

U. S. NUCLEAR REGULATORY COMMISSION

REGION V

Report Nos. 50-275/91-15 and 50-323/91-15

License Nos. DPR-80 DPR-82

Licensee: Pacific Gas and Electric Company (PG&E)
77 Beale Street
San Francisco, California 94106

Facility Name: Diablo Canyon Nuclear Power Plant (DCPP), Units 1 and 2

Inspection at: Diablo Canyon Site, San Luis Obispo County, California

Inspection Conducted: August 19 through September 5, 1991

Inspectors: Arthur D. McQueen 9/19/91
A. D. McQueen, Emergency Preparedness Analyst Date Signed

James H. Reese 9/20/91
G. M. Good, Emergency Preparedness Analyst Date Signed

D. B. Spitzberg, Emergency Preparedness Analyst, Region IV,
NRC

D. M. Barss, Emergency Preparedness Specialist, U.S. NRC,
NRR/PEPB

G. R. Bryan, Inspector, Comex Corporation

Approved by: James H. Reese 9/20/91
James H. Reese, Chief, Safeguards, Emergency Preparedness, and Non-Power Reactor Branch Date Signed

Summary:

Areas Inspected: Announced inspection to examine the following portions of the licensee's emergency preparedness program: follow-up on Open Items identified during previous emergency preparedness inspections and observe the 1991 annual emergency preparedness exercise and associated critiques; and Inspector Identified Items. During this inspection, Inspection Procedures 82301, 92700 and 92701 were used.

Results: In the areas inspected, the licensee's emergency preparedness program appeared adequate to protect the public health and safety. The licensee was found to be in compliance with NRC requirements within the areas examined during this inspection. One item was identified as an exercise weakness and several areas were indicated to the licensee for improvement. The exercise weakness is described in section 11. A former open item (90-22-02) from the 1990 emergency preparedness exercise has become a concern and is described in section 2.



INSPECTION DETAILS

1. Key Persons Contacted

- *R. M. Bliss, Planner, Technical Support Center
- K. H. Bych, Senior Nuclear Generation Engineer, PG&E
- *S. R. Fridley, Operations Manager, DCPD
- *W. H. Fujimoto, Vice President, Nuclear Technical Services, PG&E
- *P. W. Gangwisch, Nuclear Generation Engineer, PG&E
- *J. E. Gardner, Supervising Engineer, Radiological, Environmental, and Chemical Engineering (RECE), PG&E
- *W. S. Joiner, Emergency Planning (EP) Coordinator
- M. Kennedy, Senior Reactor Operator, DCPD
- T. R. King, Shift Foreman, DCPD
- *R. P. Kohout, Manager, Safety, Health and Emergency Planning
- *L. G. Lundsford, Supervisor, Security Training
- *D. B. Miklush, Assistant Plant Manager, Operations
- J. E. Molden, Shift Supervisor, DCPD
- *D. H. Oatley, Manager, Support Services
- J. D. Shiffer, Senior Vice President, PG&E
- *M. V. Sundsmo, Health Physicist, DCPD
- *P. A. Steiner, Supervisor, Emergency Planning, DCPD
- *J. D. Townsend, Plant Manager
- *J. Toresdahl, EP Consultant
- *E. V. Waage, Senior Engineer, EP
- D. Williams, Reactor Operator, DCPD

The above individuals denoted with an asterisk were present during the August 23, 1991, exit meeting. The inspectors also contacted other members of the licensee's emergency preparedness, administrative, and technical staff during the course of the inspection.

NRC Personnel at Exit Interview

- D. M. Barss, Emergency Preparedness Specialist, NRR/PEPB
- G. R. Bryan, NRC Contractor, Comex
- G. M. Good, Emergency Preparedness Analyst, RV
- A. D. McQueen, Emergency Preparedness Analyst, RV
- D. B. Spitzberg, Emergency Preparedness Analyst, RIV

2. Action on Previous Inspection Findings (MC 92701)

(Closed) Follow-up Item (90-22-01)

An exercise weakness in the 1990 DCPD emergency preparedness (EP) exercise indicated that Control Room (CR) personnel did not demonstrate the ability to perform dose calculations in a timely manner. In the 1991 exercise, the NRC inspector verified that the Shift Technical Advisor (STA) performed a satisfactory and timely dose calculation. Based on that observation, this item is closed.



(Open) Follow-up Item (90-22-02)

An observation in the 1990 EP exercise identified inconsistencies in the General Emergency (GE) classification criteria identified in Appendix Z of the Emergency Operating Procedures (EOP) and Emergency Plan Implementing Procedure (EPIP) EP G-1, "Accident Classification and Emergency Plan Activation." During this inspection, an NRC inspector reviewed the specific inconsistencies cited in this open item and found that one apparent inconsistency remained. The apparent inconsistency involved EOP E-1 Appendix Z Emergency Action Level (EAL) GE-2 which was conditioned upon a (loss of coolant accident) "LOCA as indicated by RCS (Reactor Coolant System) leakage and SI" (safety injection). Based on further review, the inspector concluded that the E-1 and G-1 EALs were consistent because it was impossible to be in E-1 without RCS leakage and SI (i.e., E-1 is entered through procedure E-0).

The inspector sampled other Appendix Zs not cited in the open item for potential inconsistencies. The inspector compared about 25 Appendix Z EALs with the equivalents in G-1 and found several apparent inconsistencies. For example:

- o Procedure E-1 Appendix Z Site Area Emergency (SAE) 2 was inconsistent with EP G-1 SAE 8 in two areas. An editorial difference existed in that E-1 listed "...functions needed for hot shut down..." while G-1 listed "... functions needed to reach or maintain hot shutdown..." In addition, G-1 SAE 8 was applicable during modes 1-4 while the E-1 Appendix Z equivalent was applicable during modes 1-3 only, since these are the only modes from which EOP E-0 may be entered.
- o OP AP-10, Loss of Auxiliary Salt Water, Appendix Z Alert is constrained to mode 5 or 6 and is inconsistent with any of its potential equivalents. G-1 Alert EALs 11-13.
- o OP AP-3A, Steam Generator (SG) Tube Leak, Alert EAL B is not shown in EP G-1.
- o OP AP-16, Malfunction of the RHR System, Alert EAL 3 is not contained in EP G-1.

Based on the licensee's intended use of the Appendix Zs and the continued inconsistencies, the Region identified the following concerns:

- 1) The initial CR classification scheme, Appendix Zs, were not safety reviewed by the Plant Safety Review Committee (PSRC). By contrast, technical specifications require PSRC review of EP G-1 and changes thereto. (Tech Specs, Chapter 6).
- 2) The initial classification scheme, Appendix Zs, are not submitted to the NRC for review. Changes to the emergency plan and EPIP EP G-1 are submitted to the NRC for review. (10 CFR 50.4.b.5 and 10 CFR 50, Appendix E.V).



- 3) Except to the extent that Appendix Z EALs were identical to those of EP G-1, the DCPD initial accident classification scheme (Appendix Zs) was not coordinated with State and local organizations to ensure that their classification and EAL schemes were consistent with that established by DCPD. (10 CFR 50, Appendix E.IV.B).
- 4) Use of supposedly redundant classification schemes presented the possibility for inconsistencies to develop as was found during the DCPD 1987 AIT inspection, during the 1990 EP exercise, and during this exercise.

Pending satisfactory resolution of this issue, this item will remain open.

(Closed) Follow-up Item (90-22-03)

Based on observations made during the 1990 EP exercise and discussions held after the exercise, the NRC inspector at the Emergency Operations Facility (EOF) concluded that: (1) a Protective Action Recommendation (PAR) was modified by the Unified Dose Assessment Center (UDAC) and bypassed the Recovery Manager (RM); (2) the licensee's system appeared to allow a loss of control of information transmitted to the offsite agencies; (3) the licensee's system could cause a delay in the issuance of PARs based on plant conditions. Elements (1) and (2) above appeared to have been satisfactorily addressed by the licensee, as no such repeat instances were observed in this exercise. Element (3) above has been incorporated as an element of an exercise weakness observed in this exercise (see section 11.b below).

3. Exercise Planning (responsibility, scenario/objectives development, control of scenario)

The licensee's corporate Emergency Preparedness (EP) staff has the overall responsibility for developing, conducting and evaluating the annual emergency preparedness exercise. The EP staff developed the scenario with the assistance of licensee staff from other organizations possessing appropriate expertise (e.g. reactor operations, health physics, maintenance, etc.). In an effort to maintain strict security over the scenario, individuals who had been involved in the exercise scenario development were not participants in the exercise. The objectives were developed in concert with the offsite agencies. NRC Region V and the Federal Emergency Management Agency (FEMA), Region IX, were provided an opportunity to comment on the proposed scenario and objectives. The complete exercise document included objectives and guidelines, exercise scenario and necessary messages and data (plant parameters and radiological information). The exercise document was tightly controlled before the exercise. Advance copies of the exercise document were provided to the NRC evaluators and other persons having a specific need. The players did not have access to the exercise document or information on scenario events. This exercise was intended to meet the requirements of IV.F 3 of Appendix E to 10 CFR Part 50.



4. Exercise Scenario

The exercise objectives and scenario were evaluated by the NRC and considered appropriate as a method to demonstrate Pacific Gas and Electric Company's (PG&E) capabilities to respond to an emergency in accordance with their Emergency Plan and implementing procedures. The exercise scenario started with an event classified as an Alert and ultimately escalated to a General Emergency (GE) classification. The opening event in the exercise involved a personnel injury requiring security response and evacuation of the injured person to an offsite medical facility. Radiological play began with a sample reading from an area monitor which indicated rising radiation levels. A primary system specific activity sample resulted in a reading which indicated fuel damage, a condition that prompted the declaration of an Alert by the operators. (In actual exercise play, an Unusual Event (UE) was declared prior to the Alert declaration.) Shortly after receipt of the primary system sample and at times throughout the exercise, the loose parts monitoring system alarmed. Plant vent stack monitor readings began increasing to alarm setpoints which initiated an Engineered Safety Feature (ESF). The play progressed until all three radiation barriers were identified as compromised, following a steam generator tube rupture and main steam line break outside containment. Along with the fuel damage evidence, this resulted in identification of conditions warranting declaration of a General Emergency. The exercise was terminated after the players had accomplished appropriate actions to remove residual heat and bring reactor coolant temperature to below 200 degrees.

Prior to the exercise, the NRC inspectors found that the scenario developers had misclassified the GE conditions as a Site/Area Emergency (SAE). This error was discussed with the licensee before the exercise. As a result, the licensee took appropriate action to correct the scenario contingency messages to require the proper classification. The scenario writers had incorrectly anticipated that 5:35am scenario conditions would result in an SAE classification when the proper classification was a GE based upon DCPD EPIP EP G-1 emergency action level (EAL) GE 3.D.

One scenario problem observed at the Technical Support Center (TSC) indicated that the scenario apparently did not provide sufficient radiological survey data. During the exercise, a technician surveying several areas outside the TSC was not provided scenario data for area radiation levels. Controllers provided ad-hoc data for such areas as the TSC entry way and walkway to the TSC. In addition, the scenario data available for TSC frisker information was in units of mR/hr while the frisking instruments were calibrated in cpm.

These examples indicate shortcomings in scenario development which could detract from exercise effectiveness.

5. Federal Observers

Five NRC inspectors evaluated the licensee's response to the scenario. Inspectors were stationed in the (simulator) CR, TSC, Operational Support



Center (OSC), and in the EOF. The inspector in the OSC also accompanied repair/monitoring teams. FEMA evaluated offsite emergency response in this exercise. The results of the FEMA evaluation of offsite activities will be addressed in a separate report issued by FEMA.

6. Exercise Observations (82301)

The following observations, as appropriate, are intended to be suggestions for improving the emergency preparedness program. An exercise weakness is a finding identified as needing corrective action in accordance with 10 CFR 50, Appendix E, Paragraph IV.F.5. All exercise times and other times indicated in this report are Pacific Daylight Time (PDT).

7. Security Emergency Access Incident and Personnel Accountability

The opening event of the exercise involved an in-plant injury which was used to demonstrate security rapid access for an offsite emergency vehicle (ambulance). Security was established quickly in response to an alarm of a vital area door blocked open by an injured person. Security officers were directed to monitor the door and provide "crowd" control at the injury site. This was done effectively and efficiently. Security required less than one minute to process the ambulance for entry to the protected area and the ambulance was escorted back offsite by security in an expeditious manner. Security controls were observed and appeared adequate to perform such functions appropriately.

Personnel onsite accountability was conducted by security beginning at the announcement of declaration of an "Alert." Accountability was considered completed within 26 minutes, when a key list was made and compared with assembly area and evacuation lists. Names and locations of all personnel on site were known, except for about twenty persons. Within 54 minutes after the Alert declaration, specific locations were verified for all personnel on site.

8. Control Room/Simulator

The following aspects of CR operations were observed during the exercise: detection and classification of emergency events, notification, frequent use of emergency procedures, and innovative attempts to mitigate the accident. Observations by the NRC observer concluded:

a. Strengths:

- 1) The control room crew ran through a complex series of emergency operating procedures correctly and proficiently.
- 2) Contrary to the 1990 exercise, the STA demonstrated the capability to make an accurate control room dose projection in a timely manner. This closed open item 90-22-01 (see section 2 above).



- 3) Based on the information available to them, the CR staff properly classified accident conditions and performed timely initial notifications.
- 4) Contrary to the expectations of the scenario developers, the CR was successful in isolating the charging system leak.

b. Observations

- 1) Contrary to the requirements of DCPD procedure EP F-0, Critical Safety Function Status Trees (CSFSTs), the STA did not monitor the CSFSTs during the period 5:15am to 6:00am. During a portion of that period, conditions were changing rapidly and continuous monitoring was required; during the balance of the period, monitoring was required every 10 to 20 minutes.
- 2) No manual forms are available for STA use in reporting CSFST status when the safety parameters display system (SPDS) is inoperative. As an improvement item, the inspector recommended that a CSFST report form be developed analogous to that recommended by the Westinghouse Owner's Group (WOG) in the WOG emergency response guideline executive volume. Such a form would provide a historical record as well as a backup reporting method in the case of SPDS failure.
- 3) Scenario message 7, scheduled for delivery to the CR at 3:25am, reported dose equivalent iodine (DEI) activity of 325 uCi/cc, an activity level which indicated fuel failure, and warranted an Alert classification. The day before the exercise, the scenario was revised to deliver the chemistry report via phone since this was alleged to be the method used to report chemistry results. This decision conflicted with administrative procedure AP C-252 which required that chemistry reports be delivered by hand when technical specification or action level parameters were exceeded as in this case. When the report was phoned in, it was incorrectly reported as gross RCS (reactor coolant system) activity. The CR player questioned a controller who incorrectly verified that it was gross activity, not DEI. This resulted in a UE classification. The NRC inspector concluded that CR classification was correct for the as known conditions, that the control room verified the information with a controller, that the controller was incorrect when he verified the report as gross RCS activity, and that the decision to deliver the scenario report by phone was contrary to DCPD procedural requirements.

9. Technical Support Center (TSC)

The following aspects of TSC operations were observed: activation, accident assessment/classification, notification, and interactions between the various emergency response facilities. The following represent the NRC inspector's observations in the TSC.



Observations

- a. One TSC notification was inaccurate. At the GE declaration, the SEC made a PAR to evacuate sectors (zones) 1 and 2 and shelter sector 5 which was the downwind sector beyond 6 miles (NNW). However, on the notification form, the wind direction was incorrectly stated and communicated to the State as being from 304 to 326 degrees into the SE direction. The actual wind direction was to the NNW. Sheltering of the downwind sector beyond six miles was neither indicated on the notification form, nor communicated to the State as intended.
- b. Dose projections performed by the TSC personnel early after the offsite release began appeared not to have been based upon the best available information. At about 5:50am, dose assessors using the Emergency Assessment and Response System (EARS) dose projection program performed dose rate projections using input parameters corresponding to a steam line break, one percent failed fuel, and a one gpm primary to secondary leak rate. At that time, the plant had been assessed to have a significant steam generator tube rupture, and measured radiation levels were available from the affected SG main steam line for dose projections. As a result, the initial dose projections calculated after the offsite release began significantly underestimated the offsite dose rates.
- c. Potential problems with TSC habitability were noted. Restroom facilities for TSC personnel are located outside of the TSC ventilation/shielding envelope. TSC restroom facilities would become uninhabitable before the TSC. It was recommended that the licensee consider the constraints placed on TSC availability should TSC restroom facilities be lost in an emergency. Also, as of 10:00am, radiation surveys were not performed in the TSC restroom facilities.
- d. TSC status boards were not maintained and appeared not effective in displaying information as follows:
 - o The plant status board contained very small lettering and entries such that it was legible only from within a few feet. The board was not updated between 6:30am and 8:00am.
 - o PARs made or implemented were never displayed on the radiological status board.
 - o The entry for "time of task assignment" for maintenance/in-plant teams was not used for any teams on the maintenance team status board.
- e. Decision makers in the TSC were unaware that a medical emergency had occurred on site at about 3:10am. Subsequent notification forms did not indicate such and the EOF, which asked the TSC regarding an earlier medical emergency, was informed by the SEC that there had been none.



10. Operational Support Center (OSC)

The following aspects of OSC operations were observed: activation of the facility, functional capabilities, and the disposition of various in-plant repair/monitoring teams. Two NRC inspectors observed activities conducted by the OSC; one located full time at the OSC location on the turbine deck and one that accompanied field teams dispatched from the OSC location adjacent to the Radiological Access Control Point.

The following are NRC observations of the OSC activities at the turbine deck location.

a. Strengths

- 1) There was active involvement by all players and creative solutions to problems encountered were offered.
- 2) Briefings for all plant personnel conducted over the public address (PA) system were very good.
- 3) Personnel seemed quick to recognize problems and to develop solutions.

b. Observations

- 1) Some communications difficulties were encountered over the conference phone connections with the TSC and the Radiological Access Control location. This item was also identified by the licensee during the exercise. Communications between the TSC, OSC and CR were adequate; though at times some considerable difficulty was experienced particularly with the OSC trying to communicate with the OSC access control area.
- 2) The first two teams were dispatched without required documentation (i.e., Form 69-10446). This was also noted by the licensee and corrected after about five minutes.
- 3) Posting of a team status board was begun at 5:45am, over 40 minutes after the OSC was declared operational; and after several response teams had been dispatched.

Observations by the NRC inspector accompanying field teams and at the Radiological Access Control Point included:

c. Strengths

- 1) Although it took one hour and sixteen minutes to declare the OSC access control area "activated" after the Alert was declared on the public address (PA) system; it took only 13 minutes to get the OSC access control area organized and activated after arrival of the Site Radiation Protection Coordinator (SRPC).



- 2) The OSC access control area was set up in a well-coordinated manner. The SRPC took control and efficiently utilized available personnel.
- 3) Good health physics (HP) coverage was provided to response teams. Contamination control was maintained and survey results reported and documented on appropriate survey logs.

d. Observations

- 1) Task priorities were not adequately communicated to the OSC Access Supervisor or the SRPC. With three individuals able to authorize teams (Emergency Radiological Advisor, Shift Supervisor, and SEC), there appeared to be confusion at times. This was also licensee identified in a post-exercise critique.
- 2) It appeared to take longer than necessary (one hour and ten minutes) to get one team out in the field on assignment after the OSC had directed the dispatching of the team. Other minor delays were observed. In general, delays appeared to be associated with the time taken for radiological protection (RP) briefings and getting emergency exposure authorizations. For example, it took team M-8 18 minutes to receive the RP briefing; and it took one hour for team O-23 to get the briefing and exposure authorization plus 12 additional minutes to get dosimetry and KI administered.
- 3) It appeared pre-job planning could be improved; for example:
 - a) Team M-8 was dispatched to mechanically rotate the safety injection pump, but apparently did not preplan adequately:
 - o Access to the tool crib was not considered until a worker thought of it just before leaving access control.
 - o No protective clothing was prescribed and when the team arrived at the pump, they discovered it was posted as a contaminated area.
 - o The team did not have the necessary tools to remove the shroud guard.
 - b) Team O-23 was dispatched to spray down the ruptured steam line and had to wait an extended period of time to get emergency exposure authorization. Also, protective clothing requirements were debated; anti-Cs, plastic covers, and turnout gear. As a result, all three were prescribed. This was later changed, but not until after the team was already fully dressed out.
 - c) Teams O-20 and O-23 decided between themselves that team O-23 could do both jobs and that O-20 was not needed, to avoid unnecessary radiological exposure. This was a good



decision on the part of the team members, but should have been considered by those directing response planning activities.

- 4) Radiological controls were not established at the access to the OSC (e.g., no frisking station or step-off pad). One team (E-7) returned directly to the turbine deck OSC and did not go through access control.
- 5) Both teams directly observed by the NRC inspector did not know where and to whom they should report when they arrived in the OSC or access control area.
- 6) The Radiological Access Control clerk was not aware of the availability of O-50R or O-100R dosimeters, when these were requested by a team in accordance with their radiation protection instructions.
- 7) The OSC Access Supervisor did not maintain and log teams on a status board as directed by step 4 of the procedure pertaining to the OSC Pre-departure Authorization Checklist. (EPIP EP EF-2, Activation and Operation of the OSC.)

11. Emergency Operations Facility (EOF)

The following EOF operations were observed: activation; functional capabilities; interface with offsite officials; dose assessment; and the formulation of protective action recommendations. The following are NRC observations of EOF activities.

a. Strengths

- 1) The habitability of the EOF was considered early-on and facility monitoring was established promptly.
- 2) The utility used two individuals to simulate interactions with NRC; however, interactions with the simulated NRC site team were limited.
- 3) The EOF was activated by the interim staff within a timely manner (53 minutes after the Alert declaration).

b. Exercise Weakness

The licensee's system for recommending protective action recommendations, as demonstrated in this exercise, appeared to be excessively complicated and could cause a delay in the issuance of PARs based on plant conditions. The licensee system for transmitting PARs to the County decision makers was not clearly specified by procedure and the licensee did not follow procedural requirements governing the documentation of PARs.

Concerns about the licensee system for making PARs were identified in 1985, 1987, and 1990. The finding identified in 1987 was



characterized as an exercise weakness. The finding in the 1990 exercise (see open item 90-22-03 above) was apparent again in this exercise in that a potential was noted for delays in the issuance of PARs based on plant conditions. It should be noted that none of the PARs bypassed the Recovery Manager (RM) during this exercise.

To address this issue, the licensee had incorporated form 69-10412 "Protective Action Recommendations" into EPIP EP G-3 "Notification of Offsite Agencies and Emergency Organization Personnel" to document PARs. Section 3.5.2 of EPIP EP G-3 indicates that the SEC makes PARs to the Advisor to the County Emergency Organization (ACEO) using the event notification form. Section 4.3.1 of EP G-3 indicates that "The RM shall make PARs and document on Form 69-10412" (PAR form).

The following observations were made during this exercise:

- o The SEC's concurrence on Unified Dose Assessment Center (UDAC) PARs was obtained via telephone for UDAC PARs at 5:35am and 5:49am (PARs 2 and 3) and initialled by the Assistant ACEO. The PARs issued by the SEC were not documented on either of the forms required by the procedure. (The GE event notification form needs to be checked for consistency of PARs.)
- o The RM and Assistant RM (ARM) appeared to be unfamiliar with how the G-3 PAR forms were to be used. The ARM stated that the forms were only transmitted to the County if the utility PARs differed from the UDAC PARs. Subsequent to the exercise, the licensee confirmed that this was how the form was to be used; however, this intended use of the form was not addressed in EP G-3.
- o Only one PAR form was completed by the RM and it was not transmitted to the county. The form was completed and signed at 6:40am and stated that the utility's PAR was to evacuate zones 1, 2, and 3 and shelter zones 4 and 5. A UDAC PAR was submitted to the RM at 6:42am, just after he had signed his PAR form. The UDAC PAR form (#4) indicated that zone 4 would be evacuated, rather than sheltered. The RM changed his PAR form to match the UDAC PAR, and then concurred on the UDAC form. The RM's form was never issued.
- o The next UDAC PAR (at 7:16am) (#6-5 was never issued) indicated that zone 4 would be sheltered, rather than evacuated. This form was changed to capture the County's decision to shelter zone 4 and to add UDAC's PAR to evacuate zones 6, 7, 10, and 11. The County's decision to shelter zone 4 was based on the low population in the zone and the need to use the resources to evacuate the additional zones which were more heavily populated. The RM concurred in this PAR.
- o The next UDAC PAR (#7), issued at 7:35am, indicated that there were no changes from the previous recommendation; however, zone 4 was changed back to evacuation. After this form was signed



by the RM, the ARM had a telephone discussion with the County, during which he was informed that the County could not conduct an evacuation of zones 10 and 11 because they did not have the resources (at that time). The County asked for concurrence in their decision. The ARM concurred in the County's decision because he felt that there was no immediate need to evacuate the zones and because zones 6 and 7 could be evacuated sooner if zones 10 and 11 were not evacuated at the same time. Based on the ARM's conversation with the County, the ARM altered the UDAC PAR form, that he had already signed, to indicate that the PAR was to shelter zones 10 and 11, rather than evacuate.

- o The next UDAC PAR (#8), issued at 7:48am, indicated that zone 4 was changed back to shelter again and zones 10 and 11 were back to evacuation. The explanation section of the form stated that UDAC did not recommend evacuation of zones 10 and 11 unless the need was verified by the field teams. After reviewing this PAR, the RM signed the form, but deleted the field team verification qualifier and indicated that his concurrence was subject to a note. The note, which he added, stated that his previous recommendation to evacuate zones 10 and 11 (when resources were available) still stood and that this recommendation was based on plant conditions. The RM was unaware that the previous PAR for zones 10 and 11 had been changed by the ARM.
- o Subsequent UDAC PARs remained the same for zones 4, 10, and 11.
- o The PARs involving zone 4 were issued as follows: shelter, evacuate, shelter, evacuate, shelter... Based on FEMA's protective action decision (PAD) timeline, the County made the decision to shelter zone 4 at 7:04am. The sirens were sounded at 7:13am and the Emergency Broadcast System (EBS) message was issued simultaneously.
- o At 7:40am, the RM stated that he wanted to recommend potassium iodide (KI) for the PG&E field team members and was told that UDAC was working on that recommendation. The UDAC PAR for the field teams to take KI was not issued until 8:08am (#9), with the RM's concurrence at 8:13am. It should be noted that offsite field teams are made up of both County and PG&E personnel, and only the County Health Officer can recommend KI for County employees.

Collectively, the observations made during this exercise involving the licensee's demonstrated process for issuing PARs, including the apparent discrepancies between procedural requirements and intended actions, is considered to be an exercise weakness and will be tracked as open item 50-275/91-15-01.

c. Observations

- 1) On occasion, the Assistant RM consulted a binder that contained personal notes and selected pages from various EIPs, rather



than official controlled-copy procedures. The licensee may want to consider whether the RM's procedures need to be consolidated.

- 2) Information availability and flow within the EOF was lacking at times. This problem was exacerbated by the lack of formal EOF briefings. The following examples were noted:
 - a) The ACEO had trouble trying to find out when the first radiological release stopped. The release had stopped at 4:30am; however, this information was not available until 5:22am.
 - b) At 5:35am, UDAC PAR form 2 stated that an SAE had been declared. A press release issued at 6:15am also indicated that an SAE had been declared (prior to the GE). The SEC declared an SAE but escalated the event to a GE five minutes later. An event notification form was never issued for the SAE.
 - c) Information on site boundary (SB) dose rates was not available in the EOF until 6:18am. No child thyroid doses were available until 6:32am. The release began at 5:35am.
 - d) The RM was never informed of the previous medical emergency.
 - e) At 6:02am, the interim Radiological Manager appeared to have difficulty obtaining plant status/radiological information from the TSC. The interim Radiological Manager stated that he was in an "information vacuum."
 - f) The RM did not learn that the Governor had declared a State of Emergency until 7:33am. The decision was made at 6:55am.
 - g) The transformer explosion, which occurred at 5:15am, was not communicated to the RM until 7:48am.
 - h) The engineering staff was asked to obtain monitoring support for the congregate care center. This request should have been made through the Radiological Manager. The task was accomplished promptly.
- 3) Press releases were noted to be improved this year. Only minor content inconsistencies were observed. For example, Press Release 10, issued at 8:45am, stated that the utility was investigating possible fuel damage. The existence of fuel damage was known as of 3:37am. Also, Press Release 3, issued after the GE declaration, did not mention that a release was in progress.



12. Critiques

A series of exercise critiques was conducted by the licensee upon completion of the exercise. First, a facility critique was conducted at each emergency response facility, with players and controllers, immediately following the exercise. Upon conclusion of these critiques, a controller critique was conducted at the Community Center to review the major items surfaced at the facility critiques. On August 23, 1991, a formal corporate critique was conducted at the site to cover significant exercise problems, strengths and observations. The licensee had noted several of the items also identified by the NRC observers, as well as several other exercise strengths and problems for improvement.

13. Review of Actual Unusual Event of August 13, 1991

On August 13, 1991, the licensee informed the NRC Headquarters Operations Officer (HOO) via the NRC Emergency Notification System (ENS) that a UE had been declared at the DCPD at 9.55pm because of unidentified RCS leakage of approximately 1.5 gpm, which required a shutdown in accordance with technical specifications. In recording the call, the HOO indicated:

The person making the notification was a clerical employee. He did not know anything about the status of systems in the plant, the shutdown rate, etc. He was requested to obtain the requested information and have someone call back with an update.

NRC Information Notice (IN) 85-80, titled "Timely Declaration of an Emergency Class, Implementation of an Emergency Plan and Emergency Notifications," dated October 15, 1985, reads in part:

When 10 CFR 50.72 was published in the Federal Register (48 FR 39039), the NRC made clear its intent that notifications on the Emergency Notification System to the NRC Operations Center should be made by those knowledgeable of the event. If the description of an emergency is to be sufficiently accurate and timely to meet the intent of the NRC's regulations, the personnel responsible for notification must be properly trained and sufficiently knowledgeable of the event to report it correctly. The NRC did not intend that notifications made pursuant to 10 CFR 50.72 would be made by those who do not understand the event that they are reporting.

In reviewing this event during this inspection, the licensee indicated that the call had been made by a Control Room Assistant (CRA); whereas, it is normally made by the Shift Supervisor (SS). EPIP EP G-3 is being revised to require that the call be made by the SS or a Shift Manager. This procedure change should preclude such problems in the future.

14. Exit Interview

An exit interview was held on August 23, 1991, to discuss the preliminary NRC findings. The attachment to this report identifies the personnel who were present at this meeting. The licensee was informed that no deficiencies or violations of NRC requirements were identified during the



inspection. Items discussed are summarized in Sections 2, 7 through 11 and 13 of this report.

It was pointed out that an error in EPIP EP G-1 had been identified in NRC Inspection Report 50-275/90-32. The error was a reference to another part of the EPIP. The licensee had indicated that the error would be corrected in the next revision of the EPIP. Revision 12 of the EPIP was published and dated May 5, 1991, with the error not corrected. The licensee indicated that this had been an oversight and the appropriate correction will be made in the next EPIP revision.

At the licensee's request, a follow-up exit meeting was convened at Region V on September 5, 1991, to review inspection findings and ensure the licensee understood areas of NRC concern. At that meeting, the licensee indicated that procedures describing the process for making PARS would be revised.



ATTACHMENT

NRC EXIT INTERVIEW ATTENDEES

| | |
|--------------------------|------------------------|
| K. S. Barker, PG&E | P. Skiermont, PG&E |
| W. D. Barkhuff, PG&E | W. F. Ryan, PG&E |
| D. M. Barss, NRC | R. W. Rogers, PG&E |
| S. C. Bauton, PG&E | M. A. Reneau, PG&E |
| J. A. Benner, PG&E | J. M. Rappa, PG&E |
| T. A. Bennett, PG&E | R. S. Snyder, PG&E |
| J. M. Benson, PG&E | M. O. Somerville, PG&E |
| P. A. Bishop, PG&E | D. B. Spitzberg, NRC |
| R. M. Bliss, DCPD | J. P. Staley, PG&E |
| J. V. Boots, PG&E | P. A. Steiner, DCPD |
| M. A. Branum, PG&E | M. V. Sundsmo, PG&E |
| K. J. Brennan, PG&E | S. N. Szuch, PG&E |
| G. R. Bryan, NRC (Comex) | R. G. Todaro, PG&E |
| K. D. Dinnel, PG&E | P. A. Terry, PG&E |
| S. H. Ehrhardt, PG&E | J. Toresdahl, PG&E |
| R. D. Etzler, PG&E | J. D. Townsend, DCPD |
| S. M. Fandel, PG&E | E. V. Waage, PG&E |
| S. J. Foat, PG&E | F. E. Weaver, PG&E |
| E. D. Freeman, PG&E | |
| S. R. Fridley, DCPD | |
| W. H. Fujimoto, PG&E | |
| P. W. Gangwisch, PG&E | |
| J. E. Gardner, PG&E | |
| G. M. Good, NRC | |
| R. Gray, PG&E | |
| J. J. Griffen, PG&E | |
| F. A. Guerra, PG&E | |
| J. R. Hayes, PG&E | |
| J. A. Hays, PG&E | |
| C. Helmen, PG&E | |
| W. S. Joiner, DCPD | |
| T. C. Joyce, PG&E | |
| D. P. Kelly | |
| R. P. Kohout, DCPD | |
| L. G. Lundsford, DCPD | |
| D. B. Marsh, PG&E | |
| W. B. McLane, PG&E | |
| A. D. McQueen, NRC | |
| S. McSeveney, PG&E | |
| D. B. Miklush, DCPD | |
| J. B. Neale, PG&E | |
| D. H. Oatley, DCPD | |
| K. C. O'Neal, PG&E | |
| B. H. Patton, PG&E | |
| C. B. Prince, DCPD | |

ATTENDEES AT POST-EXIT
INTERVIEW ON SEPTEMBER 5, 1991

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|---------------------|
| J. E. Gardner, PG&E |
| G. M. Good, NRC |
| J. J. Griffen, PG&E |
| A. D. McQueen, NRC |
| J. H. Reese, NRC |
| P. A. Steiner, PG&E |
| J. Toresdahl, PG&E |
| E. V. Waage, PG&E |

