.0 PURPOSE.	2
2.0 RESPONSIBILITY	2
3.0 INITIATING CONDITIONS.	2
4.0 PRECAUTIONS AND LIMITATIONS.	2
5.0 INSTRUCTIONS	3
6.0 REFERENCES	4
7.0 ATTACHMENTS.	4

1.0 PURPOSE

1.1 To provide guidelines in the event that high winds are experienced onsite which may affect plant structures.

2.0 RESPONSIBILITY

2.1 The Emergency Coordinator is responsible for implementing this procedure.

2.2 The Emergency Team shall perform any assessment or corrective actions as deemed necessary as a result of high winds.

3.0 INITIATING CONDITIONS

3.1 High winds (approaching 100 mph) are forecast or occurring which may affect plant structures.

4.0 PRECAUTIONS AND LIMITATIONS

4.1 The design wind velocity for the site is 100 mph.

For purposes of this procedure, winds are classified by their velocity as recorded by the meteorological instrumentation, and/or their probability of effecting plant structures.

<u>WIND INDICATION</u>	<u>ACTION LEVEL</u>
Tornado on site	Unusual Event
Tornado onsite with damage to structures	Alert
Winds in excess of 100 mph onsite	Site Area Emergency
Winds in excess of 100 mph onsite with massive damage to plant systems	General Emergency

5.0 INSTRUCTIONS

5.1 IMMEDIATE ACTIONS

5.1.1 Emergency Coordinator announce the following over the PA system:

"ATTENTION ALL PERSONNEL. HIGH WINDS ARE IMMINENT. PROCEED TO THE NON VITAL AND NON RADIATION CONTROLLED AREAS OF THE AUXILIARY BUILDING."

Repeat the announcement

5.2 SUBSEQUENT ACTIONS

5.2.1 Emergency Coordinator perform the following actions:

- a. Determine whether the reactor should remain at power or be shutdown based upon the severity of the weather.
- b. Insure that all exterior doors to plant structures are shut and secure.
- c. Form the Emergency Team and maintain them in a standby status, in the event high winds damage plant structures.
- d. Initiate applicable procedures as necessary, depending upon the effects of the high winds on plant personnel and structures.
- e. Dispatch the Emergency Team as soon as possible to assess damage to plant structures and perform immediate corrective actions as necessary.
- f. Terminate this procedure when assessments indicate that the danger from the high winds has passed.

6.0 REFERENCES

None

7.0 ATTACHMENTS

None

SMUD - RANCHO SECO
EMERGENCY PLAN PROCEDURE

AP 523

EARTHQUAKE

TABLE OF CONTENTS

	<u>Page No.</u>
1.0 PURPOSE.	2
2.0 RESPONSIBILITY	2
3.0 INITIATING CONDITIONS.	2
4.0 PRECAUTIONS AND LIMITATIONS.	3
5.0 INSTRUCTIONS	3
6.0 REFERENCES	4
7.0 ATTACHMENTS.	4

1.0 PURPOSE

- 1.1 This procedure is to be followed in the event that an earthquake occurs.

2.0 RESPONSIBILITY

- 2.1 The Emergency Coordinator is responsible for implementing this procedure.
- 2.2 The Emergency Team shall perform any assessment or corrective actions deemed necessary as a result of the earthquake.

3.0 INITIATING CONDITIONS

- 3.1 Annunciator H2YSA-58 "Seismic Switch Actuated".
- 3.2 Annunciator H2YSA-59 "Seismic Recording Actuated".
- 3.3 One or more Seismic Event indicator lights at the H2PSA panel.
 - a. 0.065g
 - b. 0.13g
 - c. 0.19g
 - d. 0.25g
- 3.4 Tremors or detectable movement is felt.

4.0 PRECAUTIONS AND LIMITATIONS

4.1 For purposes of this procedure, earthquakes are classified by the maximum acceleration registered by the seismic indicating panel mounted in the Control Room on panel H2PSA.

<u>MAXIMUM ACCELERATION (g's)</u>	<u>EARTHQUAKE CLASSIFICATION</u>	<u>ACTION LEVEL</u>
0.065	Measured	(See Note)
0.13	Minor	Unusual Event
0.19	Moderate	Alert
0.25	Strong	Site Area Emergency
Greater than 0.25	Major	General Emergency

5.0 INSTRUCTIONS

5.1 In the event that an earthquake causes damage, follow the procedures listed in C.41 "Earthquakes", Plant Operations's Manual.

NOTE: Make a complete inspection of the station in accordance with C.41 "Earthquakes", Plant Operation's Manual.

6.0 REFERENCES

- 6.1 Plant Operating Procedure B.4 "Plant Shutdown and Cooldown"
- 6.2 Plant Operations Procedure C.41 "Earthquake"
- 6.3 SP 207.07 "Post Earthquake Surveillance"
- 6.4 AP 506 "Notification/Communication"

7.0 ATTACHMENTS

None

SMUD - RANCHO SECO
EMERGENCY PLAN PROCEDURE

AP 524

REENTRY AND RECOVERY

TABLE OF CONTENTS

	<u>Page No.</u>
1.0 PURPOSE.	2
2.0 RESPONSIBILITY	2
3.0 INITIATING CONDITIONS.	2
4.0 PRECAUTIONS AND LIMITATIONS.	3
5.0 INSTRUCTIONS	4
6.0 REFERENCES	8
7.0 ATTACHMENTS.	8

1.0 PURPOSE

- 1.1 To provide guidelines for the following phases:
- a. Reentry into the affected areas of the plant;
 - b. Recovery Operations;
 - c. Formation of the long term recovery organization.

2.0 RESPONSIBILITY

- 2.1 The Emergency Coordinator with the concurrence of the Emergency Manager will be responsible for the implementation of this procedure.
- 2.2 The General Manager will be responsible for establishing the long term recovery organization.

3.0 INITIATING CONDITIONS

- 3.1 Immediate corrective and protective actions have established control over the incident situation.
- 3.2 Any of the following conditions will cause the long term recovery organization to be activated:
- 3.2.1 Extensive or significant plant damages are known to have occurred.
 - 3.2.2 Repair, decontamination, or radwaste disposal work is judged to be sizable and long-term (e.g., beyond three weeks).
 - 3.2.3 Re-licensing process is foreseen.
 - 3.2.4 Advisory and technical support from outside sources (e.g. NSSS, A/E, NRC) is anticipated to be long-term.
 - 3.2.5 Deficiencies in operational or safety related procedures or equipment are revealed in the course of the emergency.

4.0 PRECAUTIONS AND LIMITATIONS

4.1 The following criteria must be met before declaring the end of an emergency:

- 4.1.1 The plant is in a controlled and stable condition;
- 4.1.2 Releases of radioactive material are controlled and less than Emergency Action Levels;
- 4.1.3 Radiation levels are stable or decreasing in all plant areas.
- 4.1.4 Any fire, flooding, or similar emergency conditions are controlled or have ceased.
- 4.1.5 If contaminated/injured personnel: when the victim(s) has been transferred to a hospital or has received appropriate medical treatment.
- 4.1.6 For emergency conditions classified as Unusual Events, when the specified corrective action has been taken or the plant has been placed in the appropriate operating mode and notifications are complete.

4.2 Reentry.

- 4.2.1 Reentry procedures will only occur once the immediate corrective and protective actions have established an effective control over the emergency condition.
- 4.2.2 All reentry procedures shall be planned and deliberate.

4.3 Recovery.

- 4.3.1 Reentry procedures have been completed and the existing plant conditions have been evaluated.
- 4.3.2 Recovery operations will be conducted in compliance with the normal Rancho Seco Administrative Exposure Limits. (Attachment 7.1)
- 4.3.4 The recovery plan shall be carried out in three phases as outlined in Section 5.2 of this procedure.
- 4.3.5 All recovery actions shall be planned and deliberate and all recovery teams shall be composed of individuals whose expertise and experience are applicable to the type of work to be accomplished.

4.0 PRECAUTIONS AND LIMITATIONS-contd.

4.3.6 Phase 3 of the recovery plan will be initiated at any time when the end of the emergency is declared and the recovery operations are still ongoing.

NOTE: The initiation of phase 3 will not automatically terminate phases 1 and 2 if they are still in progress.

5.0 INSTRUCTIONS

5.1 Reentry

5.1.1 Review the following data prior to authorizing reentry by the reentry teams:

- (a) Radiation surveillance data to determine plant areas potentially affected by high levels of radiation and contamination; data shall be obtained in accordance with AP 507 "Onsite Radiological Monitoring".
- (b) Current radiation exposures of emergency personnel who will participate in the reentry operation;
- (c) Adequacy of radiation survey instrumentation.

5.1.2 Preplan the activities of the reentry teams taking the following items into account:

- (a) Areas to be surveyed;
- (b) Anticipated radiation and contamination levels;
- (c) Radiation survey equipment required;
- (d) Shielding requirements and availability;
- (e) Protective clothing and equipment required;
- (f) Access control procedures;
- (g) Decontamination requirements;
- (h) Communications;
- (i) Exposure control limits and personnel dosimetry requirements.
- (j) ALARA exposure reduction techniques:
 - 1. Preplanning
 - 2. Detailed work procedures
 - 3. Special task training
 - 4. Dryrun
 - 5. Crew Size optimization
 - 6. Adequate ventilation, lighting, water, etc.

5.0 INSTRUCTIONS-contd.

5.1.3 Designate a reentry team which shall consist of the minimum following personnel:

- (a) Operations personnel (1);
- (b) Chemical/Radiation Group personnel (1);
- (c) Maintenance personnel (1).

NOTE: Ensure that each member of the team has sufficient exposure remaining to complete the reentry procedures and not exceed the normal Rancho Seco Administrative Exposure limits.

NOTE: Ensure each member has specific training for the task.

5.1.4 Instruct the members of the reentry team to assess the following items in the specified priority:

- (a) Determination of initial required recovery operations including assessment of equipment damage;
- (b) Determination of real or potential hazards associated with the required recovery operations.
- (c) Determine proper protective equipment to be used for:
 - (1) Surface contamination;
 - (2) Airborne gaseous and particulate resuspension.

5.1.5 Instruct the members of the team to perform the following actions (if exposure limits allow) after all assessments have been completed.

- (a) Conduct comprehensive radiation surveillance of plant facilities and define radiologically hazardous areas;
- (b) Isolate and post areas in the plant with the appropriate signs and barriers.

5.1.6 After reentry procedures are completed, assess the data and determine the extent of the required recovery operations.

5.2 Recovery

5.2.1 The General Manager shall activate the Long Term Recovery Organization specifying its structure and staffing depending upon the magnitude of the recovery effort. (AP 500, Section 5)

NOTE: If the recovery effort is not of a long term nature then the existing Nuclear Operations and Generation Engineering Organizations may complete the recovery effort.

5.0 INSTRUCTIONS-contd.

5.2.2 Phase I recovery operations.

- a. The Recovery Operations Manager shall establish a recovery log and designate a log recorder to keep a chronological record of recovery events and decisions in that log.
- b. The Recovery Operations Manager shall establish a recovery center.
- c. Designate recovery teams to perform the following actions as needed:
 1. Installation of shielding;
 2. Posting of controlled areas;
 3. Application of clearance tags;
 4. Installation of adequate ventilation;
 5. Decontamination and clean-up as required to place the plant in an acceptable long term safe condition.
- d. Evaluate all the results of the phase I recovery operations and define the areas that have been affected by the emergency.

NOTE: Phase 2 recovery operations shall not be initiated until all affected areas of the plant have been clearly identified.

- e. Recovery operations shall be conducted in compliance with Rancho Seco's Administrative Exposure Limits.
- f. An ALARA review of the proposed operation shall be performed.
- g. All significant releases of radiation during recovery shall be planned, controlled, and evaluated in advance for radiological impact. Appropriate offsite organizations and agencies shall be informed of the scheduled release and estimated impact.
- h. The California Department of Health Services Radiological Health Section (DHS/RHS) will have the responsibility for periodically estimating the total population radiation exposure during the recovery phase.

5.2.3 Phase 2 recovery operations.

- a. Designate teams to perform the following actions:
 1. Detailed investigation of the causes of the accident and consequences both to the plant and to the environment.

5.0 INSTRUCTIONS-contd.

2. Evaluate the repair work required to repair plant equipment.
3. Repair and/or modify plant systems and/or components as authorized.
4. Develop test programs to confirm fitness for return to service of all plant systems and/or components affected by the emergency.

5.2.4 Phase 3 recovery operations.

- a. Develop a report to be forwarded to the SMUD General Manager for the purpose of informing him of the recovery operations.

5.2.6 The AGM Chief Engineer shall review the following aspects before terminating the Recovery Phase:

- a. Plant conditions;
- b. Offsite radiological conditions;
- c. Onsite or offsite long-term radiological monitoring requirement;
- d. Recovery Program Objectives;
- e. Licensing status;
- f. Radwaste;
- g. Legal and insurance;
- h. Other General Office and public concerns;

5.2.7 All necessary reports and notifications will have been performed per licensing requirements.

6.0 REFERENCES

- 6.1 AP 500 "Emergency Plan".
 - Section 5 "Organization"
 - Section 9 "Reentry/Recovery"

7.0 ATTACHMENTS

- 7.1 Rancho Seco Administrative Limits

Revision No.

Original

ATTACHMENT 7.1

RANCHO SECO ADMINISTRATIVE LIMITS*

Whole Body 100 mrem/week**, 2500 mrem/quarter

Skin 5000 mrem/calender quarter

Extremities 15000 mrem/calender quarter

* AP 305 "RADIATION CONTROL MANUAL"

** Note: To exceed 100 mrem/week it is necessary to have the permission of individuals supervisor.

To exceed 300 mrem/week it is necessary to have the permission of the Plant Health Physicist.

SMUD - RANCHO SECO
EMERGENCY PLAN PROCEDURE

AP 525

SECURITY

TABLE OF CONTENTS

	<u>Page No.</u>
1.0 PURPOSE.	2
2.0 RESPONSIBILITY	2
3.0 INITIATING CONDITIONS.	3
4.0 PRECAUTIONS AND LIMITATIONS.	4
5.0 INSTRUCTIONS	4
6.0 REFERENCES	9
7.0 ATTACHMENTS.	9

| 1

1.0 PURPOSE

- 1.1 To provide methods for controlling access to the emergency response facilities.
- 1.2 To provide a means for easy identification of personnel assigned to the Emergency Organization.
- 1.3 To provide methods for expediting access of offsite emergency personnel (i.e. NRC representatives, Vendor personnel, etc.) and emergency vehicles to the Rancho Seco site.
- 1.4 To provide a means for easy identification of Rancho Seco Emergency Response personnel by local law enforcement personnel such that passage will be allowed through designated roadblocks.

2.0 RESPONSIBILITY

- 2.1 The Emergency Coordinator is responsible for implementing this procedure and notifying the Security Watch Commander that this procedure is in effect.
- 2.2 The Security Watch Commander is responsible for insuring that only those personnel properly authorized access in accordance with this procedure and/or appropriate security directives are permitted onsite.
- 2.3 The Access Administration Coordinator is responsible for administering the temporary badging process at the EOF, for briefing personnel on routes to the site and special precautions to be observed.
- 2.4 The cognizant supervisor is responsible for authorizing and controlling access to the emergency facility he has authority over.
 - a. Control Room - Shift Supervisor
 - b. Technical Support Center - Technical Support Center Coordinator
 - c. Emergency Operations facility - Emergency Manager
 - d. Central Alarm Station (CAS) - Watch Commander
 - e. Media Center - Media Center Coordinator

1

3.0 INITIATING CONDITIONS

- 3.1 The Rancho Seco Emergency Plan (AP 500) has been implemented, and emergency response facilities have been activated.
- 3.2 The Emergency Coordinator determines that there is a need for expedited access to the site.

4.0 PRECAUTIONS AND LIMITATIONS

4.1 None

5.0 INSTRUCTIONS

5.1 Controlling Access to the Rancho Seco Site.

5.1.1 Personnel who are assigned to the Rancho Seco Emergency Organization (AP 506) will be expeditiously admitted to the site and to the protected area by the Security Officers after undergoing routine screening.

5.1.2 At the declaration of an Alert, Site Area Emergency, or General Emergency, and/or the initiation of Personnel Assembly, the Watch Commander will immediately take steps to limit access to the site area (protected area).

a. The Security Officers will allow entrance into the protected area to the following individuals:

1) Valid site security badge and identified in AP 506.

2) Valid site security badge and communication with the Assembly Point Coordinator to determine the need for the individual to enter the site.

b. The local law enforcement officials will allow passage through designated road blocks to the following individuals:

1) District employees with SMUD picture I.D. badges.

2) Vanguard employees with Vanguard picture I.D. badges.

3) Individuals with "Rancho Seco Emergency Response" badges that will be issued from:

. EOF

. county field command posts

5.1.3 The Emergency Coordinator may at any time direct the Watch Commander to limit access to the Site. Such limited access may also extend to the Visitor Center.

5.1.4 If conditions warrant, the Emergency Coordinator may direct the Watch Commander to contact the Sacramento County Sheriff's Department for assistance in controlling access to the site.

1

1

5.0 INSTRUCTIONS-contd.

5.1.5 The Emergency Coordinator will notify the Watch Commander of those personnel returning to the site so that they may be expeditiously admitted to the site and the protected area. Personnel who are called back to the plant during an emergency and who have not previously been assigned and identified in AP 506 will report to the Security Officers at the gate who in turn will notify the Watch Commander. Personnel arriving onsite will be directed or escorted to the Plant Assembly Point for:

- a. Administration Building - Reporting
- b. Warehouse "A" - Reporting and carding in.

The Plant Assembly Point Coordinator will then notify the Emergency Coordinator of the arrival of the Emergency personnel and request instructions.

5.1.6 Emergency vehicles (fire, ambulance, law enforcement) will be immediately admitted to the site during emergency conditions without being issued identification. The Emergency Coordinator will notify the Watch Commander immediately upon requesting offsite emergency assistance. These vehicles will be provided an escort by security personnel.

5.2 Controlling Access to the Technical Support Center:

5.2.1 The TSC may be totally or partially activated at an Unusual Event condition, but will be totally activated at the Alert, Site Area Emergency, and General Emergency conditions.

5.2.2 Personnel requesting access to the TSC will receive verbal authorization from the TSC Coordinator prior to entry.

5.2.3 The TSC staff will obtain their Emergency Personnel Identification badge (Attachment 7.1) from its storage location in the TSC and wear it in addition to their security badge. This badge will be transferred whenever the functional responsibility is transferred from one individual to another.

5.3 Controlling Access to the Control Room

5.3.1 The Shift Supervisor may at this discretion upon the declaration of an Unusual Event limit access to the Control Room to those Operations personnel on shift and only those other personnel specifically authorized by him.

5.3.2 During Alert, Site Area Emergency, and General Emergency conditions, access to the Control Room will be strictly limited, with access granted only by the Shift Supervisor.

5.0 INSTRUCTIONS-contd.

5.4 Controlling Access to the Media Center :

The Media Center Coordinator will be responsible for authorizing access to the Media Center. He may request assistance from security.

5.5 Controlling Access to the Emergency Operations Facility:

5.5.1 The Emergency Manager, assisted by the Security Coordinator, will limit access to the work areas of the EOF.

5.5.2 Access will be limited to the EOF Staff, AP 506, Attachment 7.6, designated county government liaison personnel, Nuclear Regulatory Commission personnel, and other persons who have been specifically authorized access by the Emergency Manager. (Attachments 7.2 & 7.3)

5.5.3 Personnel who are directed to report for duty at the EOF, who have not previously been assigned will report to the Security Coordinator. The Emergency Manager will notify the Security Coordinator of those personnel requested to the EOF so that the personnel may be expeditiously admitted.

5.5.4 The Security Coordinator is responsible for assuring that adequate security personnel and/or local law enforcement personnel are available to control access to the EOF.

5.5.5 The EOF staff will obtain their Emergency Personnel Identification badge from its storage location in the EOF and wear it. This badge will be transferred whenever the functional responsibility is transferred from one individual to another.

5.6 Emergency Personnel Identification:

5.6.1 Each functional assignment in the Rancho Seco Emergency Plan will have a badge.

5.6.2 Emergency Personnel Identification will be reviewed and updated concurrently with the annual Emergency Plan review.

5.6.3 Emergency Personnel Identification badges will be worn in the Technical Support Center, Emergency Operations Facility, and the Plant Assembly Point.

5.6.4 The Emergency Personnel Identification badges are not to be confused with SMUD or Rancho Seco Security badges.

5.6.5 The Emergency Personnel Identification badges are to be used to identify the functional responsibility of the individual and to transfer that responsibility when relieved.

5.0 INSTRUCTIONS-contd.

5.6.6 Badges are not required for emergency service personnel and vehicles responding to the plant, Emergency Operations Facility (fire department, emergency medical service, law enforcement).

5.7 Badging of Offsite Emergency Response Personnel:

5.7.1 To insure the security of the Rancho Seco site, offsite personnel responding to an emergency onsite are required to be issued badges (Attachment 7.4) at the EOF prior to proceeding to the site. | 1

5.7.2 Personnel requesting access to Rancho Seco shall fill out an application for a Rancho Seco Special Emergency Pass. (Attachment 7.5) | 1

5.7.3 The individual shall report to the Access Administration Coordinator with the approved Emergency Pass Application. | 1

5.7.4 The Access Administration Coordinator shall: | 1

(a) Verify through the Technical and Logistical Support Coordinator that the individual is required onsite.

(b) Upon verification, complete Attachment 7.6.

(c) Issue a badge (Attachment 7.4) to the individual, recording the Serial Number of the badge issued on Attachment 7.6.

(d) Brief the driver of the vehicle on the route to be taken to the site and on procedures to be followed on arrival at the site.

(e) Notify Security onsite via appropriate communications equipment, that offsite personnel are proceeding to the site advising Security of their names and badge numbers.

NOTE: The Badge shall be recognized by Law Enforcement as clearance authority for road blocks that may exist.

5.7.5 Upon arrival onsite, the offsite personnel shall report to the appropriate site entrance as required, and present their badges and one other form of picture identification to the Security Officer stationed at the entrance.

5.7.6 The Security Officer at the site entrance shall:

(a) Compare the badge and picture identification as presented, insuring they match.

5.0 INSTRUCTIONS-contd.

- (b) Record the individual's name, organization, and other pertinent information.
- (c) Admit the offsite personnel, providing escort if required, informing them of areas to be avoided, and direct them to the Plant Assembly Point for further direction onsite.

| 1

6.0 REFERENCES

- 6.1 AP 400 Rancho Seco Physical Security Plan
- 6.2 AP 506 "Notification/Communication"

7.0 ATTACHMENTS

	<u>Revision No.</u>	
7.1 Facsimile Emergency Personnel Identification Card	Original	
7.2 County EOF Personnel Listing	Original	1
7.3 State and Federal EOF Personnel Listing	Original	
7.4 Temporary Badge	Original	
7.5 Emergency Pass Application	Original	
7.6 EOF Badge Log	Original	

Effective Date: 3/15/82

ATTACHMENT 7.1
FACSIMILE EMERGENCY PERSONNEL IDENTIFICATION CARD

**EMERGENCY
COORDINATOR**

SMUD ♦ TSC

NO. 001

ATTACHMENT 7.2
COUNTY EOF STAFF

<u>NAME</u>	<u>POSITION TITLE</u>
1. Sacramento	
Cassady, Gary	Dir. Emer. Ops
Charlton, Charles	Rad. Monitor. Coord.
DeBord, Mike	Emer. Ops. Coord.
Doerflein, Lynette	Comm. Clerk
Freeman, William	Dir. Emer. Ops
Henrikson, Arthur S.	Law Enfor. Coord.
Hines, Rondal	Emer. Ops. Coord.
Jameson, Karen	Comm. Clerk
Knight, Ken	Rad. Monitor. Coord.
Lotz, George C.	Law Enfor. Coord.
Lowe, Duane	Law Enfor. Coord.
Miller, William	Public Info. Officer
Overmeir, Carl	Rad. Monitor. Coord.
Phillips, Richard	Law Enfor. Coord.
Pond, William	Emer. Ops. Coord.
Radford, Robert C.	Law Enfor. Coord.
Richter, Brian	Dir. Emer. Ops.
Saulter, Jerry M.	Public Info. Officer
Sedor, William	Comm. Clerk
Toon, Mary	EOF Clerk
White, Hal	Emer. Ops Coord.
Wright, Pat	EOF Clerk
2. San Joaquin	
Factor, William	Liaison
Keranen, Peggy	Liaison
Mayer, Dale	Liaison
Walker, Tom	Liaison
3. Amador	
DeLange, Lee	Liaison
Eichhorn, Ike	Liaison
Faresdahl, James	Liaison
Welch, James	Liaison

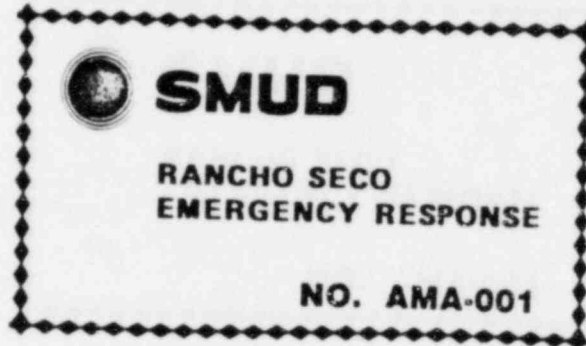
ATTACHMENT 7.3
STATE AND FEDERAL EOF STAFF

	<u>NAME</u>	<u>POSITION TITLE</u>
1.	State OES	
	Kearns, James	Director
	Orr, Orrin	Radiological Officer
	Reed, Mary Francis	Chief, Nuclear Power Plant Planning
2.	State RHS	
	Carter, Larry	Alternate Emergency Coordinator
	Wheeler, David	Communications Liaison
	Wong, Gerard	Emergency Coordinator
3.	Federal Emergency Management Agency (FEMA)	
	Eldridge, Jack*	
	Nauman, Ken	
		Region PIO
		National Staff
		Deputy FCO
4.	Nuclear Regulatory Commission (NRC)	
	Scown, Ken*	
		Site Team Leader
		Reactor Operations Supervisor
		Reactor Operations Inspector
		Health Physics Supervisor
		Health Physics Inspector
		Emergency Response Coordinator
		Public Affairs Officer

* Responsible for providing Security with the list of additional personnel.

Effective Date: 3/15/82

ATTACHMENT 7.4
TEMPORARY BADGE



ATTACHMENT 7.5
EMERGENCY PASS APPLICATION

APPLICATION FOR RANCHO SECO
SPECIAL EMERGENCY PASS

PASS NO. _____ DATE: _____ TIME: _____

NAME: _____ SOCIAL SECURITY NO. _____

ORGANIZATION: _____ POSITION: _____

ADDRESS _____ TEL. NO. _____

DESTINATION _____

PURPOSE _____

AUTHORIZED DURATION OF TRIP _____

AUTHORIZED ENTRY POINT* _____

APPROVED BY: _____

Effective Date: 6/16/82

ATTACHMENT 7.6
E O F BADGE LOG

Date: _____

TIME IN	TIME OUT	NAME	ORGANIZATION	BADGE NUMBER

SMUD - RANCHO SECO
EMERGENCY PLAN PROCEDURE

AP 526

SABOTAGE OR CIVIL DISTURBANCE

TABLE OF CONTENTS

	<u>Page No.</u>
1.0 PURPOSE	2
2.0 RESPONSIBILITY	2
3.0 INITIATING CONDITIONS	2
4.0 PRECAUTIONS AND LIMITATIONS	3
5.0 INSTRUCTIONS	3
6.0 REFERENCES	6
7.0 ATTACHMENTS	6

1.0 PURPOSE

- 1.1 To provide instructions for dealing with attempted or actual sabotage of the plant facilities.
- 1.2 To provide methods for dealing with a civil disturbance in the plant vicinity that threatens plant facilities.

2.0 RESPONSIBILITY

- 2.1 The Emergency Coordinator is responsible for implementing this procedure.
- 2.2 The Security Watch Commander is responsible for implementing applicable Security Procedures and informing the Emergency Coordinator of Security Force actions.

3.0 INITIATING CONDITIONS

- 3.1 Threatened or actual destruction of plant facilities or equipment has occurred.

4.0 PRECAUTIONS AND LIMITATIONS

- 4.1 Nuclear safety related events have priority over security related events.
- 4.2 Radios should not be used in the vicinity of a suspected bomb.

5.0 INSTRUCTIONS

- 5.1 If the threat involves a suggested bomb planted on the site, the Rancho Seco Security Watch Commander will have primary responsibility for search operations. Volunteer members of the plant staff who are familiar with the plant layout and equipment should be assembled to assist security personnel.

CAUTION: RADIOS SHOULD NOT BE USED IN THE VICINITY OF A SUSPECTED BOMB.

NOTE: IF A KNOWN OR SUSPECTED BOMB DETONATION TIME EXISTS, STOP ALL SEARCHES AND EVACUATE REMAINING PERSONNEL FROM BUILDING 15 MINUTES BEFORE ANNOUNCED TIME. DO NOT REENTER BUILDINGS UNTIL 30 MINUTES BEYOND ANNOUNCED DETONATION TIME.

5.2 Emergency Coordinator Action:

- a. If available information indicates any danger to plant personnel, announce a plant personnel assembly and determine the desired onsite Assembly Point. Initiate AP 513 "Personnel Accountability."
- b. Notify the Security Watch Commander of any details he may not be aware of and maintain continuous communications with him throughout the duration of the incident.
- c. Notify the Rancho Seco Visitor Center personnel, instructing them to close down the facility and leave the site.
- d. Notify the Rancho Seco Reservoir Park Office, making them aware of the situation.
- e. Notify the Plant Superintendent giving him all available information.
- f. Determine if all plant personnel have been accounted for. If one or more are missing and paging does not locate them, initiate AP 518, "Search and Rescue."
- g. If conditions onsite cause or threaten to cause an uncontrolled release of radioactivity, alert those listed in Attachment 1 of AP 506.

5.0 INSTRUCTIONS-contd.

5.3 Individual Action:

- a. If you receive a phone call threatening any SMUD facility with a bomb or incendiary device:
 1. Use the Bomb Threat Report Form (Attachment 7.1) as a guide for the type of information you should attempt to obtain.
 2. Keep the caller on the phone as long as possible.
 3. As soon as the caller hangs up, quickly review the form to be certain that you did not overlook anything, and write down any impressions that you may have.
 4. Call the Security Watch Commander and relay the information to him EXACTLY as you received it. Wait until he is satisfied and he has hung up on you.
 5. Retain the completed report form and immediately and personally take it to the Security Watch Commander.
- b. If a written bomb threat is received:
 1. Preserve and protect the document with an outer cover.
 2. Deliver the document to the Security Watch Commander.
- c. If a civil disturbance or act of sabotage is discovered which has damaged or threatens to damage any plant equipment or property:
 1. Notify the Control Room personnel immediately giving all available information.
 2. Act as directed by the Control Room personnel.

5.4 Security Force Action:

- a. Upon discovering or being notified of a threat of sabotage or civil disturbance:
 1. Follow these requirements specifically spelled out in the AP 400.
 2. Secure the main gate and prevent exit or entrance to the site unless authorization is given by the Security Watch Commander.
 3. Request assistance from the Sacramento County Sheriff's Department.

5.0 INSTRUCTIONS-contd.

4. Keep the Emergency Coordinator informed of all changes in plant security status.
5. If a plant personnel assembly is called, obtain specific instructions from the Emergency Coordinator as to effect on security force.

6.0 REFERENCES

- 6.1 AP 400 Rancho Seco Physical Security Plan.
- 6.2 AP 506 "Notification/Communication"
- 6.3 AP 513 "Personnel Accountability"
- 6.4 AP 518 "Search and Rescue"

7.0 ATTACHMENTS

- 7.1 Bomb Threat Report Form

Revision No.

3/13/81

Effective Date: 3/8/82

ATTACHMENT 7.1
BOMB THREAT REPORT FORM

This form is provided for your use. It will help you to obtain all the necessary information.

DATE: _____ TIME: _____ A.M. ___ P.M. ___

Exact Words of Person Placing Call: _____

QUESTIONS TO ASK:

1. When is the bomb going to explode? _____
2. Where is the bomb right now? _____
3. What kind of bomb is it? _____
4. What does it look like? _____
5. Why did you place the bomb? _____
6. What will prevent you from doing this? _____
7. What is your name? (He may inadvertently give it) _____

TRY TO DETERMINE THE FOLLOWING (CIRCLE AS APPROPRIATE)

Caller's Description: Male Female Adult Juvenile Middle Age Old
Voice: Loud Soft High-Pitch Deep Raspy Pleasant Intoxicated
Accent: Local Nonlocal Foreign Region Other _____
Speech: Fast Slow Distinct Distorted Stutter Nasal Slurred Lisp
Language: Excellent Good Fair Poor Foul Other _____

Manner: Calm Angry Rational Irrational Coherent Incoherent
 Deliberate Emotional Righteous Laughing Intoxicated

Background Noises: Office Machine Factory Machines Bedlam Trains
 Animals Music Quiet Voices Mixed Airplanes
 Street Traffic Party Atmosphere

ADDITIONAL INFORMATION: _____

DO NOT PANIC AND DO NOT DISCUSS THE INFORMATION THAT YOU HAVE RECEIVED EXCEPT WITH THE SHIFT SUPERVISOR, YOUR SUPERVISOR, OR THE PLANT SUPERINTENDENT.

Person Receiving Bomb Threat Phone Call

SMUD - RANCHO SECO
EMERGENCY PLAN PROCEDURE

AP 527

EMERGENCY EXPOSURE GUIDELINES

TABLE OF CONTENTS

	<u>Page No.</u>
1.0 PURPOSE	2
2.0 RESPONSIBILITY	2
3.0 INITIATING CONDITIONS	2
4.0 PRECAUTIONS AND LIMITATIONS	3
5.0 INSTRUCTIONS	3
6.0 REFERENCES	6
7.0 ATTACHMENTS	6

1.0 PURPOSE

- 1.1 In the event of a radiological emergency where it may be necessary for emergency workers to exceed routine/established Rancho Seco Administrative exposure limits, this procedure presents guidance, required authorization and maximum exposure criteria, and radiological dosimetry requirements.

2.0 RESPONSIBILITY

- 2.1 The Emergency Coordinator is responsible for the implementation of this procedure.
- 2.2 The Radiological Assessment Coordinator, with the assistance from the Chem/Rad Group, will provide the Emergency Coordinator with an evaluation of conditions in areas requiring emergency exposure.
- 2.3 The Radiological Assessment Coordinator is responsible that the Radiation Work Permits are processed.

3.0 INITIATING CONDITIONS

- 3.1 The Emergency Coordinator may authorize emergency exposures in excess of Rancho Seco Administrative exposure limits (Attachment 7.2) under the following conditions:
 - 3.1.1 Lifesaving Actions
 - a. Removal and/or rescue of injured personnel.
 - 3.1.2 Corrective or Protective Actions
 - a. Providing first aid.
 - b. Providing ambulance service.
 - c. Undertaking corrective action on plant equipment and systems.

Emergency Exposure limits for the above categories are contained in Attachment 7.2.

NOTE: The above are examples and not an absolute list, the existing situation may dictate different actions.

4.0 PRECAUTIONS AND LIMITATIONS

- 4.1 Personnel authorized to receive emergency exposures should meet the following criteria:
- 4.1.1 Persons involved will be volunteers who are broadly familiar with the consequences of such exposures.
 - 4.1.2 Women of child bearing age should not take part.
 - 4.1.3 Use of volunteers above the age of 45 should receive first consideration.
 - 4.1.4 Best available respiratory protection will be used.
 - 4.1.5 Anti-C clothing providing the greatest contamination protection will be worn.
 - 4.1.6 Emergency exposures to the whole body above 25 rem will be limited to once in a lifetime and should, in no case, exceed 75 rem. Hands and forearms can receive up to a maximum of 300 rem.
 - 4.1.7 Persons receiving emergency exposures above 5 rem should be sent to the hospital for examination and, upon release, be counseled to avoid procreation for a period up to a few months.
- 4.2 Refer to AP 533 "Potassium Iodide Administration" for the possibility of administration.

5.0 INSTRUCTIONS

5.1 Immediate Actions

- 5.1.1 Authorization to receive emergency exposures.
- 5.1.1.1 The Emergency Coordinator has the sole authority to authorize exposures in excess of Rancho Seco Administrative Exposure Limits (Attachment 7.1) but not greater than 75 Rem whole body. (See Attachment 7.2, Emergency Exposure Limits, for further limits)
 - 5.1.1.2 The Radiological Assessment Coordinator should provide the Emergency Coordinator with an evaluation of radiological conditions in areas requiring emergency exposures.
 - 5.1.1.3 The Radiological Assessment Coordinator is responsible for completing the RWP before the individuals receive exposure.

5.1.1.4 The Emergency Coordinator and volunteers should both sign the RWP.

5.2.1 Exposure control

5.1.2.1 Individuals should not enter any area where dose rates are unmeasurable with instruments immediately available.

5.1.2.2 Radiation Surveys shall be performed in accordance with AP 507 "Onsite Radiological Monitoring".

5.1.2.3 Personnel shall wear pocket ionization chambers appropriate for measurement of anticipated exposure levels. These should include:

a. The most appropriate direct-read pocket ionization chamber for whole body exposure.

1. Low-range direct-read pocket ionization chamber (0-200mrem) or (0-500mrem).

2. Medium-range direct-read pocket ionization chamber (0-5rem) or (0-1rem).

3. High-range direct-read pocket ionization chamber (0-200rem) or (0-100rem).

NOTE: Issue point should consider issuing one low and one high range pocket ionization chamber.

b. Film badge and thermoluminescent dosimeter to permanently record whole body exposure.

NOTE: Use TLD exposure until it can be replaced by permanent film badge records.

c. Extremity dosimetry, if the anticipated extremity exposure is greater than four times the projected whole body exposure.

5.1.2.4 Protective clothing and/or respiratory protective equipment shall be used as appropriate.

5.1.2.5 Potassium Iodine (KI) tablets should be administered where high levels of radioiodine are present or suspected. Refer to AP 533, "Potassium Iodide Administration".

5.1.2.6 Administrative methods used during normal operations to minimize personnel exposure, such as the ALARA guidance, should remain in force.

5.2 Subsequent Actions

- 5.2.1 The Radiological Assessment Coordinator should obtain initial estimates of the radiation dose of exposed personnel as quickly as possible.
- 5.2.2 Every effort should be made to refine dose estimates at a later time.
- 5.2.3 Establish additional RWP's as necessary for additional work.
- 5.2.4 Update existing RWP's as plant conditions change and information becomes available.

6.0 REFERENCES

- 6.1 AP 305 Radiation Control Manual.
- 6.2 NCRP Report No. 39, 1971.
- 6.3 10 CFR 20
- 6.4 AP 305-4 Radiation Work Permit (RWP) Procedure
- 6.5 AP 507 "Onsite Radiological Monitoring"
- 6.6 AP 533 "Potassium Iodide Administration"

7.0 ATTACHMENTS

Revision No.

- | | |
|--|----------|
| 7.1 Rancho Seco Administrative Exposure Limits | Original |
| 7.2 Emergency Exposure Limits | Original |

Effective Date: 2/16/82

ATTACHMENT 7.1

RANCHO SECO ADMINISTRATIVE EXPOSURE LIMITS*

Whole Body	100 mrem/week**, 2500 mrem/quarter
Skin	5000 mrem/calendar quarter
Extremities	15000 mrem/calendar quarter

* From AP 305 "Radiation Control Manual"

** To exceed 100mrem/week the individuals supervisor's permission is necessary;

To exceed 300mrem/week the Plant Health Physicist's permission is necessary.

ATTACHMENT 7.2
EMERGENCY EXPOSURE LIMITS

	<u>Corrective or Protective Actions</u>	<u>Lifesaving Actions**</u>
Whole body (rem)	25	75
Thyroid (rem)	125	No Limit***
Extremities (rem)	100*	300*

* NCRP Report No. 39, 1971.

** EPA Protective Action Guides, February 1980.

*** Thyroid exposure should be minimized to the extent feasible by the use of respiratory protection and/or thyroid prophylaxis. However, no upper limit is specified for lifesaving action since complete loss of thyroid function may be considered an acceptable risk for saving life.

SMUD - RANCHO SECO
EMERGENCY PLAN PROCEDURE

AP 528

PROTECTIVE ACTION GUIDE

TABLE OF CONTENTS

	<u>Page No.</u>
1.0 PURPOSE.	2
2.0 RESPONSIBILITY	2
3.0 INITIATING CONDITIONS.	2
4.0 PRECAUTIONS AND LIMITATIONS.	3
5.0 INSTRUCTIONS	3
6.0 REFERENCES	6
7.0 ATTACHMENTS.	6

1.0 PURPOSE

- 1.1 To provide a basis for relating actual or projected plume exposure doses to the Environmental Protection Agency (EPA) Protective Action Guides (PAG's) in order to recommend the appropriate protective actions to the County or State Governments.
- 1.2 Dose estimates, which population groups may potentially receive are calculated according to AP-509, 511 and 512. These estimates are referred to as projected doses. A protective action is an action taken to avoid or reduce this projected dose when the benefits derived from such action are sufficient to offset any undesirable features of the protective action. The Protective Action Guide (PAG) is the projected dose to individuals in the population which warrants taking protective action. A PROTECTIVE ACTION GUIDE UNDER NO CIRCUMSTANCES IMPLIES AN ACCEPTABLE DOSE.

2.0 RESPONSIBILITY

- 2.1 The Emergency Coordinator is responsible for the implementation of this procedure.
- 2.2 The Emergency Manager assumes responsibility of this procedure when the EOF is activated.
- 2.3 This procedure presents considerations and methodologies to guide the Emergency Coordinator in determination of recommended protective actions. At times the actual selection of protective actions must be considered subjectively, as many conditions beyond the scope of this procedure may exist which may in the opinion of the Emergency Coordinator override the criteria contained in this procedure.

3.0 INITIATING CONDITIONS

- 3.1 AP 534 "Airborne Release Rate Determination" has been initiated.
- 3.2 Actual or projected whole body and thyroid dose rates and integrated doses for critical receptor site locations have been calculated in accordance with the AP 509, AP 511 and AP 512, and such doses warrant protective actions.

4.0 PRECAUTIONS AND LIMITATIONS

- 4.1 A Protective Action Guide under no circumstances implies an acceptable dose.
- 4.2 PAG's for the general public are given in ranges. The lowest values should be used if there are no major local constraints in providing protection at this level. Local constraints may, however, make the lower values impractical to use, but in no case should the higher value be exceeded.
- 4.3 The projected dose and affected offsite areas will depend upon the curies released, the release rate, the duration of the release, the isotopic mixture which varies with effective age, and meteorological conditions. The impact of these factors must be assessed in determining the projected dose.

5.0 INSTRUCTIONS

- 5.1 Based upon projected doses and PAG's, notify and recommend protective actions to the appropriate local and state authorities.
 - 5.1.1 PROTECTIVE ACTION GUIDES for the Plume Exposure Pathway

PAGs for the general population for whole body external gamma radiation and for thyroid dose from inhalation of radioactive material in an airborne plume are as follows:

 - Projected Whole Body Gamma Dose 0.5 - 5.0 Rem
 - Projected Thyroid Dose 5.0 - 25 Rem
 - 5.1.2 Recommended Protective Actions for the plume exposure pathway are classed according to the projected radiation dose which could be received if no protective actions are implemented.
- 5.2 Protective Actions for the Plume Exposure Pathway (Attachments 7.1 and 7.4).
 - 5.2.1 Evacuation Effectiveness; the effectiveness of evacuation in limiting radiation dose is a function of the time required to evacuate.
 - 5.2.2 If evacuation is completed before the plume arrives, then evacuation is 100 percent effective.
 - 5.2.3 For evacuation times, refer to Attachment 7.2, "Evacuation Time Estimates" and Evacuation Time Calculation.

- 5.2.4 To determine the time of exposure to the plume, calculate the plume arrival time.

$$T(PA) = T_B + T_T$$

where:

T_B = Time projected before release begins

T_T = Time projected for plume travel for given windspeed and downwind distances from the start of release. To calculate T_T refer to procedure AP 511 or AP 512 (TSC and EOF DOSE CALCULATIONS, Plume Transit Time).

- 5.2.5 Evaluate constraints against evacuation. Compare the evacuation time $T(EV)$ with the estimated plume arrival time $T(PA)$.

- a. If there is time to evacuate before the plume arrives, there are no local constraints, evacuation appears to offer a significant reduction in dose and the societal benefits outweigh the societal cost, recommend evacuation, (with the exception of the Preston School of Industry).
- b. In cases where there is no time to evacuate prior to the arrival of the plume or the plume arrival time and evacuation time are nearly equal and/or there are local constraints, evaluate the benefits of sheltering vs. the benefits of evacuation.

5.2.6 Sheltering Effectiveness

NOTE: This is the protective action of choice for the Preston School of Industry.

- a. If evacuation does not offer significant dose avoidance or if local constraints prevent evacuation, recommend that the appropriate officials warn the affected population to:
 1. Seek shelter
 2. Close windows
 3. Turn off ventilation systems
 4. Seal cracks in doors with wet rags.
 5. Control access to the affected areas.
- b. After the plume has passed, monitor the area in accordance with AP 508 "Offsite Radiological Monitoring".

1. Determine if dose rates are sufficient to warrant subsequent evacuation.

Multiply the projected dose by the external shielding factor (shielding factors for external whole body gamma doses are presented in Attachment 7.3).

Compare the projected dose to the PAG for whole body gamma dose.

Evaluate the significance of inhalation dose. (Shielding factors for inhalation doses are presented in Attachment 7.3). Shielding factors are for a sealed, wood-frame house.

- a. Multiply the projected dose by the inhalation shielding factor to determine the reduction in inhalation dose from the plume. Compare the projected dose to the PAG for thyroid dose.

Determine the critical organ of concern, the whole body or the thyroid. Compare the PAG for the critical organ to the PAG for that organ.

- 5.2.7 Refer to Thyroid Guidance Chart and Whole Body Guidance Chart (Attachments 7.1 and 7.4) to determine the appropriate action.

6.0 REFERENCES

- 6.1 AP 534 "Airborne Release Rate Determination"
- 6.2 AP 509 "Control Room Offsite Dose Calculation"
- 6.3 AP 511 "Technical Support Center Dose Calculation"
- 6.4 AP 512 "Emergency Operations Facility Dose Calculation"
- 6.5 EPA "Manual of Protective Actions for Nuclear Incidents", September 1975.

7.0 ATTACHMENTS

Revision No.

- | | |
|---|----------|
| 7.1 Recommended Protective Actions to Reduce Whole Body and Thyroid Dose from Exposure to a Gaseous Plume | Original |
| 7.2 Summary of Evacuation Times | Original |
| 7.3 Reduction in External Gamma Dose from Passing Cloud | Original |
| 7.4 Thyroid Guidance Chart | Original |

ATTACHMENT 7.1

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

Projected Dose (rem) to the Population	Recommended Actions**	Comments
Whole Body - less than 0.5 Thyroid - less than 5.0	No planned protective actions *** Offsite authorities may issue an advisory to seek shelter and await further instructions. Monitor environmental radiation levels.	Previously recommended protective actions may be reconsidered or terminated.
Whole Body - 0.5 to 5.0 Thyroid - 5 to 25	Seek shelter as a minimum Consider evacuation/unless constraints make it impractical. Monitor environmental radiation levels. Control access to affected areas.	If constraints exist to prevent full-scale evacuation, special consideration should be given for evacuation of children and pregnant women.
Whole body - 5 and more Thyroid - 25 and above	Conduct mandatory evacuation. Monitor environmental radiation levels and adjust area for mandatory evacuation based on these levels. Control access to affected areas.	Sheltering is an alternative if evacuation can not be promptly accomplished.

* EPA's Protective Action Guides, February 1980.

** These actions are recommended for planning purposes. Protective action decisions at the time of the incident must take existing conditions into consideration (e.g., weather, plume arrival time).

*** At the time of the incident, officials may implement low-impact protective actions in keeping with the principle of maintaining radiation exposures as low as reasonably achievable (ALARA).

ATTACHMENT 7.2

SUMMARY OF EVACUATION TIMES*
 (minutes including notification using a siren)

		Locations 0-2 miles downwind	Locations 0-5 miles downwind	Locations 5-10 miles downwind
Ideal Conditions	(Minutes)	23	29 - 31	40
Heavy Rain Conditions	(Minutes)	46 - 51	52 - 102	264 - 266

*"Evacuation Time Estimates for Areas Near Rancho Seco Power Plant"

Evacuation Time may also be estimated according to:

$$T(EV) = TD + TN + TM + TT$$

Where:

- T(EV) = Evacuation Time
- TD = Time delay after occurrence of the incident associated with notification of responsible officials, interpretation of data, and the decision to evacuate as a protective action.
- TN = Time required by officials to notify people to evacuate.
- TM = Time required for people to mobilize and get under way.
- TT = Travel time required to leave the affected areas.

ATTACHMENT 7.3

REDUCTION IN EXTERNAL GAMMA DOSE FROM PASSING CLOUD

<u>STRUCTURE OR LOCATION</u>	<u>SHIELDING FACTOR (a)</u>	
	<u>AVERAGE</u>	<u>RANGE</u>
a. Outside	1.0	--
b. Vehicles	1.0	--
c. Wood frame house (no basement) (b)	0.9	--
d. Basement of wood house	0.6	0.1 to 0.7 (c)
e. Masonry house (no basement)	0.6	0.4 to 0.7 (c)
f. Basement of masonry house	0.4	0.1 to 0.5 (c)
g. Large office or industrial bldg.	0.2	0.1 to 0.3 (c,d)

NOTES:

- a. The ratio of the interior dose to the exterior dose
- 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 reduction factor depends on where the personnel are located within the building (e.g., the basement or an inside room).

ATTACHMENT 7.4

THYROID GUIDANCE CHART

NOTE: The following guidance Charts summarize protective actions and the conditions dictating each type of action.

<u>IF</u>	<u>THEN</u>
Projected dose is less than 5 rem Shelter dose is less than 25 rem	No action Shelter * for children & women of children bearing age.
Shelter dose equal to or greater than 25 rem and evacuation dose equal to or greater than shelter dose.	Shelter*
Shelter dose equal to or greater than 25 rem and evacuation dose equal to or less than shelter dose.	Evacuate

WHOLE BODY GUIDANCE CHART

<u>IF</u>	<u>THEN</u>
Projected dose less than 0.5 rem Shelter dose less than 5.0 rem	No action Shelter*
Shelter dose equal to or greater than 5.0 rem and evacuation dose equal to or greater than shelter dose.	Shelter*
Shelter dose equal to or greater than 5 rem and evacuation dose less than Shelter dose.	Evacuate

* Shelter is to be with ventilation control. Ventilation control means turning off air-conditioners or fans, closing doors and windows thus preventing access of outside air.

NOTE: Considerations and methodologies for assessing protective actions have been discussed. The actual selection of protection actions must be considered subjectively, as many factors beyond the scope of this procedure may exist which, in the judgement of the Emergency Coordinator, override the criteria contained in this procedure.

SMUD - RANCHO SECO
EMERGENCY PLAN PROCEDURE

AP 529

OFFSITE SUPPORT AND ASSISTANCE TO RANCHO SECO

TABLE OF CONTENTS

	<u>Page No.</u>
1.0 PURPOSE.	2
2.0 RESPONSIBILITY	2
3.0 INITIATING CONDITIONS.	2
4.0 PRECAUTIONS AND LIMITATIONS.	3
5.0 INSTRUCTIONS	3
6.0 REFERENCES	8
7.0 ATTACHMENTS.	8

1.0 PURPOSE

1.1 To identify the offsite support and assistance that may be requested in event of an emergency at the Rancho Seco Nuclear Generating Station, Unit No. 1.

2.0 RESPONSIBILITY

2.1 The Emergency Coordinator is responsible for the request of offsite support for onsite emergency assistance.

2.2 The Emergency Manager is responsible for the request of offsite support for offsite emergency assistance.

3.0 INITIATING CONDITIONS

3.1 Offsite support and assistance may be requested upon classification of an emergency by the Emergency Coordinator, (AP 501, Recognition and Classification of Emergency).

4.0 PRECAUTIONS AND LIMITATIONS

4.1 Not applicable.

5.0 INSTRUCTIONS

- 5.1 Nuclear Regulatory Commission (NRC)
- Provides technical coordination of Federal Assistance; onsite and offsite.
 - Provides assessment and recommendations to state and local officials.
 - Provides personnel at the Rancho Seco Nuclear Generating Station, the Unified Dose Assessment Center (UDAC), and the Emergency Operations Facility (EOF).
- 5.2 Federal Emergency Management Agency (FEMA)
- Provides non-technical coordination to state and county government to include transportation, communications, and housing.
 - Provides personnel at the State Office of Emergency Services, the Emergency Operations Facility (EOF), and the News Media Center.
- 5.3 Department of Energy (DOE)
Environmental Protection Agency (EPA)
- Provides monitoring assistance through their Radiological Assistance Plan (RAP) and Interagency Radiological Assistance Plan (IRAP) when requested in support of state and local monitoring operations. Assistance may include alpha detection equipment, low gamma detectors and special aircraft monitoring.
 - Provides radiation monitoring of food, water, livestock and agricultural products.
 - Provides personnel to the Unified Dose Assessment Center and the Emergency Operations Facility if requested.

5.0 INSTRUCTIONS-contd.

- 5.4 California Office of Emergency Services (OES)
- Provides coordination of all protective actions and recovery activities on the state level.
 - Provides radiological survey assistance to county and local government in the form of manpower and instruments.
 - Provides personnel at the Unified Dose Assessment Center (UDAC) from the State Office of Radiological Health Services.
 - Provides personnel at the News Media Center, the Emergency Operations Facility (EOF), and the Emergency Operations Centers of Sacramento, Amador and San Joaquin counties.
- 5.5 Sacramento County Office of Emergency Services
- Primary Response Agency that has the lead role in coordinating offsite emergency activities.
 - Provides Law Enforcement assistance through personnel drawn from the Sheriff's Department.
 - Provides radiological survey and assessment.
 - Provides medical, fire, ambulance, and transportation support.
 - Provides recovery assistance to include:
 - Mass Care
 - Decontamination
 - Security of the evacuated area.
 - Provides information to Federal, State and Local agencies that are involved.
 - Provides personnel to the Unified Dose Assessment Center (UDAC), the Emergency Operations Facility (EOF), and the News Media Center.

5.0 INSTRUCTIONS-contd.

- 5.6 Amador County Office of Emergency Services - Provides coordination for emergency activities in their respective counties.
San Joaquin County Office of Emergency Services
 - Provides direct support to the Sacramento County of Emergency Services.
 - Provides personnel to the Unified Dose Assessment Center (UDAC), the Emergency Operations Facility (EOF), and the News Media Center.
- 5.7 Herald Fire Department
 - Provides offsite fire protection.
 - Provides the offsite assembly point for plant personnel.
- 5.8 Ione Fire Academy
 - Provides the offsite assembly point for plant personnel.
- 5.9 Galt Fire Protection District
 - Provides offsite ambulance support.
- 5.10 Sutter Memorial Hospital
University Medical Center
Radiological Associates Medical Group Incorporated
 - Provides health support services for radiological accident patients.
- 5.11 Methodist Hospital
 - Provides health support services for non-radiation patients.
- 5.12 Cordova Medical Group Inc.
 - Provides medical assistance at the Rancho Seco Nuclear Generating Station.
- 5.13 Capital Aviation and Helicopter Services
 - Provides helicopter services for transporting authorized personnel and/or equipment in the vicinity of the Rancho Seco Nuclear Generating Station.
- 5.14 Radiological Emergency Mutual Assistance
 - Provides emergency assistance from the Southern California Edison Company and the Pacific Gas and Electric Company in the form of equipment and personnel to aid in restoring the plant to a safe shutdown condition.

5.0 INSTRUCTIONS-contd.

- 5.15 Lawrence Livermore National Laboratory
 - Provides radiological monitoring, laboratory analysis, or decontamination assistance.
- 5.16 Bechtel Power Corporation
 - Provides the use of radiation analytical personnel and equipment.
- 5.16 Bechtel Power Corporation
 - Provides technical assistance concerning the balance of plant systems to the onsite Emergency Organization.
- 5.17 Babcock & Wilcox Corporation (B & W)
 - Provides personnel for technical advice and consultation in such areas as chemistry, metallurgy, health physics, radiation control, radiochemistry, radiation shielding, hybrid methods, core thermal hydraulics, core physics, instrumentation and controls, stress analysis, and noise analysis.
 - Provides welders, pipe fitters, machinists, and other skilled manufacturing personnel experienced in work with nuclear components and nuclear fuel.
 - Provides the services of Nuclear Steam Supply System analysts who can study all data and provide a detailed evaluation of the core condition.

5.0 INSTRUCTIONS-contd.

- 5.18 Institute of Nuclear Power Operations (INPO)
- Provides assistance in locating Emergency manpower and equipment for Rancho Seco.
 - Provides the capability of analyzing the operational aspects of the incident.
 - Provides the capability of disseminating information concerning the emergency to other utilities, if applicable.
- 5.19 Energy Power Research Institute (EPRI)
- 5.20 Nuclear Safety Analysis Center (NSAC)
- 5.21 Telephone numbers and point of contacts for all offsite support groups are listed in AP 506 "Notification/Communications".

6.0 REFERENCES

6.1 AP 506 "Notification/Communications"

7.0 ATTACHMENTS

7.1 None

SMUD - Rancho Seco
EMERGENCY PLAN PROCEDURE

AP 530

OFFSITE LABORATORY SUPPORT

LAWRENCE LIVERMORE NATIONAL LABORATORY (LLNL)

TABLE OF CONTENTS

	<u>Page No.</u>
1.0 PURPOSE.	2
2.0 RESPONSIBILITY	2
3.0 INITIATING CONDITIONS.	2
4.0 PRECAUTIONS AND LIMITATIONS.	3
5.0 INSTRUCTIONS	3
6.0 REFERENCES	5
7.0 ATTACHMENTS.	5

1.0 PURPOSE

- 1.1 This procedure describes transport of samples to the Lawrence Livermore National Laboratory (LLNL) during declared emergencies.
- 1.2 The procedure also provides sample configuration, acceptable radiation levels, and packaging.

2.0 RESPONSIBILITY

- 2.1 The Emergency Coordinator or Radiological Assessment Coordinator shall direct that sample analysis by an offsite laboratory is needed.
- 2.2 A Communicator shall call LLNL (see Attachment 7.1) and:
 - . Notify them of sample transport
 - . Provide other requested information including approximate arrival time (assume 1.5 to 2 hours if traffic is normal)
 - . Obtain the name and phone number of LLNL contact at LLNL and
 - . Obtain location for transport team to deliver samples (South Pass Office preferable since phones are available and it is easily located)
- 2.3 The Radiological Assessment Coordinator shall dispatch a sample transport team through the Chem Rad Logistics Coordinator.
- 2.4 Chem Rad members shall perform the required sample transport.
- 2.5 Sample and results disposition shall be at the discretion of the Radiological Assessment Coordinator.

3.0 INITIATING CONDITIONS

- 3.1 Onsite sample analysis is not available or desirable.

4.0 PRECAUTIONS AND LIMITATIONS

4.1 Team members shall limit their exposure during sample transport such that their quarterly accumulated exposure does not exceed:

- 2500 mRem - Whole Body
- 15000 mRem - Extremities
- 5000 mRem - Skin

4.2 Label and shipping exemption shall be obtained from NRC per 10CFR71.6 before departure.

4.3 Sample(s) shall be packaged and labelled per Attachment 7.2.

4.4 Offsite authorities (Sheriff or Highway Patrol) shall be notified if route to LLNL is through an evacuated area and an escort considered if evacuation is in progress on route.

5.0 INSTRUCTIONS

5.1 Obtain dosimetry from Assembly Point and retain film badge when departing the Restricted Area.

5.2 Ensure that a Communicator has notified LLNL. Obtain the name and phone number of the contact at LLNL and where to deliver samples.

5.3 Ensure that samples are packaged and labelled per attachment 7.2. If not, notify the Radiological Assessment Coordinator.

5.4 Obtain transport vehicle keys from Administrative Coordinator.

- Driver
 - . 18 years or older
 - . California driver's license
 - . SMUD employee

5.5 Obtain items listed in Attachment 7.3 from Assembly Point.

5.6 Placard vehicle as directed by Radiological Assessment Coordinator or NRC representative.

5.7 Place samples in the vehicle such that exposure to occupants is minimized. Assume 4-hour round trip travel time for exposure estimate.

5.8 Inform Radiological Assessment Coordinator or Emergency Coordinator of departure and proceed to LLNL per Attachment 7.4.

NOTE:

Do not make unauthorized stops en route.
Sample(s) must be attended at all times.

5.0 INSTRUCTIONS-contd.

- 5.9 If an accident occurs en route see Attachment 7.5.
- 5.10 Upon arrival at LLNL, proceed to South Gate (Attachment 7.4) or other location specified in 5.2 above.
- 5.11 One member of the transport team shall maintain visual contact with the sample(s).
- 5.12 The other team member shall request LLNL security at the South Pass Office, South Gate or other location to call the LLNL contact specified in 5.2 above. See Attachment 7.1 for additional phone numbers.
- 5.13 Obtain the name, title, and phone number of the LLNL person who accepts the sample(s). Determine approximate analysis time and request a signed copy of all sample results.
- 5.14 Call the Emergency Manager or Communicator (see Attachment 7.1) and report that samples have been delivered and provide approximate analysis time.
- 5.15 Upon completion of analysis, request the analyst call the Radiological Assessment Coordinator or Emergency Coordinator in your presence so any additional information may be supplied at the time of the call.
- 5.16 Retain samples for further analysis or disposition on direction from the Radiological Assessment Coordinator or Emergency Coordinator and return to Rancho Seco or other location as directed.
- 5.17 Survey transport vehicle following return and before further use.

6.0 REFERENCES

6.1 None

7.0 ATTACHMENTS

Revision No.

7.1 Emergency Phone Numbers	Original
7.2 Sample Packaging and Labelling	Original
7.3 Sample Transport Kit	Original
7.4 Route From Rancho Seco to LLNL	Original
7.5 Transport Vehicle Accident Action Guide	Original

ATTACHMENT 7.1
EMERGENCY PHONE NUMBERS

RANCHO SECO

Emergency Coordinator/Communicator
Radiological Assessment Coordinator

EOF

Emergency Manager/Communicator
Environmental Assessment Coordinator

LLNL

Lab number (access to all site phones)

0800 - 1600 Monday - Friday

T. Jordan Powell
Group Leader, Dosimetry and
Environmental Measurements

Don Wadsworth
Gary Seibel
Larry Anderson

Off Duty Hours
(home)

Don Wadsworth
Gary Seibel
Larry Anderson

ATTACHMENT 7.2

SAMPLE PACKAGING AND LABELLING

1. Coolant vial per LLNL spec
2. Air samples per LLNL spec configuration,
Rad levels, etc.
3. Coolant placed in larger container w/absorbant and other material to prevent shifting with a description/diagram showing sample position and wrapping.
4. All sample containers shall be smeared and external contamination should be $< 200 \text{ dpm}/100\text{cm}^2 \text{ B}/\gamma$.
5. Sample containers shall be placed in a plastic bag for transport. Outer bag $< 200 \text{ dpm}/100\text{cm}^2 \text{ B}/\gamma$.
6. Outer plastic bag shall be labelled Radioactive Materials with appropriate rad information.

Additional labelling requirements may be specified by the NRC or Radiological Assessment Coordinator.

7. A description/diagram of the bag contents including individual sample rad levels shall accompany the bag and be presented to the LLNL contact on arrival at LLNL.

ATTACHMENT 7.3

SAMPLE TRANSPORT KIT

Complete copy of AP 530 "Offsite Laboratory Support"

2 pens/pencils

2 Magic Marker type felt tip pens

Note pad

Surgeon's gloves

Terri Towels or similar

Plastic bags

Rad rope/tape

Cloth (duct) tape

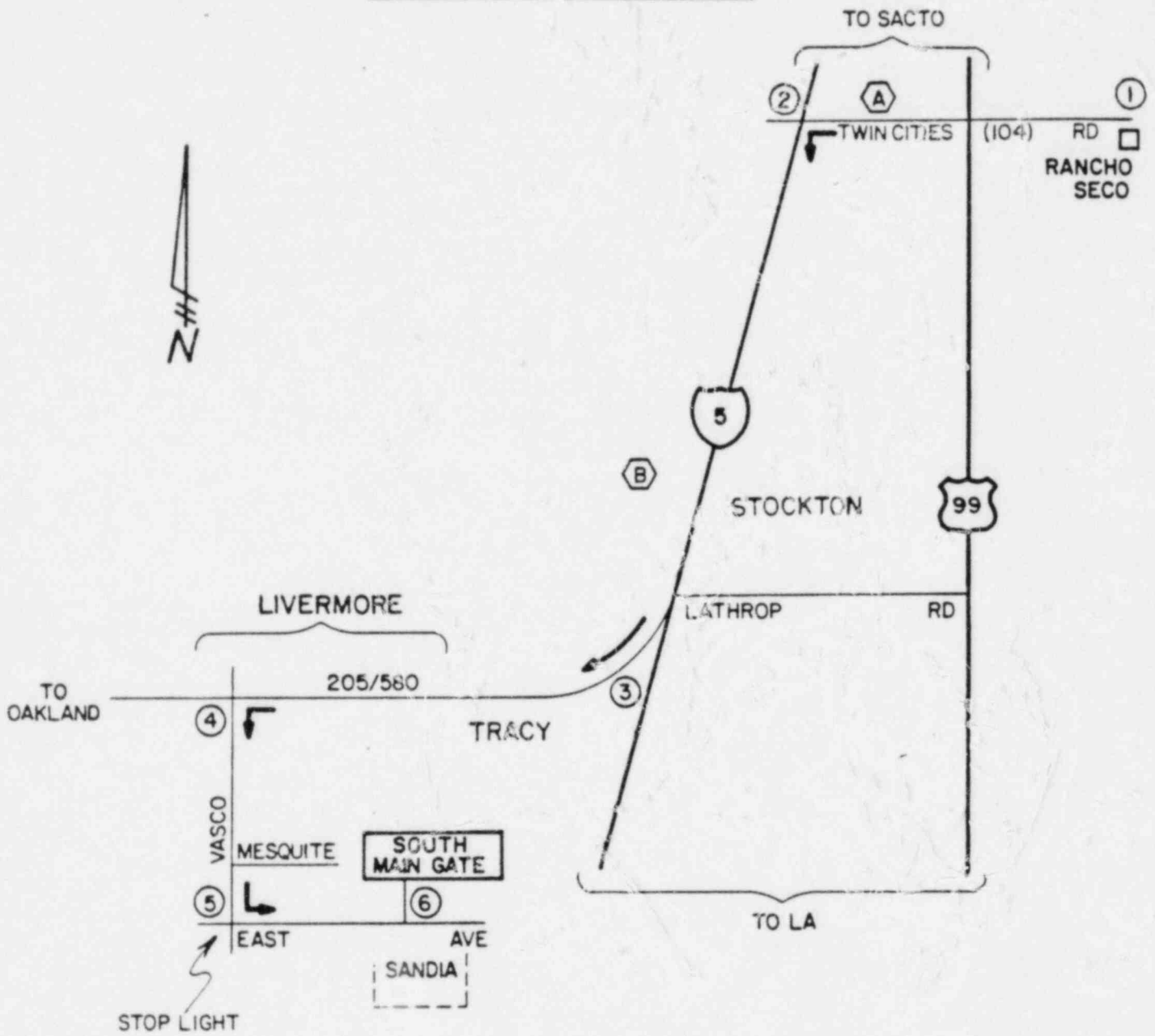
Shoe covers

Smears (12 individually bagged)

Low Range β/γ instrument from Assembly Point or the Offsite Relocation Point at Herald (kev with Emergency Coordinator if Herald Fire Station is not activated)

ATTACHMENT 7.4

ROUTE FROM RANCHO SECO TO LLNL



- ① - ② 20.5 MILES
 - ② - ③ 38.3 MILES
 - ③ - ④ 22.1 MILES
 - ④ - ⑤ 2.5 MILES
 - ⑤ - ⑥ .7 MILES
- 84 MILES**

- Ⓐ POSSIBLY FLOODED DURING RAINS
(USE LATHROP ROAD AS ALTERNATE)
- Ⓑ POSSIBLE HEAVY FOG

ATTACHMENT 7.5

TRANSPORT VEHICLE ACCIDENT ACTION GUIDE

In the event of a vehicle accident while transporting samples during an emergency:

STOP. Do not leave the scene of the accident.

If injuries are involved, render aid to the best of your ability. Notify local operator, or police/ambulance immediately.

Do not leave samples unattended and prevent exposure to bystanders.

If any sample container leaks are detected, take immediate action to prevent the spread of contamination.

Do not move your vehicle from the scene unless the position of your vehicle could cause another accident or on direction of a police officer (inform responding officers of vehicle contents, mission, and sample condition).

Notify police or Highway Patrol immediately regardless of the severity of the accident. Obtain name(s) and badge number(s) of responding officer(s).

Notify Emergency Manager (see Attachment 7.1) or Emergency Coordinator (see Attachment 7.1)

Record the following and submit to Emergency Manager or Emergency Coordinator on return:

- Date, time, and location of the accident
- Diagram and conditions of the accident
- Other vehicle(s) or property involved
- Driver(s) name(s), driver license number(s), and phone numbers and address(es)
- Person(s) injured and where taken
- Witnesses including addresses and phone numbers
- Names, specific departments or California Highway Patrol, and badge numbers of responding officers

Obtain direction from the Radiological Assessment Coordinator, Emergency Coordinator, or Emergency Manager for sample disposition and subsequent actions.

Sample(s) should only be left in the care of SMUD directed personnel or LLNL personnel specified in 5.2.

SMUD - RANCHO SECO
EMERGENCY PLAN PROCEDURE

AP 531

HELICOPTER

TABLE OF CONTENTS

	<u>Page No.</u>
1.0 PURPOSE	2
2.0 RESPONSIBILITY	2
3.0 INITIATING CONDITIONS	2
4.0 PRECAUTIONS AND LIMITATIONS	3
5.0 INSTRUCTIONS	3
6.0 REFERENCES	5
7.0 ATTACHMENTS	5

1.0 PURPOSE

- 1.1 This procedure provides guidelines for the use of a helicopter in an emergency or wet weather condition.
- 1.2 The helicopter can be used for:
 - a. Environmental sampling and collection of offsite TLD's.
 - b. Personnel and equipment transport.
 - c. Radioactive plume tracking.

2.0 RESPONSIBILITY

- 2.1 Responsibility for determining the need for helicopter service and for authorizing its use rests with anyone of the following District personnel:
 - a. Emergency Coordinator
 - b. Manager, Nuclear Operations
 - c. Nuclear Plant Superintendent
 - d. Engineering and Quality Control Supervisor
 - e. Chemistry and Radiation Supervisor
 - f. Environmental Specialist
- 2.2 The Radiological Assessment Coordinator is responsible for preparing, instructing, and dispatching the team to be sent with the helicopter if used for radiological surveys.
- 2.3 The Plant Assembly Point Coordinator is responsible for maintaining communications between the Emergency Coordinator, Security onsite, and the helicopter by using the onsite portable walkie talkies.

3.0 INITIATING CONDITIONS

- 3.1 The Emergency Coordinator determines that the use of the helicopter is warranted and authorizes its use by notifying the helicopter service.

4.0 PRECAUTIONS AND LIMITATIONS

4.1 Only the personnel designated in Section 2.1 may decide and authorize the use of the helicopter.

5.0 INSTRUCTIONS

5.1 Authorized District personnel (Section 2.1) call and request helicopter service in accordance with AP 506 Attachment 7.6 and provide the following information:

- a. Use and purpose of the helicopter.
- b. Destination and/or helicopter landing pad to be used (Attachment 7.1).
- c. Time the helicopter is needed.
- d. Obtain estimated time of arrival (ETA).

5.2 Person requesting helicopter service notify Security Watch Commander and inform him of the following:

- a. ETA of helicopter.
- b. Use and purpose of helicopter.
- c. Destination and/or landing pad helicopter will be using.
- d. Preparations for personnel assistance or use of special equipment required.

5.3 Communications between personnel dispatched with the helicopter and the site, will be through the Plant Assembly Point Coordinator via portable radios.

5.4 The Security Watch Commander shall direct a Security Officer to remain with the helicopter and pilot, from arrival to departure if the onsite landing pad is used.

5.5 Chem/Rad personnel shall issue dosimetry to helicopter personnel in accordance with AP 515 "Emergency Personnel Dosimetry" as necessary.

5.6 The Plant Assembly Point Coordinator, with the assistance of the Radiological Assessment Coordinator, will perform the following as required:

- a. Provided the team that will accompany the helicopter with:
 1. Maps.
 2. Sampling equipment.
 3. Writing supplies.
 4. Communications equipment.
- b. Instruct the team on the purpose and objective of the helicopter dispatch.
- c. Dispatch the team to the helicopter landing pad.

5.0 INSTRUCTIONS-contd.

- 5.7 Personnel and/or equipment assigned to the helicopter team on departure from the site will:
- a. Undergo a security inspection.
 - b. Return badges to security personnel.
 - c. Be monitored for contamination; and if contaminated, be decontaminated. (individuals, equipment, and helicopter)
 - d. Maintain communications with the Plant Assembly Point Coordinator.

6.0 REFERENCES

6.1 AP 400, Rancho Seco Physical Security Plan

7.0 ATTACHMENTS

Revision No.

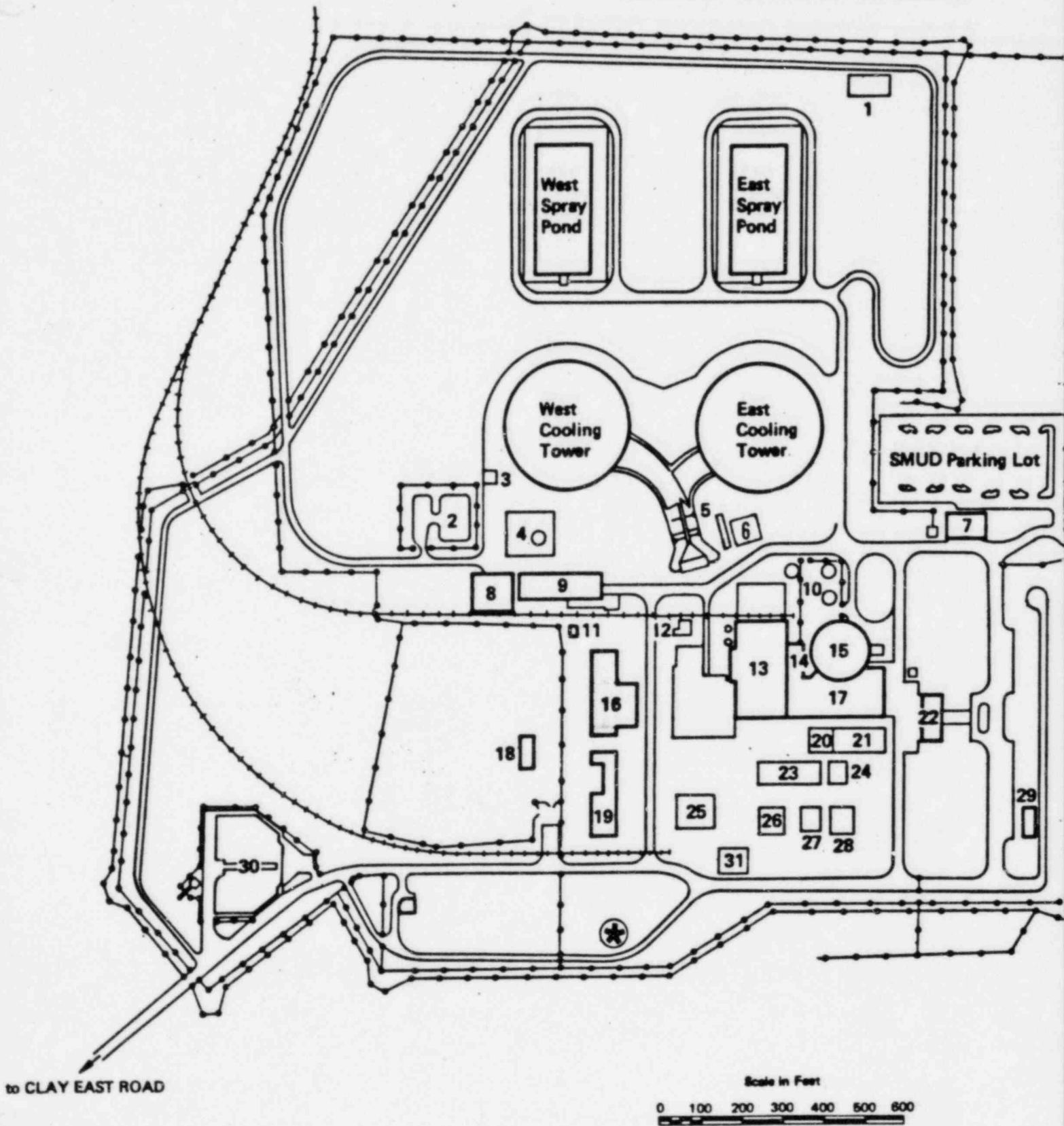
7.1 Helicopter Landing Pads

Original

7.2 Rancho Seco Area Map

Original

ATTACHMENT 7.1
HELICOPTER LANDING PADS

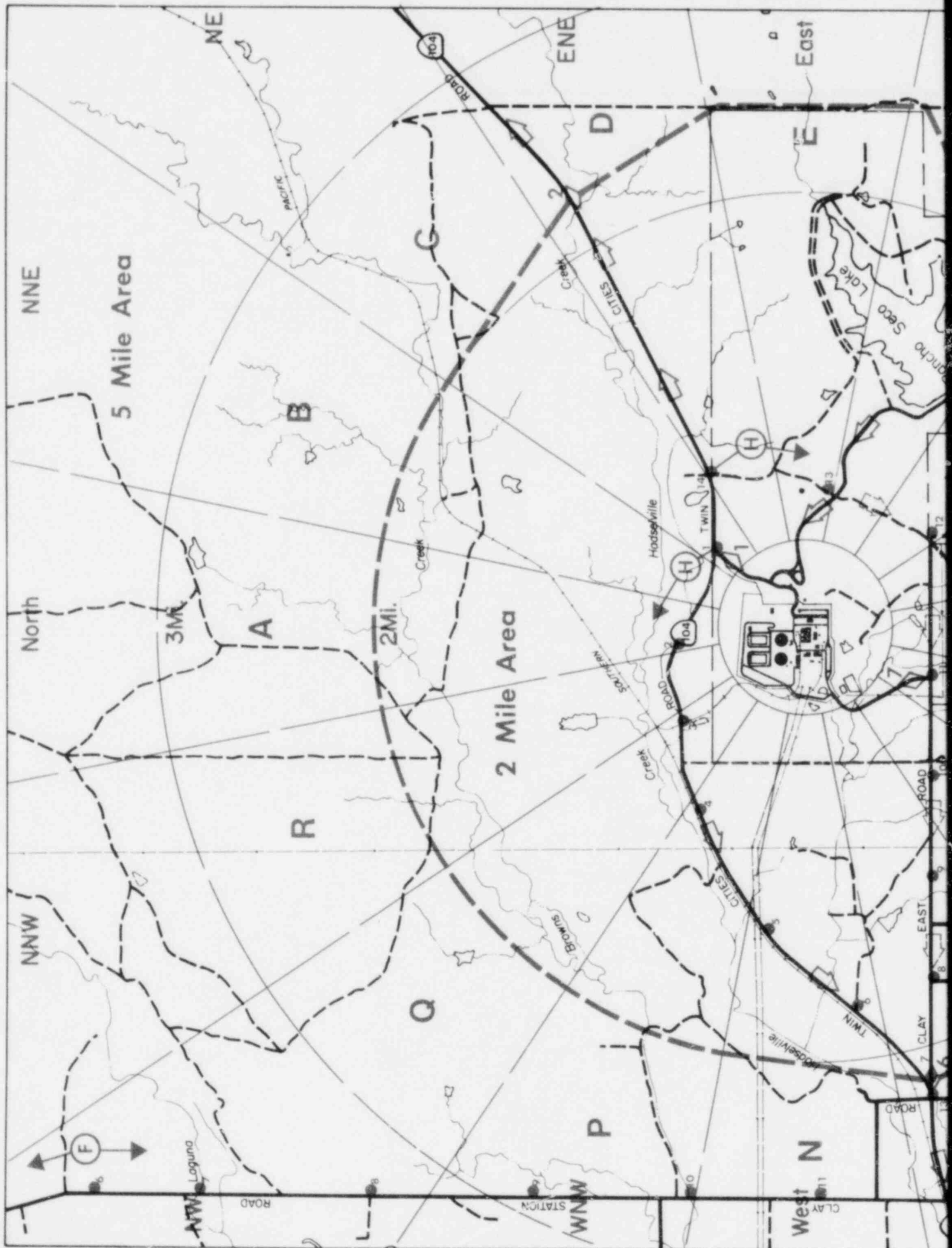


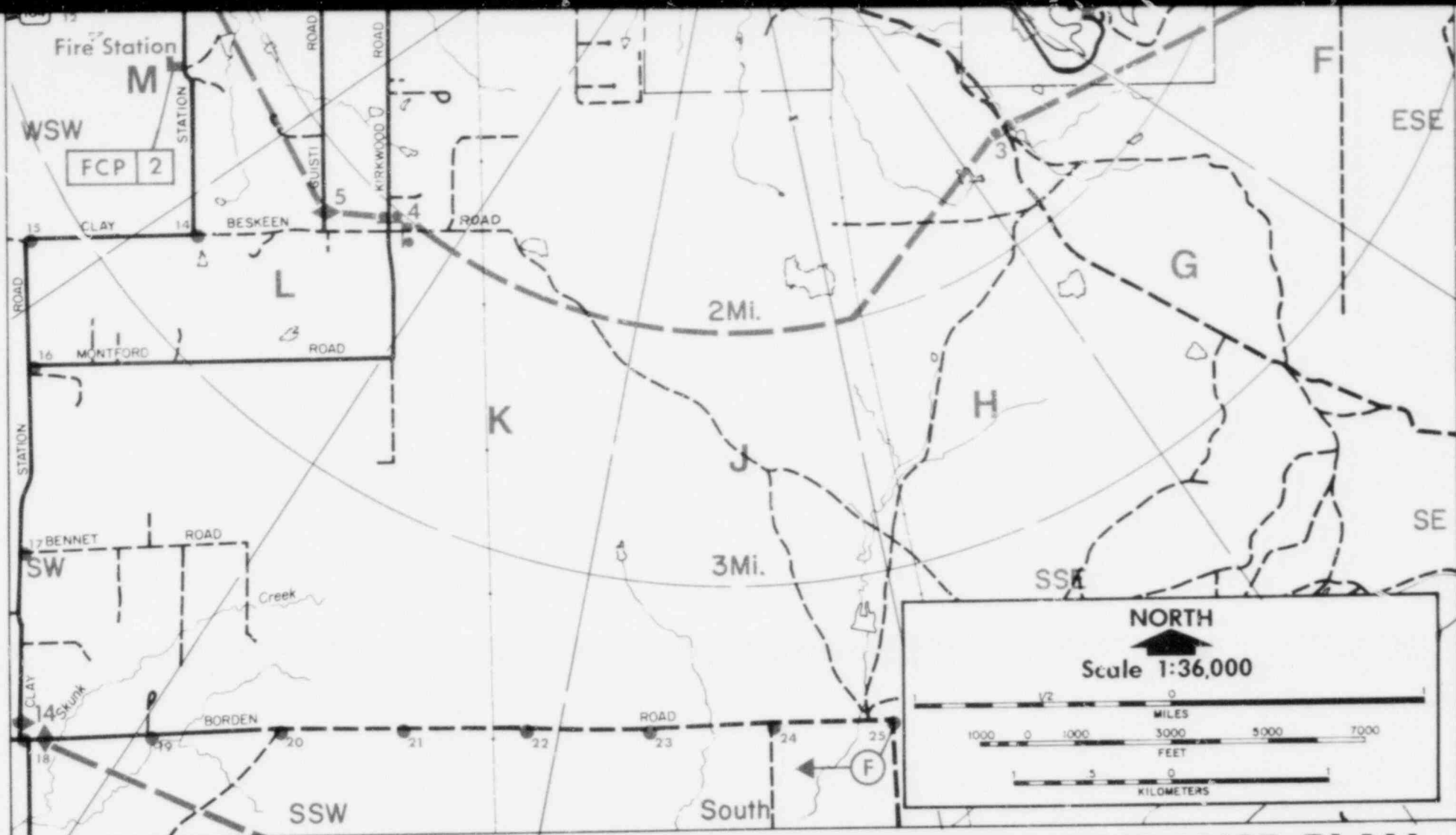
TO HERALD
and 99

EFFECTIVE DATE 2/8/82



- | | |
|--|-----------------------------------|
| 1. Misc. Equip. Storage | 17. Auxiliary Bldg. |
| 2. Radwaste Drum Storage | 18. Switchyard Bldg. |
| 3. Microwave Bldg. | 19. Bechtel Bldg. |
| 4. Diesel Fuel Storage Tk. | 20. Nuc. Serv. Elect. Bldg. |
| 5. Chlorine Bldg. | 21. Training & Records Bldg. |
| 6. Water Treatment Area | 22. Administration Bldg. |
| 7. Security Bldg. (PAP) | 23. Tool Issue/First Aid/Safety |
| 8. Carpenter Shop | 24. Security Equip. Bldg. |
| 9. Whse. 'B' | 25. Fab. Shop |
| 10. Yard Controlled Area | 26. Gen. Eng. Whse. |
| 11. Gasoline Pumps | 27. Elect. Prefab Shop |
| 12. Aux. Boilers/Acid-Caustic Stor. Tks. | 28. Diesel Gen. Bldg. |
| 13. Turbine Bldg. | 29. Training (I. & D Bldg.) |
| 14. Spent Fuel Bldg. | 30. Retention Basins |
| 15. Reactor Bldg. | 31. Whse. 'C' |
| 16. Whse. 'A'/Machine Shop | 32. Visitor Center |
| | 33. Design City Trailers Location |





RANCHO SECO OFFSITE EMERGENCY RESPONSE PLAN

Counties of Amador, Sacramento and San Joaquin

SYMBOLS

ROAD CLASSIFICATION

- PRIMARY HIGHWAY HARD SURFACE
- LIGHT DUTY ROAD
- UNIMPROVED ROAD

STATE ROUTE

A TO R SECTOR DESIGNATION

FIELD COMMAND POST

PUBLIC PROTECTION AREA BOUNDARY

TRAFFIC ACCESS CONTROL POINT

ROAD BLOCK OR BARRICADE

PARK ASSEMBLY AREA

RADIOLOGICAL MONITORING ROUTE AND POINTS

PRIMARY EVACUATION ROUTES

ALTERNATE EVACUATION ROUTE

Map B NEARSITE OPERATIONS Data Map

MAP PREPARED JANUARY, 1982 by Dick James

SMUD - RANCHO SECO
EMERGENCY PLAN PROCEDURE

AP 532

EMERGENCY DECONTAMINATION OF EQUIPMENT AND AREA

TABLE OF CONTENTS

	<u>Page No.</u>
1.0 PURPOSE.	2
2.0 RESPONSIBILITY	2
3.0 INITIATING CONDITIONS.	2
4.0 PRECAUTIONS AND LIMITATIONS.	3
5.0 INSTRUCTIONS	3
6.0 REFERENCES	4
7.0 ATTACHMENTS.	4

1.0 PURPOSE

- 1.1 To reference existing radiological information for the decontamination of equipment and areas, as well as provide supplemental information.
- 1.2 To establish emergency contamination levels.

2.0 RESPONSIBILITY

- 2.1 The Chem/Rad Logistics Coordinator is responsible for implementing this procedure.

3.0 INITIATING CONDITIONS

- 3.1 A release of radioactive material during an emergency that results in the contamination of equipment or areas outside of those normally controlled for radiological purposes.

4.0 PRECAUTIONS AND LIMITATIONS

- 4.1 Use appropriate protective clothing and equipment.
- 4.2 Clearly label contaminated material and control the area.
- 4.3 If necessary use personnel respiratory protection.
- 4.4 Read instructions on all decon solvents and handle as recommended.
- 4.5 Avoid contamination of survey instrumentation.
- 4.6 Contamination Limits, see Attachment 7.1.

5.0 INSTRUCTIONS

- 5.1 Perform surveys of the affected areas and equipment to determine the amount and type of radioactive contamination present. All survey results must be clearly documented. (Attachments 7.2 and 7.3).
- 5.2 Area where decontamination will take place will be controlled and personnel properly attired appropriately.
- 5.3 Perform area decontamination as necessary (see Radiation Control Manual AP 305).
- 5.4 Perform equipment decontamination as necessary (see Radiation Control Manual AP 305).
- 5.5 Survey area/equipment and repeat steps as necessary to decontaminate.
Note: Attempt to decontaminate to below limits in Attachment 7.1.
- 5.6 If cannot decontaminate with normal methods, refer to Attachment 7.4 and 7.5 for additional decontamination methods.

NOTE: Essentially all decontamination efforts are influenced by the cost of the procedure compared with the value of the material, equipment, or facilities being cleaned. In some instances it may be more economical to dispose of the objects as controlled or contaminated waste than to clean them to unrestricted release levels. When contaminants involve short-lived isotopes, it may be more economical to wait for radioactive decay below unrestricted release levels than to decontaminate the material.

6.0 REFERENCES

6.1 AP 305 Radiation Control Manual.

6.1.1 Procedures

- a. AP 305-5 "Protective Clothing and Equipment Use".
- b. AP 305-7 "Posting and Barricading Controlled Areas".
- c. AP 305-15 "Personnel Respiratory Protection".

6.1.2 Sections

- a. 3.4.4 "Decontamination Procedures".
- b. 3.4.1 "Contamination Limits".
- c. 3.4.4.1 "Floor and Surface Areas".
- d. 3.4.4.4 "Plant Equipment".

6.2 ANSI N13.12. Draft American National Standard, Control of Radioactive Surface Contamination on Materials Equipment and Facilities to be Released for Uncontrolled Use, 1978.

6.3 WASH-1400, "Reactor Safety Study", Appendix VI, Appendix K, "Decontamination", October 1975.

7.0 ATTACHMENTS

Revision No.

7.1 Maximum Permissible Emergency Contamination Limits/Maximum Permissible Surface Contamination Limits	Original
7.2 Equipment Survey Form	Original
7.3 Rancho Seco Survey Maps	Original
7.4 Methods of Decontamination	Original
7.5 WASH-1400, Appendix VI, Appendix K, Decontamination	Original

ATTACHMENT 7.1

MAXIMUM PERMISSIBLE EMERGENCY CONTAMINATION LIMITS

Item of Concern	SMEAR TESTS	SURFACE CONTACT SURVEY
Personnel	Not Applicable	1000 cpm above background ⁺
Equipment Clothing, etc.	22,000 dpm/100 cm ² *	2 mR/hr
Work areas	22,000 dpm/100 cm ² *	2 mR/hr

⁺ AP 500 "Emergency Plan" Section 6

* 10 CFR 20.205

NOTE: Upon return to normal conditions, the contamination limits will return to those listed in the Radiation Control Manual, AP 305.

MAXIMUM PERMISSIBLE SURFACE CONTAMINATION LIMITS

Item of Concern	SMEAR TESTS		SURFACE CONTACT SURVEY	
	Laboratory Counting (dpm/100cm ²)	G.M. Survey of Smears (cpm/ft ²)	Exposure Rate Instrument (mr/hr)	G.M. Survey Instrument (cpm)
Floors, Counters, Equipment, Tools.	<200	<1000	1.0 for fixed contamination	<5000 for fixed contamination
Personnel (Skin)	NA	NA	Background	<100 above background
Personal Clothing	NA	NA	Background	<100 above background
Protective Clothing	NA	NA	0.5	<1000 above background
Respiratory Equipment	<200	NA	Background	<100 above background

Alpha surface contamination limit 50 dpm/100cm²

DATE: _____ TIME: _____

RADIATION TYPE

Gamma Neutron

CONTAMINATION TYPE

Beta-Gamma Alpha

EFFECTIVE DATE: 2/16/82

ATTACHMENT 7.2

EQUIPMENT SURVEY FORM

SWIPE NUMBER	LOCATION	DPM/100cm ²

AIR SAMPLES		
NUMBER	LOCATION	uci / cc

REMARKS: _____

INITIAL: _____

Effective Date: 2/16/82

ATTACHMENT 7.3
RANCHO SECO SURVEY MAPS

Available in Health Physics Area

ATTACHMENT 7.4

METHODS OF DECONTAMINATION*

1. Manual Cleaning

Manual cleaning includes such procedures as wiping, scrubbing, mopping, etc., and in general, is an effective method of removing low or moderate levels of contamination on nonporous or nearly nonporous surfaces. Water or a variety of detergents, solvents, chelating agents, and other chemicals may be used. Manual cleaning usually presents minimal airborne and surface contamination control problems.

2. Mechanical Cleaning

Mechanical cleaning includes such decontamination methods as vacuuming, high-pressure steam and water cleaning, soaking, and ultrasonics. These methods are generally associated with the decontamination of highly contaminated equipment but have application with lower levels of contamination.

- a. Vacuumping, Wet or Dry. Vacuuming is generally effective in removing loose particulate contamination and is frequently used as an initial decontamination step preparatory to manual cleaning. Vacuum systems should be properly filtered to prevent the spread of contamination to surrounding areas and to reduce the hazard of airborne contamination. Care should be taken to ensure that the concentration of radioactive material in the vacuum system does not create unusually high radiation exposure rates to personnel and that it does not present a criticality hazard.
- b. Jet Cleaning. High-pressure steam and water used alone or mixed with chemicals and detergents are effective in attaining high decontamination factors. Commercial systems using the jet cleaning principle are available. Equipment of this type is ideally suited for remote operation and for cleaning large surface areas. High-pressure jet cleaning has the disadvantage of spreading contamination over a large area and is more effective when used in a cave or cell designed especially for this purpose.
- c. Soaking and Spraying. Soaking and spraying are used extensively for decontamination of small and moderate size material and equipment. Both methods make use of chemical solutions and may require support features such as catch tanks, liquid recycle ability, and filtered ventilation systems. Spraying has the advantage of combining mechanical as well as chemical action; however, in some cases the shape of the object being cleaned prevents effective cleaning action on all surfaces. Soaking provides good access to surfaces but does not provide mechanical action.

- d. Ultrasonic Cleaning. Ultrasonic cleaning combines the advantage of chemical action and mechanical energy for cleaning. It is best suited for small components and offers the advantage of remote operation and rapid decontamination of objects with irregular shapes and crevices.

3. Grinding and Abrasive Action

Cleaning procedures employing grinding or abrasive action are effective means of decontaminating metal and concrete surfaces, provided alteration of the surface area of the object being cleaned can be tolerated.

- a. Grinding. Grinding of surfaces to remove contamination is usually limited to small objects or isolated spots of contamination where the surface is reasonably smooth. Grinding normally produces a high decontamination factor and is economical. A variety of commercial grinders may be used. Grinding inherently leaves residual contamination on the surface of the object being cleaned and therefore usually requires final cleaning by some other method (vacuuming, wiping, etc.).
- b. Abrasive Blasting. Abrasive blasting has a number of advantages over grinding. It is rapid, provides a high DF, is effective on irregular shaped surfaces and can be used for large areas. Abrasive blasting makes use of a large variety of abrasives (sand, shells, glass beads, metals, etc.) with velocity, shape, and size of the abrasive influencing surface-removal characteristics. A prime disadvantage of abrasive blasting is that it usually generates high airborne contamination and spreads surface contamination; however, this can be minimized by wet blasting techniques, vacuum systems, or filtered enclosures.
- c. Destructive Decontamination. Destructive decontamination procedures include physical removal of contaminated parts or sections. Generally, little or no effort is made to clean the contaminated parts before disposal as waste. Containment and other radiological controls associated with destructive cleaning are dependent on contamination levels, the nature of the containment, and the physical characteristics of the parts being removed.

* From ANSI N13.12. "Draft American National Standard, Control of Radioactive Surface Contamination on Materials Equipment and Facilities to be released for uncontrolled use", 1978.

Effective Date: 2/16/82

ATTACHMENT 7.5

WASH 1400, APPENDIX VI,
APPENDIX K
"DECONTAMINATION"

See Appendix to Emergency Response Plan

SMUD - RANCHO SECO
EMERGENCY PLAN PROCEDURE

AP 533

POTASSIUM IODIDE (KI) ADMINISTRATION

TABLE OF CONTENTS

	<u>Page No.</u>
1.0 PURPOSE.	2
2.0 RESPONSIBILITY	2
3.0 INITIATING CONDITIONS.	2
4.0 PRECAUTIONS AND LIMITATIONS.	3
5.0 INSTRUCTIONS	3
6.0 REFERENCES	5
7.0 ATTACHMENTS.	5

1.0 PURPOSE

- 1.1 To provide guidance for the administration of Potassium Iodide (KI) to station personnel in the event of an airborne radioiodine release.

2.0 RESPONSIBILITY

- 2.1 The Radiological Assessment Coordinator is responsible for determining the desirability for Potassium Iodide (KI) administration.
- 2.2 The Radiological Assessment Coordinator shall recommend which personnel will receive the KI per Section 3.1.
- 2.3 Personnel who take Potassium Iodide (KI) do so on a voluntary basis.

3.0 INITIATING CONDITIONS

- 3.1 If the initial estimate at the facility indicates that the total absorbed dose projected to the thyroid is greater than 10 rem, the blocking agent should immediately be made available to personnel at the facility. (See AP 509, AP 511, AP 512, "Dose Projections" for conversion from $\mu\text{Ci}/\text{cc}$ or Ci/m^3 of radioiodine to rem.)

4.0 PRECAUTIONS AND LIMITATIONS

- 4.1 The taking of Potassium Iodide (KI) is strictly voluntary.
- 4.2 Follow directions on KI bottle.
- 4.3 Do not take if allergic to iodine.
- 4.4 Pregnant women should consult with physicians before taking KI.
- 4.5 Verify KI has not exceeded shelf-life.
- 4.6 Prior to undertaking a life-saving operation where high levels of radioiodine are suspected, or no current air analysis is available, the administration of KI should be considered.

5.0 INSTRUCTIONS

5.1 IMMEDIATE ACTIONS

- 5.1.1 Chem/Rad Personnel as designated by the Radiological Assessment Coordinator should determine the stay time in areas where personnel will be going, and limit stay time to the most restrictive case (i.e. thyroid exposure, Beta/Gamma, etc).
- 5.1.2 The Radiological Assessment Coordinator shall recommend which personnel should be offered Potassium Iodide.
- 5.1.3 Chem/Rad Personnel should obtain bottles of KI from either the TSC or first aid room.
- 5.1.4 Rad/Chem personnel ask if the person is allergic to KI, if the person does not know or is not allergic to iodine, inform the person that taking KI is voluntary.

NOTE: Inform the person that there may be possible side effects. (Attachment 7.2)

- 5.1.5 Administer one KI tablet to each person.

NOTE: If possible, KI should be administered approximately one-half to one hour before exposure for maximum blockage. Final Iodine uptake is halved if KI is administered within 3-4 hours after exposure. Little benefit is gained with KI administration 10-12 hours after exposure.

- 5.1.6 Chem/Rad Personnel issue self contained breathing apparatus (SCBA's), in addition to KI, to personnel going into the area.

5.0 INSTRUCTIONS-contd.

5.2 SUBSEQUENT ACTIONS

5.2.1 Chem/Rad personnel at issuance locations log the person's name, Social Security number, company/department and date of the KI administration on Attachment 7.1 "KI Administration Form".

5.2.2 After administration, the names of persons who received KI are reported to the Radiological Assessment Coordinator.

NOTE: Once taken and the Iodine concentration is verified or the calculated dose determined, the tablets continue to be taken for ten (10) days post-exposure. Dosage is one tablet (130 mg), once a day. Individuals suspected of inhalation of airborne contaminants should receive thyroid counts on a regular basis throughout the KI treatment period to verify effectiveness of treatment and to estimate dose commitment. Caution, personnel's perspiration, saliva, urine and feces may also contain radioiodine.

5.2.3 The Radiological Assessment Coordinator shall notify the Emergency Manager of persons who received KI.

5.2.4 KI will be administered daily to each person on the KI Administration Form (Attachment 7.1) until the accumulated dose is 1 gram of iodide or as directed by the Emergency Manager. The time required to accumulate 1 gram of iodide is 10 days.

5.2.5 Update and refine dose estimates for personnel exposed to radioiodines.

6.0 REFERENCES

- 6.1 NCRP Report 55 "Protection of the Thyroid Gland in the Event of Release of Radioiodine".
- 6.2 EPA "Manual of Protective Actions for Nuclear Incidents" September 1975.
- 6.3 AP 305 Radiation Control Manual

7.0 ATTACHMENTS

Revision No.

- 7.1 KI Administration Form
- 7.2 KI Information

Original
Original

Effective Date: 2/22/82

ATTACHMENT 7.1
KI ADMINISTRATION FORM

Name	S.S. #	Company/Department	Date	Subsequent Dates

ATTACHMENT 7.2

Patient Package Insert For

THYRO-BLOCK™

(POTASSIUM IODIDE)

(pronounced *poe-TASS-ee-um EYE-oh-ayed*)
(abbreviated: KI)

TABLETS and SOLUTION U.S.P.

TAKE POTASSIUM IODIDE ONLY WHEN PUBLIC HEALTH OFFICIALS TELL YOU. IN A RADIATION EMERGENCY, RADIOACTIVE IODINE COULD BE RELEASED INTO THE AIR. POTASSIUM IODIDE (A FORM OF IODINE) CAN HELP PROTECT YOU.

IF YOU ARE TOLD TO TAKE THIS MEDICINE, TAKE IT ONE TIME EVERY 24 HOURS. DO NOT TAKE IT MORE OFTEN. MORE WILL NOT HELP YOU AND MAY INCREASE THE RISK OF SIDE EFFECTS. **DO NOT TAKE THIS DRUG IF YOU KNOW YOU ARE ALLERGIC TO IODIDE.** (SEE SIDE EFFECTS BELOW.)

INDICATIONS

THYROID BLOCKING IN A RADIATION EMERGENCY ONLY.

DIRECTIONS FOR USE

Use only as directed by State or local public health authorities in the event of a radiation emergency.

DOSE

Tablets: ADULTS AND CHILDREN 1 YEAR OF AGE OR OLDER: One (1) tablet once a day. Crush for small children.
BABIES UNDER 1 YEAR OF AGE: One-half (1/2) tablet once a day. Crush first.

Solution: ADULTS AND CHILDREN 1 YEAR OF AGE OR OLDER: Add 6 drops to one-half glass of liquid and drink each day.
BABIES UNDER 1 YEAR OF AGE: Add 3 drops to a small amount of liquid once a day.

For all dosage forms: Take for 10 days unless directed otherwise by State or local public health authorities.

Store at controlled room temperature between 15° and 30°C (59° to 86°F). Keep container tightly closed and protect from light. Do not use the solution if it appears brownish in the nozzle of the bottle.

WARNING

Potassium iodide should not be used by people allergic to iodide. Keep out of the reach of children. In case of allergic reaction, contact a physician or the public health authority.

DESCRIPTION

Each THYRO-BLOCK™ TABLET contains 130 mg of potassium iodide.

Each drop of THYRO-BLOCK™ SOLUTION contains 21 mg of potassium iodide.

HOW POTASSIUM IODIDE WORKS

Certain forms of iodine help your thyroid gland work right. Most people get the iodine they need from foods, like iodized salt or fish. The thyroid can "store" or hold only a certain amount of iodine.

In a radiation emergency, radioactive iodine may be released in the air. This material may be breathed or swallowed. It may enter the thyroid gland and damage it. The damage would probably not show itself for years. Children are most likely to have thyroid damage.

If you take potassium iodide, it will fill-up your thyroid gland. This reduces the chance that harmful radioactive iodine will enter the thyroid gland.

WHO SHOULD NOT TAKE POTASSIUM IODIDE

The only people who should not take potassium iodide are people who know they are allergic to iodide. You may take potassium iodide even if you are taking medicines for a thyroid problem (for example, a thyroid hormone or antithyroid drug). Pregnant and nursing women and babies and children may also take this drug.

HOW AND WHEN TO TAKE POTASSIUM IODIDE

Potassium iodide should be taken as soon as possible after public health officials tell you. You should take one dose every 24 hours. More will not help you because the thyroid can "hold" only limited amounts of iodine. Larger doses will increase the risk of side effects. You will probably be told not to take the drug for more than 10 days.

SIDE EFFECTS

Usually, side effects of potassium iodide happen when people take higher doses for a long time. You should be careful not to take more than the recommended dose or take it for longer than you are told. Side effects are unlikely because of the low dose and the short time you will be taking the drug.

Possible side effects include skin rashes, swelling of the salivary glands, and "iodism" (metallic taste, burning mouth and throat, sore teeth and gums, symptoms of a head cold, and sometimes stomach upset and diarrhea).

A few people have an allergic reaction with more serious symptoms. These could be fever and joint pains, or swelling of parts of the face and body and at times severe shortness of breath requiring immediate medical attention.

Taking iodide may rarely cause overactivity of the thyroid gland, underactivity of the thyroid gland, or enlargement of the thyroid gland (goiter).

WHAT TO DO IF SIDE EFFECTS OCCUR

If the side effects are severe or if you have an allergic reaction, stop taking potassium iodide. Then, if possible, call a doctor or public health authority for instructions.

HOW SUPPLIED

THYRO-BLOCK™ TABLETS (Potassium Iodide, U.S.P.) bottles of 14 tablets (NDC 0037-0472-20). Each white, round, scored tablet contains 130 mg potassium iodide.

THYRO-BLOCK™ SOLUTION (Potassium Iodide Solution, U.S.P.) 30 mL (1 fl. oz.) light-resistant, measured-drop dispensing units (NDC 0037-4287-25). Each drop contains 21 mg potassium iodide.

WALLACE LABORATORIES
Division of
CARTER-WALLACE, INC.
Crainbury, New Jersey 08512

CW-107915-10/79

Issue 10/79

SMUD - RANCHO SECO
EMERGENCY PLAN PROCEDURE

AP 534

RELEASE RATE DETERMINATION

TABLE OF CONTENTS

	<u>Page No.</u>
1.0 PURPOSE.	2
2.0 RESPONSIBILITY	2
3.0 INITIATING CONDITIONS.	2
4.0 PRECAUTIONS AND LIMITATIONS.	3
5.0 INSTRUCTIONS	3
6.0 REFERENCES	5
7.0 ATTACHMENTS.	5

1.0 PURPOSE

- 1.1 This procedure describes methodologies for the manual determination of airborne radioactive release rates from the Reactor Building purge vent and the Auxiliary Building exhaust, utilizing effluent monitor readings.

2.0 RESPONSIBILITY

- 2.1 The Emergency Coordinator is responsible for implementing this procedure.
- 2.2 Chem/Rad personnel designated are responsible for determining release rates.

3.0 INITIATING CONDITIONS

- 3.1 Monitor #R15001 Channel B and/or #R15002 Channel B are indicating high activity.

4.0 PRECAUTIONS AND LIMITATIONS

- 4.1 This procedure shall only be used when the TSC and/or EOF is activated or is required by Control Room Dose Calculation.
- 4.2 If #R15001 Channel B is showing high activity, there may be gaseous radioactivity being released from the Reactor Building vent at $3.50 \text{ E}+07$ cc/sec (summer) or $8.50 \text{ E}+06$ cc/sec (winter) or other as determined.
 - 4.2.1 This can happen only during Reactor Building purging when the vent is open.
- 4.3 If #R15002 Channel B is showing high activity, there is gaseous radioactivity being released from the Auxiliary Building vent at $2.0 \text{ E}+07$ cc/sec, or other as determined.
- 4.4 If monitors are non-operable or offscale proceed to AP 305-27 "Airborne Radioactivity - Emergency Sampling" and/or AP 305-28 "Gaseous Effluent Release Rate Estimation".

5.0 INSTRUCTIONS

NOTE: Reactor Building vent release - proceed to 5.1
Auxiliary Building vent release - proceed to 5.2

- 5.1 Reactor Building Vent release rate determination using Attachment 7.1.
 - 5.1.1 Enter date and time of reactor shutdown on Attachment 7.1.
 - 5.1.2 Enter date and time of monitor #R15001 B readings in column 1 and 2 of Attachment 7.1.
 - 5.1.3 Enter effective age (time elapsed from core shutdown) in column 3 of Attachment 7.1.
 - 5.1.4 Obtain the CPM reading from monitor #R15001B and record in column 4 of Attachment 7.1.
 - 5.1.5 Determine the Reactor Building Vent flow rate and record in column 6 of Attachment 7.1.

Flow rate = $3.50 \text{ E}+07$ cc/sec (summer)
 = $8.50 \text{ E}+06$ cc/sec (winter)
 = or other as determined (cc/sec)
 - 5.1.6 Obtain the release rate ratio of I-131/Noble Gases from Attachment 7.3 using the effective age from column 3 on Attachment 7.1 and record value in column 8 of Attachment 7.1.
 - 5.1.7 Complete calculations on Attachment 7.1.

5.0 INSTRUCTIONS-contd.

5.1.8 Repeat calculations as necessary.

5.1.9 Have Attachment 7.1 properly signed.

5.2 Auxiliary Building Vent release rate determination using Attachment 7.2.

5.2.1 Enter date and time of reactor shutdown on Attachment 7.2.

5.2.2 Enter date and time of monitor #R15002 B readings in columns 1 and 2 of Attachment 7.2.

5.2.3 Enter effective age (time elapsed from core shutdown) in column 3 of Attachment 7.2.

5.2.4 Obtain the CPM reading from monitor #R15002 B and record in column 4 of Attachment 7.2.

5.2.5 Determine the Auxiliary Building Vent flow rate and record in column 6 of Attachment 7.2.

Flow Rate = 2.0 E+07 cc/sec
= or other as determined (cc/sec)

5.2.6 Obtain the release rate ratio of I-131/Noble Gases from Attachment 7.3 using the effective age from column 3 on Attachment 7.2 and record value in column 8 of Attachment 7.2.

5.2.7 Complete calculations on Attachment 7.2.

5.2.8 Repeat calculations as necessary.

5.2.9 Have Attachment 7.2 properly signed.

6.0 REFERENCES

6.1 FSAR

6.1.1 Sections

- a. 6.4 "Emergency Air Recirculation"
- b. 9.2 "Charcoal Filters"
- c. 9.7 "Exhaust Fans"
- d. 11.3 "Process and Area Monitors"
- e. 14.3 "DB Accidents"

7.0 ATTACHMENTS

Revision No.

- | | | |
|-----|---|----------|
| 7.1 | Release Rate Determination from the Reactor Building Vent Monitor #R15001 Channel B | Original |
| 7.2 | Release Rate Determination from the Auxiliary Building Vent Monitor #R15002 Channel B | Original |
| 7.3 | Ratio of Release Rates from I-131 to Release Rates from Noble Gases as a Function of "Effective Age" of Mixture | Original |
| 7.4 | Release Rate Calculation and Parameter Description | Original |

Attachment 7.1

"Release Rate Determination from the Reactor Building Vent" Monitor #R15001 Channel B

Reactor Shutdown		Date: _____	Time: _____							
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)		
Date	Time	Effective Age (hr)	Gross Gamma (CPM)	Conversion Factor Ci/CPM-cc	Flow Rate* (cc/Sec)	Release Rate Noble Gas (Ci/sec)	Ratio I-131/NG	Release Rate I-131 (Ci/sec)		
_____	_____	_____	_____	x 2.5 E-14	x _____	= _____	x _____	= _____		
_____	_____	_____	_____	x 2.5 E-14	x _____	= _____	x _____	= _____		
_____	_____	_____	_____	x 2.5 E-14	x _____	= _____	x _____	= _____		
_____	_____	_____	_____	x 2.5 E-14	x _____	= _____	x _____	= _____		

* Flow Rate = 3.5 E+07 cc/sec (summer)
 = 8.5 E+06 cc/sec (winter)
 = or other as determined

Preparer _____ (Signature)
 Reviewer _____ (Signature)
 Date _____ Time _____

Attachment 7.2

"Release Rate Determination from the Auxiliary Building Vent" Monitor #R15002 Channel B

Reactor Shutdown		Date: _____	Time: _____					
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Date	Time	Effective Age (hr)	Gross Gamma (CPM)	Conversion Factor Ci/CPM-cc	Flow Rate* (cc/Sec)	Release Rate Noble Gas (Ci/sec)	Ratio I-131/NG	Release Rate I-131 (Ci/sec)
_____	_____	_____	_____	x 2.5 E-14	x _____	= _____	x _____	= _____
_____	_____	_____	_____	x 2.5 E-14	x _____	= _____	x _____	= _____
_____	_____	_____	_____	x 2.5 E-14	x _____	= _____	x _____	= _____
_____	_____	_____	_____	x 2.5 E-14	x _____	= _____	x _____	= _____

* Flow Rate = 2.0 E+07 cc/sec
= or other as determined

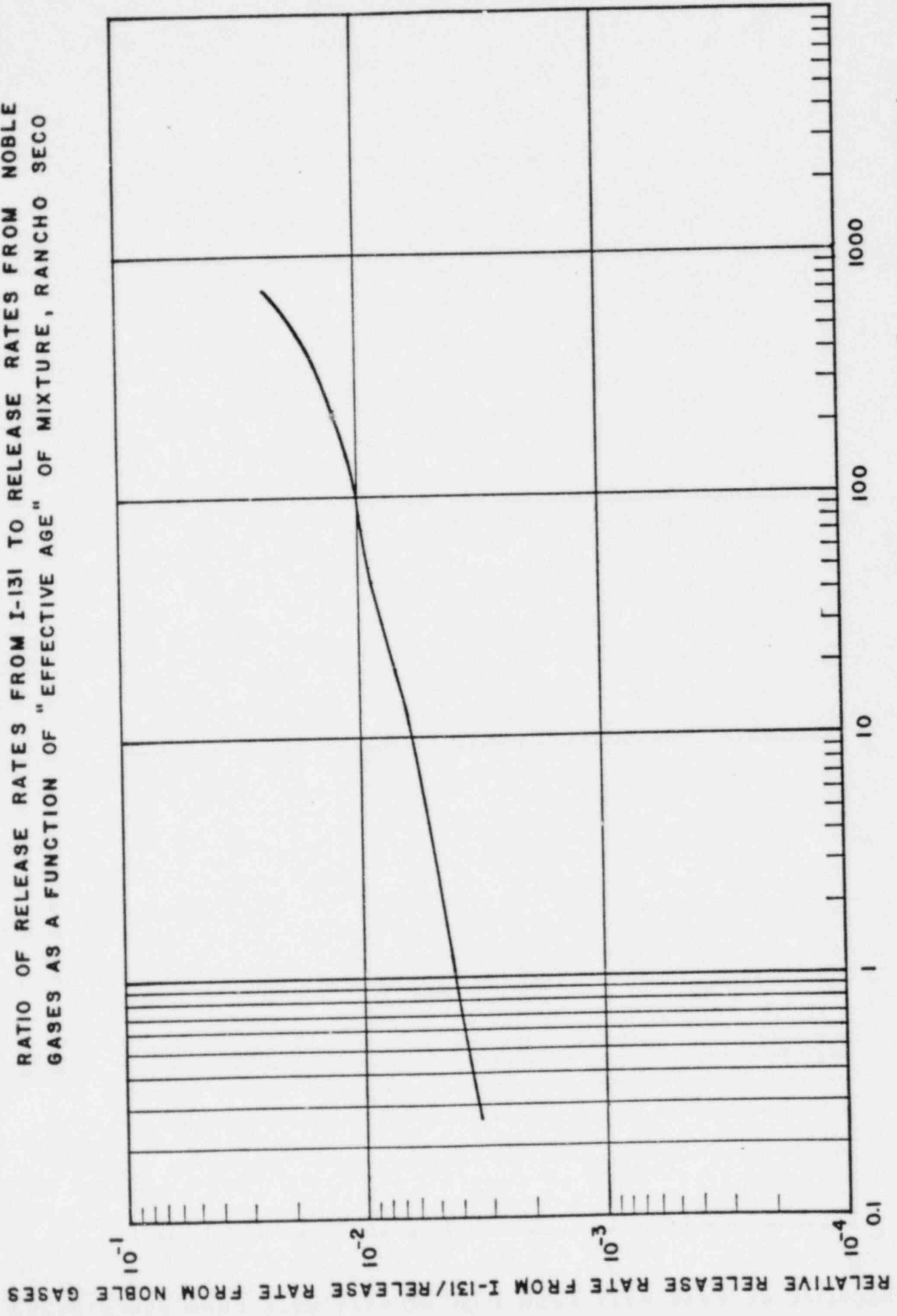
Preparer _____ (Signature)

Reviewer _____ (Signature)

Date _____ Time _____

ATTACHMENT 7.3

RATIO OF RELEASE RATES FROM I-131 TO RELEASE RATES FROM NOBLE GASES AS A FUNCTION OF "EFFECTIVE AGE" OF MIXTURE, RANCHO SECO



TIME AFTER REACTOR SHUTDOWN ("EFFECTIVE AGE" OF MIXTURE) (HR)

Attachment 7.4

RELEASE RATE CALCULATION AND PARAMETER DESCRIPTION

$$\text{CPM} \times \text{Flow Rate (cc/sec)} \times 2.14 \text{ E-14 (Ci/cpm-cc)} = \text{Noble Gas Release Rate (Ci/sec)}$$

$$\text{Noble Gas Release Rate (Ci/sec)} \times \frac{\text{I-131 Release Rate}}{\text{Noble Gas Release Rate}} = \text{I-131 Release Rate (Ci/sec)}$$

Where: CPM = Gross gamma activity from R15001 B or R15002 B

Flow Rate = Reactor Building or Auxiliary Building vent flow rate (cc/sec)

$$2.5\text{E-14} \frac{\text{Ci}}{\text{CPM cc}} = \text{Conversion factor}$$

$$\frac{\text{I-131 Release Rate}}{\text{Noble Gas Release Rate}} = \text{Ratio of release rates}$$

SMUD - RANCHO SECO
EMERGENCY PLAN PROCEDURE

AP 540

EMERGENCY RESPONSE ORGANIZATION

TABLE OF CONTENTS

	<u>Page No.</u>
1.0 PURPOSE.	2
2.0 RESPONSIBILITY	2
3.0 INITIATING CONDITIONS.	2
4.0 PRECAUTIONS AND LIMITATIONS.	3
5.0 INSTRUCTIONS	3
6.0 REFERENCES	14
7.0 ATTACHMENTS.	14

| 1

1.0 PURPOSE

To describe the structure of the Sacramento Municipal Utility District Onsite and Offsite Emergency Organizations, the functional responsibilities of each position, primary and alternate personnel assigned to these positions and the administrative roles of each position.

2.0 RESPONSIBILITY

The Management Safety Review Committee (MSRC) is responsible for the approval of the Onsite and Offsite Emergency Organization structure, personnel assignments and responsibilities.

3.0 INITIATING CONDITIONS

The Emergency Organization will be activated when an emergency condition is declared by the Emergency Coordinator as shown below in accordance with AP 501 "Recognition and Classification of Emergency."

- | | | |
|----|-----------------------------------|---|
| a. | Notification of Unusual Event | Onsite Emergency Organization
(Attachment 7.1) |
| b. | Alert | Onsite Emergency Organization
(Attachment 7.2) |
| c. | Site Area Emergency
<u>and</u> | Onsite Emergency Organization
(Attachment 7.2)
<u>and</u> |
| d. | General Emergency | Offsite Emergency Organization
(Attachment 7.3) |

4.0 PRECAUTIONS AND LIMITATIONS

N/A

5.0 INSTRUCTIONS

5.1 Onsite Emergency Organization (Attachment 7.1 and 7.2)

5.1.1 Emergency Coordinator

Direction for the Emergency Coordinator is provided in procedures AP 501 through AP 505.

The Shift Supervisor shall assume the position and responsibilities of Emergency Coordinator until such time as relieved of that responsibility by the Manager-Nuclear Operations, or designated alternate. Alternates to this position are:

- a. Plant Superintendent
- b. Engineering and QC Supervisor
- c. Nuclear Operations Supervisor

The Shift Supervisor shall ensure that the Manager, Nuclear Operations or a designated alternate, is promptly notified of an emergency condition. As soon as a predesignated individual assigned to the Emergency Coordinator position can arrive in the Control Room and be briefed by the Shift Supervisor, the duties and responsibilities of the Emergency Coordinator will be transferred. In all circumstances the Shift Supervisor remains in the Control Room and retains his overall command and control responsibility and authority for plant operations.

Full responsibility for implementation and administration of the Emergency Plan shall be assumed by the Emergency Coordinator.

In this role, he shall assess plant conditions, declare the applicable emergency classification and ensure all necessary emergency response agencies are notified expeditiously. He shall have the authority to act on all matters concerning an emergency, at least until such time as the scope, severity and potential radiological consequences have been assessed, and the appropriate protective and corrective actions have been implemented. Following that critical period, but still with complete regard for health and safety, major decisions and General Office commitments are the responsibility of SMUD management.

5.0 INSTRUCTIONS-contd.

Functional responsibilities of the Emergency Coordinator include:

- a. Immediately upon classifying an emergency, initiate assessment activities, including dose projections if appropriate.
- b. Upon declaration of an emergency, implement appropriate notification procedures in accordance with AP 506 "Notification/Communications." | 1
- c. Implement the immediate onsite corrective and protective actions necessary to bring the incident under control and mitigate its effects.
- d. Make recommendations to offsite organizations. | 1
- e. Continue re-assessment of emergency status and make appropriate recommendations to offsite organizations.
- f. Ensure that information to be released is accurate, timely, and released through the proper channels.

The Emergency Coordinator may delegate responsibility for performance of the prescribed tasks to available qualified SMUD personnel except for the following: | 1

- a. Decision to notify offsite emergency management agencies.
- b. Making protective action recommendations as necessary to offsite emergency management agencies.
- c. Classification of the emergency event.
- d. Determining the necessity for assembly and/or evacuation of personnel.
- e. Authorization for emergency workers to exceed the Rancho Seco Administrative Exposure Limits. | 1

5.1.2 Technical Report Coordinator

The Associate Nuclear Engineer shall assume the position of Technical Report Coordinator. Alternates to this position are:

- a. Nuclear Engineering Technician
- b. Quality Control Coordinator
- c. Surveillance Engineering Technician

5.0 INSTRUCTIONS-contd.

The Technical Report Coordinator's responsibilities and check list of required actions are provided in Attachment 7.4.

5.1.3 Communicator (Site)

The Engineering Technician and a Nuclear Plant Inspector will fill the Communicator positions. Alternates will be supplied by four (4) other Nuclear Inspectors.

Responsibilities of the Communicators include:

- a. Function as liason between the Emergency Coordinator and other emergency personnel.
- b. Maintaining logs and records of all outside communications.

Two Communicators will report to the Emergency Coordinator in the TSC. Interim communicators may be the Rancho Seco Operator or Site Security.

Direction is provided the Communicator in procedure AP 506 "Notification/Communication".

5.1.4 Telephone Operator (Site)

This position will be filled by the Senior Secretary, Plant Manager. Alternates to this position are:

- a. Senior Secretary, Plant Superintendent
- b. Secretary, Administrative Supervisor.
- c. Utility Typist

Responsibilities of this position will include:

- a. Receiving of outside calls via nondedicated telephone lines and directing these calls to the appropriate personnel.
- b. Assisting the communicators during times of heavy traffic.
- c. Maintaining a log of all calls received.

5.1.5 Technical Support Center Coordinator

This position will be filled by the Nuclear Plant Analyst. Alternates to this position are:

- a. Plant Scheduler
- b. Supervisor, STA
- c. Nuclear Instructor

5.0 INSTRUCTIONS-contd.

The Technical Support Center Coordinator's responsibilities and check list of required actions are provided in Attachment 7.5.

5.1.6 Maintenance Coordinator

This position will be filled by the Nuclear Maintenance Supervisor. Alternates to this position are:

- a. Electrical I & C Supervisor
- b. Senior Mechanical Engineer
- c. Maintenance Supervisor

The Maintenance Coordinators responsibilities and check list of required actions are provided in Attachment 7.6.

5.1.7 Administrative Coordinator

This position will be filled by the Administrative Supervisor for both short and long-term emergencies. Alternates to this position are:

- a. Records Management Supervisor
- b. Principle Clerk

The Administrative Coordinator's responsibilities and check list of required actions are provided in Attachment 7.7.

5.1.8 Nuclear Engineering Coordinator

This position will be filled by a Senior Nuclear Engineer. Alternates will be drawn from three (3) Associate Nuclear Engineers.

The Nuclear Engineering Coordinator's responsibilities and check list of required actions are provided in Attachment 7.8.

5.1.9 Instrument and Control Coordinator

This position will be filled by a Senior Electrical Engineer. Alternates to this position are:

- a. I&C Foreman
- b. Senior Electrical Engineer
- c. Assistant Electrical Engineer

The Instrument and Control Coordinator's responsibilities and check list of required actions are provided in Attachment 7.9.

1

5.0 INSTRUCTIONS-contd.

5.1.10 Computer Information Coordinator

This position will be filled by the I&C Foreman. Alternates to this position are:

- a. Principle Engineering Technician
- b. Associate Electrical Engineer
- c. Associate Electrical Engineer

The Computer Information Coordinator's responsibilities and check list of required actions are provided in Attachment 7.10.

5.1.11 Engineering and Quality Control Coordinator

This position will be filled by a Senior Mechanical Engineer. Alternates will be four (4) designated Associate Mechanical Engineers.

The Engineering and Quality Control Coordinator's responsibilities and check list of required actions are provided in Attachment 7.11.

5.1.12 Emergency Team

The Emergency Team composition will be a minimum of:

1. Senior Control Room Operator (Normally)
2. Auxiliary Operator
3. Equipment Operator

Note: Emergencies involving or in conjunction with degradation of nuclear safety systems could require that the Senior Control Room Operator initially remain in the Control Room.

The Emergency Team is formed at the discretion of the Emergency Coordinator. Events most likely to cause its formation are serious personnel injury or fire. It would also be formed when there are no Chem/Rad personnel available to assess personnel overexposures or contamination, and high radiation or airborne radioactivity alarms. The Emergency Team will undertake any corrective action required to protect plant personnel and equipment.

The team reports to and receives direction from the Technical Support Center Coordinator.

5.1.13 Fire Brigade

The Fire Brigade will consist of:

1. Senior Control Room Operator

5.0 INSTRUCTIONS-contd.

2. Auxiliary Operator
3. Equipment Attendant
4. Security Guards (2)

Responsibilities of this team include:

- a. Assess and mitigate any onsite fire.
- b. Keep the Emergency Coordinator appraised of fire location, status of control, damages incurred, effects on safety related systems and potential hazards.

The Fire Brigade will report to and receive direction from the Technical Support Center Coordinator.

5.1.14 Radiological Assessment Coordinator

This position will be filled by the Chemistry and Radiation Supervisor. Alternates to this position are:

1. Assistant Chem/Rad Supervisor
2. Health Physicist
3. Nuclear Chemist

The Radiological Assessment Coordinator's responsibilities and check list of required actions are provided in Attachment 7.12.

5.1.15 Chem/Rad Support Team

The Chem/Rad Support Team will consist of:

1. Senior Chem/Rad Assistant (Health Physics)
2. Chem/Rad Assistants (2)

Responsibilities of this team include:

- a. Assess radiological habitability conditions in the Control Room, Technical Support Center and Staging Area.
- b. Provide health physics support for Emergency Teams.

The Chem/Rad Support Team will operate out of the Staging Area and reports directly to and receive direction from the Radiological Assessment Coordinator.

5.1.16 Onsite Security Coordinator

This position will be filled by the Site Special Agent.

Alternates will be any one of the Watch Commanders. One of these individuals will be onsite at all times.

5.0 INSTRUCTIONS-contd.

The Onsite Security Coordinator's responsibilities and check list of required actions are provided in Attachment 7.13.

5.1.17 Plant Assembly Point Coordinator

The position will be filled by the Station Training Supervisor. The alternates will come from three (3) Associate Mechanical Engineers.

The Plant Assembly Point Coordinator's responsibilities and check list of required actions are provided in Attachment 7.14.

5.1.18 Chem/Rad Logistics Coordinator

This position will be filled by a Senior Chemical/Radiation Assistant at the Plant Assembly Point. Alternates will be designated from four (4) other Senior Chemical/Radiation Assistants.

The Chem/Rad Logistics Coordinator's responsibilities and check list of required actions are provided in Attachment 7.15.

5.1.19 Maintenance Logistics Coordinator

This position will be filled by a Nuclear Electric Foreman. Alternates to this position are:

1. Nuclear Electric Foreman
2. I & C Foreman
3. Mechanical Foreman (2)
4. Electrical Technician Foreman

1

The Maintenance Logistics Coordinator's responsibilities and check list of required actions are provided in Attachment 7.16.

5.1.20 Nuclear Public Information Coordinator

This position is filled by the Public Information Specialist. Alternates to this position are:

- a. Consumer Education Specialist
- b. Consumer Education Specialist

1

The Nuclear Public Information's responsibilities and check list of required actions are provided in Attachment 7.27.

5.0 INSTRUCTIONS-contd.

5.2 Offsite Emergency Organizations (Attachment 7.3)

5.2.1 Emergency Manager

This position will be filled by the AGM Chief Engineer. The alternates to this position are:

- a. AGM Operations
- b. AGM Treasurer
- c. AGM Commercial
- d. AGM Services

The Emergency Manager's responsibilities and check list of required actions are provided in Attachment 7.17.

5.2.2 EOF Communicator

This position will be filled by an Associate Electrical Engineer. Alternates are:

- a. Assistant Electrical Engineers (3)
- b. Assistant Civil Engineer
- c. Assistant Mechanical Engineer
- d. Assistant Nuclear Engineer

The EOF Communicator responsibilities will include:

- a. Coordinator of requests for outside assistance.
- b. Maintaining reports and logs of all EOF communications.
- c. Maintaining communications between EOF and Rancho Seco, county, state and Federal emergency facilities, as directed by the Emergency Manager, in a timely and orderly manner.

The Communicator reports to the Emergency Manager.

Direction for the EOF Communicator is provided in AP 506 "Notification/Communication" and by the Emergency Manager.

5.2.3 Telephone Operators (EOF) (2)

These positions will be filled by the Senior Secretary and a Senior Typist Clerk. Alternates are two (2) Senior Typist Clerks.

Responsibilities of this position will include:

- a. Receiving of outside calls via nondedicated telephone lines and directing these calls to the appropriate personnel.

5.0 INSTRUCTIONS-contd.

- b. Maintaining a log of all calls received.
- c. Assisting the communicators during times of heavy traffic.

The Telephone Operators report to and receive direction from the Emergency Manager. | 1

5.2.4 Advisor to the County Emergency Organizations

This position will be filled by the Emergency Preparedness Coordinator.

The Advisor to the County Emergency Organizations responsibilities and check list of required actions are provided in Attachment 7.18.

5.2.5 Media Center Coordinator

This position will be filled by the Senior Public Information Representative. The alternates to this position are:

- a. Public Information Specialist
- b. Principal Consumer Education Specialist

The Media Center Coordinator's responsibilities and check list of required actions are provided in Attachment 7.19.

5.2.6 Plant Status and Technical Information Coordinator

This position will be filled by a Senior Nuclear Engineer. Alternates to this position are:

- a. Senior Nuclear Engineer
- b. Associate Nuclear Engineer
- c. Senior Mechanical Engineer
- d. Senior Electrical Engineer

The Plant Status and Technical Information Coordinator's responsibilities and check list of required actions are provided in Attachment 7.20.

5.2.7 Security Coordinator

The Security Coordinator position will be filled by the Supervising Special Agent. Alternates to this position are:

- a. Special Agent
- b. Security Lieutenant

The Security Coordinator's responsibilities and check list of required actions are provided in Attachment 7.21.

5.0 INSTRUCTIONS-contd.

5.2.8 Environmental Assessment Coordinator

This position will be filled by the Supervising, Environmental Specialist. Alternates to this position are:

- a. Health Physicist (ALARA)
- b. Principle Engineering Technician (Env/Hp)
- c. Senior Engineering Technician (Env/Hp)

The Environmental Assessment Coordinator's responsibilities and check list of required actions are provided in Attachment 7.22.

5.2.9 Technical and Logistical Support Coordinator

This position is filled by the Manager - Generation Engineering. Alternates to this position are:

- a. Principal Project Engineer
- b. Resident Engineer (Rancho Seco)
- c. Supervising Civil Engineer

The Technical and Logistical Support Coordinator's responsibilities and check list of required actions are provided in Attachment 7.23.

5.2.10 Access Administration Coordinator

This position will be filled by a member of the Rancho Seco Site Security Staff. Alternates will be supplied from the Rancho Seco Site Training Staff.

The Access Administration Coordinator's responsibilities and check list of required actions are provided in Attachment 7.24.

5.2.11 Logistical Support Coordinator

This position will be filled by the Manager-Purchases and Stores. Alternates to this position are:

- a. Supervisor, Material Control
- b. Supervisor, Office Services
- c. Principle Buyer
- d. Principle Buyer

The Logistical Support Coordinator's responsibilities and check list of required actions are provided in Attachment 7.25.

5.0 INSTRUCTIONS-contd.

5.2.12 Technical Support Coordinator

This position will be filled by the Supervising Electrical Engineer. Alternates to this position are:

- a. Supervising I & C Engineer
- b. Supervising Mechanical Engineer
- c. Supervising Nuclear Engineer

The Technical Support Coordinator's responsibilities and check list of required actions are provided in Attachment 7.26. | 1

5.2.13 Unified Dose Assessment Center (UDAC) Staffing

UDAC personnel staff is provided from SMUD and concerned offsite agencies as listed. | 1

- a. Federal (NRC/DOE/EPA)
- b. State RHS
- c. Sacramento County
- d. Amador County

UDAC responsibilities will include:

- a. Central collection of all offsite radiological information.
- b. Analysis of all data received.
- c. Providing a single source of information on plume tracking, dose calculations, population exposure, radiation release, etc.
- d. Providing recommendations to the Emergency Manager relating to changes in radioactivity release.

UDAC staff reports to the Emergency Manager via the Environmental Assessment Coordinator.

- 5.3 Emergency Response Personnel shall maintain required logs of significant actions and other pertinent information on Attachment 7.28. | 1

6.0 REFERENCES

- 6.1 Rancho Seco Emergency Plan AP 500 Section 5.0
- 6.2 AP 305-3 "Rancho Seco Radiation Control Manual",
Vol. I, par. 2.1.1.1; Vol. II, AP 305-3, par. 3.8

1

7.0 ATTACHMENTSRevision No.

- | | |
|--|----------|
| 7.1 Onsite Emergency Organization -
Notification of Unusual Event | Original |
| 7.2 Onsite Emergency Organization - Alert,
Site Area Emergency, and General Emergency | Original |
| 7.3 SMUD Offsite Emergency Organization - Alert,
Site Area Emergency, and General Emergency | Original |
| 7.4 Technical Report Coordinator | Original |
| 7.5 Technical Support Center Coordinator | Original |
| 7.6 Maintenance Coordinator | Original |
| 7.7 Administrative Coordinator | Original |
| 7.8 Nuclear Engineering Coordinator | Original |
| 7.9 Instrument and Control Coordinator | Original |
| 7.10 Computer Information Coordinator | Original |
| 7.11 Engineering and Quality Control Coordinator | Original |
| 7.12 Radiological Assessment Coordinator | Original |
| 7.13 Onsite Security Coordinator | Original |
| 7.14 Plant Assembly Point Coordinator | Original |
| 7.15 Chem/Rad Logistics Coordinator | Original |
| 7.16 Maintenance Logistics Coordinator | Original |
| 7.17 Emergency Manager | Original |
| 7.18 Advisor to the County Emergency Organizations | Original |
| 7.19 Media Center Coordinator | Original |
| 7.20 Plant Status and Technical Information Coordinator | Original |
| 7.21 Security Coordinator | Original |

7.0 ATTACHMENTS-contd.

Revision No.

7.22 Environmental Assessment Coordinator	Original
7.23 Technical and Logistical Support Coordinator	Original
7.24 Access Administration Coordinator	Original
7.25 Logistical Support Coordinator	Original
7.26 Technical Support Coordinator	Original
7.27 Nuclear Public Information Coordinator	Original
7.28 Emergency Response Personnel Log Sheet	Original

1

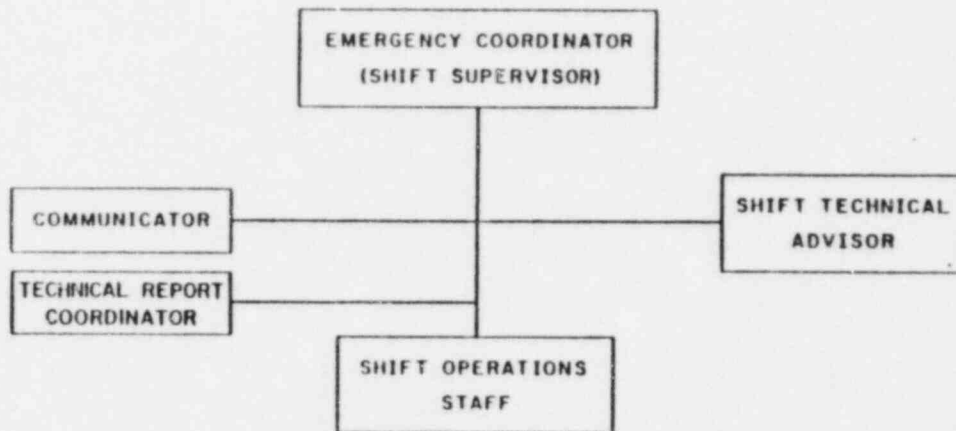


FIGURE 5-3
ON-SITE EMERGENCY ORGANIZATION -
NOTIFICATION OF UNUSUAL EVENT
RANCHO SECO NUCLEAR GENERATION STATION

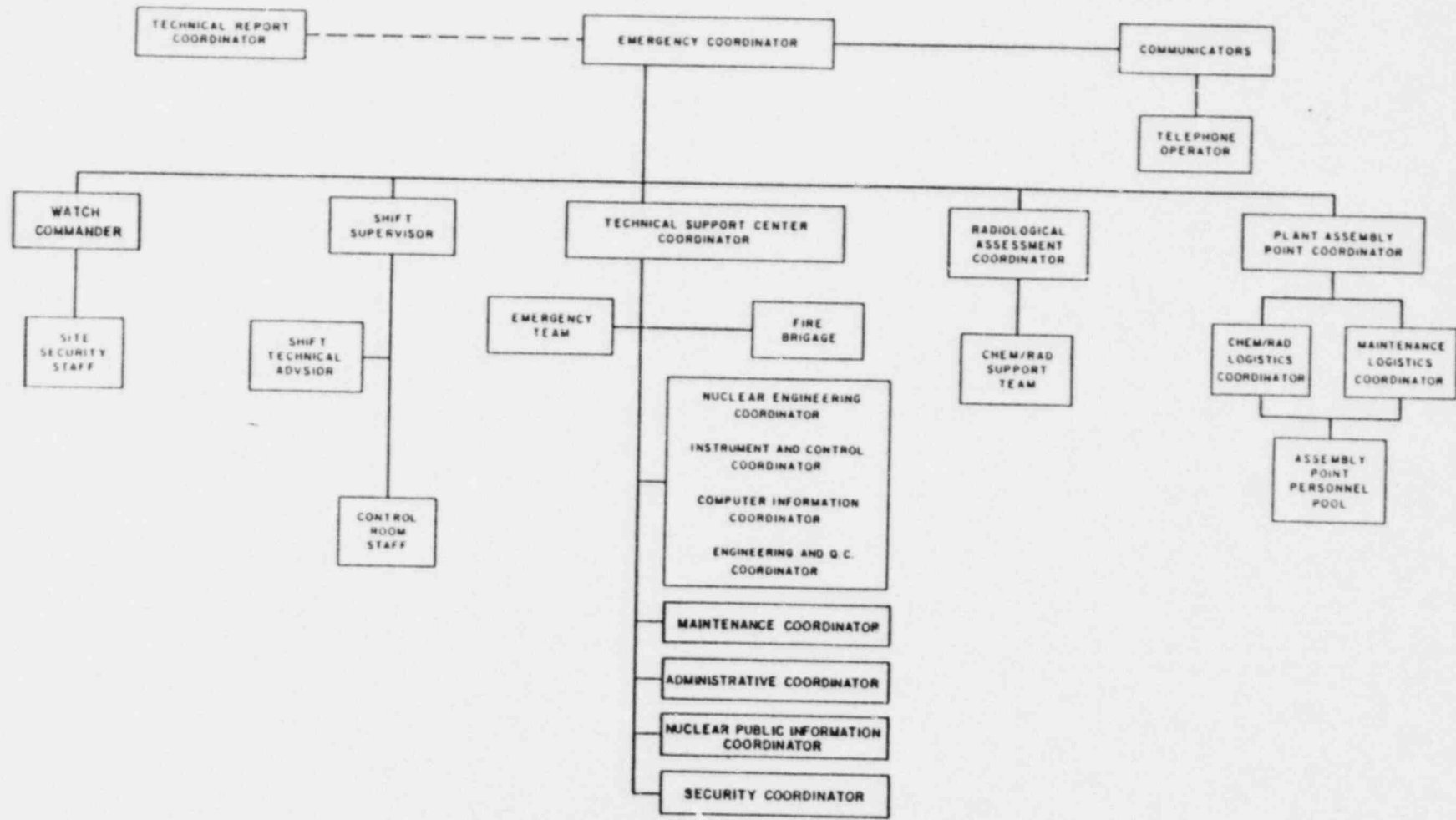


FIGURE 5-4
 ONSITE EMERGENCY ORGANIZATION -
 ALERT, SITE AREA EMERGENCY, GENERAL EMERGENCY
 RANCHO SECO NUCLEAR GENERATING STATION

AP 540 ATTACHMENT 7.2

PAGE 1 of 1

ATTACHMENT 7.2

EFFECTIVE DATE 2/22/82

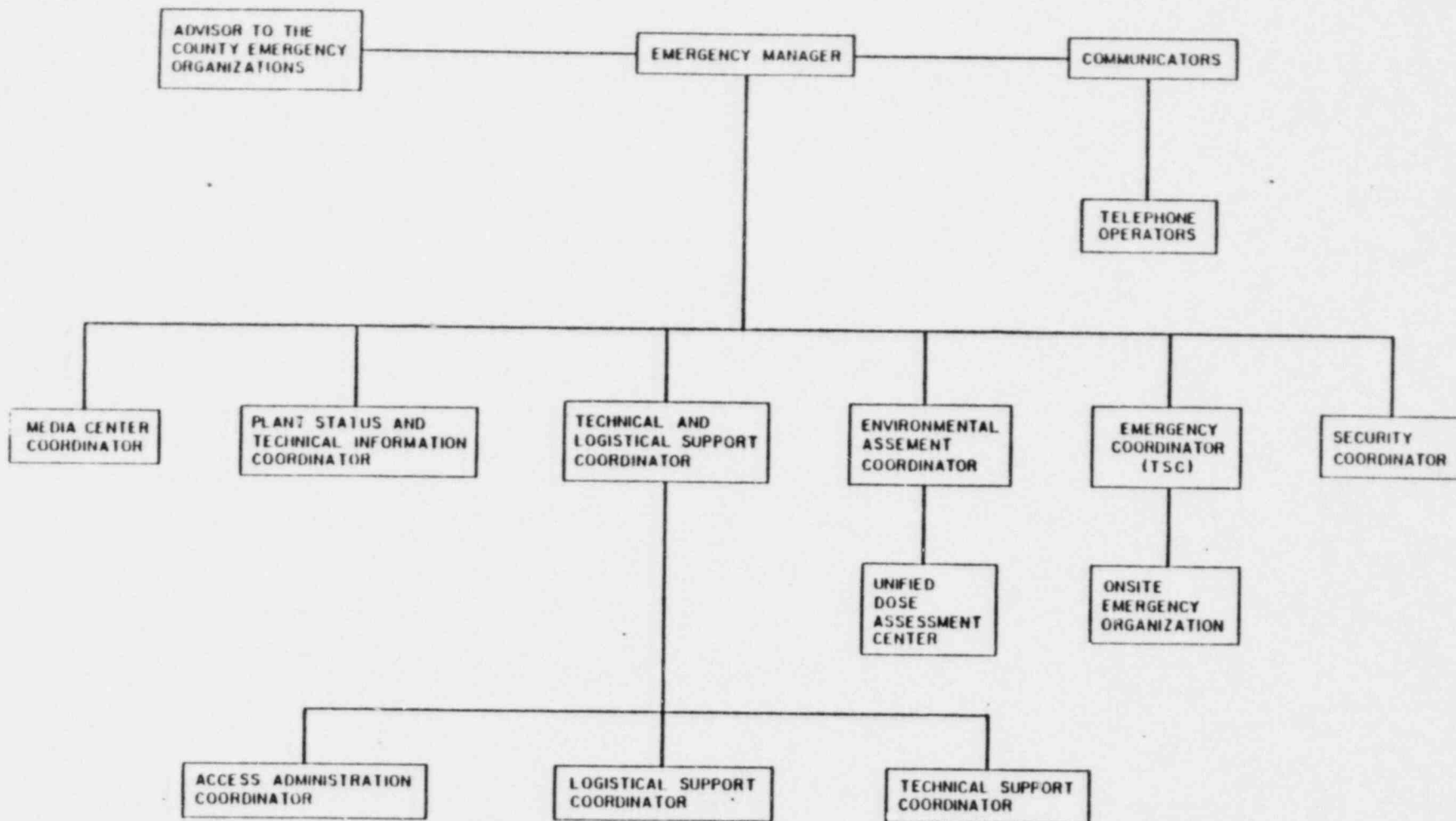


FIGURE 5-5

**SMUD OFFSITE EMERGENCY ORGANIZATION
SITE AREA EMERGENCY, GENERAL EMERGENCY**

ATTACHMENT 7.4

TECHNICAL REPORT COORDINATOR

1.0 RESPONSIBILITIES

- 1.1 Ensuring written documentation of communications, major plant status changes and operator actions are maintained.
- 1.2 Provide assistance to the Emergency Coordinator in ensuring compliance with applicable regulations and procedures related to the emergency.
- 1.3 Generating the LER regarding the emergency.

The Technical Report Coordinator reports directly to the Emergency Coordinator.

2.0 CHECKLIST

<u>Date/Time</u>	<u>Initials</u>	<u>Action Item</u>
<u> / </u>	<u> </u>	1. Ensure that written documentation of communications, major plant status changes, and operator actions is maintained.
<u> / </u>	<u> </u>	2. Initiate the Licensee Event Report (LER) regarding the emergency.
<u> / </u>	<u> </u>	3. Complete the appropriate news release form (AP 569 Attachment 7.1) and obtain the Emergency Coordinator's approval.

ATTACHMENT 7.5

TSC COORDINATOR

1.0 RESPONSIBILITIES

- 1.1 Assist the Emergency Coordinator in completing assessment activities.
- 1.2 Advise the Emergency Coordinator in taking corrective and/or protective actions.
- 1.3 Temporarily fills in for any missing key Technical Support Center personnel if necessary.
- 1.4 Is responsible for the coordination and direction of personnel in the Technical Support Center and to serve as an interface between the Emergency Coordinator and the TSC staff.
- 1.5 Provide technical input to the Control Room Staff.
- 1.6 Coordinates the utilization and dispatching of the Emergency Team, Fire Brigade and Assembly Point Personnel necessary to bring the incident under control, mitigate its effects and gather data required by the TSC staff for analysis and recommendations. The TSC Coordinator may assign TSC personnel, as appropriate, to activities such as:
 - a. Analyzing mechanical, electrical, instrument and control, effluent control, and radiation dose rate problems; determining alternate solutions, designing and coordinating of short-term modifications installation.
 - b. Analyzing thermohydraulic and thermodynamic problems and developing problem resolutions.
 - c. Analyzing conditions and developing guidance for the Emergency Coordinator and operations personnel.
 - d. Resolving questions concerning Operating License requirements with NRC representatives.
- 1.7 The Technical Support Center Coordinator reports to the Emergency Coordinator in the Technical Support Center. TSC staff reporting to the TSC Coordinator are:

Maintenance Coordinator
Administrative Coordinator
Nuclear Engineering Coordinator
Instrumentation and Control Coordinator
Computer Information Coordinator
Engineering and Quality Control Coordinator
Security Coordinator
and
Emergency Team
Fire Brigade

ATTACHMENT 7.5-cont.

TSC COORDINATOR

2.0 CHECK LIST

<u>Date/Time</u>	<u>Initials</u>	<u>Action Items</u>
<u> / </u>	<u> </u>	2.1 Determine plant status from the Control Room and relay this information to the Nuclear Engineering Coordinator and/or to the Instrument and Control Coordinator.
<u> / </u>	<u> </u>	2.2 Ensure that the following communications equipment has been installed: 5 Pacific Telephones Portable walkie-talkie (security) UHF radio
<u> / </u>	<u> </u>	2.3 Check that all status boards, isopleths, map, log books, and forms are available for use.
<u> / </u>	<u> </u>	2.4 Ensure the Fire Brigade and Emergency Team is formed and dispatched as necessary.

ATTACHMENT 7.6

MAINTENANCE COORDINATOR

1.0 RESPONSIBILITIES

- 1.1 Directing the deployment of all materials, tools and equipment necessary for repair and recovery operations.
- 1.2 Advising the Technical Support Center Coordinator on matters which deal with repair, maintenance, and deployment of repair teams.
- 1.3 Assessing mechanical operation of various plant systems and equipment.
- 1.4 As required, he may request that the Plant Assembly Coordinator dispatch repair teams.

The Maintenance Coordinator reports to the Technical Support Center Coordinator.

2.0 CHECK LIST

<u>Date/Time</u>	<u>Initials</u>	<u>Action Item</u>
____ / ____	_____	2.1 Mobilize maintenance support as necessary.
____ / ____	_____	2.2 Inform the TSC Coordinator of maintenance support that is available.

ATTACHMENT 7.7

ADMINISTRATIVE COORDINATOR

1.0 RESPONSIBILITIES

- 1.1 Coordinate provisions for transportation, food, and other logistical support for onsite emergency personnel.
- 1.2 Provide personnel and work schedules for relief of emergency personnel.
- 1.3 Act as liaison with outside groups in providing additional resources such as manpower, equipment, supplies, and transportation.
- 1.4 Coordinate and maintain all records concerning the emergency.

The Administrative Coordinator reports to the Technical Support Center Coordinator.

2.0 CHECK LIST

<u>Date/Time</u>	<u>Initials</u>	<u>Action Item</u>
____ / ____	_____	2.1 Check with TSC personnel and determine what documents or support is needed.
____ / ____	_____	2.2 Contact the Technical and Logistical Support Coordinator at the EOF and relay any requests for additional equipment.

ATTACHMENT 7.8

NUCLEAR ENGINEERING COORDINATOR

1.0 RESPONSIBILITIES

- 1.1 Assessing the Nuclear Steam Supply System and fuel integrity.
- 1.2 Coordination with offsite technical support and industrial engineers for emergency assessment and recommendations as required.

The Nuclear Engineering Coordinator will report to the Technical Support Center Coordinator.

2.0 CHECK LIST

<u>Date/Time</u>	<u>Initials</u>	<u>Action Item</u>
____/____	_____	1. Obtain information on plant status as it relates to core parameters in order to determine current core conditions.
____/____	_____	2. Inform TSC Coordinator concerning recommendations for operation that would result in safer core conditions.

ATTACHMENT 7.9

INSTRUMENT AND CONTROL COORDINATOR

1.0 RESPONSIBILITIES

- 1.1 Assessing the operability of various electrical systems and instrumentation.
- 1.2 Requesting the dispatch of electricians or I&C Technicians, for assessment and repair of systems.
- 1.3 Coordination with offsite technical support and industrial engineers for emergency assessment and recommendations as required.

The Instrument and Control Coordinator reports to the Technical Support Center Coordinator.

2.0 CHECK LIST

<u>Date/Time</u>	<u>Initials</u>	<u>Action Item</u>
<u> / </u>	<u> </u>	2.1 Determine instrument and controls problems and inform the TSC Coordinator of the problem and any proposed solution.

ATTACHMENT 7.10

COMPUTER INFORMATION COORDINATOR

1.0 RESPONSIBILITIES

- 1.1 Manning the Computer Room console
- 1.2 Provide requested information via printouts from the plant computer.

The Computer Information Coordinator reports to the Technical Support Center Coordinator.

2.0 CHECK LIST

<u>Date/Time</u>	<u>Initials</u>	<u>Action Item</u>
____ / ____	_____	2.1 Access computers and determine plant parameters.
____ / ____	_____	2.2 Receive information concerning plant conditions and environmental parameters and transmit data to the TSC Coordinator.

ATTACHMENT 7.11

ENGINEERING AND Q. C. COORDINATOR

1.0 RESPONSIBILITIES

- 1.1 Provide independent engineering assessment of critical plant parameters.
- 1.2 Coordination with offsite technical support and industrial engineers for emergency assessment and recommendations as required.

The Engineering and Q.C. Coordinator reports to the Technical Support Center Coordinator.

2.0 CHECK LIST

<u>Date/Time</u>	<u>Initials</u>	<u>Action Item</u>
____ / ____	_____	2.1 Monitor critical plant parameters.
____ / ____	_____	2.2 Inform TSC Coordinator of recommendations for operation that would result in safer plant conditions.
____ / ____	_____	2.3 Inform TSC Coordinator of any additional Plant Engineering staff available to assist in plant status assessment.

ATTACHMENT 7.12

RADIOLOGICAL ASSESSMENT COORDINATOR

1.0 RESPONSIBILITIES

- 1.1 Direct onsite and offsite Rancho Seco radiological monitoring personnel.
- 1.2 Perform dose projections for onsite and (initial) offsite areas.
- 1.3 Provide health physics services for onsite emergency activities.
- 1.4 Provide technical advice to the Emergency Coordinator on radiological aspects of onsite emergency activities.
- 1.5 Provide technical advice to the Emergency Coordinator concerning recommendations for offsite protective actions based on dose projections.
- 1.6 Ensure the initial offsite monitoring activities on the "H" route are performed.
- 1.7 Ensure issuance and proper use of radiological protective equipment.
- 1.8 As required, he may request that the Plant Assembly Coordinator dispatch Radiological Monitoring Teams.
- 1.9 Implementation of AP 515 "Emergency Personnel Dosimetry."
- 1.10 Evaluate the desirability for the administration of Potassium Iodide (KI) to SMUD personnel per the following:
 - 1.10.1 AP 517 "Radiation Overexposure"
 - 1.10.2 AP 533 "Potassium Iodide Administration"
- 1.11 Per AP 527 "Emergency Exposure Guidelines" the Radiological Assessment Coordinator is responsible for the following:
 - 1.11.1 Preparation of the initial Radiation Work Permit (RWP) for emergency exposures.
 - 1.11.2 Evaluation of conditions requiring emergency exposure and reporting same to the Emergency Coordinator.
- 1.12 Review of dose calculations performed in the Technical Support Center (TSC).
- 1.13 Responsible for the development of plans and procedures to process and control liquid, gaseous, and solid wastes in a manner consistent with the emergency response and recovery organization objectives and to minimize any adverse health and safety effects on the public.

ATTACHMENT 7.12-cont.

RADIOLOGICAL ASSESSMENT COORDINATOR

- 1.14 Responsible for directing the Chem/Rad staff in accumulating radiation and chemistry data and dose assessment data and in implementing radiation protection programs in support of the emergency response and recovery operations.
- 1.15 Provides ALARA review of proposed emergency response organization activities.
- 1.16 Responsible for the decontamination of station personnel and equipment.
- 1.17 Provide to the Environmental Assessment Coordinator the information listed in AP 554, Attachment 7.2.
- 1.18 Provides radiation protection support to the EOF upon request from the Environmental Assessment Coordinator.

The Radiological Assessment Coordinator reports directly to the Emergency Coordinator.

2.0 CHECK LIST

<u>Date/Time</u>	<u>Initials</u>	<u>Action Item</u>
<u> / </u>	<u> </u>	2.1 Check that all materials needed to perform assessments are available:
<u> / </u>	<u> </u>	a. AP 511 "TSC Dose Calculations"
<u> / </u>	<u> </u>	b. AP 534 "Release Rate Determination"
<u> / </u>	<u> </u>	c. Extra data sheets for AP 511 and AP 534
<u> / </u>	<u> </u>	d. Overlays and maps
<u> / </u>	<u> </u>	2.2 Access the Rad/Met computer to receive current meteorological data.
<u> / </u>	<u> </u>	2.3 Contact the Control Room and determine:
<u> / </u>	<u> </u>	a. Extent and consequences of radiological releases and plant conditions.
<u> / </u>	<u> </u>	b. Protective Action Recommendations made to date.

ATTACHMENT 7.12-cont.

RADIOLOGICAL ASSESSMENT COORDINATOR

<u>Date/Time</u>	<u>Initials</u>	<u>Action Item</u>
____/____	_____	c. Location of onsite and offsite monitoring teams (if dispatched);
____/____	_____	4. Prepare initial RWP and submit to the Emergency Coordinator.
____/____	_____	5. When authorized by the Emergency Coordinator contact the Control Room and inform them that the assessment function is being transferred to the TSC.
____/____	_____	6. Have assessment staff obtain the following:
____/____	_____	a. Stability Category
____/____	_____	b. Dose calculations, AP 511 "TSC Dose Calculations" and AP 534 "Release Rate Determination."
____/____	_____	7. Make recommendations to the Emergency Coordinator whether or not protective actions is indicated.
____/____	_____	8. Relay information to the Technical Support Center Coordinator for status board updates.
____/____	_____	9. Have stack monitors etc., monitored to aid in accident evaluation (trends, etc.)
____/____	_____	10. If operational, inform the UDAC (Environmental Assessment Coordinator) of latest dose projections, calculations and data listed in AP 554, Attachment 7.3.

ATTACHMENT 7.13
 ONSITE SECURITY COORDINATOR
 (Watch Commander)

1.0 RESPONSIBILITIES

- 1.1 Maintain plant security and institute emergency contingency measures as appropriate per the site security plan.
- 1.2 Account for security personnel in accordance with Emergency Plan Procedures.
- 1.3 Coordinate the movement and badging of all personnel entering the site to provide support.
- 1.4 Assist in the evacuation of all non-essential site personnel when site evaluation is initiated and that unauthorized personnel cannot enter the site.
- 1.5 Dispatch a Security Officer to the TSC.

2.0 CHECK LIST

<u>Date/Time</u>	<u>Initials</u>	<u>Action Item</u>
/	_____	2.1 Dispatch a Security Officer with keys to open warehouse "A" if it has been designated as the Plant Assembly Point and if the emergency occurs during non-normal working hours.
/	_____	2.2 Initiate accountability of Security personnel.
/	_____	2.3 Dispatch a Security Officer to the TSC.
/	_____	2.4 Dispatch Security personnel to maintain plant security as necessary.
/	_____	2.5 Coordinate evacuation of non-emergency site personnel with the Plant Assembly Point Coordinator as necessary.

ATTACHMENT 7.14

PLANT ASSEMBLY POINT COORDINATOR

1.0 RESPONSIBILITIES

- 1.1 Functional supervision of the Plant Assembly Point.
- 1.2 Coordination of emergency support team activities such as first aid, search and rescue, radiation monitoring and damage control and repair.
- 1.3 Executing and verifying personnel accountability procedures.
- 1.4 Supplying personnel as requested by Control Room and Technical Support Center.
- 1.5 Coordination of the evacuation of personnel.

The Plant Assembly Point Coordinator reports directly to the Plant Assembly Point and is assisted by the Chem/Rad Logistics and the Maintenance Coordinator.

2.0 CHECK LIST

<u>Date/Time</u>	<u>Initials</u>	<u>Action Item</u>
____/____	_____	1. Obtain from Security the time that the Security computer was set.
____/____	_____	2. Ensure that Personnel Accountability is being performed in accordance with AP 513 "Personnel Accountability."
____/____	_____	3. Ensure communications are established and maintained in accordance with AP 551 "Activation of Plant Assembly Point."
____/____	_____	4. Check to ensure that the Chem/Rad Logistics and Maintenance Coordinators are present and ready to assume responsibility.
____/____	_____	5. Ensure airborne and area radiation measurements are taken at the Assembly Point and reports forwarded to the TSC.
____/____	_____	6. Ensure that Site Evacuation is accomplished in accordance with AP 519 "Site Evacuation", when directed by the Emergency Coordinator.

ATTACHMENT 7.15

CHEM/RAD LOGISTICS COORDINATOR

1.0 RESPONSIBILITIES

- 1.1 Formation and mobilization of Radiological Monitoring Teams which may be directed to either onsite or offsite locations.
- 1.2 Evaluation of the radiological environmental conditions at the Plant Assembly Point.

The Chem/Rad Logistics Coordinator reports directly to the Plant Assembly Point Coordinator.

2.0 CHECK LIST

<u>Date/Time</u>	<u>Initials</u>	<u>Action Item</u>
____/____	_____	2.1 Ensure that all Rad/Chem equipment is in a readiness state.
____/____	_____	2.2 If appropriate, ensure that personnel are being monitored for contamination prior to entry into the Plant Assembly Point as necessary. If contamination is found, perform decontamination in accordance with AP 516 "Personnel Decontamination."
____/____	_____	2.3 Check to ensure Rad/Chem support is available to perform survey or other assessment functions as required.
____/____	_____	2.4 Evaluate the radiological environmental conditions at the Assembly Point at 30 minute intervals for the duration of the emergency.
____/____	_____	2.5 If conditions allow, dispatch personnel to the unused Plant Assembly Point to obtain its emergency supplies.

ATTACHMENT 7.16

MAINTENANCE LOGISTICS COORDINATOR

1.0 RESPONSIBILITIES

1.1 Mobilizing emergency maintenance and repair teams as necessary.

The Maintenance Logistics Coordinator reports directly to the Plant Assembly Point Coordinator.

2.0 CHECK LIST

<u>Date/Time</u>	<u>Initials</u>	<u>Action Item</u>
____ / ____	_____	2.1 Muster maintenance, operations, and engineering personnel present at the assembly point in preparation for further assignment.
____ / ____	_____	2.2 Inform the Plant Assembly Point Coordinator of the personnel available for assignment as necessary.

ATTACHMENT 7.17
EMERGENCY MANAGER

1.0 RESPONSIBILITIES

- 1.1 Activation of the Emergency Operations Facility (EOF) (AP 553).
- 1.2 Interfaces with the General Manager and SMUD Board of Directors to provide policy decisions in a timely manner and to ensure that all District resources are available to support the emergency response and recovery efforts.
- 1.3 Directs those activities conducted from the Emergency Operations Facility.
- 1.4 Recommend to the SMUD Management Safety Review Committee any changes in or deactivation of the District Emergency Response or Recovery organizations. This may be needed to support long-term recovery efforts.
- 1.5 Review and make recommendations on and for any contracts for additional assistance required from offsite organizations.
- 1.6 Respond to requests from the Emergency Coordinator.
- 1.7 Coordinate all offsite District activities with onsite activities.
- 1.8 Approve all information that is released to the public and news media.
- 1.9 Arrange on an hourly basis, a conference between SMUD, state, county, and federal personnel.
- 1.10 Responsible for implementing AP 571 "Reentry and Recovery."

ATTACHMENT 7.17-cont.

EMERGENCY MANAGER

2.0 CHECK LIST

<u>Date/Time</u>	<u>Initials</u>	<u>Action</u>
<u> / </u>	<u> </u>	2.1 Commence activation of the EOF.
<u> / </u>	<u> </u>	2.2 The following positions are staffed: <ul style="list-style-type: none"> a. Advisor to the County Emergency Organizations b. EOF Communicator c. Plant Status and Technical Information Communicator d. Media Center Coordinator e. Technical and Logistical Support Coordinator f. Environmental Assessment Coordinator g. Security Coordinator h. Access Administration Coordinator i. Logistical Support Coordinator j. Technical Support Coordinator
<u> / </u>	<u> </u>	2.3 Designate a log recorder(s) to record events of the various EOF stations.
<u> / </u>	<u> </u>	2.4 Notify the TSC that the EOF is fully operational.
<u> / </u>	<u> </u>	2.5 Hourly establish a conference between SMUD and state, county, and federal personnel.
<u> / </u>	<u> </u>	2.6 Based on presentations from the Environmental Assessment Coordinator make recommendations to the Counties as to the need for protective actions. (AP 528 "Protective Action Guides").
<u> / </u>	<u> </u>	2.7 Direct all necessary information to the Unified Dose Assessment Center.

ATTACHMENT 7.18

ADVISOR TO THE COUNTY EMERGENCY ORGANIZATIONS

1.0 RESPONSIBILITIES

- 1.1 Assist in the activation of the Emergency Operations Facility (EOF).
- 1.2 Advise the Emergency Manager in all aspects of the SMUD and Rancho Seco Emergency Plan.
- 1.3 District liason activities with the various counties and other government officials and agencies (e.g., Sacramento County, Amador and San Joaquin counties, DOE, California OES, USNRC, etc.)
- 1.4 Assist the Emergency Manager in communicating with government officials and agencies regarding such matters as informing the public, possible evacuation plans, and further recommended protective actions.
- 1.5 Assists the Emergency Manager in making recommendations for or against the need of protective action implementation.
- 1.6 Upon Alert report to Sacramento County EOC and relocate to EOF upon the initiation of a Site Area or General Emergency.
- 1.7 In general, acts as an administrative aide to the Emergency Manager.

2.0 CHECK LIST

<u>Date/Time</u>	<u>Initials</u>	<u>Action</u>
_____	_____	2.1 Commence Activation of the EOF (AP 553).
_____	_____	2.2 Ensure all communication links with State, County, and Federal agencies are operable.
_____	_____	2.3 Attend hourly Conference in EOF.
_____	_____	2.4 Assist Emergency Manager in communicating to the counties the need for protective actions.
_____	_____	2.5 Ensure news releases are done on a periodic basis.
_____	_____	2.6 Confer with the Emergency Manager on the initiation and completion of Emergency Plan Procedures.

ATTACHMENT 7.19

MEDIA CENTER COORDINATOR

1.0 RESPONSIBILITIES

- 1.1 During all four emergency classifications, the Media Center Coordinator will report to the Media Center.
- 1.2 Activate of the Media Center.
- 1.3 Notify the news media (television and radio stations) of the emergency.
- 1.4 Post copies of the news releases in the EOF and Media Center and forward a copy to the General Manager's Office.
- 1.5 Arrange and coordinate news conferences from the Media Center.
- 1.6 Arrange special interviews with personnel available during non-news conference times.

2.0 CHECK LIST

<u>Date/Time</u>	<u>Initials</u>	<u>Action Item</u>
<u> / </u>	<u> </u>	2.1 Activate of the Media Center per AP 556.
<u> / </u>	<u> </u>	2.2 Notify the Emergency Manager when the Media Center is operational.
<u> / </u>	<u> </u>	2.3 Activate AP 569 "Release of Information to the Public and Media."

ATTACHMENT 7.20

PLANT STATUS AND TECHNICAL INFORMATION COORDINATOR

1.0 RESPONSIBILITIES

- 1.1 Providing the Emergency Manager and EOF staff with technical guidance as to how plant status may impact the offsite emergency response.
- 1.2 Coordinate with, receive and distribute plant status and technical information from the Technical Support Center.
- 1.3 Interpreting plant technical information for emergency response personnel located within the Emergency Operations Facility and the Unified Dose Assessment Center.
- 1.4 Verifying the technical accuracy and adequacy of all public information releases prior to dissemination to the media.
- 1.5 Ensuring that the Emergency Manager receives continuously updated plant technical status reports.

The Plant Status and Technical Information Coordinator reports directly to the Emergency Manager.

2.0 CHECK LIST

<u>Date/Time</u>	<u>Initials</u>	<u>Action Item</u>
____ / ____	_____	2.1 Obtain Plant Status from the TSC.
____ / ____	_____	2.2 Notify UDAC of Plant Status.
____ / ____	_____	2.3 Review News Releases for accuracy before release.
____ / ____	_____	2.4 Update Emergency Manager and Advisor to the County Emergency Organization or Plant Status.

ATTACHMENT 7.21
SECURITY COORDINATOR

1.0 RESPONSIBILITIES

- 1.1 Directing the site security force as necessary to maintain security.
- 1.2 Interfacing with local, county, state, and federal law enforcement agencies as needed to maintain site security.
- 1.3 Maintain EOF/Media Center Security.

The Security Coordinator will reside in the EOF and reports directly to the Emergency Manager.

2.0 CHECK LIST

<u>Date/Time</u>	<u>Initials</u>	<u>Action Item</u>
____/____	_____	2.1 Contact the Onsite Security Coordinator to determine any assistance required.
____/____	_____	2.2 Designate a Security Officer to act as Access Administration Coordinator.

ATTACHMENT 7.22

ENVIRONMENTAL ASSESSMENT COORDINATOR

1.0 RESPONSIBILITIES

- 1.1 In charge of the Unified Dose Assessment Center (UDAC).
- 1.2 Provide environmental, radiological and health physics support to the emergency effort, including briefing of EOF personnel, Media Center Coordinator, and incoming environmental personnel.
- 1.3 Coordinate the offsite radiological assessment activities with the counties.
- 1.4 Correlate, assess, and predict current and anticipated release rates and radiation levels.
- 1.5 Assist in formulation of recommendations to be submitted to the counties and State regarding protective action measures to be implemented.
- 1.6 Obtain from the Radiological Assessment Coordinator, the information listed in AP 554, Attachment 7.3.

2.0 CHECK LIST

<u>Date/Time</u>	<u>Initials</u>	<u>Action</u>
____/____	_____	2.1 Commence activation of the Unified Dose Assessment Center (UDAC, AP 554)
____/____	_____	2.2 Check that the following materials are available: <ul style="list-style-type: none"> a. Overlays b. County Map c. AP 512 "EOF Dose Calculation" d. AP 534 "Release Rate Determination" e. Extra forms for AP 512 and AP 534 f. Radio and phone communications g. Logs
____/____	_____	2.3 Notify Emergency Manager when UDAC is operational
____/____	_____	2.4 Obtain data listed in AP 554, Attachment 7.3 from the Radiological Assessment Coordinator.

ATTACHMENT 7.22-cont.

ENVIRONMENTAL ASSESSMENT COORDINATOR

<u>Date/Time</u>	<u>Initials</u>	<u>Action</u>
<u> / </u>	<u> </u>	2.5 Have assessment personnel do the following: a. Implement AP 512 "EOF Dose Calculation" and AP 534 "Release Rate Determination" b. Obtain Stability Class, Dose Projections, and set up overlays.
<u> / </u>	<u> </u>	2.6 Have UDAC personnel update Status Board and logs.
<u> / </u>	<u> </u>	2.7 Make recommendations to County Radiation Monitor Coordinator as to where field monitoring teams should be deployed (routes) and what to monitor.
<u> / </u>	<u> </u>	2.8 Notify Emergency Manager of findings.
<u> / </u>	<u> </u>	2.9 Once field monitoring data is obtained repeat 2.5 to 2.8 every fifteen minutes or as needed.
<u> / </u>	<u> </u>	2.10 Ensure that the UDAC Liaison is present at the hourly EOF conference or when requested by the Emergency Manager.
<u> / </u>	<u> </u>	2.11 Ensure the update of the status boards as information becomes available.
<u> / </u>	<u> </u>	2.12 Contact the National Weather Service for weather forecasts in accordance with AP 506 Attachment 7.7.

ATTACHMENT 7.23

TECHNICAL AND LOGISTICAL SUPPORT COORDINATOR

1.0 RESPONSIBILITIES

- 1.1 Coordinating offsite response to requests for technical, administrative and logistical assistance for the Onsite Emergency Response and EOF organizations.
- 1.2 Contacting support organizations, such as Bechtel, B&W, and INPO, to obtain technical support needed.
- 1.3 Coordinating recall and deployment of General Office personnel as needed to respond to the emergency.
- 1.4 Ensuring the general needs of emergency response personnel are met (e.g., telephone and equipment repair, food, sleeping facilities, office materials, etc.).

The Technical and Logistical Support Coordinator reports directly to Emergency Manager and is supported by:

- 1. Access Administration Coordinator
- 2. Logistical Support Coordinator
- 3. Technical Support Coordinator

2.0 CHECK LIST

<u>Date/Time</u>	<u>Initials</u>	<u>Action</u>
____ / ____	_____	2.1 Contact support organizations (Bechtel, B&W, etc.), obtain technical support needed.
____ / ____	_____	2.2 Check that facilities available to emergency response personnel are available (phone, sleeping facilities, etc.)

ATTACHMENT 7.24

ACCESS ADMINISTRATION COORDINATOR

1.0 RESPONSIBILITIES

1.1 Responsible for implementation of the briefing and badging procedures at Emergency Operations Facility.

The Access Administration Coordinator reports to the Technical and Logistical Support Coordinator in the EOF.

2.0 CHECK LIST

<u>Date/Time</u>	<u>Initials</u>	<u>Action</u>
<u> / </u>	<u> </u>	2.1 Initiate badging procedures in accordance with AP 525 "Security."

ATTACHMENT 7.25

LOGISTICAL SUPPORT COORDINATOR

1.0 RESPONSIBILITIES

- 1.1 Provide general logistical support to the emergency response and recovery efforts (e.g., personnel, equipment, supplies, etc.).
- 1.2 Provide general office services to the emergency response facilities as needed (e.g., paper, pencils, desks, chairs, extra telephones, etc.).

The Logistical Support Coordinator reports to the Technical and Logistical Support Coordinator in the EOF.

2.0 CHECK LIST

<u>Date/Time</u>	<u>Initials</u>	<u>Action</u>
<u> / </u>	<u> </u>	2.1 Provide general office supplies to the emergency response effort. (Pencils, paper, desks, etc.)

ATTACHMENT 7.26

TECHNICAL SUPPORT COORDINATOR

1.0 RESPONSIBILITIES

- 1.1 Providing any information and technical data from the General Office that is requested.
- 1.2 Researching and obtaining any technical data needed which may be provided by other nation-wide and industry sources.
- 1.3 Coordinating technical input from Babcock and Wilcox, Bechtel, Westinghouse, INPO, etc.

The Technical Support Coordinator reports to the Technical and Logistical Support Coordinator in the EOF.

2.0 CHECK LIST

<u>Date/Time</u>	<u>Initials</u>	<u>Action</u>
<u> / </u>	<u> </u>	2.1 Coordinate technical information input from support agencies/groups (i.e., Bechtel, B&W, etc.)

ATTACHMENT 7.27

NUCLEAR PUBLIC INFORMATION COORDINATOR

1.0 RESPONSIBILITIES

- 1.1 Notify the Media Center Coordinator.
- 1.2 Report to the TSC during an Unusual Event or Alert, if appropriate, and to the EOF for a Site Area or General Emergency.
- 1.3 Prepare initial and subsequent news releases in accordance with AP 569 "Release of Information to the Public and Media."

2.0 CHECK LIST

<u>Date/Time</u>	<u>Initials</u>	<u>Action Item</u>
<u> / </u>	<u> </u>	2.1 Report to the TSC or EOF.
<u> / </u>	<u> </u>	2.2 Prepare initial and subsequent news releases per AP 569 "Release of Information to the Public and Media."
<u> / </u>	<u> </u>	2.3 Notify the Media Center Coordinator.

SMUD - RANCHO SECO
EMERGENCY PLAN PROCEDURE

AP 550

ACTIVATION AND OPERATION OF THE TECHNICAL SUPPORT CENTER

TABLE OF CONTENTS

	<u>Page No.</u>
1.0 PURPOSE.	2
2.0 RESPONSIBILITY	2
3.0 INITIATING CONDITIONS.	2
4.0 PRECAUTIONS AND LIMITATIONS.	3
5.0 INSTRUCTIONS	3
6.0 REFERENCES	5
7.0 ATTACHMENTS.	5

| 1

1.0 PURPOSE

- 1.1 To describe the activation, operation, and functions of the Technical Support Center (TSC), in the event an Alert or higher level emergency is declared.
- 1.2 The TSC is activated to provide personnel and equipment to relieve the onsite staff from emergency activities unrelated to maintaining the plant in a safe condition. These functions are:
 - a. Onsite emergency response coordination, including radiological monitoring and recommendations for offsite protective actions.
 - b. Communications with offsite emergency response organizations.
 - c. Assessment of plant conditions.

2.0 RESPONSIBILITY

- 2.1 The Emergency Coordinator is responsible for implementing this procedure once an Alert or higher level emergency is declared.

3.0 INITIATING CONDITIONS

- 3.1 An Alert or higher level emergency has been declared in accordance with AP 501 "Recognition and Classification of Emergency." The TSC may, at the Emergency Coordinator's discretion, be activated for an Unusual Event.

1

4.0 PRECAUTIONS AND LIMITATIONS

- 4.1 Upon activation of the TSC, designated personnel should report directly to the TSC and achieve full functional operation as soon as possible.

5.0 INSTRUCTIONS

- 5.1 Emergency Coordinator shall notify the Technical Support Center Coordinator that the TSC is to be activated.
- 5.2 The TSC Coordinator is responsible for the following communications to be installed in the TSC:

NOTE: This responsibility may be delegated to the communicators.

- 5.2.1 Five Pacific Telephones (Herald Exchange) stored on top of the procedure cabinet.
- 5.2.2 The portable walkie-talkie with Security located in the shift supervisor's office.
- 5.2.3 The UHF radio telephone to portable/mobile units and SMUD dispatcher located in the Control Room desk drawer shall be removed and installed in the following manner:

- a. In the Control Room desk drawer:

Unplug power cable from the radio.
Unplug the 9 conductor connector from the radio.
Lift the radio from the drawer and place it in the southeast corner of the TSC.

- b. In the TSC:

Insert the 9 conductor connector into the bulkhead plate on the southeast corner of the TSC, just under the window overlooking the Control Room.

Plug power cable into the available receptacle.

- c. Under the Control Room desk:

Unplug the 9 conductor connector under the Control Room desk.

Pull the long cable across the floor and plug it into the bulkhead plate located on the wall just north of the door into the Shift Supervisor's office.

1

5.0 INSTRUCTIONS-contd.

d. To have the Control Room radio monitor bypassed and conversation through it to be heard only in the TSC the following shall be performed:

- . In the Control Room turn the mute switch on the speaker to the TSC position.
- . In the TSC plug the speaker into the jacks on the radio bulkhead plate.

The radio is now operation in the TSC.

5.2.4 Perform required actions in accordance with AP 540 Attachment 7.5.

5.2.5 Maintain logs and records of all outside communications.

NOTE: The total communications capability of the TSC and Control Room is listed in Attachment 7.1 and 7.2.

5.2.6 Ensure all status boards are in place and log books and forms are available.

5.2.7 Obtain additional emergency equipment from the Emergency Locker across the hall from the Control Room as necessary.

5.2.8 Perform further actions as deemed necessary by the Emergency Coordinator.

5.3 TSC personnel (Attachment 7.3) shall perform duties in accordance with AP 540 "Emergency Response Organization."

5.4 TSC Coordinator, upon completion of the TSC Readiness Check List, notify the following that the TSC is activated as required with the following message: "The TSC has now been activated at _____." date/time

- a. Control Room
- b. Emergency Coordinator
- c. Emergency Operations Facility (EOF) (if activated)
- d. NRC

6.0 REFERENCES

- 6.1 AP 501 "Recognition and Classification of Emergency"
- 6.2 AP 506 "Notification/Communication"
- 6.3 AP 540 "Emergency Response Organization"
- 6.4 AP 587 "Maintenance and Inventory of Emergency Equipment and Supplies"

7.0 ATTACHMENTS

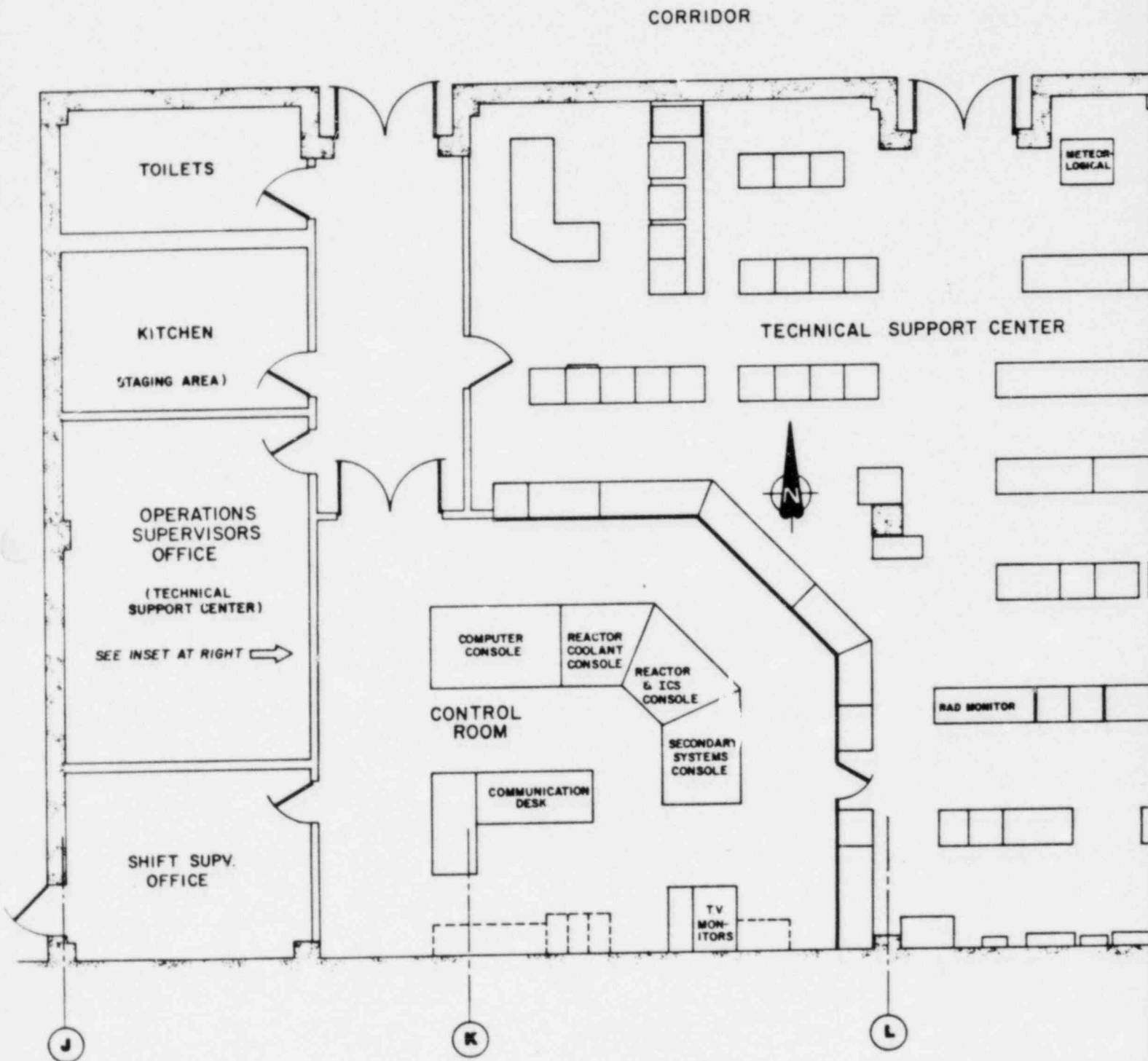
Revision No.

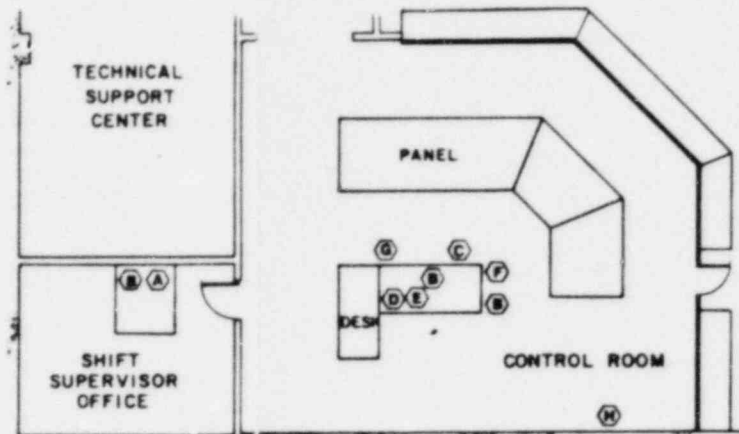
- | | |
|--|----------|
| 7.1 TSC Communications Equipment Layout | Original |
| 7.2 TSC and Control Room Communications Capability | Rev. 1 |
| 7.3 TSC Staffing | Rev. 1 |

1

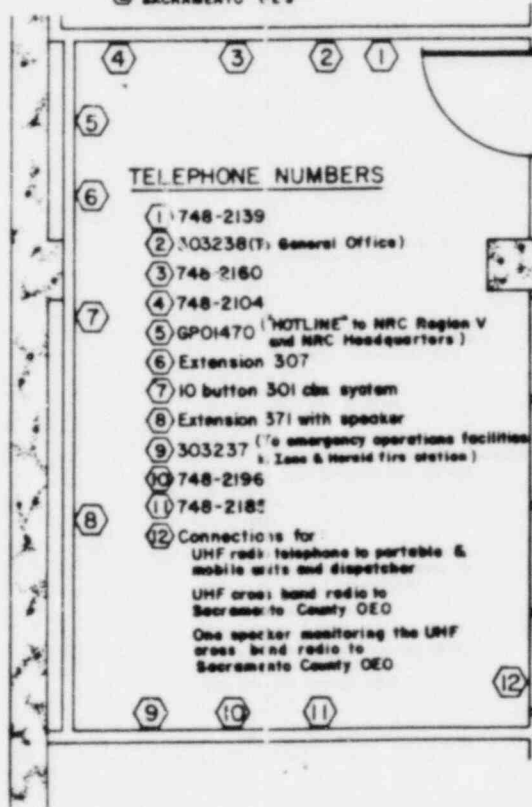
ATTACHMENT 7.1

TSC/CONTROL ROOM COMMUNICATIONS LAYOUT





- (A) PTT (HERALD EXCHANGE) 748-2774
- (B) 3 CBX TELEPHONE EXTENSIONS
4322 / 4370 / 4320
- (C) 10 BUTTON 301 CBX
748-2751 / 741-2752
- (D) UHF RADIO TELEPHONE TO
PORTABLE, MOBILE, DISPATCHER
- (E) UHF CROSS BAND RADIO TO
SACRAMENTO CES
- (F) MICROWAVE / DEDICATED
4 POINT LINE
- (G) SECURITY PHONE
- (H) NRC HOT LINE



TELEPHONE NUMBERS

- (1) 748-2139
- (2) 303238 (T: General Office)
- (3) 748-2180
- (4) 748-2104
- (5) GPO1470 ("HOTLINE" to NRC Region V
and NRC Headquarters)
- (6) Extension 307
- (7) 10 button 301 cbx system
- (8) Extension 371 with speaker
- (9) 303237 (To emergency operations facilities
& Lane & Herald fire station)
- (10) 748-2196
- (11) 748-2185
- (12) Connections for:
UHF radi: telephone to portable &
mobile units and dispatcher
UHF cross band radio to
Sacramento County OEO
One speaker monitoring the UHF
cross band radio to
Sacramento County OEO

TECHNICAL SUPPORT CENTER

OPERATIONS SUPERVISOR'S OFFICE
+ 40' LEVEL AUXILIARY BLDG

RANCHO SECO ONSITE CONTROL ROOM
/ TECHNICAL SUPPORT CENTER /

ATTACHMENT 7.2

TSC AND CONTROL ROOM COMMUNICATIONS CAPABILITY

1. TSC Communications Capability

The following communications equipment shall be utilized to maintain contact between the TSC, the Offsite Emergency Facilities and local, State and Federal organizations.

- a. 5 Pacific Telephone lines
- b. 2 CBX telephone extension
- c. 1 10 button 301 CBX system
- d. 1 Dedicated 3 Point line to the offsite relocation points
- e. 1 Dedicated 3 Point line to the onsite assembly points (Ringdown to the TSC)
- f. 1 Dedicated 2 Point line to the General Office Emergency Center
- g. 1 NRC "Hotline"
- h. 1 Health Physics "Hotline"

2. Control Room Communications Capability

The following communications equipment shall be utilized to maintain contact between the Control Room, the Onsite and Offsite Emergency Facilities and the local, State, and Federal Organizations.

- a. 1 Pacific Telephone Line
- b. 3 CBX Telephone Extensions
- c. 1 10 Button 301 CBX System
- d.* 1 UHF Crossband Radio to Dispatcher and Sacramento County
- e. 1 Microwave/Dedicated 4 Point Line through dispatcher to Sacramento County, State GES and the General Office Emergency Center
- f.* 1 Walkie Talkie (Security)
- g. 1 NRC "Hotline" (red phone)
- h. 1 Speaker Phone to Security

* Move to the TSC upon declaration of an alert, site area or General Emergency.

ATTACHMENT 7.2 (contd.)

TSC AND CONTROL ROOM COMMUNICATIONS CAPABILITY

- g. 1 open mike to Technical Support Center with tape recorder capability
- h. 1 NRC "hotline" (red phone) to NRC Region V and NRC headquarters
- i. Security phone (CAS-SAS-CR) interphone

ATTACHMENT 7.3

TSC STAFFING

1. Emergency Coordinator
2. TSC Coordinator
3. Radiological Assessment Coordinator
4. Nuclear Engineering Coordinator
5. Instrument and Control Coordinator
6. Computer Information Coordinator
7. Engineering and Q. C. Coordinator
8. Maintenance Coordinator
9. Administrative Coordinator
10. Technical Report Coordinator
11. Communicators (as required)
12. Telephone Operators
13. Security Coordinator
14. Nuclear Public Information Coordinator (optional)

SMUD - RANCHO SECO
EMERGENCY PLAN PROCEDURE

AP 551

ACTIVATION AND OPERATION OF PLANT ASSEMBLY POINTS

TABLE OF CONTENTS

	<u>Page No.</u>
1.0 PURPOSE.	2
2.0 RESPONSIBILITY	2
3.0 INITIATING CONDITIONS.	2
4.0 PRECAUTIONS AND LIMITATIONS.	3
5.0 INSTRUCTIONS	3
6.0 REFERENCES	4
7.0 ATTACHMENTS.	4

1.0 PURPOSE

- 1.1 To describe the activation, operation, and functions of the Plant Assembly Point, in the event an Alert or higher level emergency is declared.
- 1.2 The Plant Assembly Point is an assembly area for Chem/Rad, Maintenance, I & C, and Operations personnel whose services may be required during an emergency. It also serves as a center where initial personnel accountability of onsite personnel is performed.

2.0 RESPONSIBILITY

- 2.1 The Emergency Coordinator is responsible for initiating this procedure once an Alert or more severe level emergency is declared as defined in AP 501 "Recognition and Classification of Emergency."
- 2.2 The Plant Assembly Point Coordinator is responsible for activating the Plant Assembly Point.
- 2.3 The Security Watch Commander is responsible for directing a Security Officer to proceed to the Warehouse "A" with keys to gain entry.

1

3.0 INITIATING CONDITIONS

- 3.1 An Alert or higher level emergency has been declared in accordance with AP 501 "Recognition and Classification of Emergency."

4.0 PRECAUTIONS AND LIMITATIONS

None

5.0 INSTRUCTIONS

- 5.1 The Emergency Coordinator shall notify the Plant Assembly Point Coordinator to activate the selected Plant Assembly Point. Attachment 7.1 and 7.2. 1
- 5.2 The Security Watch Commander shall designate a Security Officer to unlock Warehouse "A" if it is designated as the Plant Assembly Point and if the emergency occurs during non-normal working hours.
- 5.3 The First Senior Chem/Rad Assistant arriving at the Plant Assembly Point shall open the emergency locker, breakout emergency equipment, and assume the responsibilities of the Chem/Rad Logistics Coordinator until his arrival.
- 5.4 Chem/Rad Logistics Coordinator shall perform the following:
- a. Initiate monitoring of personnel for contamination as they arrive at the Plant Assembly Point.
 - b. Establish an access control area and decontamination facility as necessary, in accordance with AP 516 "Personnel Decontamination." 1
 - c. Ensure the activation of the dose rate meter to take direct exposure level readings inside and immediately outside the building.
 - d. Obtain air sample. Record start and stop times and volume sampled. Analyze per direction of Radiological Assessment Coordinator.
 - e. Record actions on the Assembly Point Log sheet, "Attachment 7.3."
- 5.5 The Plant Assembly Point Coordinator shall:
- a. Notify the Emergency Coordinator upon activation of the Plant Assembly Point. 1
 - b. Complete actions in accordance with AP 540, Attachment 7.14.
 - c. Perform further actions as deemed necessary by the Emergency Coordinator.
 - d. Notify Emergency Coordinator if dose rates at the Plant Assembly point exceed 2 mR/hr.

6.0 REFERENCES

- 6.1 AP 501 "Recognition and Classification of Emergency"
- 6.2 AP 513 "Personnel Accountability"
- 6.3 AP 516 "Personnel Decontamination"
- 6.4 AP 540 "Emergency Response Organization"

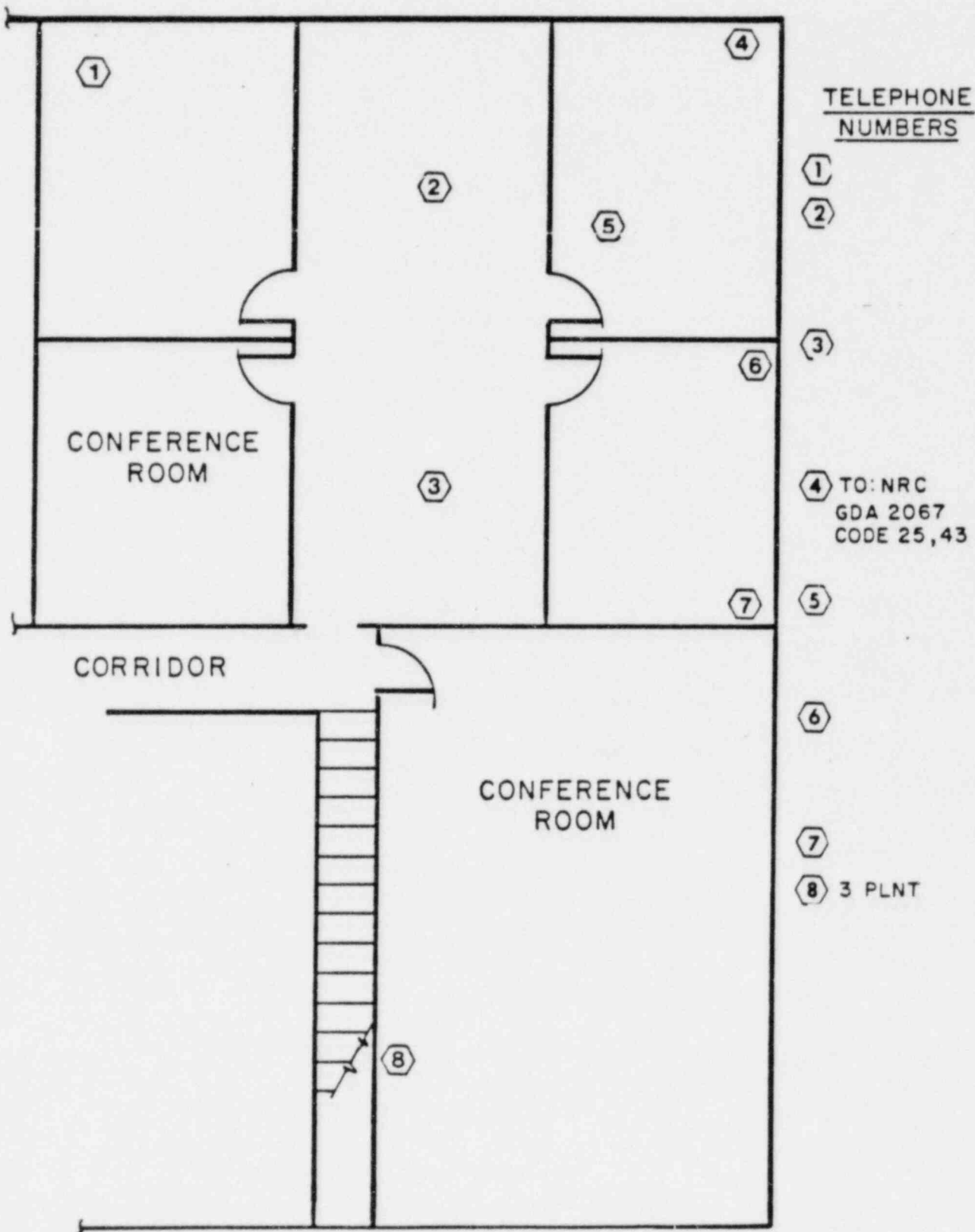
7.0 ATTACHMENTS

Revision No.

- | | |
|--|----------|
| 7.1 Plant Assembly Point Communications Layout | Original |
| 7.2 Plant Assembly Point Communications Capability | Rev. 1 |
| 7.3 Emergency Response Personnel | Original |
| 7.4 Plant Assembly Point Staffing | Original |

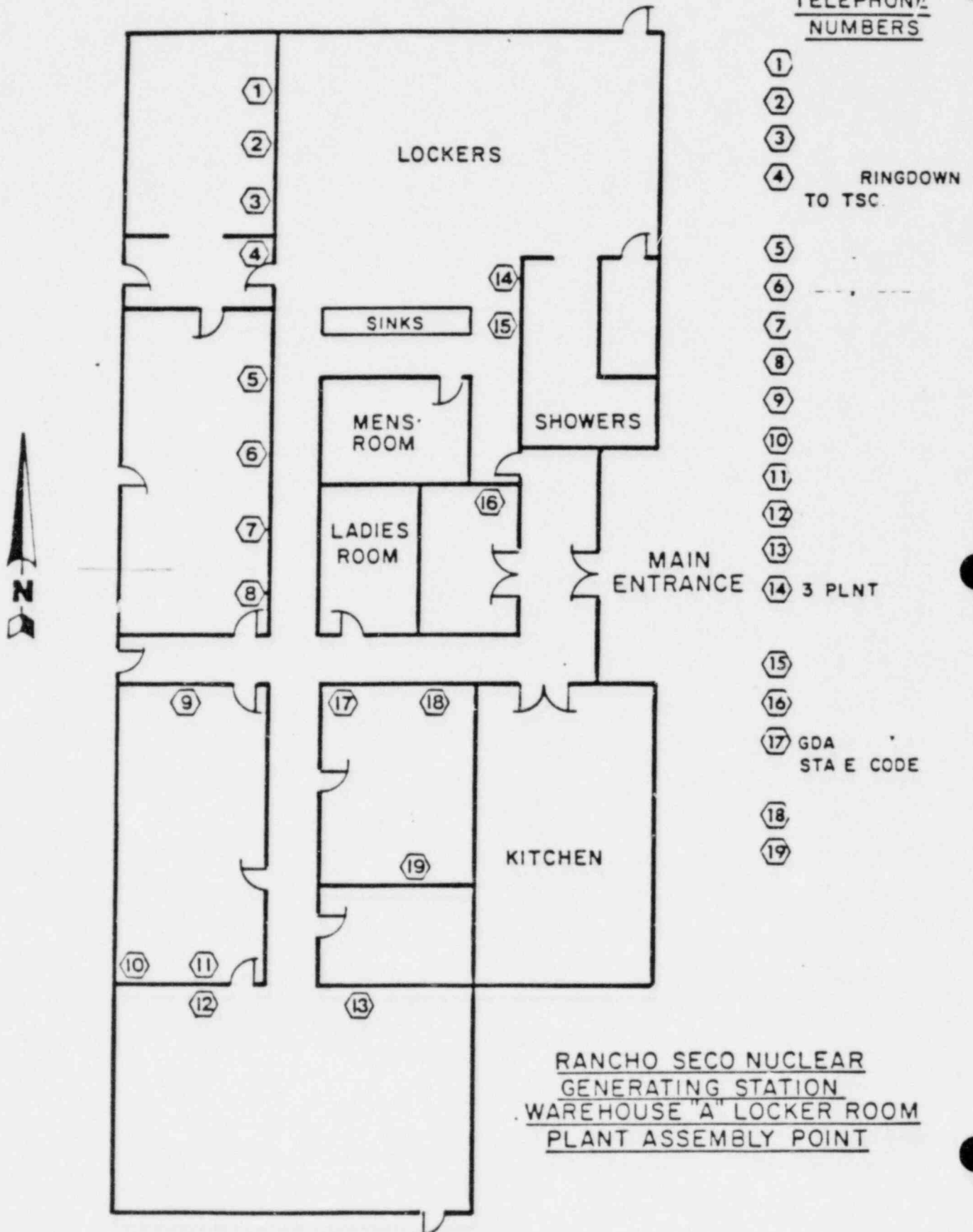
1

ATTACHMENT 7.1



RANCHO SECO ADMINISTRATION BUILDING
PLANT ASSEMBLY POINT

ATTACHMENT 7.1



RANCHO SECO NUCLEAR
GENERATING STATION
WAREHOUSE "A" LOCKER ROOM
PLANT ASSEMBLY POINT

ATTACHMENT 7.2

PLANT ASSEMBLY POINT COMMUNICATIONS CAPABILITY

The following communications equipment shall be utilized to maintain contact between the Plant Assembly Point, the TSC, the Offsite Emergency Facilities, and the local, State, and Federal Agencies.

1. Plant Assembly Point (Administration Building)
 - a. 1 Pacific Telephone line (Herald Exchange)
 - b. 4 CBX extensions
 - c. 1 10 button 301 CBX system
 - d. 2 portable radios (located in emergency lockers)
 - e. 1 dedicated 4 point line to the alternate Plant Assembly Point and the Offsite Reassembly Points.
 - f. 1 dedicated 3 point line to TSC and Administration Building (ringdown to the TSC).
 - g. 1 telecopier
 - h. Health Physics "hotline" (HPN)
2. Plant Assembly Point (Warehouse A)
 - a. 1 Pacific Telephone line (Herald Exchange)
 - b. 7 CBX extensions
 - c. 1 Pacific Telephone lines (SMUD Headquarters)
 - d. 2 portable radios (located in emergency lockers)
 - e. 1 dedicated 4 point line to the alternate Plant Assembly Point and the Offsite Reassembly Points.
 - f. 1 dedicated 3 point line to TSC and Administration Building (ringdown to the TSC).
 - g. Health Physics "hotline" (HPN)

ATTACHMENT 7.4

PLANT ASSEMBLY POINT STAFFING

1. Plant Assembly Point Coordinator
2. Chem/Rad Logistics Coordinator
3. Maintenance Logistics Coordinator
4. Security Officer

SMUD - RANCHO SECO
EMERGENCY PLAN PROCEDURE

AP 552

ACTIVATION AND OPERATION OF OFFSITE RELOCATION POINTS

TABLE OF CONTENTS

	<u>Page No.</u>
1.0 PURPOSE.	2
2.0 RESPONSIBILITY	2
3.0 INITIATING CONDITIONS.	2
4.0 PRECAUTIONS AND LIMITATIONS.	3
5.0 INSTRUCTIONS	3
6.0 REFERENCES	5
7.0 ATTACHMENTS.	5

1.0 PURPOSE

- i.1 To describe the activation, operation, and functions of the Offsite Relocation Points.
- 1.2 The Offsite Relocation Points will have facilities for the following:
 - a. Accommodating the numbers of personnel expected during an emergency.
 - b. Communications equipment necessary to communicate with onsite and offsite emergency response facilities.
 - c. Emergency equipment such as protective clothing, portable radiation survey instruments, personnel decontamination kits, first aid kit, and respiratory equipment.

2.0 RESPONSIBILITY

- 2.1 The Emergency Coordinator is responsible for initiating a site evacuation and designating the Offsite Relocation Point to be used.
- 2.2 The Plant Assembly Point Coordinator or his designee is responsible for activating and supervising the Offsite Relocation Point.

3.0 INITIATING CONDITIONS

- 3.1 A site evacuation has been called for in accordance with AP 519 "Site Evacuation."

4.0 PRECAUTIONS AND LIMITATIONS

- 4.1 Plant Assembly Point emergency lockers contain keys to the offsite emergency lockers.
- 4.2 If the evacuation involves only non-emergency personnel, the Plant Assembly Point Coordinator shall designate one person to activate and take charge of the Offsite Relocation Point.
- 4.3 If the evacuation involves a complete site evacuation the Plant Assembly Point Coordinator shall retain his leadership role upon transfer to the Offsite Relocation Point.

5.0 INSTRUCTIONS

5.1 Herald Fire Department

- 5.1.1 TSC Coordinator notify the Herald Fire Department in accordance with AP 506 Attachment 7.8 that the Herald Fire Station must be used as an Offsite Relocation Point.
- 5.1.2 The Plant Assembly Point Coordinator shall assign an individual to activate the Herald Offsite Relocation Point and provide him the keys to the emergency lockers.
- 5.1.3 The individual assigned to activate the Herald Offsite Relocation Point shall on arrival:
 - a. Gain entry to the Fire Station truck stalls where reassembly will occur.
 - b. Open the emergency locker and breakout emergency and communication equipment as required.
 - c. Connect communications equipment in accordance with Attachment 7.2 Herald Fire Station Floor Plan and Communications Layout.
 - d. Upon completing 5.1.3.a and 5.1.3.b above, notify the Emergency Coordinator that the Offsite Relocation Point is activated.

5.2 Ione Fire Academy

- 5.2.1 TSC Coordinator, notify the Ione Fire Academy in accordance with AP 506 Attachment 7.8 that the Fire Academy must be used as an Offsite Relocation Point.
- 5.2.2 Plant Assembly Point Coordinator assign an individual to activate the Ione Offsite Relocation Point and provide him the appropriate keys.
- 5.2.3 The individual assigned to activate the Ione Offsite Relocation Point shall on arrival:

5.0 INSTRUCTIONS-contd.

- a. Gain entry to the truck stalls, where reassembly will occur.
- b. Open the emergency locker located in the Lab and break out emergency and communications equipment as required.
- c. Connect communications equipment in accordance with Attachment 7.4 Ione Offsite Relocation Point Communications Layout.
- d. Upon completing 5.2.3.a through 5.2.3.c above, notify the Emergency Coordinator that the Ione Offsite Relocation Point is activated.

5.3 Maintains a roster of personnel at the Offsite Relocation Point.

5.4 Maintains communication with the Plant Assembly Point and the TSC.

5.5 Perform further actions as deemed necessary.

6.0 REFERENCES

- 6.1 AP 516 "Personnel Decontamination"
- 6.2 AP 519 "Site Evacuation"
- 6.3 AP 587 "Maintenance and Inventory of Emergency Equipment and Supplies"

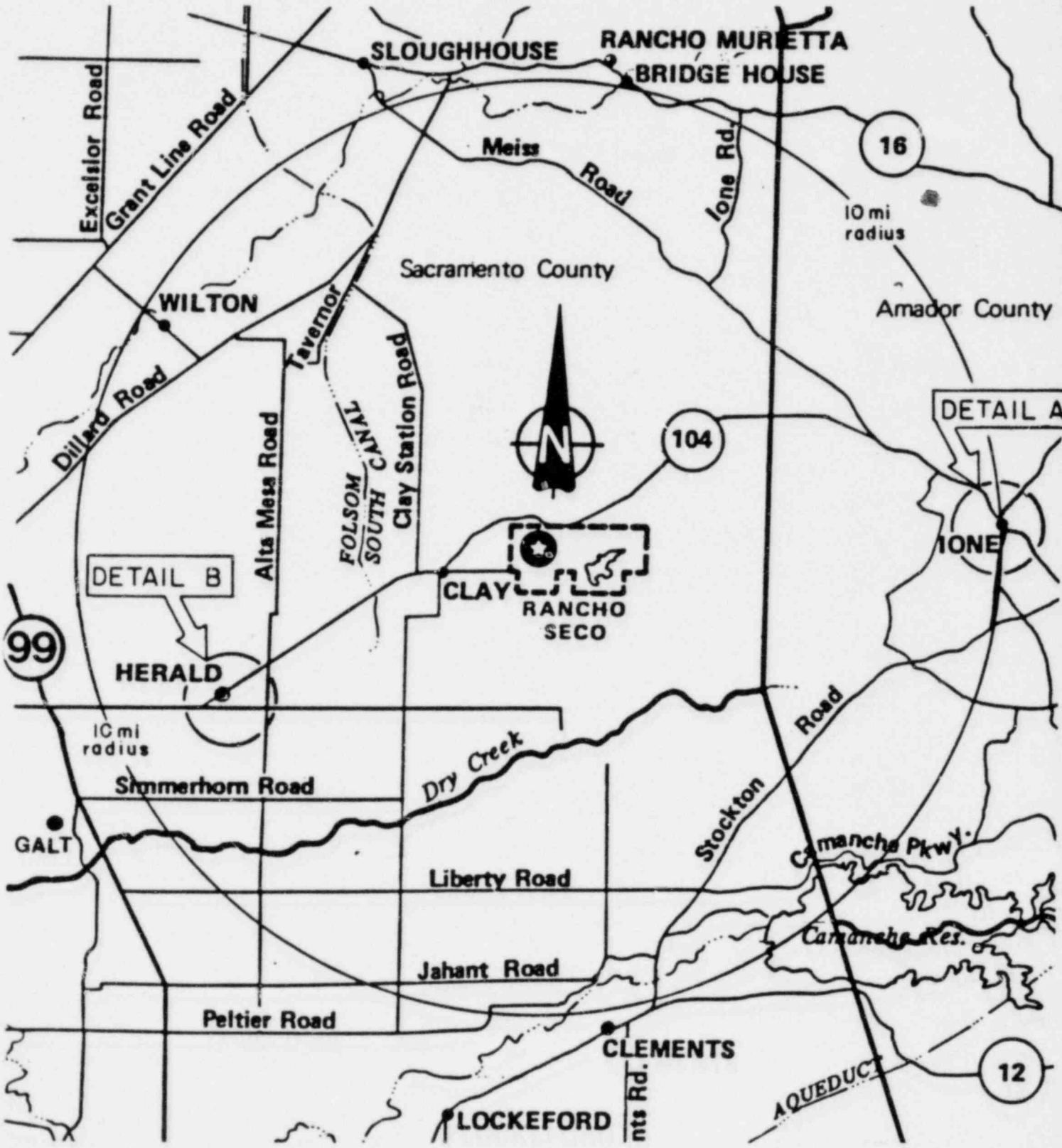
7.0 ATTACHMENTS

Revision No.

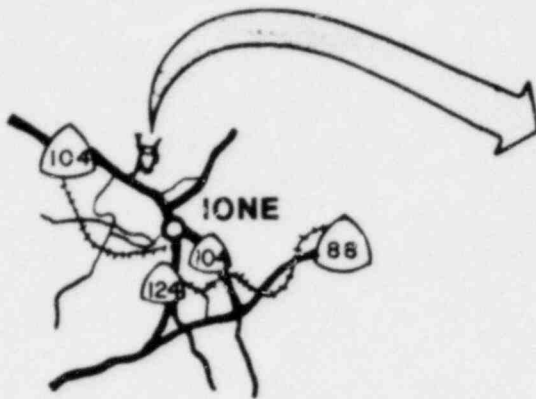
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|---|----------|
| 7.1 Location of Offsite Relocation Points | Original |
| 7.2 Herald Fire Station Floorplan and Communications Layout | Original |
| 7.3 Ione Fire Academy Map | Original |
| 7.4 Ione Offsite Relocation Point Communications Layout | Original |

ATTACHMENT 7.1

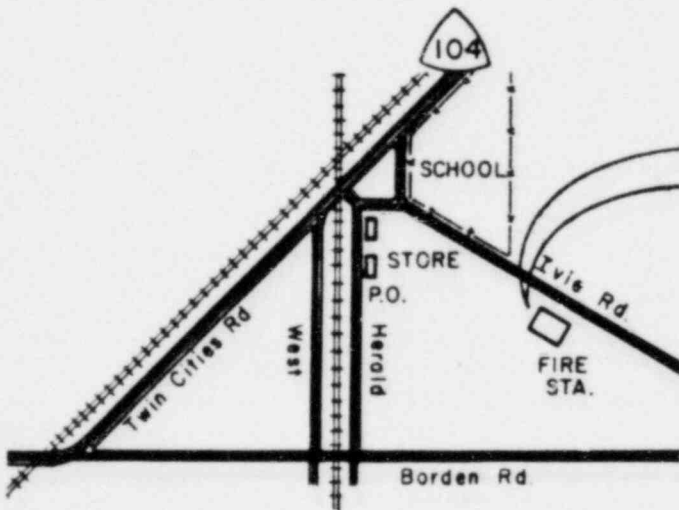
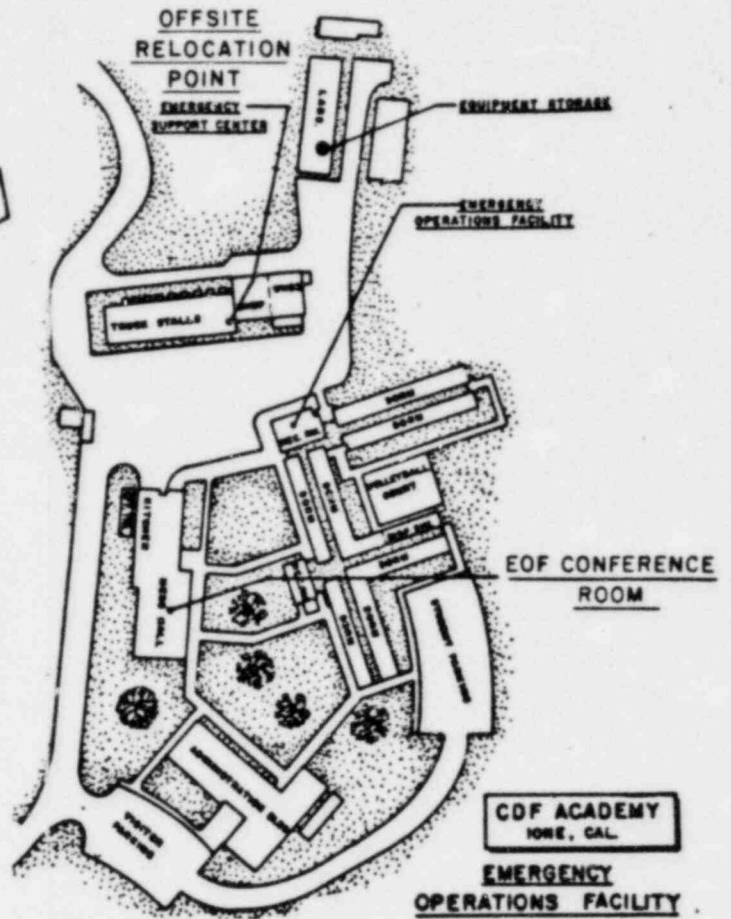
OFFSITE EVACUATION RELOCATION POINTS



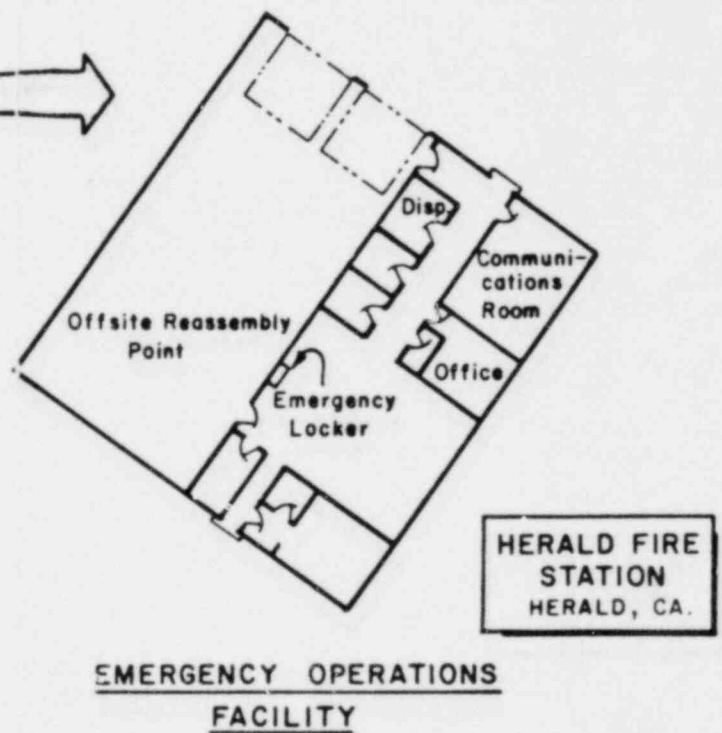
VICINITY MAP



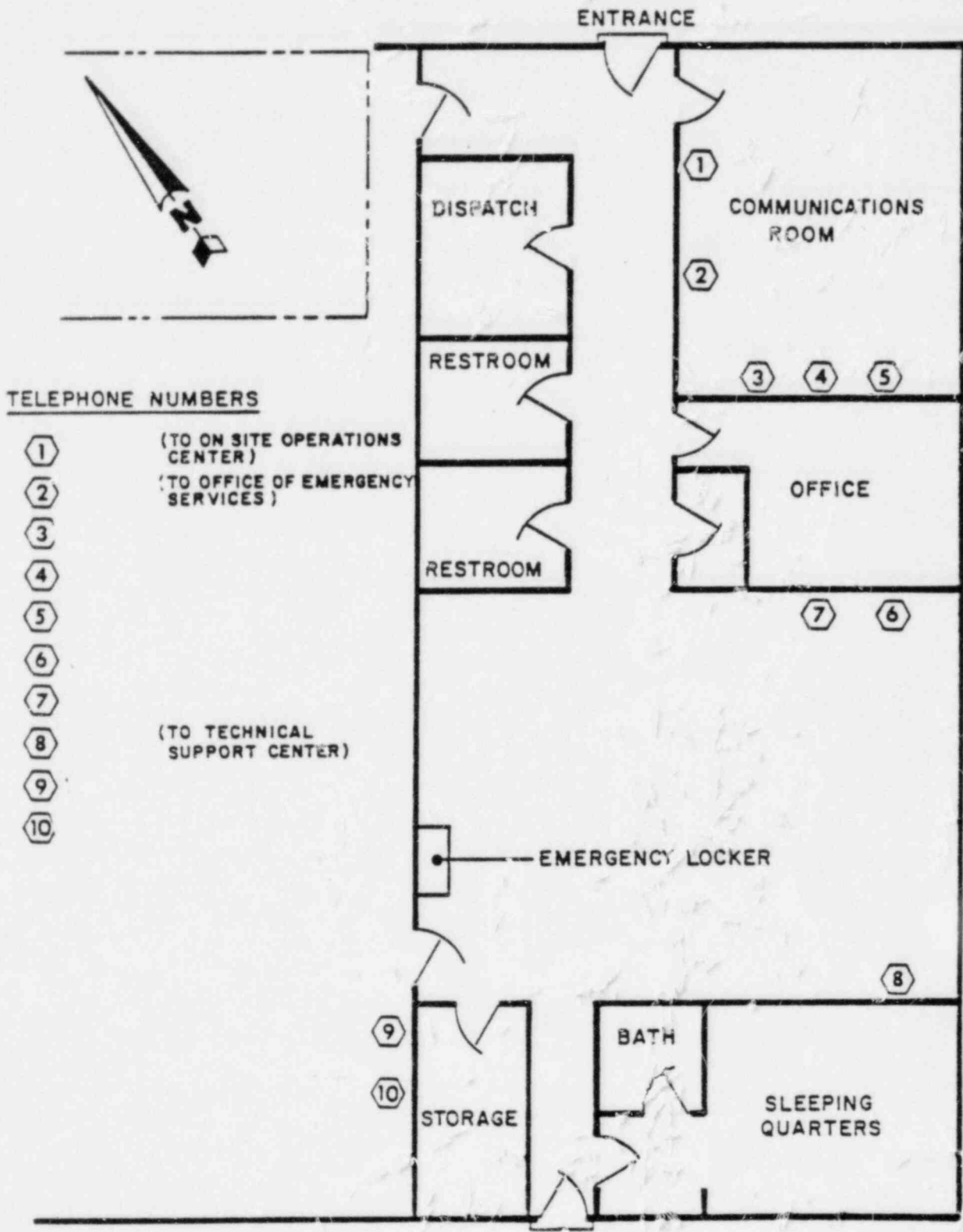
DETAIL A



DETAIL B



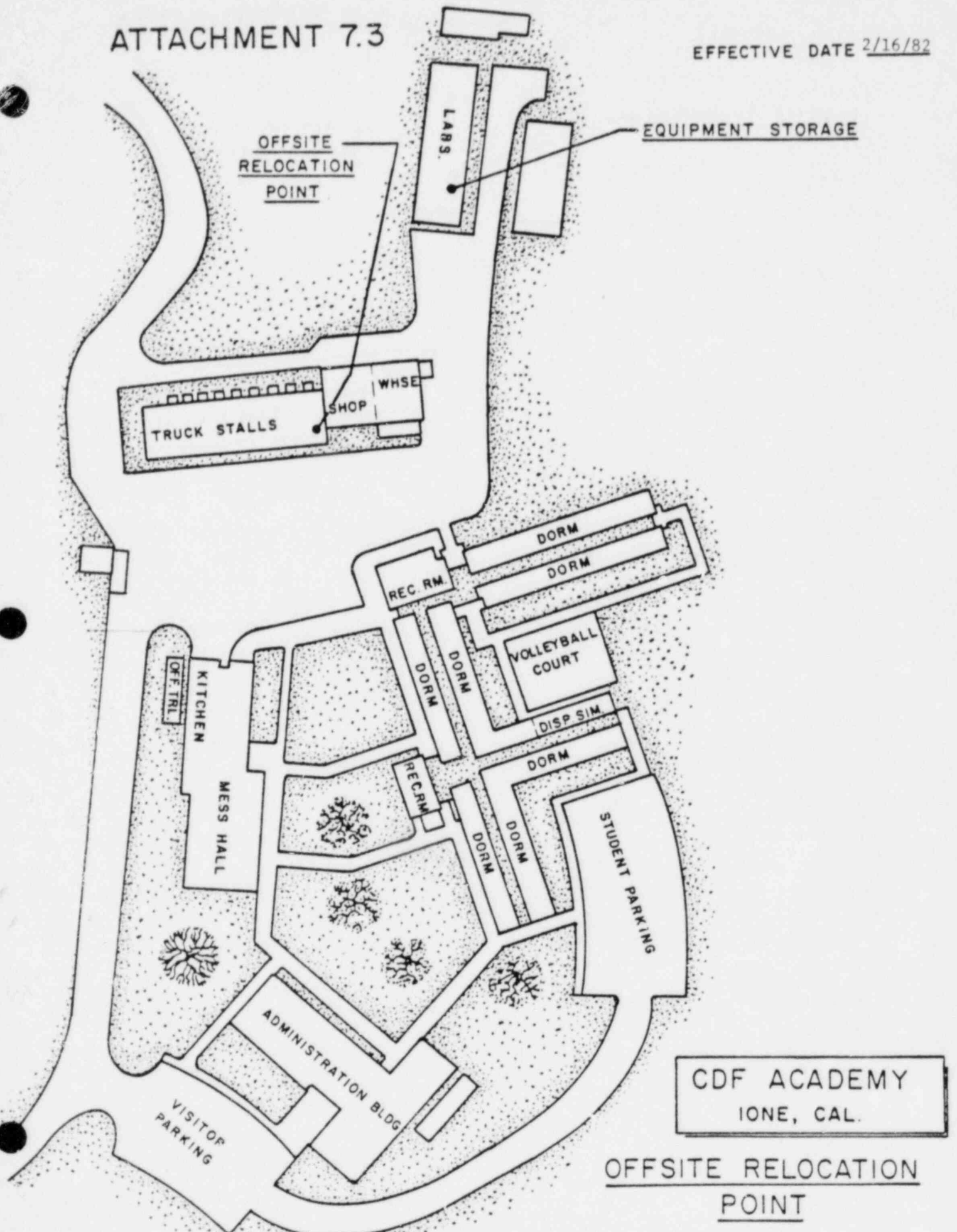
ATTACHMENT 7.2



OFFSITE RELOCATION POINT
HERALD FIRE STATION
HERALD, CA.

ATTACHMENT 7.3

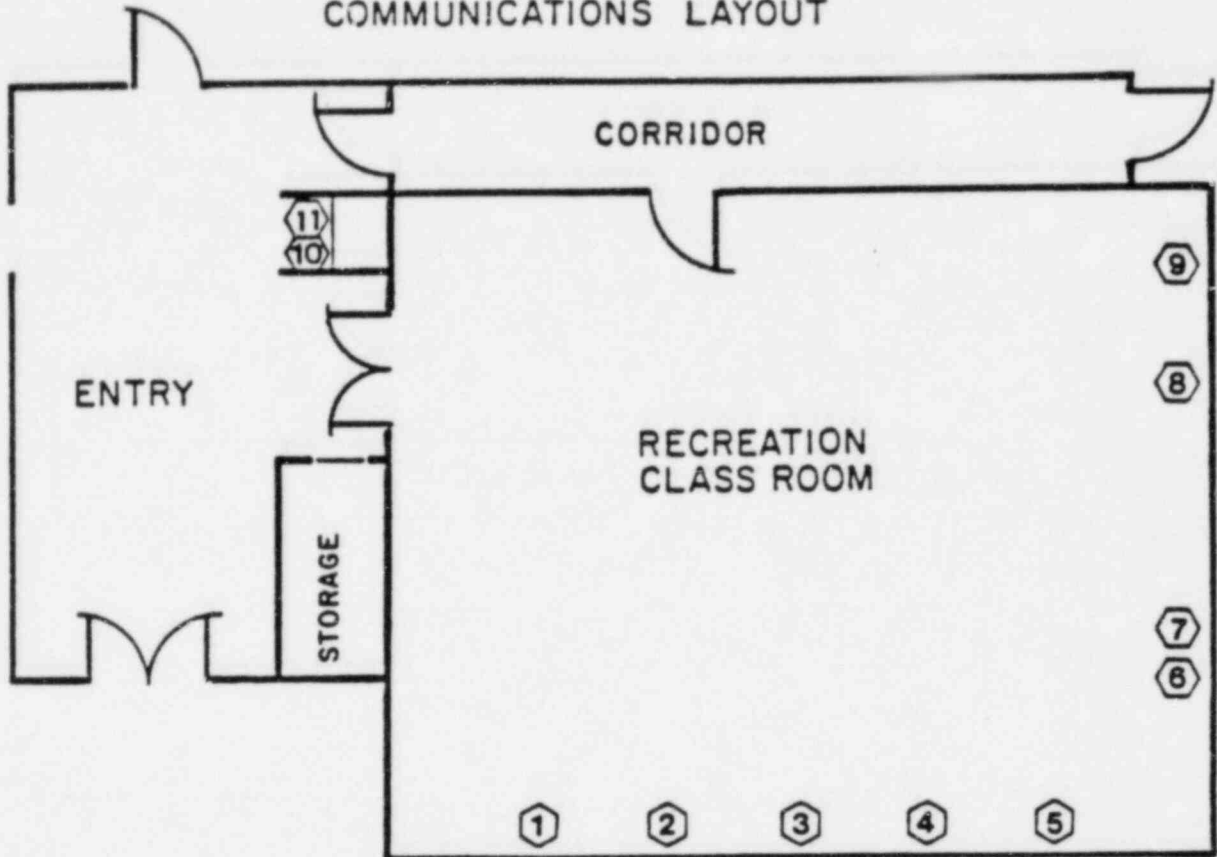
EFFECTIVE DATE 2/16/82



CDF ACADEMY
IONE, CAL.

OFFSITE RELOCATION
POINT

ATTACHMENT 7.4 COMMUNICATIONS LAYOUT

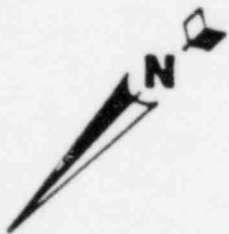


TELEPHONE NUMBERS

- ①
- ②
- ③
- ④
- ⑤
- ⑥
- ⑦
- ⑧
- ⑨

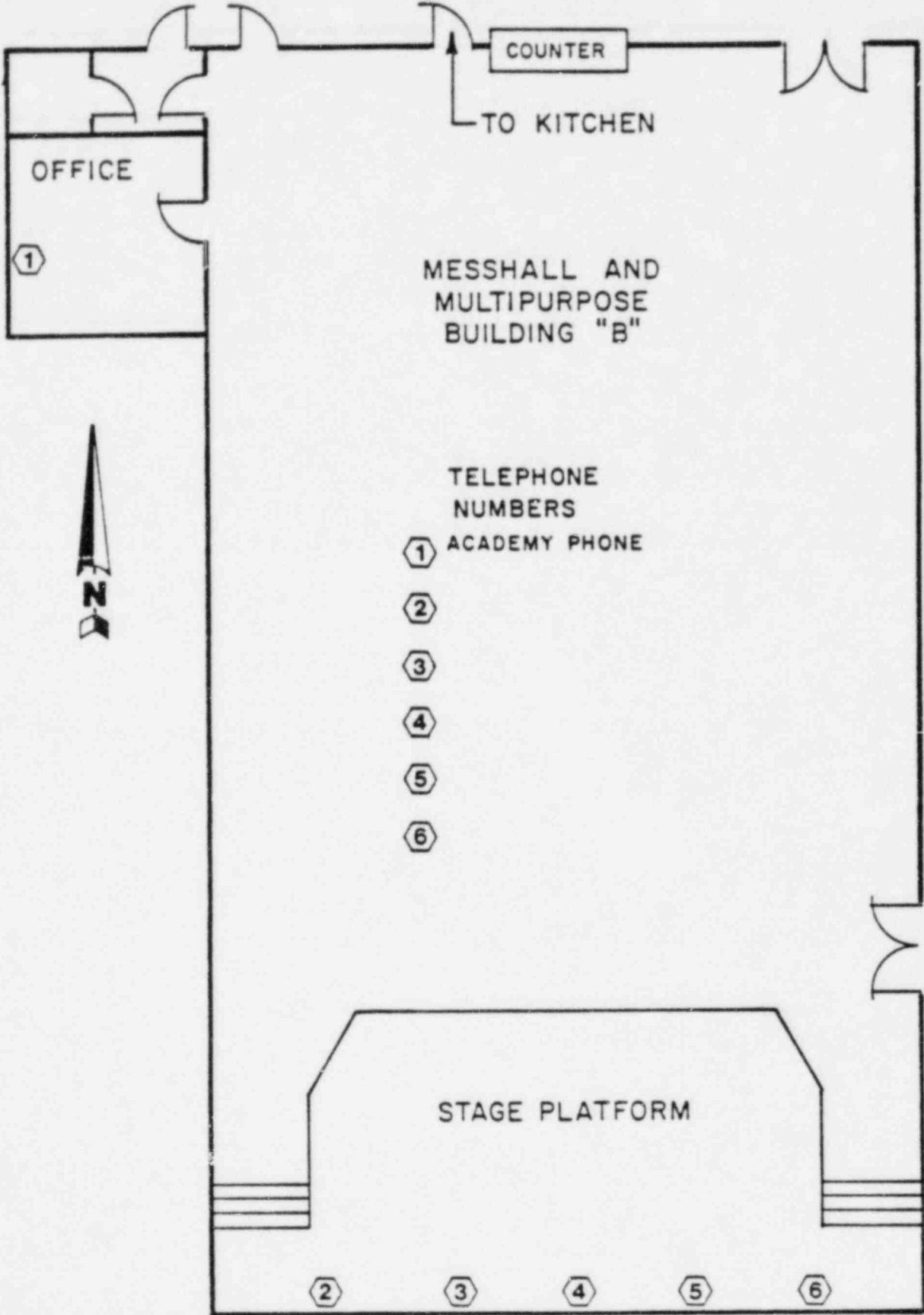
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- ⑪

PAY PHONE
ACADEMY PHONE

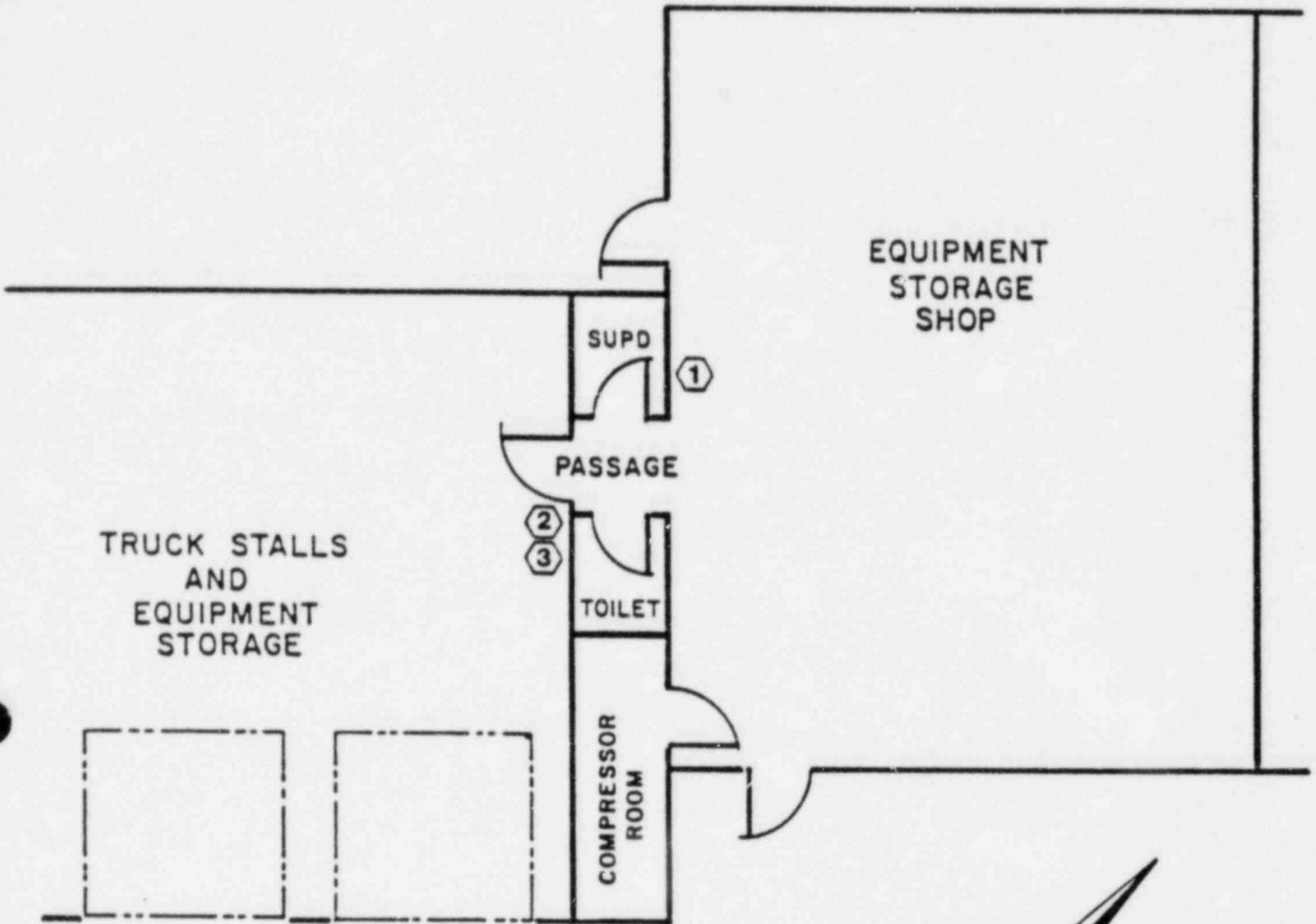


COMMUNICATIONS LAYOUT IONE FIRE ACADEMY

ATTACHMENT 7.4



COMMUNICATIONS LAYOUT
IONE FIRE ACADEMY



TELEPHONE NUMBERS

- (1) ACADEMY PHONE
- (2)
- (3)

COMMUNICATIONS
LAYOUT
IONE FIRE ACADEMY

SMUD - RANCHO SECO
EMERGENCY PLAN PROCEDURE

AP 553

ACTIVATION AND OPERATION OF THE EMERGENCY
OPERATIONS FACILITY

TABLE OF CONTENTS

	<u>Page No.</u>
1.0 PURPOSE.	2
2.0 RESPONSIBILITY	2
3.0 INITIATING CONDITIONS.	2
4.0 PRECAUTIONS AND LIMITATIONS.	3
5.0 INSTRUCTIONS	3
6.0 REFERENCES	6
7.0 ATTACHMENTS.	6

| 1

1.0 PURPOSE

- 1.1 The purpose of this procedure is to provide the guidance for the activation and the operations of the Emergency Operations Facility (EOF). | 1
- 1.2 The EOF will have facilities for the following:
 - 1.2.1 Management of overall emergency response;
 - 1.2.2 Coordination of off-site radiological and environmental assessment;
 - 1.2.3 Determination of recommended public protective actions;
 - 1.2.4 Coordination of the emergency response effort with County, State, and Federal agencies.
 - 1.2.5 Communications with the onsite organization, field monitoring teams, County, State, and Federal Agencies. | 1
- 1.3 The Emergency Operations Facility will be the focal point of the offsite organization. It will be manned by a compliment of SMUD personnel, NRC officials, and other federal, state, and local officials as necessary. The Emergency Operations Facility will provide official information to cognizant federal, state, and local government agencies.

2.0 RESPONSIBILITY

- 2.1 The Emergency Manager, with assistance from the Advisor to the County Emergency Organizations, is responsible for the operations of the EOF.
- 2.2 SMUD security is responsible for the activation of the EOF and maintaining security of the EOF.

3.0 INITIATING CONDITIONS

- 3.1 Upon the declaration of a Site Area or General Emergency.
- 3.2 At the discretion of the Emergency Coordinator, the EOF may be activated at the alert to support the TSC.

4.0 PRECAUTIONS AND LIMITATIONS

4.1 None.

5.0 INSTRUCTIONS

5.1 Activation

- 5.1.1 The Emergency Coordinator shall notify the General Office switchboard operator to call the offsite emergency organization in accordance with AP 506 Attachment 7.6.
- 5.1.2 SMUD security shall dispatch personnel with keys to unlock the EOF Attachment 7.1, and to control access in accordance with AP 525, "Security" Attachment 7.2.
- 5.1.3 Upon arrival at the EOF, the Emergency Manager/Advisor to the County shall ensure the following:
- a. The operability of all communications and computer equipment.
 - b. The availability of tables, chairs, status boards, etc.
 - c. The installation of phones in the Security and NRC area.
 - d. The activation of the Unified Dose Assessment Center. (AP 554)
 - e. The availability of sufficient office supplies.
 - f. The availability of Piping and Instrument Diagrams. (P + ID's)
 - g. The installation of a copier machine by the Services Department in the EOF.
 - h. All emergency personnel assignments listed in AP 506 Attachment 7.6 are staffed. Personnel who staff the EOF will refer to their respective attachments in AP 540 "Emergency Response Organization" for individual responsibilities.
- 5.1.4 The Emergency Manager will notify the Emergency Coordinator when the EOF is operational.

5.2 EOF Briefings Schedules

- 5.2.1 Briefings shall be scheduled as follows.
- a. An initial briefing on the emergency situation as soon as it has been determined that sufficient SMUD, County, and State representatives are present.

1

5.0 INSTRUCTIONS-contd.

- b. Briefing shall be held hourly following the initial briefing.
- c. Briefings shall be called immediately upon change(s) to the emergency conditions.

5.2.2 Hourly briefings will include the following personnel.

- a. Emergency Manager
- b. Advisor to the County Emergency Organizations
- c. UDAC Liaison
- d. Media Coordinators
- e. Sacramento County
- f. Amador County
- g. San Joaquin County
- h. State Office of Emergency Services
- i. Nuclear Regulatory Commission (NRC)
- j. Federal Emergency Management Agency (FEMA)

5.2.3 Format of the EOF Briefings shall be as follows:

- o Establish conference call with the County EOC's.
- o OPEN -Emergency Manager
- o COUNTY PROCEDURE 1.4 PROTECTIVE ACTION DECISION
(Prepared by the Advisor to the County Emergency Organizations)
- o DISCUSSION OF FOLLOW UP ISSUES
(If required.)

5.3 Technical Briefings

- 5.3.1 Technical Briefings, conducted by the Plant Status and Technical Information Coordinator, will be as needed for the purpose of discussing current plant conditions with all EOF personnel.

5.4 Status Boards

- 5.4.1 Status Board Maintenance will be the responsibility of SMUD clerical support.

6.0 REFERENCES

- 6.1 AP 540 "Emergency Response Organization"
- 6.2 AP 554 "Activation and Operation of the Unified Dose Assessment Center"
- 6.3 Rancho Seco Offsite Emergency Response Plan, Part III, Procedure 1.4.

1

7.0 ATTACHMENTS

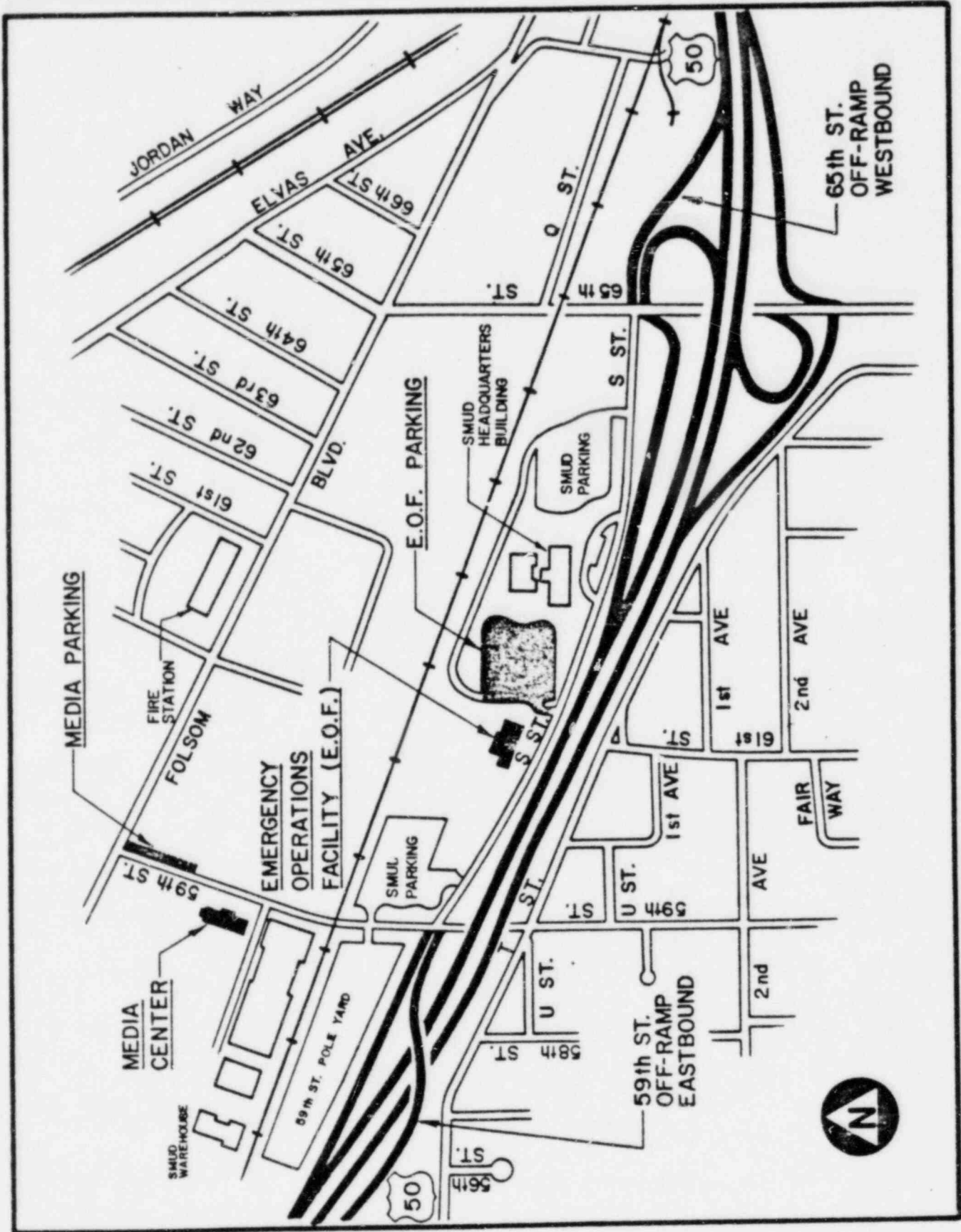
Revision No.

- 7.1 EOF Location Original
- 7.2 EOF Layout Original

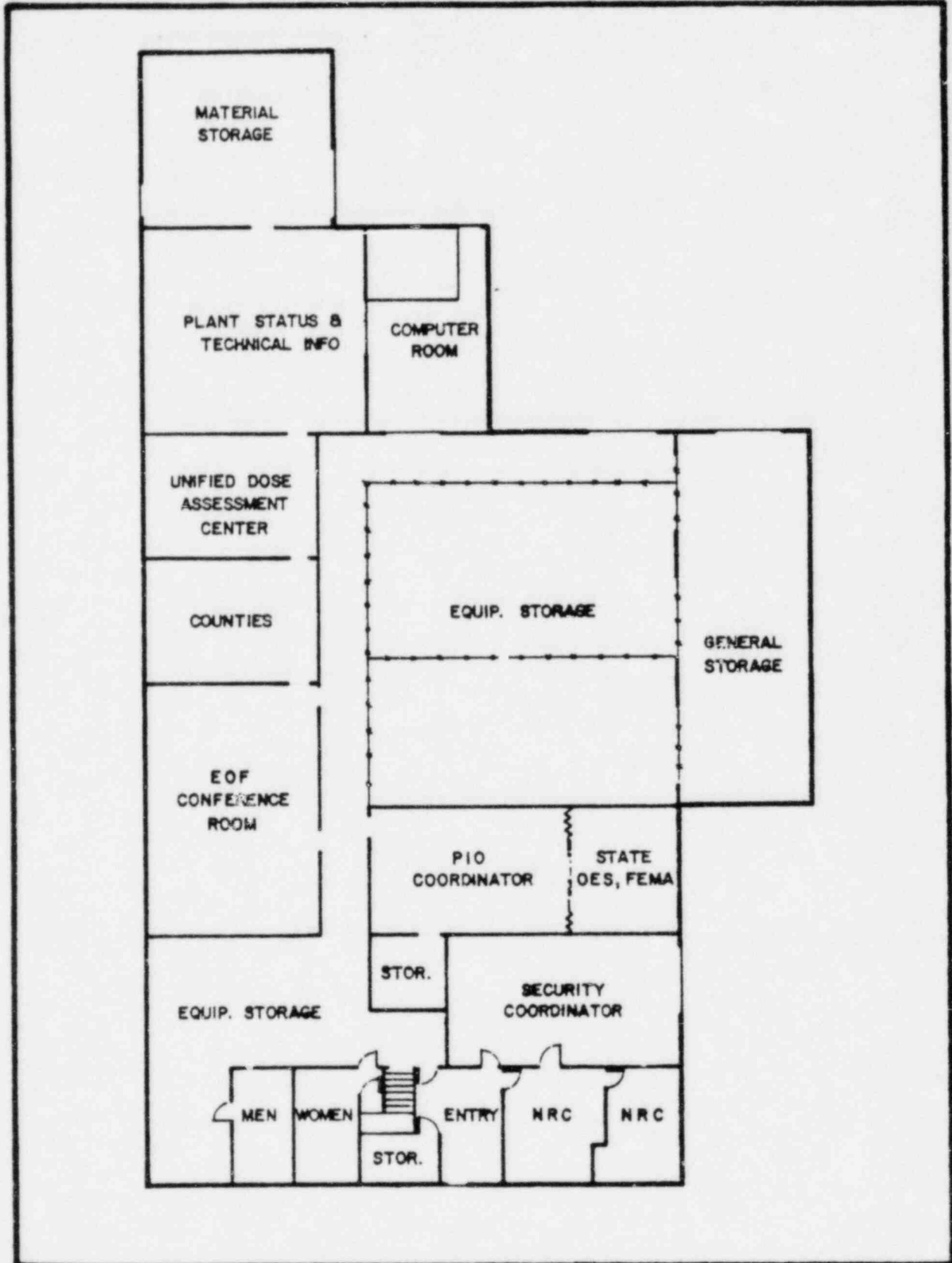
1

ATTACHMENT 7.1

EMERGENCY OPERATIONS FACILITY LOCATION



ATTACHMENT 7.2
EMERGENCY OPERATIONS FACILITY



SMUD - RANCHO SECO
EMERGENCY PLAN PROCEDURE

AP 554

ACTIVATION AND OPERATION OF THE UNIFIED DOSE ASSESSMENT CENTER

TABLE OF CONTENTS

	<u>Page No.</u>	
1.0 PURPOSE	2	
2.0 RESPONSIBILITY	2	
3.0 INITIATING CONDITIONS.	3	1
4.0 PRECAUTIONS AND LIMITATIONS.	4	
5.0 INSTRUCTIONS	4	
6.0 REFERENCES	7	
7.0 ATTACHMENTS.	7	

1.0 PURPOSE

- 1.1 To provide the guidance for activation and operations of the Unified Dose Assessment Center (UDAC).

1

2.0 RESPONSIBILITY

- 2.1 The Environmental Assessment Coordinator is responsible for overall management of the UDAC.
- a. The Environmental Assessment Coordinator reports to the Emergency Manager.
 - b. The Environmental Assessment Coordinator shall direct the UDAC staff to optimize their use of time, manpower, and available resources toward the accomplishment of the UDAC responsibilities.
- 2.2 SMUD, County, State Radiological Health, and Federal Personnel are responsible for performing dose calculations.
- 2.3 SMUD Clerical Support personnel are responsible for recording, status board plotting, and distribution of data to all UDAC personnel.
- 2.4 The County Radiological Monitoring Coordinator is responsible for the deployment of the Field Monitoring Teams.
- 2.5 The Sacramento County Communicator is responsible for receiving and forwarding all data obtained from field monitoring teams to the Environmental Assessment Coordinator.
- 2.6 State Radiological Health personnel are responsible for:
- a. The Dose Assessment Liaison will assist in dose calculations and quality control.
 - b. The Radiological Monitoring Liaison will assist the County Radiological Monitoring Coordinator in direction and control of the Field Monitoring Teams and the evaluation of the field data.
 - c. The Communications Liaison will assist the County Communicator.
- 2.7 The UDAC Liaison is responsible for presentation of data at the EOF briefings.
- 2.8 The County Radiological Monitoring Coordinator, with assistance from SMUD Clerical Support personnel, is responsible for collection and retention of all dose calculation and dosimetry record forms upon close out of the emergency.

2.0 RESPONSIBILITY-cont.

2.9 A National Weather Service Meteorologist will be requested by State OES to report to the EOF/UDAC and provide input and interpretation of meteorological information.

Note: UDAC personnel and assignments are listed in Attachment 7.1.

1

3.0 INITIATING CONDITIONS

3.1 A Site Area or General Emergency has been declared.

3.2 At the discretion of the Emergency Coordinator.

3.3 The Emergency Coordinator has directed the General Office Switchboard Operator to notify and activate the Offsite Emergency Organization.

1

4.0 PRECAUTIONS AND LIMITATIONS

4.1 None

5.0 INSTRUCTIONS

5.1 Immediate Actions

5.1.1 Upon notification by the SMUD General Office switchboard operator, the Environmental Assessment Coordinator shall report to the EOF/UDAC and immediately ensure that the following has been accomplished. (Attachment 7.2)

- a. Communications checks with the Field Command Posts.
- b. Procurement from the TSC of data for dose projections. (Attachment 7.3)
- c. Implementation of AP 512 "EOF Dose Calculations".

Note: From the EOF Dose Calculation (AP 512) a dose projection (downwind) based on the source term will be obtained.

- d. Availability of Status Boards, log sheets and other administrative supplies.
- e. Requesting of meteorological information from the National Weather Service. (See AP 506 "Notification/Communications" Attachment 7.7).

5.2 Subsequent Actions

5.2.1 The Environmental Assessment Coordinator will contact the Radiological Monitoring Coordinator at the TSC approximately every 15 minutes to obtain current radiological data utilizing Attachment 7.3.

5.2.2 The Radiological Monitoring Liaison will assist the County Radiological Monitoring Coordinator with deployment of field monitoring teams.

Note: The County Radiological Monitoring Coordinator will notify the Radiological Monitoring Supervisors at the Field Command Posts.

5.2.3 The Radiological Monitoring Coordinator will ensure that information is passed between the dose calculation group and the County Radiological Monitoring Coordinator.

5.2.4 Field Monitoring teams will conduct surveys and report results to the UDAC, via Field Command Posts, stating instruments used, data, and time.

1

5.0 INSTRUCTIONS-cont.

1

Note: Downwind radiation dose rates will be obtained for an actual release in this manner.

- 5.2.5 UDAC will perform dose projections.
- 5.2.6 The County Radiological Monitoring Coordinator and the Radiological Monitoring Liaison will determine the type and frequency of sampling and monitoring performed by the field monitoring teams.
- 5.2.7 Based on onsite sampling information, determinations of the possibility of particulate contamination may be made.
- 5.2.8 The UDAC Liaison shall attend hourly EOF briefings to present UDAC results.
- 5.2.9 The Environmental Assessment Coordinator shall ensure that hard copy distribution is made prior to each EOF briefing.
- 5.2.10 SMUD Clerical Support personnel will update status boards, logs, etc., based on information received from the UDAC personnel.
- 5.2.11 The Environmental Assessment Coordinator shall request all dose calculation forms and dosimetry record forms for retention from the Field Command Post upon the declaration of the close out.

5.3 Dose Calculations

- 5.3.1 The primary method for dose calculations will be AP 512.
- 5.3.2 The State RHB dose calculation procedures will be used for quality control.

5.4 UDAC Conferences

- 5.4.1 Frequency
 - a. Prior to the EOF Briefing.
 - b. Debriefing after the EOF Briefing.
 - c. As necessary to settle conflicts.
- 5.4.2 Purpose
 - a. Inform UDAC staff on plant conditions, status of protective actions, EBS messages, and news releases.
 - b. Resolve conflicts.
 - c. Optimize resources.

5.0 INSTRUCTIONS-cont.

5.5 Conflicts

If conflicts cannot be resolved within a UDAC conference, the individual will be directed to contact their agency counterpart that sits at the EOF Briefing and have this individual share their concerns.

1

6.0 REFERENCES

- 6.1 AP 506 "Notification/Communication".
- 6.2 AP 512 "EOF Dose Calculations".

7.0 ATTACHMENTS

- 7.1 UDAC Personnel and Assignments
- 7.2 EOF/UDAC Location and Facility
- 7.3 TSC Input Data Sheet

Revision No.

Original

Original

Original

1

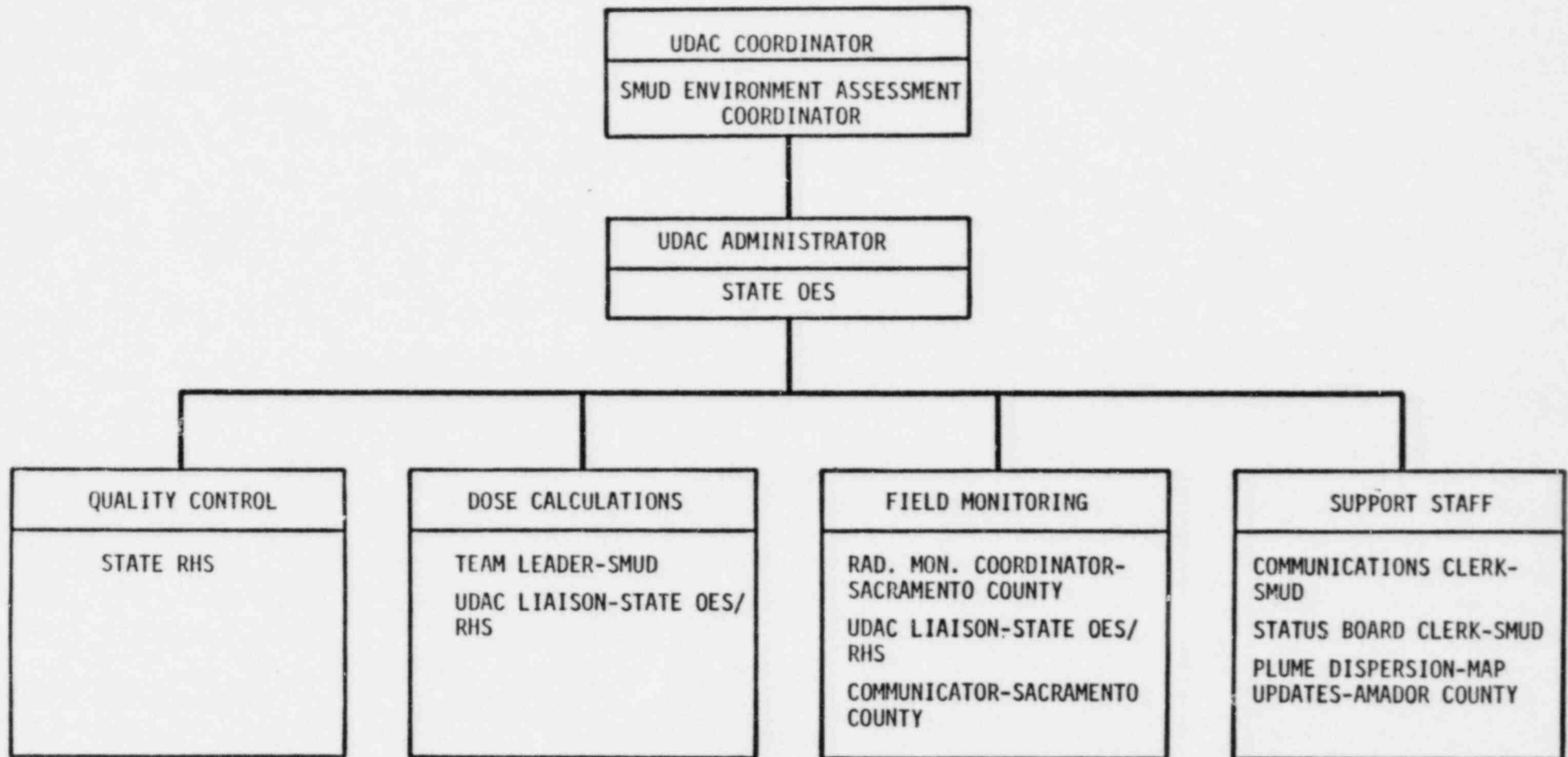
ATTACHMENT 7.1

UDAC PERSONNEL ASSIGNMENT

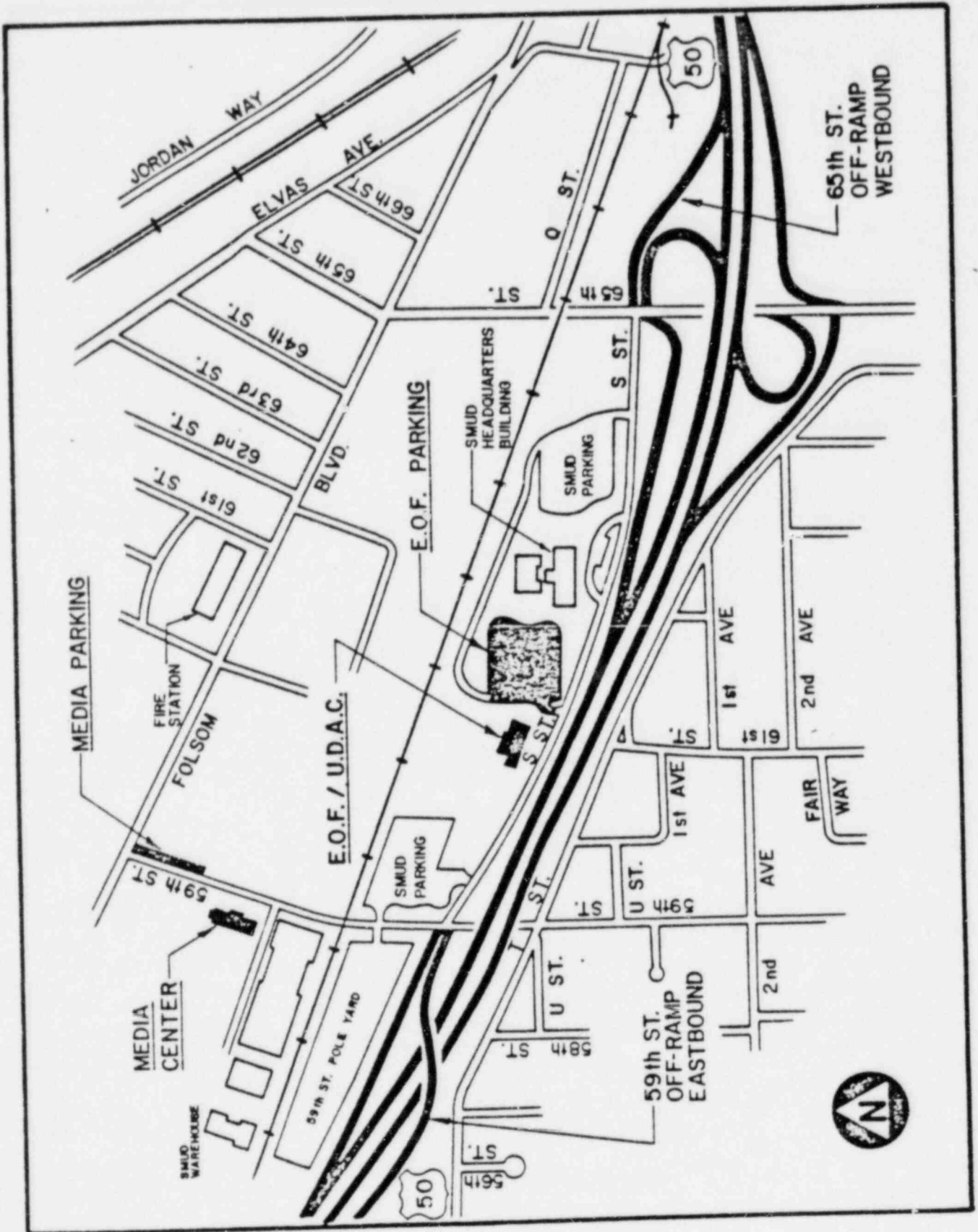
UDAC Coordinator	-	SMUD
UDAC Administrator	-	State OES
Dose Calculation Personnel	-	SMUD
	-	State OES/RHB
Plume Dispersion - Map Updates	-	Amador County
County Radiological Monitoring Coordinator	-	Sacramento County
Quality Control	-	State RHB
UDAC Communicator	-	Sacramento County
Clerical Support Personnel	-	SMUD
	-	SMUD
UDAC Liaison	-	State OES/RHB

ATTACHMENT 7.1

UDAC PERSONNEL ASSIGNMENT

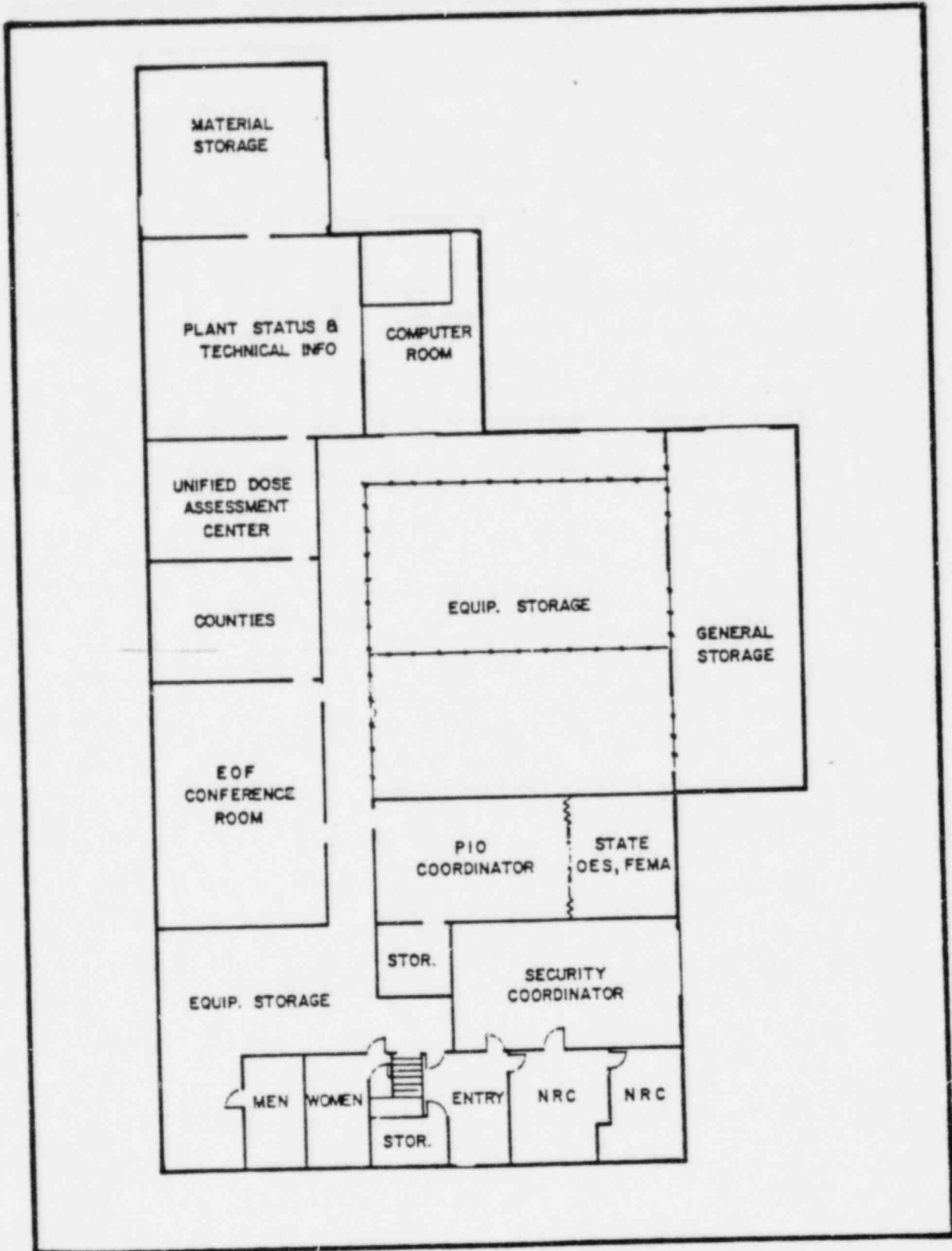


ATTACHMENT 7.2
E.O.F./UD.A.C. LOCATION



ATTACHMENT 7.2
E.O.F. / U.D.A.C. FACILITY

EFFECTIVE DATE: 6/16/82



ATTACHMENT 7.3
TSC INPUT DATA SHEET

Date: _____

Time: _____

Rx Shutdown _____
(date/time)

WEATHER

NOTES OR COMMENTS:

Stability Category

A B C D E F G

Average Wind Speed (MPH) _____

Wind Direction (°) _____

Standard Deviation _____

Delta T _____

RELEASE

Noble Gas Release Rate (Ci/sec) _____ at _____
(date/time)

I-131 Release Rte (Ci/sec) _____ at _____
(date/time)

_____ Projected Release

_____ Actual Release

Start Time of Release _____

End Time of Release _____

Duration of Release _____

MONITORING DATA

_____	R15040 (N)	_____
_____	R15041 (S)	_____
_____	R15042 (E)	_____
_____	R15043 (W)	_____

SMUD - RANCHO SECO
EMERGENCY PLAN PROCEDURE

AP 556

ACTIVATION AND OPERATION OF THE MEDIA CENTER

TABLE OF CONTENTS

	<u>Page No.</u>
1.0 PURPOSE	2
2.0 RESPONSIBILITY	2
3.0 INITIATING CONDITIONS	2
4.0 PRECAUTIONS AND LIMITATIONS	3
5.0 INSTRUCTIONS	3
6.0 REFERENCES	5
7.0 ATTACHMENTS	5

1.0 PURPOSE

- 1.1 To activate the Media Center at 59th and R Street.
- 1.2 To provide for the dissemination of information to the news media and public.

| 1

2.0 RESPONSIBILITY

- 2.1 The Media Center Coordinator and his staff are responsible for activation and operation of the Media Center.

3.0 INITIATING CONDITIONS

- 3.1 The Media Center Coordinator has been notified by the Nuclear Public Information Coordinator as a result of his being notified during the Initial Notification process.

| 1

4.0 PRECAUTIONS AND LIMITATIONS

- 4.1 No news release will be made without the following:
 - a. The Emergency Coordinator or the Plant Status and Technical Information Coordinator has reviewed the release for accuracy;
 - b. The Emergency Manager and/or Emergency Coordinator has approved the news release.
- 4.2 Media Center will be partially activated at the Unusual Event and/or Alert Levels.
- 4.3 The Media Center will become fully activated at the Site Area Emergency and/or General Emergency.

1
1

5.0 INSTRUCTIONS

5.1 Immediate Actions

- 5.1.1 The Media Center Coordinator and staff will activate the Media Center ensuring the following:
 - a. Adequate parking for the media (Attachment 7.1);
 - b. Phone communications for the media (Attachment 7.1);
 - c. Photocopy machine available (Attachment 7.1);
 - d. A model of the Rancho Seco Nuclear Generating Station Reactor is available;
 - e. Visual aids (films, slides, system diagrams, etc.) available;
 - f. Press kits available (See Attachment 7.2);
 - g. News release forms are available (Attachments 7.1 and 7.3, AP 569 "Release of Information to the Public").
 - h. The News Conference Room will have a minimum capacity for seating one hundred and forty media personnel.

1
1

5.2 Subsequent Actions

- 5.2.1 The Media Center Coordinator or his designate will obtain releasable information from the Nuclear Public Information Coordinator as information becomes available.

1

5.0 INSTRUCTIONS-contd.

5.2.2 News conferences will be held on the hour per Attachment 7.3 "Guidelines for News Conferences", or as needed.

5.2.3 Special interviews will be arranged during non-news conference time.

NOTE: Interviews will be held in the designated classroom.

5.2.4 Every effort will be made in releasing information to the media so deadlines can be met.

6.0 REFERENCES

6.1 AP 569 "Release of Information to the Public".

7.0 ATTACHMENTS

Revision No.

7.1 Media Center Diagram

Original

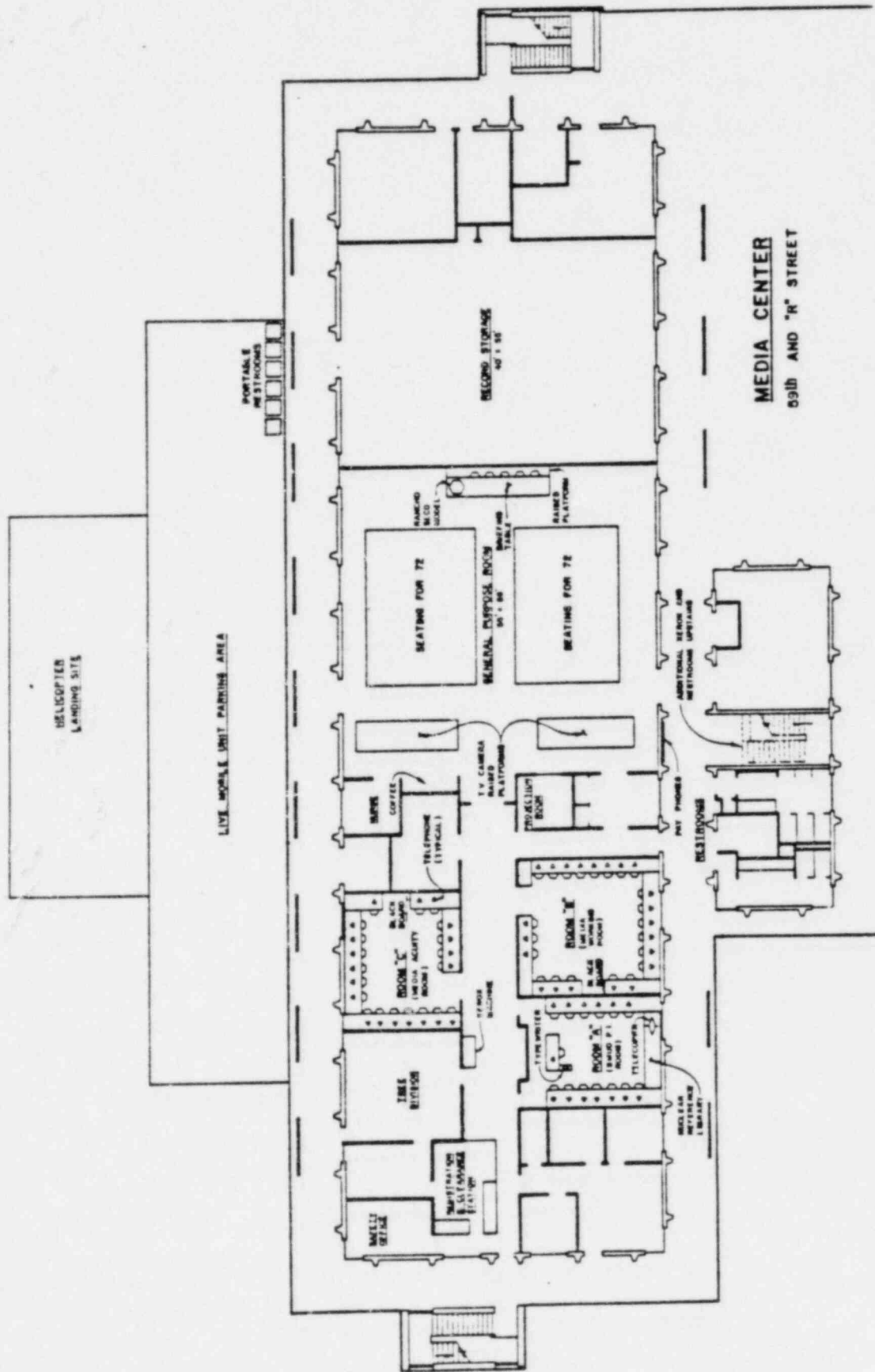
7.2 Press Kits

Original

7.3 Guidelines for News Conferences

Original

ATTACHMENT 7.1 MEDIA CENTER DIAGRAM



ATTACHMENT 7.2

PRESS KITS

- 1.0 Press kits have been prepared by the Public Information staff. They include:
 - a. A basic booklet, "Nuclear Power".
 - b. Black and white photos of the plant
 - c. Plant diagrams.
 - d. Fact sheets on the plant
 - e. A glossary of nuclear terms
- 2.0 Press kits are distributed to all news media on request either before or during the emergency.
- 3.0 The Public Information Specialist supervises the stocking and distribution of the press kits.

ATTACHMENT 7.3

GUIDELINES FOR NEWS CONFERENCES

- 1.0 News Conferences will be held on the hour or when needed in the General Purpose Room at 59th and R Street.
- 2.0 Based on seating capacity, all media will be invited to attend.
- 3.0 The Media Center Coordinator or the Nuclear Public Information Specialist will give news release information.
- 4.0 Qualified personnel will be present to aid in answering technical questions.

NOTE: Questions that cannot be answered by qualified Personnel or Technical Specialists shall be researched and checked for proprietary information and if releasable, will be presented in the next news conference.

- 5.0 SMUD personnel will tape (audio) news conferences.
- 6.0 Interviews will be set up between news conferences if personnel available for comment.

SMUD - RANCHO SECO
EMERGENCY PLAN PROCEDURE

AP 569

RELEASE OF INFORMATION TO THE PUBLIC AND MEDIA

TABLE OF CONTENTS

	<u>Page No.</u>	
1.0 PURPOSE.	2	
2.0 RESPONSIBILITY	2	
3.0 INITIATING CONDITIONS.	2	
4.0 PRECAUTIONS AND LIMITATIONS.	3	1
5.0 INSTRUCTIONS	3	
6.0 REFERENCES	5	
7.0 ATTACHMENTS.	5	

1.0 PURPOSE

This procedure delineates the requirements and actions necessary for the release of information to the public and news media concerning an emergency condition at the Rancho Seco Nuclear Generating Station which has required the activation of the Rancho Seco Emergency Plan.

2.0 RESPONSIBILITY

- 2.1 This procedure provides instructions to the Emergency Coordinator and the Emergency Manager regarding the mechanisms for approving the release of information to the public and news media. | 1
- 2.2 This procedure provides instructions to the Media Center Coordinator and the Nuclear Public Information Coordinator for preparation and release of information to the news media.
- 2.3 This procedure provides instructions to emergency organization personnel who may be called on to review news releases for technical accuracy.

3.0 INITIATING CONDITIONS

- 3.1 An emergency condition which requires activation of the Rancho Seco Emergency Plan has been declared by the Emergency Coordinator as defined in procedure AP 501 "Recognition and Classification of Emergency".
- 3.2 The Nuclear Public Information Coordinator has been notified by procedure AP 506 during the Initial Notification. | 1

4.0 PRECAUTIONS AND LIMITATIONS

- 4.1 All official District news releases will be issued only after being reviewed for technical accuracy and approved by the Emergency Manager or the Emergency Coordinator.
- 4.2 Routine news releases which do not involve events which require activation of the Rancho Seco Emergency Plan shall be made in accordance with standard administrative policies of the Rancho Seco Nuclear Generating Station.
- 4.3 During an emergency, any news media personnel who arrive at the plant site shall be directed by Security to the Media Center at 59th and R Street.
- 4.4 This procedure does not address the requirements and mechanisms for planning and holding of press conferences.
- 4.5 This procedure does not include guidelines and requirements of providing the public with recommendations for emergency actions or responses.

1

5.0 INSTRUCTIONS

5.1 Immediate Actions

- 5.1.1 The Nuclear Public Information Coordinator will notify the Media Center Coordinator.
- 5.1.2 The Media Center Coordinator will report to and activate the Media Center per procedure AP 556.
- 5.1.3 The Nuclear Public Information Coordinator will prepare the Initial News Release by:
 - a. Establishing communications with the Technical Report Coordinator and obtaining a short description of the event.
 - b. Completing the Initial News Release (Attachment 7.1).
 - c. Obtaining a verbal approval of the Initial News Release from the Emergency Coordinator.
- 5.1.4 The Nuclear Public Information Coordinator shall inform the Media Center Coordinator of the Initial News Release.
- 5.1.5 The Media Center Coordinator will direct his staff to communicate the Initial News Release to the news media, (Attachment 7.2).

1

5.0 INSTRUCTIONS-contd.

5.2 Subsequent Actions

- 5.2.1 The Nuclear Public Information Coordinator shall consider relocating to the Technical Support Center or to the Media Center upon the declaration of an Unusual Event of Alert.
- 5.2.2 The Nuclear Public Information Coordinator shall relocate to the Emergency Operations Facility upon the declaration of a Site Area or General Emergency.

5.3 Recurring Actions

- 5.3.1 The Nuclear Public Information Coordinator shall prepare additional news releases (Attachment 7.3) when information becomes available.
- 5.3.2 The Media Center Coordinator shall ensure the posting of all news releases in the EOF, Media Center (if activated) and the General Manager's Office.

5.4 EOF Operational

- 5.4.1 The Nuclear Public Information Coordinator will sit in on the EOF briefings and EOF Technical briefings.
- 5.4.2 The Nuclear Public Information Coordinator will coordinate all news releases with the various PIO representatives within the EOF.
- 5.4.3 The Nuclear Public Information Coordinator will transmit to the Media Coordinator at the Media Center news releases for distribution to the media.

1

6.0 REFERENCES

6.1 AP 501 Recognition and Classification of Emergency

| 1

7.0 ATTACHMENTS

Revision No.

7.1 News Release Form Original

7.2 Media Notification List Original

7.3 Follow-up News Release Form Original

ATTACHMENT 7.1

PREPARED STATEMENTS FOR THE NEWS MEDIA

NEWS RELEASE DRAFT FOR NOTIFICATION OF AN UNUSUAL EVENT

(Date and time of news release)

Sacramento Municipal Utility District notified Federal, State, and local officials at _____ of an Unusual Event at their Rancho Seco Nuclear Generating Station.
(Date and Time)

As required by the NRC, an Unusual Event is declared for an other-than-normal plant condition not requiring an emergency response from the surrounding counties, the State of California, or the general public.

The Unusual Event was declared as a result of the following events:

(Describe events.)

The Sacramento Municipal Utility District stated that the plant is
(shut down.)
(operating at reduced power.)
(in the process of being shut down.)
(operating normally.)

Further details will be provided to the public and news media as they become available.

The Rancho Seco Nuclear Generating Station is a 913-MW nuclear power plant owned and operated by the Sacramento Municipal Utility District and is located approximately 23 miles southeast of Sacramento.

Prepared by: _____

Reviewed by: _____

Approved by: _____
(Emergency Manager or
Emergency Coordinator)

ATTACHMENT 7.1

PREPARED STATEMENTS FOR THE NEWS MEDIA

NEWS RELEASE DRAFT FOR AN ALERT

(Date and time of news release)

Sacramento Municipal Utility District notified Federal, State, and local officials at _____ of an Alert situation at their Rancho Seco Nuclear Generating Station.
(Date and Time)

As required by the NRC, an Alert is declared for an actual or potential degradation of plant safety systems. Any release of radioactivity would be small and undetectable beyond a one-half mile radius of the plant.

The ALERT was declared as a result of the following events:

(Describe events.)

The Sacramento Municipal Utility District stated that the plant is
(shut down.)
(operating at reduced power.)
(in the process of being shut down.)
(operating normally.)

Further details will be provided to the public and news media as they become available.

The Rancho Seco Nuclear Generating Station is a 913-MW nuclear power plant owned and operated by the Sacramento Municipal Utility District and is located approximately 23 miles southeast of Sacramento.

Prepared by: _____

Reviewed by: _____

Approved by: _____
(Emergency Manager or
Emergency Coordinator)

ATTACHMENT 7.1

PREPARED STATEMENTS FOR THE NEWS MEDIA

NEWS RELEASE FOR A SITE AREA EMERGENCY

(Date and time of news release)

Sacramento Municipal Utility District notified Federal, State, and local officials at _____ of a Site Area Emergency at their Rancho Seco Nuclear Generating Station.
(Date and Time)

As required by the NRC, a Site Area Emergency is declared for actual or potential failure of major plant functions needed to protect the public. Any release of radioactivity may affect areas within a one-half mile radius of the plant.

The Site Area Emergency was declared as a result of the following events:

(Describe events.)

The Sacramento Municipal Utility District stated that the plant is
(shut down.)
(operating at reduced power.)
(in the process of being shut down.)
(operating normally.)

Further details will be provided to the public and news media as they become available.

The Rancho Seco Nuclear Generating Station is a 913-MW nuclear power plant owned and operated by the Sacramento Municipal Utility District and is located approximately 23 miles southeast of Sacramento.

Prepared by: _____

Reviewed by: _____

Approved by: _____
(Emergency Manager or
Emergency Coordinator)

ATTACHMENT 7.1

PREPARED STATEMENTS FOR THE NEWS MEDIA

NEWS RELEASE FOR A "GENERAL EMERGENCY"

(Date and time of news release)

Sacramento Municipal Utility District notified Federal, State, and local officials at _____ of a General Emergency at their Rancho Seco Nuclear Generating Station.
(Date and Time)

As required by the NRC, a General Emergency is declared for actual or imminent releases of radioactivity which may require protective actions by the general public.

The General Emergency was declared as a result of the following events:

(Describe events.)

The Sacramento Municipal Utility District stated that the plant is
(shut down.)
(operating at reduced power.)
(in the process of being shut down.)
(operating normally.)

Further details will be provided to the public and news media as they become available.

The Rancho Seco Nuclear Generating Station is a 913-MW nuclear power plant owned and operated by the Sacramento Municipal Utility District and is located approximately 23 miles southeast of Sacramento.

Prepared by: _____

Reviewed by: _____

Approved by: _____
(Emergency Manager or
Emergency Coordinator)

ATTACHMENT 7.2
MEDIA NOTIFICATION LIST

<u>WIRE SERVICE</u>	<u>TELEPHONE NO.</u>	<u>IF NO ANSWER</u>
Associated Press		or

United Press International

<u>RADIO</u>	<u>TELEPHONE NO.</u>	<u>IF NO ANSWER</u>
KGNR		or

KFBK

KRAK

KJOY (Stockton)

KXOA

KSFM (Woodland)

KROY

<u>TELEVISION</u>	<u>TELEPHONE NO.</u>	<u>IF NO ANSWER</u>
KCRA TV (3)		
KOVR TV (13)		
KTXL TV (40)		
KXTV TV (10)		

KCRA TV (3)

KOVR TV (13)

KTXL TV (40)

KXTV TV (10)

<u>NEWSPAPERS</u>	<u>TELEPHONE NO.</u>	<u>IF NO ANSWER</u>
Sacramento Bee		
Sacramento Union		
Chronicle (San Francisco)		

Sacramento Bee

Sacramento Union

Chronicle (San Francisco)

ATTACHMENT 7.3

FOLLOW-UP NEWS RELEASE FORM

Release Number: _____ Originator _____

Date/Time: _____ / _____