



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION V

1450 MARIA LANE, SUITE 210
WALNUT CREEK, CALIFORNIA 94596

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NUCLEAR LICENSING

Docket Nos. ~~50-206~~, 50-361, and 50-362

Southern California Edison Company
P.O. Box 800
2244 Walnut Grove Avenue
Rosemead, California 91770

Attention: Mr. Kenneth P. Baskin, Vice President
Nuclear Engineering, Safety and Licensing Department

Gentlemen:

SUBJECT: NRC INSPECTION

This letter refers to the inspection conducted by Ms. G. M. Good, Team Leader, and other NRC team members of this office on October 25-28, 1988 of activities authorized by NRC License Nos. DPR-13, NPF-10 and NPF-15, and to the discussion of our findings held by Ms. Good with Mr. C. B. McCarthy, Jr. and other members of your staff at the conclusion of the inspection.

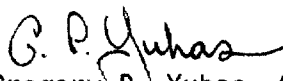
Areas examined during this inspection are described in the enclosed inspection report. Within these areas, the inspection consisted of selective examinations of procedures and representative records, interviews with personnel, and observations by the inspectors.

No deficiencies or violations of NRC requirements were identified within the scope of this inspection.

In accordance with 10 CFR 2.790(a), a copy of this letter and the enclosure will be placed in the NRC Public Document Room.

Should you have any questions concerning this inspection, we will be glad to discuss them with you.

Sincerely,


Gregory P. Yuhas, Chief
Emergency Preparedness and
Radiological Protection Branch

Enclosure:
Inspection Report Nos. 50-206/88-26,
50-361/88-27 and 50-362/88-29

NOV 10 1988

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cc w/enclosure:

D. J. Fogarty, SCE

C. B. McCarthy, Jr., SCE (San Clemente)

H. E. Morgan, SCE (San Clemente)

D. H. Peacor, SCE (San Clemente)

K. M. Bellis, SCE, NA&EP

State of California

J. Dominguez, FEMA, Region IX

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U. S. NUCLEAR REGULATORY COMMISSION

REGION V

Report Nos. 50-206/88-26, 50-361/88-27 and 50-362/88-29

Docket Nos. 50-206, 50-361 and 50-362

License Nos. DPR-13, NPF-10 and NPF-15

Licensee: Southern California Edison Company
P. O. Box 800
2244 Walnut Grove Avenue
Rosemead, California 91770

Facility Name: San Onofre Nuclear Generating Station, Units 1, 2 and 3

Inspection at: San Onofre Site, San Diego County, California

Inspection Conducted: October 25-28, 1988

Inspector: G. M. Good 11/9/88
G. M. Good, Emergency Preparedness Analyst Date Signed
Team Leader

Team Members: J. E. Tatum, Resident Inspector, SONGS Units 2/3
D. J. Perrotti, Emergency Preparedness Specialist,
NRC Headquarters
G. F. Martin, Pacific Northwest Laboratories

Approved by: R. F. Fish 11/10/88
R. F. Fish, Chief Date Signed
Emergency Preparedness Section

SUMMARY:

Inspection on October 25-28, 1988 (Report Nos. 50-206/88-26, 50-361/88-27 and 50-362/88-29)

Areas Inspected: Announced inspection to follow-up on open items identified during the 1987 exercise and to observe the emergency preparedness exercise and associated critique. Inspection procedures 92701 and 82301 were used.

Results: No deficiencies or violations of NRC requirements were identified. This report documents some areas where the licensee's program could be improved.

DETAILS

1. Persons Contacted

C. Anderson, Emergency Planning Specialist
K. Bellis, Manager, Nuclear Affairs and Emergency Planning (NA&EP)
D. Bennette, Supervisor, Station Emergency Planning (SEP)
R. Burton, Chemistry Engineer
K. de Lancey, Emergency Planning Engineer
P. Dooley, Supervisor, Emergency Planning, NA&EP
J. Firoved, Emergency Planning Engineer
D. Peacor, Manager, SEP
R. Schofield, Section Supervisor, Health Physics (HP) Engineering
R. Warnock, Assistant Manager, HP

2. Action on Previous Inspection Findings (Inspection Procedure 92701)

(Closed) Open Item (87-15-01): The HP group in the Technical Support Center (TSC) needs to be more effective at disseminating essential radiological information. This aspect of TSC operation was observed to be significantly improved over last year. This item is considered closed.

(Closed) Open Item (87-15-02): Inability to adequately notify inplant personnel during the exercise. In general, notifications to plant personnel were observed to be improved over last year; however, imperfections were observed during this exercise. These observations have been included in Section 7. This exercise weakness is considered closed.

(Closed) Open Item (87-15-03): Inability to provide proper contamination control in the Operations Support Center (OSC) during the exercise. Observations made during this exercise indicated improvement in this area. Habitability surveys were promptly initiated following OSC activation and repeated periodically throughout the duration of the exercise. Manned frisking stations and step off pads were established at entrances to the Control Building to control the spread of contamination to the OSC, TSC and Control Room (CR). A pre-exercise meeting with a member of the HP staff disclosed that the licensee had provided increased HP support for the emergency preparedness program so that the previously identified problems could be corrected. Since the 1987 annual exercise, the HP staff has been heavily involved in the drill/training of HP emergency response personnel. Observations made during this exercise indicated that the licensee would benefit if this increased level of HP involvement was maintained. These observations have been included in Section 8. This exercise weakness is considered closed.

(Closed) Open Item (87-15-04): Accountability and access control were not maintained in the Emergency Operations Facility (EOF) during the exercise. Observations made during this exercise indicated that these actions were significantly improved over last year. This item is considered closed.

(Closed) Open Item (87-15-05): Inability to establish appropriate HP controls in the EOF during the exercise. Observations made during this exercise indicated that these controls were significantly improved over last year. This exercise weakness is considered closed.

3. Emergency Preparedness Exercise Planning (Inspection Procedure 82301)

The licensee's NA&EP staff has the overall responsibility for developing, conducting and evaluating the annual emergency preparedness exercise. These activities are coordinated with the Manager, SEP. In accordance with the licensee's drill controller program, responsibility for managing the exercise alternates between the Manager, NA&EP and the Manager, SEP. The Manager, SEP was the exercise manager for this annual exercise. Persons involved in the scenario development were not participants in the exercise.

The exercise objectives were established by the NA&EP staff. The objectives were discussed and agreed upon by the Interjurisdictional Planning Committee. NRC Region V and the Federal Emergency Management Agency (FEMA), Region IX, were provided with an opportunity to comment on the exercise objectives and scenario package. The offsite response was not evaluated by FEMA this year; however, the offsite participation was limited, but extensive. The complete scenario package included the objectives, scope, instructions to exercise controllers, controller assignments, exercise scenario, cue cards to be used during the exercise, initial and subsequent plant parameters, meteorological and radiological data and evaluation/comment forms to be completed by the controllers and players. The scenario package was tightly controlled before the exercise. Players did not have access to the scenario package or information on the scenario events. The exercise was intended to meet the requirements of IV.F.2 of Appendix E to 10 CFR Part 50.

4. Exercise Scenario

The exercise scenario started with an event classified as an Alert and ultimately escalated to a General Emergency (GE) classification. The initiating event was based on the loss of all CR annunciators. Coincident with the restoration of the annunciators, results from the analysis of a reactor coolant sample (RCS) indicated activity levels corresponding to 5% failed fuel. This was intended to keep the plant at the Alert classification. The scenario developers provided for a steam generator tube rupture (SGTR) and the total loss of high pressure safety injection to prompt a Site Area Emergency (SAE); however, as anticipated by the scenario developers, a GE was declared instead, due to the fuel damage (simulated) and the release path that existed. An uncontrolled release of fission products to the environment occurred when an unisolable leak on the main steam line developed. Peripheral events included an injured electrician and a hazardous material spill.

5. Federal Evaluators

Four NRC inspectors evaluated the licensee's response. Inspectors were located in the CR, TSC, OSC and EOF. The NRC inspector who was assigned

to the OSC accompanied various repair/monitoring teams in order to evaluate their performance.

6. Control Room/Simulator

The following aspects of CR operations were observed: detection and classification of emergency events, mitigation, notification and protective action recommendations (PARs). The following are NRC observations of the CR activities. The observations, as appropriate, are considered to be suggestions for improving the program.

- A. Following the loss of annunciators, there was no enhanced surveillance of plant parameters. This condition existed for 45 minutes until the annunciators were restored.
- B. Periodic statusing of the event in the CR/Simulator was poor.
- C. Logkeeping by the Control Operator and Operations Leader was informal and not timely. Informal methods to keep track of events that would be entered into the log later were utilized. The loss of power, loss of annunciators and manual actuation of Train A of the containment purge isolation signal are examples of events that were not logged.
- D. The procedure for turbine shutdown (S02-10-2) was missing from the simulator.
- E. Emergency Plan Implementing Procedure (EPIP) S0123-VIII-30.2, referenced by S0123-VIII-10 and S0123-VIII-30, does not exist.
- F. There appeared to be a delay in removing the clearance from high pressure safety injection (HPSI) pump 2P017.
- G. The HPSI pump 2P018 breaker was racked in under load.
- H. There was difficulty using the functional recovery procedure to go on shutdown cooling. Two different procedures had to be used and authorization had to be obtained from the Emergency Coordinator (EC).
- I. The gas leak was not announced in the CR. Also, the initiation of this event was not logged.
- J. It might be more realistic if the Unit Superintendent and Shift Superintendent were not prestaged in the CR. Starting out at their normal locations (adjacent offices) would give the operators a chance to be more involved early on.
- K. The coordination between the Simulator and the plant could be improved if an Auxiliary Operator (AO) was available at the plant to respond to CR requests. During the exercise, the common AO (42) was stationed at the Simulator. During a real emergency, this AO would be at the plant, available to respond to CR requests. To increase the realism, the licensee might want to consider using two

individuals to act in this role during exercises that use the simulator instead of the CR.

L. The following observations were related to the simulator modeling:

1. There was poor modeling of the high radiation level during containment purge isolation.
2. There was poor cooldown modeling for the SGTR.
3. There was difficulty simulating the return to service of bus B06.

7. Technical Support Center

The following aspects of TSC operations were observed: activation, accident assessment/classification, dose assessment, notifications, PARs and CR support. The following are NRC observations of the TSC activities. The observations, as appropriate, are intended to be suggestions for improving the program.

- A. The TSC was effectively managed and the TSC staff worked well as a team.
- B. The new layout in the TSC and the new Emergency Response Team status board have had a positive affect on the functioning of the TSC.
- C. Reentry/recovery discussions were above average.
- D. Responsibility turnover between the CR-TSC and TSC-EOF was systematic.
- E. All of the clocks in the TSC were not synchronized during the activation process. To aid in the reconstruction process and to eliminate possible confusion between facilities, some consideration could be given to this matter. The Shift Communicator's clock was several minutes faster than the clock in the main work area. A controller had synchronized that clock.
- F. Although public address (PA) announcements directed there be no eating, drinking or smoking, they did not include information about release status or hazardous areas to be avoided. The licensee should review its prescribed message forms and the coordination needed to get this type of information, so that the PA announcements can include any hazardous areas to be avoided.
- G. At one point, the HP status board used in the TSC to log source term information indicated that the iodine source term was low by three orders of magnitude. This incorrect data could have caused confusion if had been transmitted outside the TSC.
- H. The HP staff in the TSC should take the initiative to follow-up on any conflicting information pertaining to its functional area. At 1245, the HP staff in the TSC learned that at 1200, the EOF had used

a source term of 115 curies/second. The source term used in the TSC at 1200 was 3540 curies/second. Post-exercise discussions with the HP staff disclosed that they had verified the source term which had been used in the TSC and had not been concerned for the following reasons; (1) conservative protective actions had already been initiated; (2) the source terms had been relatively similar until that point; and (3) the source terms were dropping significantly around that time. Although these reasons appeared to be valid, this observation is intended to function as a reminder that the HP staffs in the TSC and EOF have a responsibility to support each other in the performance of dose calculations.

8. Operations Support Center

The following aspects of OSC operations were observed: activation, functional capabilities and disposition of various implant repair/monitoring teams. The following are NRC observations of the OSC activities. The observations, as appropriate, are intended to be suggestions for improving the program.

- A. The following observations relate to the performance of the team dispatched to obtain the second RCS sample.
 1. Prior to leaving for the post accident sampling system (PASS) sample station, the team did not obtain all the necessary equipment (e.g., syringe, needle and rubber stopper) for obtaining a sample. These items are required by chemistry procedure S0123-III-8.3.23, "Units 2/3 Sampling Procedures and In-line Analysis for the Post-Accident Sampling System."
 2. The team did not take protective equipment (e.g., protective clothing (PCs), gloves or respirators) with them. Additionally, if it had been the first trip to the PASS sample station, it would have been appropriate for the team to take an oxygen sampler with them, since this area is considered to be a confined space until it has been opened.
 3. The chemistry technician was initially dispatched without appropriate dosimetry (i.e., he had no finger rings).

Checklists have been designed to ensure that each team is dispatched with proper dosimetry, protective equipment and job related tools. Even though the checklists were completed, the above items were not specified. The licensee should ensure that the checklists are given the appropriate level of review, prior to team briefing and dispatch.

- B. Until about 1130, it was possible to enter the CR, TSC or OSC from the 9 foot level of the Control Building, via the elevator, without being monitored for contamination at a step off pad.
- C. The team dispatched to the main steam isolation valves (MSIVs) to investigate the reported steam leak wore paper PCs and full face cannister respirators. In view of the environment, it would have

been more appropriate for the team to have been instructed to wear plastics, possibly steam suits. Also, because of the degraded efficiency of the cannisters, due to moisture loading, self-contained breathing apparatus (SCBAs) would have been more appropriate.

- D. S0123-III-8.3.23, Revision 11, makes reference to a permanent radiation exposure permit (REP) for performance of the procedure. Discussions with HP personnel at the REP sign-in desk indicated that this REP no longer exists.

9. Emergency Operations Facility

The following EOF operations were observed: activation, functional capabilities, accident assessment/classification, notifications, PARs and interface with offsite officials. The following are NRC observations of the EOF activities. The observations, as appropriate, are intended to be suggestions for improving the program.

- A. The interface with State and local representatives was effective.
- B. Security did an excellent job of controlling access to the EOF. Security personnel also provided instructions for using the new key card system.
- C. The process for making notifications via the new yellow telephone system (hardcopy) needs to be reviewed to ensure that information messages are not changed, after they have been approved by the Corporate Emergency Director (CED)/Emergency Coordinator (EC). On one occasion, some words were added to clarify dose rate information. The change was beneficial; however, any change should be approved by the CED/EC before it is communicated to the various stations.
- D. Based on the fact that it took 13 minutes to declare the GE, the licensee should consider reevaluating its current arrangement for making event classifications. At the present time, the responsibility for making event classifications transfers from the TSC to the EOF, once the EOF becomes operational. The TSC has access to more information, more rapidly than the EOF. The TSC is also in a better position to know exactly what is transpiring inplant. The transfer of this responsibility to the EOF only serves to add to the potential for delay in deciding upon the classification. Event classifications must be determined promptly, since subsequent decisions/actions may depend upon completion of this step.
- E. The transition to the recovery phase could have been smoother. Prior to beginning recovery discussions, the EOF appeared to think it was necessary to downgrade the event. The awkward transition was partially the fault of the wording used in the final cue card. It might have been more appropriate to have incorporated a jump in time of several days to permit recovery under more stable plant conditions. As a "precautionary measure," the EOF downgraded the

event from a GE to an Alert; however, this decision did not appear to be in accordance with S023-VIII-1, "Recognition and Classification of Emergencies."

10. Critiques

Immediately following the exercise, critiques were held in each of the Emergency Response Facilities (ERFs). Controllers and players completed evaluation/comment forms. A formal critique involving corporate and site management and key emergency response personnel was conducted on October 27, 1988. The purpose of the formal critique was to summarize the earlier critique sessions and to discuss the exercise objectives and any deficiencies identified by licensee personnel during the exercise. The NRC evaluation team attended this meeting. The following represent the type of comments made at this meeting.

- A. All exercise objectives were met.
- B. The Operations Leader, and management in general, were going to conservatively declare an SAE, instead of the anticipated Alert. The CR/simulator staff determined that the high RCS activity with the loss of annunciators warranted a higher classification.
- C. OSC personnel felt they needed a better understanding of why they were being sent to various locations.
- D. The HP technician who accompanied the PASS sample team required the team to return for finger rings before they could sample.
- E. A control point was not established at the 7 foot elevation Turbine Building entrance to the 9 foot elevation of the Control Building.
- F. The choice of respiratory protection for the team dispatched to the MSIV area was questionable because they did not know the extent of the radiological problem.
- G. The on duty Shift Superintendent noted the impact of the exercise radio traffic on the normal operations radio.
- H. The event classification placard at the EOF was not changed in a timely manner upon declaration of the GE.
- I. Due to an inadequate number of lines in certain fields on the follow-up notification form, it was necessary to abbreviate some entries, possibly causing some confusion. This problem had been previously identified. It was determined at that time that form enhancements would be evaluated and implemented after the annual exercise.

11. Exit Interview

An exit interview was held on October 28, 1988 to discuss the preliminary findings of the NRC inspection team. The attachment to this report identifies the licensee personnel who were present at the meeting. The

NRC was represented by the four members of the inspection team which included Mr. J. Tatum, Units 2/3 NRC Resident Inspector. The licensee was informed that no deficiencies or violations of NRC requirements were identified during the inspection. The findings described in Sections 2 and 6-9 of this report were mentioned.

In addition to these findings, during the exit interview, the NRC Team Leader mentioned that borderline examples of controller prompting had been identified at each ERF. The NRC Team Leader noted that this situation may have resulted from the controllers' experience of being able to correct players when necessary during drills. Since the licensee's drill controller program assigns controllers for a full year, the controllers had participated in three drills, prior to the annual exercise.

The licensee's critique was also mentioned during the exit interview. The NRC Team Leader stated that the licensee should consider reviewing its format used to document exercise/drill findings, since the current format does not lend itself to easy tracking of areas where corrective actions are necessary. The current format is geared toward the exercise objectives and whether or not they have been met. The NRC Team Leader stated that there could be some valid findings which would require corrective actions, even though the objective may have been met. Discussions with NA&EP and SEP management, both before and after the exit interview, indicated that the limitations associated with the current format had been recognized by the licensee and changes were being considered. Immediately following the exit interview, the Vice President and Site Manager informed the NRC Team Leader that he agreed with the comments regarding the critique.

ATTACHMENTEXIT INTERVIEW ATTENDEESA. Licensee Personnel

C. Anderson, Emergency Planning Specialist
R. Baker, Compliance Engineer
K. Bellis, Manager, NA&EP
D. Bennette, Supervisor, SEP
C. Bostrom, Training Administrator
G. Buzzelli, Emergency Planning Engineer
M. Corba, NA&EP
B. Culverhouse, Emergency Planning Specialist
D. Dack, Quality Assurance Engineer
K. de Lancey, Emergency Planning Engineer
P. Dooley, Supervisor, Emergency Planning, NA&EP
F. Eller, Manager, Security
J. Firoved, Emergency Planning Engineer
P. Handley, Emergency Planning Specialist
L. Kinkade, Emergency Planning Specialist
R. Krieger, Manager, Operations
C. McCarthy, Jr., Vice President and Site Manager
M. Medford, Manager, Nuclear Regulatory Affairs
G. Patterson, Quality Assurance
D. Peacor, Manager, SEP
R. Reed, Emergency Planning Specialist
J. Reilly, Manager, Technical
R. Schofield, Section Lead, HP Engineering
W. Strom, Supervisor, Independent Safety Engineering Group
D. Townsend, Supervisor, Industrial Safety Force
R. Warnock, Assistant Manager, HP
J. Whalen, Emergency Planning Specialist
M. Wharton, Assistant Manager, Technical
M. Zenker, Compliance Engineer
W. Zintl, Supervisor, Training

B. Other Personnel

R. Lacy, Manager, San Diego Gas and Electric (SDG&E)
J. Winter, Engineer, SDG&E