

ÉVALUATION FINDINGS
DIABLO CANYON NUCLEAR POWER PLANT
OFFSITE EMERGENCY RESPONSE PLANS EXERCISE

AUGUST 19, 1981

Date
8109150332

EXECUTIVE SUMMARY..

Pursuant to tasking identified in FEMA directives and related letters, FEMA Region IX and the Regional Assistance Committee (RAC) began preparation in May 1981 to evaluate the exercise, scheduled for August 19, 1981, at the Diablo Canyon Nuclear Generating Station, San Luis Obispo, California. The exercise included offsite jurisdictional play by the County and the City of Morro Bay. Resident State agencies including, State Parks and Beaches, California Highway Patrol, and CALTRANS played fully both in the field and in the EOC. The State of California Office of Emergency Services and Radiological Health Section, Department of Health Services, also participated in the exercise. The Nuclear Regulatory Commission (NRC), Region V, evaluated onsite utility actions of the Pacific Gas and Electric Company (PG&E), the principal owner. FEMA Region IX and support staff from other agencies evaluated State and local jurisdictional play.

Following the exercise, an assessment of the exercise events was made by the 28 person evaluation team and a general finding determined within 24 hours (in accordance with FEMA Guidance Memorandum #17) through a pyramidal critique process. An informal debriefing was scheduled for Friday, August 21, 1981, to provide cursory critique input to the jurisdictions that played. Subsequent preparation of final findings for the record have been prepared and are the content of this document.

Team member activities and requirements were identified in an evaluator's packet. Advance briefings and reviews of plans were conducted, as well as an evaluation team briefing the afternoon before the exercise (August 18). An evaluation team coordinator (Team Chief) served as an advance party to receive team members and provide coordination in advance of formal initiation activities on the day prior to the exercise.

The scenario was specifically site-oriented and was limited to an initiating event and cue cards for field radiation readings by field team members. All offsite jurisdictional play was as a result of message traffic from the utility. The following generally summarizes the FEMA Evaluation Team findings. It was developed through a consolidation process following the exercise and represents general comments relating to key findings. The observations and resultant findings were based upon these primary factors: adherence to execution of present planning; demonstration of the ability to meet the basic criteria identified in NUREG 0654/ FEMA REP-1.

We felt that the exercise participants were to be highly commended for their efforts to prepare for this evaluation and for the full participation observed by all the evaluators. These findings are presented with suggested recommendations which are to be incorporated into subsequent planning, training, drill, or exercise activities.

Overall, each jurisdiction and agency demonstrated a very active, dynamic, and highly enthusiastic level of play during the exercise. The participants demonstrated a good capability to handle the exercise events and challenges. The following items represent a brief sample of the findings:

1. Protective action recommendations from the utility appeared to bypass the UDAC and go directly to the EOC. This caused some problems as the EOC had to backtrack to consult with the UDAC on these matters.

2. There is a need for a Health Physicist at the Media Center to assist in technical explanations.

3. The lead public information officer should be located closer to the Media Center.

4. An improved system is needed to coordinate information from the EOC with all the cities in the plume exposure zone.

5. Improved meteorological forecasting and display are needed in the UDAC and the EOC.

6. Regular status briefings in the UDAC, similar to those provided in the EOC, are needed to ensure consistent information sharing.

7. The UDAC Chief could not adequately control or communicate with his field monitors under the existing communications arrangement.

8. Field monitors should have additional training in respiratory protection.

9. Not all emergency response field personnel were familiar with basic self-protection items like KI and dosimeters.

All of the concerns identified in this exercise evaluation are correctable through training, drills, plan revisions, or purchase of equipment. We believe that the necessary corrective actions will be taken as part of the ongoing emergency planning process in the County.

The evaluation conclusion is that due to the planning effort to date and the full participation by all participants, the exercise succeeded in its three basic goals. First, it demonstrated a capability to respond to a developing emergency situation, second, it served as an excellent training device, and third, it highlighted potential problem areas to be corrected.

TABLE OF CONTENTS

<u>PART</u>		<u>PAGE</u>
I	EXERCISE EVALUATION OVERVIEW	
	A - Exercise Development and Operation	I-1
	B - Team Makeup	I-3
	C - Objectives and Guidelines	I-4
	D - Events Log	I-6
II	EXERCISE EVALUATION FINDINGS AND RECOMMENDATIONS	
	A - Introduction	II-1
	B - General Findings and Recommendations	II-1
	1. - San Luis Obispo County Emergency Operating Center (EOC)	II-2
	2. - Unified Dose Assessment Center (UDAC)	II-9
	a. Emergency Operations Facility (EOF)	II-13
	b. Field Monitoring Teams	II-14
	c. Mobile Laboratory	II-17
	d. Ingestion Pathway Sampling Team	II-21
	3. - Public Information Center/Media Center	II-22
	4. - State Parks and Beaches	II-27
	5. - City of Morro Bay Emergency Operating Center	II-29
	6. - Reception and Care	II-31
	7. - Medical/Hospital	II-33
	C - Elements Not Observed	II-35

PART I

EXERCISE EVALUATION OVERVIEW

A. EXERCISE DEVELOPMENT AND OPERATION

FEMA Region IX initiated development of an evaluation team with the assistance of the Regional Assistance Committee (RAC) Federal agencies, particularly DOE who provided 6 evaluators at their expense. A total of 27 evaluators, under the direction of a FEMA Region IX Team Chief, completed approximately ten hours of preparatory training, including review of appropriate plans relative to their areas of evaluation.

Scenario development was accomplished by Pacific Gas and Electric Company based on their own knowledge of plant mechanics and coordination with FEMA Region IX regarding exercise requirements. The scenario essentially was composed of an initiating event and cue cards for field monitoring teams. Local jurisdictions and the utility determined the depth of participation or level of exercise play each would demonstrate based on general exercise guidance provided by the FEMA Regional office. Subsequent review of the product by Regional staff resulted in concurrence and acceptance of the scenario, objectives, and guidelines (extent of local jurisdiction play).

The utility, EDS Nuclear, Inc., acting as a consultant to the utility, and local jurisdictions identified personnel to serve as "controllers," while FEMA staff were to serve solely as evaluators.

Prior to the exercise, meetings were held to review evaluation procedures, scenario events, objectives, and related procedural concerns. (A controller's meeting was called by the utility to review last-minute concerns and to hand out cue cards to controllers.

Coordination between NRC Region V and FEMA Region IX was effected on July 21 to identify areas of evaluation, scenario development, and guidelines of play. It was agreed that the Offsite Interim EOF was to be jointly evaluated by FEMA and NRC evaluators due to the combined nature of its operation.

The evaluation team consisted of FEMA Region IX personnel as well as Regional Assistance Committee organizational support from DOE, NRC, NWS, HHS, FDA, and DOT. A total of 27 evaluators were assigned to cover 2 EOC locations and 10 field activities. This depth of coverage was considered appropriate due to the level of organizational development, training, and observed drills at the time of the exercise. Evaluators were given approximately 10 hours training to cover evaluation techniques as well as plan review and a general overview of jurisdictional capability. An evaluator's packet was developed to provide further guidance regarding exercise objectives, agenda of events, and depictions of suggested critique format. Teams were generally site-oriented and Team Leaders served to coordinate team operations and consolidate findings.

This exercise was conducted on August 19, 1981, between the hours of 7:00 a.m. and 4:30 p.m. Following the exercise, an evaluator's debriefing session was held to discuss the flow of events at the various locations. This was to bring a perspective to the site-specific evaluation process and to corroborate various communications actions during the exercise. Subsequent to this session, team members and leaders worked to consolidate their findings and provide those findings to the Evaluation Team Chief and Deputy Team Chief. They in turn formulated a preliminary finding for issuance to the exercise participants in an informal debriefing on Friday, August 21, 1981.

The findings resulting from the review of all team members' evaluations and resultant group discussions were developed within 14 days of the exercise. They were reviewed by the RAC Chairman, FEMA Region IX Plans and Preparedness Division Director, and the FEMA Regional Director, and are reflected in the following pages.

Those findings reflecting recommendations for corrective action are expected to be reviewed and integrated into planning, training, and drill activities at the earliest opportunity. The County should establish a corrective action plan(s) and provide a summary to FEMA Region IX within 60 days of receipt of this finding. FEMA Region IX and the State of California Office of Emergency Services should be advised of all drills and exercise efforts so that records of events and evaluations of performance, where appropriate, can be established. Plan changes or revisions should be forwarded through the State of California Office of Emergency Services to FEMA Region IX for review and comment.

Clarifications or further information regarding these findings should be addressed to Mr. John W. Eldridge, Jr., Project Representative for FEMA Region IX.

DIABLO CANYON NUCLEAR POWER PLANT
OFFSITE EMERGENCY RESPONSE EXERCISE
AUGUST 19, 1981
FEMA/RAC REGION IX
LIST OF EVALUATORS AND ASSIGNMENTS

EOC

Team Leader:	J. Eldridge	FEMA
Members:	R. Sandwina	RAC (FEMA)
	T. Knight	FEMA
	R. Carlton	FEMA
	J. Guido	AZ Div Rad Hlth
	B. Patterson	FEMA

UDAC/EOF

Team Leader:	F. Fong	RAC (DOE)
Members:	K. Nauman	FEMA
	M. Mogil	RAC (NWS)
	D. Stevenson	FDA
	D. Kunihiro	NRC

MEDIA CENTER

Team Leader:	V. Paule	FEMA
Members:	H. Bowden	DOE
	V. Guzman	FEMA

EVACUATION/RECEPTION AND CARE

Team Leader:	R. Manuel	RedCross (FEMA)
Member:	M. Wordsman	FEMA

FIELD MONITORING TEAMS

Team Leader:	D. Stevenson	FDA
Monitoring Team #1:	J. Orcutt	DOE (REECO)
Monitoring Team #2:	M. Chilton	DOE (REECO)
Mobile Unit:	R. Morris	DOE (LLNL)
Ingestion Pathway Sampling Team:	M. Seal	RAC (FDA)
	F. Bold	DOE (GACO)

CHP/CALTRANS/SHERIFF:

M. Sullivan	RAC (DOT)
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HOSPITAL (HEALTH PHYSICS)

Team Leader:	J. Reilly	RAC (HHS)
Member:	F. Bold	DOE (GACO)

OTHER JURISDICTIONS

Team Leader:	D. Schroder	FEMA
State Parks and Beaches	D. Schroder	FEMA
Montana de Oro State Park Hq.	S. Phelps	AZ Div Rad Hlth
Morro Bay	S. Elkins	FEMA
Pismo Beach Parks Hq./ Sheriffs Office	E. Raymond	FEMA

DIABLO CANYON
OFFSITE EMERGENCY RESPONSE EXERCISE

. OBJECTIVES AND GUIDELINES

As a result of coordination between Pacific Gas and Electric Company and local jurisdictions surrounding the plant, the offsite emergency response exercise scheduled for August 19, 1981, has been developed to reflect a capability to meet the objectives listed below.

The objectives are as follows:

- o To demonstrate that task organizations can alert, notify, and mobilize emergency response personnel to respond to the emergency in a timely fashion.
- o To demonstrate that decisions can be made with regard to protective measures for both plume and ingestion pathway emergency planning zones.
- o To demonstrate that State and local radiation control staffs can assess the accident and make appropriate recommendations to the decision makers at the County and State Emergency Operating Centers (EOC's).
- o To demonstrate that the State and local radiation control staffs can respond to and provide analysis of a simulated airborne release.
- o To demonstrate that local jurisdictions can provide control of access to restricted areas and effectively perform a coordinated evacuation.
- o To demonstrate that all jurisdictions and the utility can coordinate all information releases to the media and the public.
- o To demonstrate that the parties can coordinate protective measures and actions with the public (e.g., warning notices and recommendations for protective measures per plume EPZ)
- o To demonstrate that the parties can carry out free-play decision making with regard to protective measures for the plume and ingestion emergency planning zones.
- o To demonstrate support from responsible elected or appointed public officials regarding plan familiarity, operations process, and decision making.
- o To demonstrate adequate communications between all designated facilities and field activities.

- o To demonstrate capability of all jurisdiction to execute emergency response plans to protect the public.
- o To demonstrate the existence of adequate emergency facilities and equipment to support the emergency response.
- o To demonstrate that the parties effectively utilize support agencies and authorities where local capability is exceeded.

Exercise guidelines identifying the extent of play by participants if reflected in the following summary of events:

The exercise will begin with an Unusual Event situation and escalate through the types of emergencies to a General Emergency. Simulated radioactive release will reflect realistic accident conditions and could require an anticipatory evacuation to five miles and shelter to ten miles. Wind direction will vary throughout the exercise. A sample evacuation, monitoring, dose projection and ingestion pathway sampling will be conducted within the County with supporting assistance from the State and the utility. The County will provide monitoring and initial evacuation activities. Three field teams will be dispatched for purposes of testing response time, communications, and demonstration of monitoring procedures and training. Teams will gather sample media and simulate routing such samples to appropriate laboratory facilities for analysis. Interagency Radiological Assistance Plan (IRAP) and Department of Energy (DOE) response may be requested, but response will be simulated. State and County EOC's will be staffed and will perform their functions as identified in their respective plans.

The Media Center should be staffed and members of the press invited to participate in that aspect of the exercise. No exercise press releases will be made to the public. Field sampling in the ingestion pathway will be demonstrated by the Radiological Health Section, Department of Health Services (RHS) and the County Agricultural Commissioner's staff. Decision making and resultant followup actions (simulated) will be necessary by EOC staff regarding shelter and related protective actions. Emergency Broadcast Station (EBS) announcements should be prepared and passed to appropriate stations but not released.

Medical facilities and capability will be tested through evacuation of a simulated injured worker for treatment and decontamination. An onsite injury and potential contamination accident will occur outside the boundary gate. Highway barricade material will be deployed to positions in accordance with plan directives. Monitoring and decontamination procedures will be demonstrated at the hospital and monitoring actions displayed at reception and care facilities. Highways will not be closed. A sample evacuation will be conducted moving a group of people from a special facility and from Montana de Oro Beach to reception and care facilities developed during the exercise. In-processing of evacuees will be conducted by the Red Cross at which time the evacuees will be released to return to the school.

No other live or simulated events are to be included in the exercise extent of the play.

DIABLO CANYON NUCLEAR POWER PLANT EXERCISE
AUGUST 19, 1981

EVENTS LOG

DIABLO CANYON CONTROL ROOM
ORIGINATION TIME

MESSAGE
NUMBER

EVENT

7:00 a.m.	1	Initial condition established.
7:02 a.m.	2	Fire detected in Unit 2, 12KV startup switchgear, El.85' of the north end of Unit 1 turbine building. Both Unit 1 and Unit 2 12KV startup switchgear trip out and a loss of 230KV offsite power results.
7:04 a.m.		UNUSUAL EVENT declared by shift foreman.
7:10 a.m.	3a, 3b	ALERT, fire protection system appears inoperable. Offsite fire protection assistance requested.
7:40 a.m.	4	Fire in north end of turbine building El.85' is under control.
7:50 a.m.	5	Fire is reported to be totally extinguished.
7:55 a.m.	6	Unit 1, 12KV startup switchgear restored to operability.
8:00 a.m.	7	Bank D rod cluster control assembly (RCCA) is ejected from reactor core. Reactor trips, followed by turbine.
8:01 a.m.	8	The motor-driven auxiliary feedwater pumps start normally and provide the steam generators with feedwater. Containment high radiation and high humidity alarms received.
8:10 a.m.	9	The shift foreman is notified that the Radiation Protection Monitoring Technician, Auxiliary Operator and Electrician, who were working on containment fan cooler Unit 1-2, have been contaminated. (Ambulance requested. Hospital notified that a contaminated injured individual will be arriving by ambulance.)
8:12 a.m.		SITE AREA EMERGENCY declared by Site Emergency Coordinator. (Initial monitoring teams dispatched.)
8:40 a.m.	10	Reactor in a stable, hot shutdown condition.

DIABLO CANYON CONTROL ROOM
ORIGINATION TIME

MESSAGE
NUMBER

EVENT

9:00 a.m.	11a, 11b	Ambulance carrying injured and contaminated technician leaves Diablo Canyon access road (outside Avila Beach) and collides with a station wagon. People in ambulance are knocked unconscious.
9:10 a.m.	12	To remain within Technical Specifications reactor coolant system (RCS) pressure-temperature cooldown limits, it is estimated that depressurization of the RCS will take approximately 3 to 5 hours. At that time, residual heat removal system operation will be initiated to bring the reactor to a cold shutdown condition.
9:20 a.m.	13	The Control Room receives continuous indication of high radioactivity inside the Containment.
9:30 a.m.		Winds have shifted direction and are now from the WSW.
10:15 a.m.	15	Depressurization of the RCS is proceeding slowly in an orderly and stable manner.
10:30 a.m.	16	Due to an electric power system grid disturbance, there is a loss of all 230KV and 500KV offsite power.
10:35 a.m.	17	Diesel generators 1-1, 1-2, and 1-3 have picked up all vital loads. However, the motor-driven auxiliary feedwater pumps fail to start.
10:45 a.m.	18	The electric system dispatcher shift supervisor informs the shift foreman that offsite power will be unavailable for 4 to 6 hours.
10:48 a.m.		GENERAL EMERGENCY declared by the Recovery Manager.
11:00 a.m.	19	All steam generators boil dry resulting in the loss of the RCS.
11:05 a.m.	20	RCS temperature and pressure are rapidly increasing.
11:10 a.m.	21	All power-operated relief valves fail closed as actuation pressure is reached.

DIABLO CANYON CONTROL ROOM
ORIGINATION TIME

MESSAGE
NUMBER

EVENT

11:12 a.m.	22	The Control Room receives indication of fuel damage in the reactor core and a rapidly increasing hydrogen concentration in the Containment. The hydrogen recombiners are inoperable.
11:15 a.m.	23	LUNCH BREAK. The Field Exercise is in recess for 30 minutes. Resume current positions and locations at 11:45 a.m. for resumption of exercise play.
11:45 a.m.		Wind direction has again shifted and is now from the WNW.
11:45 a.m.	25	A hydrogen explosion occurs inside the Containment as explosive concentration limits are reached. Containment purge exhaust valves RCV-11 and RCV-12 are damaged and appear to be partially open as the unit vent particulate, radiogas and iodine monitors all indicate very high radioactivity levels.
12 Noon to 2:00 p.m.		Field Monitoring, decision making, Emergency Broadcast System station announcements, protective action recommendations, etc., taking place during this time.
2:15 p.m.	26	The motor-driven auxiliary feedwater pumps are restored to service and feedwater is now being delivered to the steam generators.
2:37 p.m.	27	The maintenance team repairs and closes containment purge exhaust valve RCV-11. The release from the plant is terminated.
2:50 p.m.	28	It is now 12 hours later. The radioactive plume has completely dispersed and there is no trace of it over land.
3:00 p.m. to 4:00 p.m.		Ingestion pathway sampling teams procure samples and field data in this time frame.
3:50 p.m.	29	Long-term recovery actions discussed by the exercise participants.
4:18 p.m.	30	The Field Exercise is terminated pending completion of ingestion pathway monitoring activities.

PART II

EXERCISE EVALUATION FINDINGS AND RECOMMENDATIONS

EXERCISE EVALUATION FINDINGS AND RECOMMENDATIONS

A. INTRODUCTION

The findings resulting from this evaluation were based upon the objectives of the exercise and the general criteria of NUREG 0654/FEMA REP-1. Any findings noted as "not observed" resulted from scenario development or lack of equipment, as indicated. Resolution of proficiency of jurisdictions regarding these areas will require subsequent drills observed by FEMA/RAC in accordance with NUREG 0654/FEMA REP-1 guidelines.

B. GENERAL FINDINGS AND RECOMMENDATIONS

The following findings were developed through review and cross examination of all FEMA evaluators during the debriefing process. Included with each finding is a section titled "Recommendation." The recommendation is generally a statement of a suggested action to correct a problem pointed out in the finding. However, a recommendation should not be interpreted as the only way to solve the problem raised by the finding. The corrective action taken should be coordinated with the State Office of Emergency Services and FEMA Region IX.

1. SAN LUIS OBISPO COUNTY EMERGENCY OPERATING CENTER (EOC)

GENERAL:

Full participation was observed by all County personnel, including the Chairman of the Board of Supervisors, the County Administrative Officer, and all tasked State and local agencies. All personnel responded in a timely manner and played the exercise realistically. Regular summary briefings were given to the entire EOC staff to keep them simultaneously updated on changing events. This action provided a cohesiveness and unification of purpose to the entire EOC staff. Cooperation among all agencies was excellent.

FINDINGS AND RECOMMENDATIONS:

1. FINDING

The County demonstrated a very good capability to alert, notify and mobilize the emergency personnel. The Sheriff's dispatch office did an excellent job on notification and recall of personnel at each emergency action level based on their SOP. They were not confused by the very fast change from "Unusual Event" to "Alert." County OES and other agency representatives took action with the alert lists in their SOP's immediately upon arrival at the EOC. Verification of the emergency action level should be done via radio from the Sheriff's dispatch office to the plant. This radio link did not work due to operator error at the plant. Verification had to be made by telephone. Also, the first operator at the utility end of the hot line sometimes gave confusing or incomplete information to the Sheriff's dispatch officer.

RECOMMENDATION

Training should be given in radio operation to the appropriate people at the plant. The most apparent problem was knowing how to encode the radio signal. As a backup for this problem, the Sheriff should be able to override that condition and have the ability to decode his radio receiver.

2. FINDING

The mobilization of the EOC staff and set up of the facility was done in a timely fashion. The time of day the initiating event occurred caught most people in transit between home and work thus building in a 30 minute delay factor in many cases. Many key personnel began arriving within an hour of the time that the first alert fanout was completed. The set up of the EOC began immediately in accordance with SOP instructions for the Alert level. Although the EOC set up time is scheduled to

take two hours in the SOP, it was set up and functioning in one hour. The Sheriff initiated an effective security system for the EOC area immediately and maintained it throughout the day. The Chairman of the Board of Supervisors gave a short briefing to the first group of EOC staff arrivals to help them become oriented as the EOC was being set up and repeated this from time-to-time as the set up proceeded. Between these briefings newcomers arriving could not quickly catch up on events.

RECOMMENDATION

The development of a priority list of the first few things to set up in the EOC would be helpful. The priority list might include a minimum number of phones, the status board showing the current emergency action level, and a list of public announcements made to that point. This would allow early arrivals to see what the situation is as they arrive. The idea of color or number coding each telephone and each wall jack would expedite the telephone set up time and permit preprinting of telephone numbers for the EOC, UDAC, and EOC. That list could be taped to each table as it is set up. All the EOC set up material should be permanently stored within a short walking distance of the EOC. At least one completed set of the County Radiological Emergency Preparedness Plan and SOP's should be stored within the EOC set up equipment so they will be there when the people arrive.

3. FINDING

The Direction and Control Group in the EOC demonstrated a clear ability to control and distribute information and deal with the decision making process. Working information was shared by all agencies in the EOC and there was a noticeable spirit of cooperation present. The regular EOC status briefings provided a general information update to all present and a sense of cohesiveness among the group. The use of prewritten legal declarations as part of the SOP was a notable time-saving device in declaring a local emergency. The current status of protective actions and percent of evacuations complete was included in only one general EOC briefing and was not widely shared in the EOC, the UDAC, or with many of the field teams even though the evacuation control group did maintain an updated status board. In a similar vein, only once during the day was each agency in the EOC polled for a verbal status report to all present. This resulted in some information not being shared on a timely basis.

RECOMMENDATION

a. The EOC verbal briefing summaries should include the status of protective actions ordered such as, percent of evacuations completed on a regular basis until the actions are completed. A special effort should be made to include a UDAC representative to hear these briefings. Also, field units such as, law enforcement, fire, and field monitoring teams; who may not be able to listen to the EBS station should be kept informed over their working radio net as to the progress of the protective actions.

b. The EOC Director should, during the verbal EOC briefing, poll each agency in the EOC so the information can be fully and simultaneously shared. The frequency of this poll depends on the pace of events but once every four hours is a reasonable minimum.

4. FINDING

The decision process used by the Direction and Control Group in regard to protective action measures was effective. In their discussions with the utility representative on plant conditions and protective actions, the Direction and Control Group showed a good knowledge of their plan and a sound grasp of the basic factors involved in protective actions. However, a checklist of key points would expedite the discussions. The utility representative was informative and helpful but tended to present a great deal of technical plant status information before getting to the facts that the Direction and Control Group can take action on. The decision making process on protective actions appeared to frequently bypass the UDAC because the utility recommendations seemed to be funneled directly to the EOC for consideration. The County Health Officer consistently referred back to the UDAC staff for confirmation only to find they were just receiving or had not yet received the new information from the EOF.

RECOMMENDATIONS

a. To evaluate each change in plant status a checklist should include:

- (1) What is the earliest possible release time?
- (2) Direction and speed of wind predicted at that time?
- (3) Intensity of release?
- (4) Puff of what duration or a continual release of, with what approximate time parameters?
- (5) Time it would take to evacuate the zones that would be affected?
- (6) Utility protective actions recommendation?
- (7) UDAC protective action recommendation?

b. The utility representative should first provide the Direction and Control Group with the closest possible release time and intensity along with any change in protective action recommendation. After that discussion has been held and necessary action is taken, the information on technical plant problems is a very appropriate background.

c. The utility must route all protective action recommendations through the UDAC. It may also be appropriate that when there is a conflict of opinion, protective action recommendations to the EOC from a utility representative be made with a senior UDAC representative present. The UDAC represents the combined technical expertise of the County, the Utility, the State, and the Federal agencies involved and should be utilized as a primary link in the decision making chain for protective actions.

5. FINDING

The agencies represented in the EOC showed that they could provide access control on traffic routes and perform a coordinated evacuation procedure in accordance with the exercise. Personnel from the Sheriff's office, California Highway Patrol, CALTRANS, and State Parks and Beaches followed their plans, used common sense, were on time, communicated within the EOC, and coordinated very well among themselves. The State Parks and Beaches people fully staffed a complete closure and evacuation of two State parks in accordance with their plans. The other agencies simulated the manning of various traffic control points as the exercise progressed as well as the staging of evacuation control points when that protective action was ordered. They each physically manned one evacuation control point for evaluation purposes.

RECOMMENDATION

These agencies should continue to train and drill together with their plans to maintain a high level of proficiency.

6. FINDING

The EOC staff, which represented only one aspect of the public information effort, did show a very good capability to develop public information releases and to utilize the Emergency Broadcast System (EBS) on a coordinated basis with the decision makers. The emergency warning system sirens were sounded (simulated) at the General Emergency classification level and the EBS emergency instruction provided in proper coordination. The option of sounding the sirens at the Site Area Emergency level was discussed in accordance with the SOP but decided against at that time.

RECOMMENDATION

The evaluators generally recommend that the emergency warning system sirens be sounded at the Site Area Emergency level unless plant conditions strongly indicate that the problem will quickly be reduced to the Alert level. An emergency public instruction over the EBS station may announce the plant condition, any anticipated release, the fact it is being monitored by the County, and ask that people stay tuned to the EBS station in case protective actions are recommended.

7. FINDING

The ability of the EOC staff to coordinate protective action measures was generally quite good. Two potential problems were brought out in the process though. The UDAC recommended that all cattle in a certain area be put on stored feed. This turned out to be too general a statement to have the desired effect. When the UDAC made the recommendation that emergency workers in certain areas should take their KI pills and properly coordinated that through County Health, our field evaluators determined that not all field units were familiar with dosimeters and KI procedures.

RECOMMENDATIONS.

a. Generally, the cattle food advisory is directed solely at dairy cattle to protect milk. In San Luis Obispo County this considerably reduces the magnitude of the problem.

b. All potential field response personnel should receive annually an orientation on exposure control procedures and an appropriate number of exposure control kits should be prepared and made available for distribution.

8. FINDING

San Luis Obispo County, State local agencies, and private agencies provided full support for the exercise. Elected officials and senior staff showed their support by responding in a timely manner and participating realistically in accordance with their plan and SOP's.

RECOMMENDATION

None.

9. FINDING

The communications equipment and procedures used for the exercise in the Sheriff's dispatch center and the EOC worked well with a few exceptions. It was apparent that the full contingent of clerical help available to the EOC was put to good use in maintaining the necessary information flow. There was wide agreement that the ten phone lines available in the EOC would not be enough to handle the needs there. There was a 20 minute delay between the time that the Site Area Emergency declaration was received by the EOC and the time that the message was received at the Sheriff's dispatch center in writing, to document the action for the EOC. The one man and single telephone line used in the exercise was barely adequate to keep the two cities that participated informed of the exercise developments.

RECOMMENDATIONS

a. Additional telephone lines are needed in the EOC. The exact number of additional lines should be determined jointly by the County, State OES and FEMA, based on the results of the exercise.

b. The utility must improve its message handling system to ensure that critical information documenting the declaration of an emergency action level is received almost simultaneously at the EOF, UDAC, and Sheriff's dispatch office.

c. Protective action recommendations from the utility Recovery Manager should be put in hard copy and provided to the UDAC first. A copy of that utility recommendation should be attached to the UDAC recommendation for the Direction and Control Group.

d. Develop and install a system that will allow all the cities involved in the plume exposure zone to be kept informed from the EOC.

10. FINDING

The agencies represented in the EOC demonstrated the ability to follow their emergency plans and SOP's in accordance with the exercise activities. They also showed the ability to improve on the plans, where needed, as a result of the exercise experience.

RECOMMENDATIONS

a. The plans and SOP's should be modified based on the results of this exercise and previous plan review comments from FEMA.

b. Continuing participation in the emergency planning process will maintain the capability to respond in accordance with the plans.

11. FINDING

The facilities and equipment available in the EOC were generally adequate, considering the temporary nature of the arrangement. With the exception of the communications previously mentioned, few additional comments were made by the evaluators. The importance of the evacuation zone boundary maps was highlighted as protective action recommendations were announced and the two wall maps in the EOC featuring these boundaries were not enough for the entire staff to function with. The detailed questions on boundaries from Morro Bay, where a wall map had been provided, showed a need for the cities to add local details to their maps. A weather map showing wind speed and direction was maintained but it did not have sufficient detail to coordinate with the protective action guidance being developed. Some additional identification of personnel in the EOC would be useful. Some of the County personnel suggested that a common geographical cross-reference of the County would be useful to agencies coordinating on evacuation problems.

RECOMMENDATIONS

a. A copy of the evacuation zone map should be placed at each table in the EOC and probably the UDAC as a common reference to all personnel.

b. Each participating city should have a wall size map of the evacuation zone boundaries and fill in sufficient local details to allow it to be used for operational purposes.

c. A weather map developed in a similar fashion to the one in the UDAC should be maintained in the EOC by an Air Pollution Control representative. This map should highlight forecast wind direction and speed at the time of the nearest expected release and attempt to show weather projection for the expected duration of that release.

d. A list on the wall next to each table in the EOC showing what agencies are represented at that table would be very useful. In addition, some conspicuous method of identifying State, Federal, and utility response personnel would assist all concerned in an emergency situation.

e. County personnel recommended use of the County mutual aid address book as a cross-reference for agencies involved in evacuation procedures. Copies of that book should be made available to appropriate tasked people in these agencies.

12. FINDING ..

The County EOC staff demonstrated that it would effectively work with support agencies and authorities where local capability was exceeded.. The State OES staff arrived in a timely manner and provided excellent counsel and assistance to the County in requesting the declaration of an emergency by the Governor and in obtaining both State and Federal assistance. The County also worked well with the Fire Services. The Office of Emergency Services Fire Coordinator provided good preplanning in calling for a strike team at 9:33 a.m. The County Fire Department followed its SOP and appeared well organized and the coordination between fire and law enforcement was very good.

RECOMMENDATIONS

a. A State OES representative should continue to be used in an advisory capacity to the Direction and Control Group.

b. There is a need to seat the OES Fire Rescue Coordinator directly across from or next to the County Fire Coordinator to enhance fire activity communication.

2. UNIFIED DOSE ASSESSMENT CENTER

GENERAL:

The Unified Dose Assessment Center (UDAC) consisted of representatives of California Office of Emergency Services and Department of Health Services; San Luis Obispo County Environmental Health, Department of Air Pollution, and Department of Agriculture, and Pacific Gas and Electric Company. The technical capability of the UDAC staff is very high and was continuously demonstrated in confirming the utility's postulated population exposures.

The problem inherent to any UDAC during the plume exposure phase of an exercise is one of great time pressure to perform complicated but accurate calculations that will result in protective action recommendation that fit the current situation. Their ability to perform is greatly enhanced by current information on the plant from the EOF and current information on the status of protective actions by the public from the EOC. This information from the EOF and EOC was limited during the exercise. In spite of that handicap, the UDAC did provide a number of cogent protective actions and the overall result may be expressed as satisfactory.

FINDINGS AND RECOMMENDATIONS:

1. FINDING

The UDAC lacked the input of total information available from the EOC and EOF. From the EOF several of the consecutively numbered status forms used to send information to the UDAC were not received by the UDAC. The full picture of events in progress and status of protective actions was not fed back into the UDAC from the EOC. The UDAC staff was not kept current on public announcementst and press releases throughout the exercise.

RECOMMENDATION

The UDAC, EOF, EOC, and the County Health Officer should evaluate the process of information management to the UDAC. If the County is to have a County technical group support the County decisions and actions, the County must ensure that the UDAC is kept fully informed of all pertinent information on a timely basis. The UDAC may choose to have a representative in the EOC briefings to insure that information plus the latest press release are shared with the UDAC staff.

2. FINDING

The UDAC was not able to stay in close contact with or direct the movement of the field monitor teams due to lack of communications equipment. The monitor teams were controlled only by the TSC and the EOF. This lack of direct communication between the UDAC and the field teams reduced their efficiency and effectiveness.

RECOMMENDATION

The County and the utility are in the process of obtaining radio equipment on a County system for the UDAC and the County members of the monitor teams. This will give the teams dual radio coverage and resolve the basic problem. When obtained, these radios will be tested in the next monitoring drill.

3. FINDING

Information management within the UDAC should be improved. There were times when actions were taken or problems were discussed and key resource people located in the UDAC were not involved. The UDAC tends to function like a small EOC and break up into small work groups that require more than updated status boards to insure timely coordination and cohesiveness.

RECOMMENDATION

The UDAC director or his designee should provide regular status briefings to the UDAC staff. The briefings should include situation and current problems as well as protective actions being recommended. These general briefings would also provide an excellent opportunity to summarize information from the EOC and EOF.

4. FINDING

The message traffic system in the UDAC became overloaded during the exercise causing some delays in processing protective action recommendations. Additional assistance was obtained to correct the problem during the exercise.

RECOMMENDATION

The UDAC director should evaluate the functions of the UDAC clerical staff and consider assigning more staff to these duties.

5. FINDING

No log record was maintained of the UDAC transactions. No record was available to show when and what messages were received and dispatched. These records in an exercise would be helpful as an instrument for learning. In an actual accident these records may be invaluable for tracking the actual course of events.

RECOMMENDATION

Maintain chronological log covering minutes of significant discussions, and pertinent actions taken by the UDAC. Also it was suggested that a date and time stamp machine be provided for all incoming and outgoing written messages so the exact time that information arrives at or departs the UDAC can be recorded.

6. FINDING

At one point there was some discussion among the technical people in the UDAC regarding the advisability of a precautionary evacuation of the area near the plant boundary based on a very low dose rate projection.

RECOMMENDATION

The parties involved should utilize the protective action level guidelines agreed on by the County and the State as a basis for taking action. That will reduce the amount of discussion involved in determining a protective action.



7. FINDING

UDAC depended on the utility report of meteorological data for plume projection and did not develop a projection based on independently obtained weather data.

RECOMMENDATION

Conduct dose and plume projections based on U.S. Weather Service forecasts to anticipate possible protective actions. This data should be developed and maintained in the UDAC by a member of the Air Pollution Control staff in consultation with the National Weather Service, utility meteorologists and other suitable weather sources. This same person should provide assistance in maintaining a similar meteorology map in the EOC.

2a. EMERGENCY OPERATIONS FACILITY

GENERAL:

The evaluation of the Emergency Operations Facility (EOF) was primarily restricted to the movement of field teams information to the PG&E Monitoring Director and the transmission of that field data to the Unified Dose Assessment Center (UDAC).

The communication between the survey teams and the EOF was found to be adequate. (Telephones were used whenever radio contact was not possible.)

FINDINGS AND RECOMMENDATIONS:

1. FINDING

The communication between the EOF monitoring director and the UDAC was inadequate to permit proper control of the field monitor teams by the UDAC.

RECOMMENDATION

The Monitoring Director should be under the control of UDAC.

2. FINDING

Iodine concentrations were not determined as fast as possible because of field conditions.

RECOMMENDATION

Vehicle runners to transport samples from the survey teams to the mobile laboratory would produce accurate and timely iodine concentration data.

2b. FIELD MONITORING TEAMS

GENERAL:

Two field plume exposure pathway teams were dispatched for this exercise. Each team was composed of two PG&E personnel and two San Luis Obispo County sanitarians.

The teams have a hard cover notebook containing indexed procedures, data sheets, and equipment checklists. The checklists were quite complete and extensive. The procedure constituted good operational procedures and the monitoring teams knew the procedures quite well.

The kit contained adequate sampling material for an extensive sampling program. The teams were also equipped with maintenance supplies such as, batteries and tools. The selected radiation detection instruments were appropriate for the job. The instruments had been calibrated on August 7, 1981, according to the stickers on the housing. A Cs-137 check source was also available in the kit.

The teams were very well organized. They had a good sense of purpose and a sincere attitude throughout the exercise. The team members were very knowledgeable and responded in a very professional manner. The teams' overall response was excellent and should not be overshadowed by the minor nature of the findings.

FINDINGS AND RECOMMENDATIONS:

1. FINDING

The teams were not provided information on the status of the overall emergency nor continuing information on the plume location and movement. These radiological conditions must be known by the teams so that they will not unnecessarily traverse contaminated areas or subject themselves to unnecessary and unknown exposures.

RECOMMENDATION

The EOF should provide radiological situation information to the field teams as soon as available via radio communication.

2. FINDING

The teams relied on the EOF to inform them of the necessity for respiratory protection. The monitors did not have a clear concept of the conditions warranting respiratory protection.

RECOMMENDATION

A policy should be established for respiratory protection and the monitors be oriented in that policy. The worker should be capable of deciding what protective actions are necessary for his job, even if the EOF initiates the requirement. to wear respiratory protective equipment.

3. FINDING

The County personnel were not fully familiar with all phases of the survey and sampling operations.

RECOMMENDATION

The County personnel need to take a more active part in all phases of surveys, especially air sampling, to familiarize themselves with sampling and survey techniques and procedures. Additional training and drills on plume exposure monitoring for County personnel is recommended.

4. FINDING

The County monitor only wore a low range (0-200 MR) pocket dosimeter.

RECOMMENDATION

The County monitor should have an integrated dosimeter like a TLD or film dosimeter. With the low range pocket dosimeter, a high range (0-5R) pocket dosimeter is also recommended.

5. FINDING

No visible calibration sticker was found on the air sampler.

RECOMMENDATION

Calibration and maintenance of air samplers should be performed periodically.

6. FINDING

A team was noted to have taken the external dose rate measurement by placing the radiation detection instrument on the roof of the vehicle. This is not in accordance with PG&E procedures.

RECOMMENDATION

Team members should be instructed about the importance of following the written procedures.

7. FINDING

Equipment used for sample collection and sample handling was not surveyed for contamination, even though the hands of the monitors were surveyed.

RECOMMENDATION

Conduct contamination survey of sample collection and handling equipment after use. All potential sources of sample cross-contamination should be identified, marked, and separated or eliminated.

2c. MOBILE LABORATORY

GENERAL:

Appropriate written procedures were available for the mobile laboratory team. The procedures appeared to be clear and concise. The members of the mobile laboratory team acted professionally and with remarkable competence. While the mobile laboratory is not a basic radiological emergency preparedness requirement, it is an excellent additional piece of equipment that enhances the ability of the County and the utility to respond to a radiation incident.

FINDINGS AND RECOMMENDATIONS:

1. FINDING

The mobile laboratory equipment was not used as effectively as possible by the EOF. The primary function of a mobile laboratory should be to analyze samples, not collect them. No samples were submitted during the exercise by the field monitoring team. The field teams should have submitted their carbon filters for analysis, and early-on definitive radioiodine concentrations could be made available for protective action guidance.

RECOMMENDATION

Establish a radio-equipped vehicle as a method of transporting samples to the mobile laboratory.

2. FINDING

The location or the relocation of the mobile laboratory should be made in light of where the plume will not deposit radioactive contamination on or in the van. Contaminating the vehicle will negate the use of these expensive but excellent analytical equipments.

RECOMMENDATION

Assure that the vehicle location is in an area where the plume passage has a low probability. Also, apprise the team on current radiological conditions.

3. FINDING

The security for the parked mobile laboratory was not fully adequate. Visitors to the Information Center opened the back door and entered the van. On another occasion, a visitor entered the unoccupied vehicle while the team was collecting samples.

RECOMMENDATION

A better locking arrangement should be installed on the back door. The vehicle should never be left unattended during use. In an actual response a team member should always be in the mobile laboratory for security and radio monitoring.

4. FINDING

Prior to the exercise, a member of the mobile laboratory team was instructed to report to the van at 8:00 a.m. The reason for the prenotification was because he carries no emergency notification equipment.

RECOMMENDATION

Emergency notification equipment should be made available to all field team members or have adequate backup so that the team is not dependent on one person.

5. FINDING

The air sampler took 45 minutes to collect a sample at its calibrated flow rate.

RECOMMENDATION

A high volume air sampler should be available in the mobile laboratory.

6. FINDING

Ending air sampling flow rates were not always noted.

RECOMMENDATION

The importance of checking both beginning and ending sample flow rates should be emphasized during training.

7. FINDING

The total sample flow for iodine samples and the detection probe used to measure the sample were needlessly allowed to vary. These continually changing conditions cause more arithmetic problems and produces more opportunity for errors under crisis situations.

RECOMMENDATION

A standardized procedure for air sampling should be adopted and varied only for good reasons.

8. FINDING

Samples that were counted with the intrinsic germanium detector were counted as they were received from the field. Undetectable contamination on the outside of the container from the field could contaminate the analytical system.

RECOMMENDATION

- Samples should be secondarily contained in a clean container before being placed in the detector.

9. FINDING

Dose rate survey instruments were not source checked prior to use.

RECOMMENDATION

The importance of source checking radiation detection instruments should be emphasized during training.

10. FINDING

The scale of the dose rate meter selected varied from 1X to 1000X for no apparent reason.

RECOMMENDATION

An appropriate scale selection for the instrument should be made and not changed unless indicated by the radiation environment.

11. FINDING

The count rate meter on the unshielded gamma detector requires continuous visualization to observe a change in the rate.

RECOMMENDATION

The count rate meter should be equipped with a variable alarm set.

12. FINDING

Generators were not adequate to power the air conditioner and air sampler simultaneously.

RECOMMENDATION

Install a larger generator in the vehicle.

13. FINDING

Controls need to be maintained over what equipment may be plugged into which electrical power outlets due to different power requirements.

RECOMMENDATION

Clearly mark on the power outlets what equipment may be plugged into that outlet. This can take the form of color coded outlets.

14. FINDING

The compressed air, used for the noble gas purge, could not be effectively delivered to the charcoal filter cartridge due to the poor connection. This problem wasted compressed air and caused the depletion of the compressed air.

RECOMMENDATION

The cartridge should be properly fitted with a hose barb. There should be more than one lecture bottle of air in the mobile laboratory.

15. FINDING

No portable radio transceiver was available in the mobile laboratory.

RECOMMENDATION

A portable radio transceiver should be provided for people sent out from the van to collect samples and as a backup communication capability.

16. FINDING

An arithmetic problem occupied all three team members for several minutes. Timely sample analysis and field measurements were impaired.

RECOMMENDATION

Personnel at the EOF or UDAC could compute the reported raw data. This will reduce the probability of arithmetic errors and free the field teams to take more samples. It is possible to significantly increase the amount of data collected in this manner and lower the potential for computation errors.

d. INGESTION PATHWAY SAMPLING TEAM

GENERAL:

The ingestion pathway sampling team consisted of a representative from the California Radiological Health Section and representatives from the San Luis Obispo County Department of Agriculture. Samples collected were to include water, milk, and fodder. The operation was noted as successful.

FINDING AND RECOMMENDATION:

FINDING

The ingestion pathway team, including the California representative, was not trained in current radiological field sampling technique. Soil sampling depth could not be defined. The stainless steel container, after one sampling use, was reported to require separation for chlorine bleach decontamination.

RECOMMENDATION

Training be provided to all team members on ingestion pathway sampling requirements.

3. PUBLIC INFORMATION CENTER/MEDIA CENTER

GENERAL:

In both the Public Information Center and the Media Center unanimous agreement among Public Information Officers (PIO's) was that the efficiency and capability of the operation was very good. All the County PIO's did an outstanding job and functioned in a most professional manner. They showed good leadership and understood the operation and their respective responsibilities. They coordinated the information well. The utility was most efficient and provided competent support with good spokespersons. The security was outstanding.

FINDINGS AND RECOMMENDATIONS:

1. FINDING

The period between reaching a decision at the EOC to the time the decision was put into hard copy for news release could be shortened.

RECOMMENDATION

The Senior PIO should spend more time at the Media Center as this would lessen this time gap. Better communication should be established between the EOC and the Information Center. The Information Center could be located backstage at the Media Center for greater efficiency.

2. FINDING ..

The facilities at the Media Center and the Media barracks could be improved by:

- a. Better acoustics.
- b. Space needs for many TV stations covering the event.
- c. More equipment for media at the barracks, i.e., telephones, telephone books, typewriters, etc.

RECOMMENDATION

Telephones were sufficient for the exercise but many more would be needed for a real emergency. Further, no bathroom facilities at the barracks. For a real emergency, temporary bathroom facilities should be provided.

3. FINDING

News media were not allowed inside the Media Center until 9:35 a.m. They were told that the first briefing would occur at 10 a.m. or sooner.

RECOMMENDATION

News media should be allowed inside the center as early as possible and a spokesperson should be on hand to explain the situation and procedures. This action can give a good public relation image for the start of the Media Center operation.

4. FINDING

The County made excellent use of the Emergency Broadcast System (EBS) station and promptly transmitted EBS messages to the station. The first few EBS messages were not authenticated. All later messages were authenticated. The station was instructed to utilize each message for 15 minute repeat broadcasts until updated.

RECOMMENDATION

All EBS messages should be authenticated.

5. FINDING

Some information developed at the Public Information Center, particularly, Highway Patrol information, was not put into hard copy for release at the Media Center, i.e., News Release #1. News Release numbers vary between those issued at the Information Center and the Media Center, and a News Release obtained at the Information Center did not get released at the Media Center. None of the news releases were identified with the exercise.

RECOMMENDATION

A uniform numbering system for News Releases should be developed. All of the News Releases should be identified with an "exercise "

6. FINDING

The Press Kit, developed jointly by the utility, County, State, and FEMA, provided good information to the media.

RECOMMENDATION

None.

7. FINDING

The graphics used by the utility to identify the malfunctions at the plant appeared to be too complicated.

RECOMMENDATION

Simple schematics could better identify problems at the plant.

8. FINDING

The media inquired about weather conditions on several occasions and it appeared that weather information was inadequate and lacking.

RECOMMENDATION

Improved weather information should be obtained.

9. FINDING

Six news briefings were conducted with the lead County PIO as the chief spokesperson. He did an exceptional job of providing factual information in a moderate, non-crisis manner. At each briefing there were representatives from the utility (except the first briefing) and State agencies providing support statements. However, introductions and identification of participants was lacking, and an appearance by a senior County official at the Media Center should have been accomplished sooner.

RECOMMENDATION

a. Table identification cards could be provided.

b. A top elected or appointed official such as, County Administrative Officer, Sheriff, or Chairman of the Board of Supervisors should make an appearance at the Media Center as soon as possible.

10. FINDING

The public address system was excellent and adequate with the exception of microphone cords being too short to allow proper use of displays. The use of the media box (a junction box with jack input for broadcast microphones) was most useful and prevented individual station microphones from being posted on the table. The lighting on stage was excellent.

RECOMMENDATION

Longer microphone cords should be available for people getting up from the table on stage and moving to a display.

11. FINDING

There was no introduction of all PIO's in the Information Center to each other and support staff in the beginning of the exercise.

RECOMMENDATION

Before exercise begins the lead PIO should introduce all participants to each other and explain their roles.

12. FINDING

The time elapsed from the time a decision was made to the final development of a coordinated News Release took from 30 to 45 minutes. The County achieved for accuracy at the expense of timeliness.

RECOMMENDATION

More effective use of the "NOTEPAD" system for disseminating hard copy should resolve that problem.

13. FINDING

The lead PIO at the Information Center designated two members on the support staff to establish logs and log every incoming message whether written or telephonic. There was no status board or log maintained by the County at the Media Center, but News Releases and utility "NOTEPAD" messages were posted in the staff room. The utility did maintain a message log and tape recorded all news briefings.

RECOMMENDATION

A status board should be maintained at the Media Center.

14. FINDING

All supporting equipment and supplies were adequate at the Information Center and at the Media Center.

RECOMMENDATION

None.

15. FINDING

Most officials at the Information Center and the Media Center had personal identification badges. None of the State PIO's at the Information Center were identified by badges.

RECOMMENDATION

All officials should be badged to identify name, agency, and position.

16. FINDING

The media appeared satisfied that the tapes they made at the news briefings seemed adequate for their needs. It did not appear that the media needed one-to-one interviews. The utility had sufficient information and a spokesperson was available who did provide stand-up interviews for some TV stations.

RECOMMENDATION

In developing briefings individual media deadlines should be considered, specifically for newspapers versus radio and TV.

17. FINDING

Several news people expressed concern that in relationship to the flow of events, they were not obtaining sufficient information.

RECOMMENDATION

More frequent and shorter news briefings be conducted, even just giving bulletin information.

18. FINDING

In a real emergency the local government would receive many calls from outside media requesting information and even recording an interview on the status of the emergency. This was not simulated during the exercise.

RECOMMENDATION

For the real emergency, the utility would provide an 800 toll-free number that would be publicized on the wire services informing out of town media to call for updated information. This 800 number could be manned by a PIO Reservist or State Information Officer. It could be possible to utilize the Automatic Broadcast Feed (ABF) which utilizes several cartridge tape recorders that can give a recorded brief message for radio stations. This could be updated several times a day and the media informed about it via the wire services.

4. STATE PARKS AND BEACHES

GENERAL:

State Parks and Beaches have prepared detailed plans to close the facilities at Montana de Oro and Pismo Beach at the Alert level. The call up procedures and the facility plans have been carefully thought out and appear to be highly effective. The State Parks and Beaches Headquarters in San Luis Obispo and each of the two park facilities had an evaluator present during the exercise. State Parks and Beaches was also represented in the EOC at the evacuation control table where they coordinated well with the other law enforcement and fire agencies. All of their personnel were considered to have done an excellent job in mobilizing staff and following the closing procedures. When they were finished with their responsibilities they assisted in later evacuation procedures.

FINDINGS AND RECOMMENDATIONS:

1. FINDING

The State Parks and Beaches Headquarters' EOC has adequate staff, equipment, display area, and communications to support evacuation procedures. The two parks were swept by State employees and closure and evacuation were completed before noon.

RECOMMENDATION

None.

2. FINDING

State Parks and Beaches directed that KI dosage be provided to field team members and horses.

RECOMMENDATION

Recommend that KI tablets be supplied to County and State agencies that would have emergency workers in the plume exposure zone.

3. FINDING

At Pismo Beach the operational department has a good capability to assign and dispatch teams with proper materials, supplies, barricades, signs, and equipment.

RECOMMENDATION

Additional signs need to be made. The department is aware of this need and types of signs needed have been identified.

4. FINDING

A very common problem of keeping the field units informed of the general picture arose here also. The field units at the parks were not kept as up to date on plume direction and release time estimated or protective actions recommended to the public as they might have been. However, upon notification of Alert, the direction and control by management was timely.

RECOMMENDATION

More attention should be given to providing field units with general information on emergency action levels and protective action guidance being given to the public.

5. FINDING

The Rangers and staff demonstrated good ability of timely implementation of alert and evacuation actions for the plume emergency planning zone. The Parks and Beaches access and traffic control was acceptable.

RECOMMENDATION

Training for Rangers tasked with emergency responsibilities and radiological defense training (self-protection) should be scheduled on an annual basis for all personnel assigned to radiological defense tasks.

6. FINDING

Adherence to the emergency evacuation plan and SOP's were good but weather terminology was misunderstood.

RECOMMENDATION

The agencies should agree on standard terms for announcement of wind direction.

5. CITY OF MORRO BAY EMERGENCY OPERATING CENTER

GENERAL:

The City of Morro Bay recognizes their dependence on the County for evaluative data, but is prepared to meet the demands of a nuclear power plant accident. The City prepared for and dealt with the threat presented by the exercise in a very professional manner.

FINDINGS AND RECOMMENDATIONS:

1. FINDING

The City was most interested in receiving notification of any change in emergency action level, specific protective action guidance for the City, and plume or projected plume direction. Information on plant conditions and field monitor readings were not useful to them. The City also had a problem keeping up with what information was being given to the public.

RECOMMENDATION

Work with the County to develop an improved system for obtaining appropriate, timely status reports and repeating protective action directions from time to time as it remains valid. Also, any public information dispatches should be read to the cities it may effect before it goes to the public.

2. FINDING

Minimal logistic and equipment refinements were duly noted by the City and plans for implementing corrective action planned for.

RECOMMENDATION

Among the refinements the City plans to address, are the following:

- a. Improved display (maps, events log, charts, etc.) equipment.
- b. More telephone equipment (jacks).
- c. Expanded attention to precise Alternate EOC (City currently plans to relocate to California Division of Forestry site).
- d. Develop written instructions for staff assigned as controllers at evacuation staging areas.
- e. Additional radiological defense equipment (dosimeters).
- f. Expand communication dispatch staff to permit more expeditious handling of incoming public inquiries and radio communication.

- g. Use of "Explorer" group for logistics support.
- h. Long-range goal to procure communications van.
- i. Emergency services staff individual plans for family protection--perhaps through a "buddy system" use of off duty staff.
- j. Consider use of CB radio to improve data gathering.
- k. Exercises to include evacuation scenario.

3. FINDING

This is a continuing need for more precise weather information and map tracking capability.

RECOMMENDATION

Investigate method for obtaining more timely wind current/ climatic condition information and obtain larger map display for use in charting same.

6. RECEPTION AND CARE

GENERAL:

County Social Services, Red Cross, CALTRANS, and the National Guard worked extremely well together to provide timely facilitation in the handling of evacuees. A group of volunteers from the County were picked up by bus near Montana de Oro State Park and transported to Camp Roberts where they were checked in, monitored, had temporary quarters located, and they were fed.

FINDINGS AND RECOMMENDATIONS:

1. FINDING

The evacuees at Camp Roberts were not kept aware of the progress of the exercise nor was the press kept informed of the status of the evacuees.

RECOMMENDATION

A Reception and Care public information officer may be necessary to brief evacuees as to what is happening outside and also to let the media know about the evacuees.

2. FINDING

The CALTRANS contingent of monitors did an excellent job monitoring the evacuees and explaining what the monitoring procedures were so that the evacuees did not become frightened or alarmed. They enhanced the monitoring process by finding several evacuees "contaminated" and processed them appropriately. A few minor improvements on traffic flow are suggested.

RECOMMENDATION

The radiological monitoring check point should have been farther away from the Reception Center. The monitor who checked an evacuee should have been the person to give that evacuee the green tag indicating no contamination. Sending the evacuee to another point to get the green tag increased the likelihood of error. The traffic flow of evacuees should have been in the front door and out the back door of the Reception Center to prevent mingling with contaminated new arrivals.

3. FINDING

The evacuation vehicle was radio equipped and followed a predesignated route and, in general, appeared capable of handling alternatives that might emerge during an evacuation.

RECOMMENDATION

In future exercises it might be well to present some obstacles along the bus route, i.e., closed roads, need for emergency assistance, etc., to further test the evacuation capability.

4. FINDING

The coordination and cooperation between the Red Cross Representative and County Social Services was excellent. Their respective SOP's were used and they initiated contacts with Camp Roberts, Vandenberg Air Force Base, and CALTRANS in a timely and effective manner. The set up procedures at Camp Roberts to receive the evacuees went extremely well.

RECOMMENDATION

Continued joint drilling by these agencies will allow them to maintain that high level of cooperation.

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7. MEDICAL/HOSPITAL

GENERAL:

French Hospital did demonstrate an ability to alert, notify, and mobilize emergency response personnel in a timely manner to respond to a radiological emergency. The staff rapidly carried out the pre-patient arrival facility preparations. Two health physicists were provided to the hospital by PG&E. The staff demonstrated a well trained approach to the treatment of radiation exposed patients. They entered into the exercise with enthusiasm.

The hospital and ambulance procedure and personnel were able to cope with the additional problems posed by the exercise when the ambulance carrying the contaminated victim crashed into a car on the way to the hospital. They dispatched a second ambulance and handled the additional patient load.

FINDINGS AND RECOMMENDATIONS:

1. FINDING

Communications between Diablo Canyon, the ambulance, and the hospital were weak.

RECOMMENDATION

Establish a dedicated telephone line or radio communications in the emergency room area used to handle contaminated patients, ambulances, and Diablo Canyon. (This has been recognized by the hospital and remedial steps are being taken.)

2. FINDING

Information concerning patient identification, possible injuries, and contamination/radiation levels were not adequate.

RECOMMENDATION

Use triage tags on patients that clearly provide the necessary information.

3. FINDING

Ambulance attendants were not fully cognizant of contamination/radiation hazards and problems.

RECOMMENDATION

Train and provide periodic retraining to ambulance attendants in handling of radiation accident victims.

4. FINDING

The hospital has a well written "Procedure for Admission of Radioactively Contaminated Patients at French Hospital," although there was no record of reading nor was a historical record of procedure change maintained.

RECOMMENDATION

Maintain a "sign off" record of reading and maintain a historical record of procedure change.

5. FINDING

There were some breaches in radiation exposure procedure.

RECOMMENDATION

A health physicist should take more aggressive responsibility to assure strict adherence to the radiation exposure handling procedure.

C. ELEMENTS NOT OBSERVED:

There were certain items that were not observed during the exercise due to the fact that hardware or installation was not complete at that time. As these items are completed, they will be tested and observed. Some examples are listed below:

a. Siren System. The siren system is not yet completed. When finished it will come under the FEMA testing program.

b. Monitor Receivers. Certain special facilities such as, hospitals and schools, are scheduled to have monitor receivers installed as warning devices. When installed, these will be tested with the siren system.

c. Emergency Broadcast System (EBS). A commercial telephone was used to simulate a dedicated telephone and backup radio between the EOC and the EBS station.

d. Unified Dose Assessment Center (UDAC) Set Up. The set up time for the EOC was tested during the exercise but the UDAC was still in the process of being equipped. When that is completed, a set up drill will have to be conducted to determine how long it takes to set that facility up from its day-to-day position.

