

U. S. NUCLEAR REGULATORY COMMISSION

REGION V

Report Nos. 50-206/89-20, 50-361/89-20 and 50-362/89-20

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

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

Licensee: Southern California Edison Company
Irvine Operations Center
23 Parker
Irvine, California 92718

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

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

Inspection Conducted: October 22-25, 1989

Inspectors:

Kent M. Prendergast
K. M. Prendergast
Emergency Preparedness Analyst

11/22/89
Date Signed

Team Members:

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11/24/89
Date Signed

Areas Inspected: announced routine emergency preparedness inspection to evaluate the annual emergency preparedness exercise and critique. Inspection procedures 82301 and 82302 were covered.

Results: Based upon the results of the exercise observed, there is reasonable assurance, that in the event of an emergency, appropriate protective measures can and will be taken. This report also documents a number of areas for evaluation and improvement.

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DETAILS

1. Persons Contacted

K. Bellis, Manager, Nuclear Affairs and Emergency Planning
D. Peacor, Manager, Station Emergency Planning
C. Anderson, Emergency Planning Specialist
J. Firoved, Emergency Planning Engineer
G. Buzzelli, Emergency Planning Engineer
K. de Lancey, Emergency Planning Engineer

2. Exercise planning (responsibility, scenario/objectives development, control of scenario)

The licensee's Nuclear Affairs and Emergency Planning (NA & EP) staff has the overall responsibility for developing, conducting and evaluating the annual emergency preparedness exercise. The NA & EP staff developed the scenario package with the assistance of station Emergency Planning and licensee staff possessing appropriate expertise (e.g., reactor operations, health physics, maintenance and etc.) In an effort to maintain strict security over the scenario, individuals who had been involved in the scenario preparation 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, Region IX, were provided an opportunity to comment on the proposed scenario and objectives. The exercise document included the objectives and guidelines, exercise scenario and necessary messages and data and 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. The exercise date was kept secret in order to qualify as an unannounced exercise. This exercise is intended to meet the requirements of IV.F 3 of Appendix E to 10 CFR Part 50.

3. Exercise Scenario (82302)

The exercise objectives and scenario were evaluated by the NRC and considered appropriate as a method to demonstrate Southern California Edison's 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 classification. The initiating condition for the alert classification was localized area dose rates 1000 times normal resulting from a resin spill. Later, another alert was declared due to reactor coolant system leakage greater than 50 gallons per minute. A site area emergency was declared due to a steam generator tube rupture and the inability to maintain pressurizer level. A general emergency, the most severe emergency classification, was declared due to loss of onsite and offsite power complicating the response to the steam generator tube rupture and resulting in a loss of 2 out of 3 fission product barriers.

3. Federal Evaluators

Five NRC inspectors evaluated the licensee's response to the scenario. Inspectors were stationed in the (mock up) Control Room, Technical Support Center (TSC), Operations Support Center (OSC), and in the Emergency Operations Facility (EOF). The inspector in the OSC also accompanied repair/monitoring teams.

FEMA, Region IX, was scheduled to evaluate those portions of the exercise that involved a response by state and local agencies. However, FEMA was unable to participate in the exercise due to the priority of providing necessary assistance to areas affected by the earthquake in the San Francisco area. Full and adequate participation by state and local agencies was reported by EOF staff. Documentation describing offsite participation was received by NRC Region V on November 2, 1989 from the Manager, Nuclear Affairs and Emergency Planning. The following state and local agencies participated in the exercise: the State Office of Emergency Services, Orange County, San Diego County, the California Highway Patrol, the cities of San Clemente and San Juan Capistrano, the American Red Cross, and the U.S. Marine Corps. In addition, offsite Emergency Operations Centers also responded on the "Yellow Phone" communications system in response to the actions required by the scenario.

5. Exercise Observations (82301)

a. 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. The following are NRC observations of the CR activities. The observations, as appropriate, are intended for improving the program.

- 1) The CR staff acted promptly and professionally to classify the resin spill and took appropriate actions to mitigate the accident.
- 2) There was good command and control and interaction among members of CR staff.
- 3) During the exercise, the response by the Control Operator (CO) to the urgent tasks on hand appeared to interfere with the demand for high quality CR log entries. The CO was inhibited from making some entries into his official log until the drill was over. The CO recorded abbreviated entries onto a note pad for transcription at a later time to the official log. Although this practice may be satisfactory for an exercise, during a real event the official log should be used to maintain events and data, even at the expense of sacrificing neatness, to insure data is not lost. This item is similar to an item identified during the 1988 exercise.

- 4) Habitability surveys in the CR could be performed more frequently unless a frisking station is set up to insure the continued operation and habitability of the CR.
- 5) During the exercise, it appeared difficult to find the time when everyone in the CR was able to break from necessary tasks to be briefed on the overall status of plant events/actions. Some form of visual aids or status boards might facilitate keeping the CR staff briefed.

b. Technical Support Center

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 findings in the TSC. The observations, as appropriate, are intended to be suggestions for improving the program.

- 1) The activation of the TSC was very timely. Notifications were expeditiously carried out including correct classifications and appropriate protective action recommendations.
- 2) Engineering support in the TSC could have been more aggressive in their search for information to be used for determining a source term. Since obtaining a PASS sample was delayed, alternate methods such as utilizing containment dome monitor readings or main steam line monitors may have been useful in determining source term.
- 3) Contamination control was not effectively implemented in the TSC. Surveys of the TSC were conducted at regular intervals, however, frisking stations were not set up at the entrances to the TSC to insure the habitability and long term operation of the TSC. This item was also identified during the 1988 exercise.
- 4) There were two occasions when some problems were experienced in obtaining plant diagrams. At one point in the exercise a player was asked to provide a plant diagram to explore methods of getting water to the core. The player responded by indicating he could not find a system description. On another occasion, it took one player approximately one hour to locate a diagram with the location of radiation monitors numbers 1255 and 1257. Further training for some individuals may be appropriate.
- 5) Status boards in the TSC were not effectively maintained and consequently did not appear to be fully utilized during the exercise.
- 6) All of the clocks in the TSC were not synchronized during the activation process. This item was also identified during the 1988 exercise.

c. Operations Support Center

The following aspects of OSC operations were observed: activation of the facility, functional capabilities, and the disposition of various in-plant/monitoring teams. The following are NRC observations of the OSC activities. The observations, as appropriate are intended for improving the program.

- 1) The OSC staff demonstrated a good ability to track and maintain multiple teams in the field. Contamination control for the OSC was established in a timely manner and maintained throughout the exercise. Minimal use of simulation resulted in a very realistic response and increased the learning and training opportunities.
- 2) The frisking of the injured person failed to identify areas of contamination which were simulated by concealed sources. This item was also identified by the licensee during their critique.
- 3) Delays in dispatch, due to overly meticulous contamination control and unnecessary tasks contributed to the failure of Team Number 8 to obtain an air ejector sample. This area may benefit from an evaluation to determine if this was an individual performance problem or whether further training may necessary to insure a required response is not hindered.
- 4) A Health Physics Technician was observed accompanying a maintenance team without a dose rate instrument. This action was observed during a simulated release.
- 5) Multiple problems were observed with air sample counting in the OSC. The problems included, potential contamination of counting equipment, failure to use a procedure, improper counting technique, failure to properly document sample count, and the absence of provisions for proper handling and storage of samples following analysis.

d. Emergency Operations Facility

The following EOF operations were observed: Activation and coordination with state, local, and Federal agencies, accident assessment and classification, dose assessment, notifications to state and local agencies, and the formulation of protective action recommendations. The following are NRC observations of EOF activities. The observations, as appropriate, are intended for improving the program.

- 1) The exercise play in the EOF was enthusiastic and generally effective. Coordination with offsite authorities was also noted to be very good. Emergency classifications were appropriate and timely.
- 2) The EOF did not formally activate in a timely manner. Security performed a walkdown of the EOF and communications were

established with the TSC by 0943. However, the EOF was not declared operational until 1116, when the Emergency Coordinator function was transferred to the EOF. The goal of the EOF is to provide for the management of overall licensee response, by an EOF director, within 60 minutes (NUREG 0737, Supplement No.1). This action is to relieve the TSC of certain responsibilities (e.g. overall management, coordination with off-site organizations, notification, and protective action recommendations) and allow the TSC to provide more support to the CR to mitigate the accident. This area may benefit by further evaluation by licensee management to determine the most efficient method for the responsibilities to be carried out in the Emergency Response Facilities.

- 3) Some of the status boards in the EOF were not maintained on a current basis. In particular, the status of implementation of offsite protective actions were not current.

5. Critiques

Immediately following the exercise, critiques were held in each of the emergency facilities. The critique process included comments from both licensee players and evaluators. A summary of the licensee's critiques was presented to management on October 24, 1989. The NRC also attended this meeting. The following represent some of the critique findings presented during this meeting.

- a. The in-plant response for operations personnel was hampered by the limited number of participants and compounded by allowing people to go to lunch.
- b. The procedure used for plant shutdown in not fully responsive to steam generator tube leakage. Operators were required to consider additional actions for this specific event.
- c. Onsite siren coordination for the site area emergency was delayed due to the Emergency Planning Coordinator (EPC) being on his lunch break. The Emergency Advisor, who took over for the EPC, was not as familiar with the sequence and the timing required.
- d. The Technical Leader in the TSC was hampered in performing his duties by being tied to the telephone. This action interfered with his availability for discussions with the Emergency Coordinator and the Site Emergency Director and his ability to lead his team. It also appeared that the Technical Team was not being proactive in providing suggestions for mitigating activities, but were primarily reacting to conditions and determining a source term.
- e. The flow of information could be improved. Plant operators and CR room personnel did not appear to be aware of pertinent radiological conditions. Also, CR and OSC personnel did not appear to be aware of the occurrence of fuel failure. This information was available from the TSC.

7. Assembly was not adequately tested due to the fact that it occurred during lunch and it was difficult to determine who were the designated players.
- g. Personnel arriving at the OSC after activation were not informed of plant conditions and, potentially could have become contaminated or overexposed.
- h. Given that the projected composition of the source term identified iodine as a major component, no request was initially made by the EOF HP Leader for the EOF HP Technicians to survey for iodine.
- i. Tab D41 contains an error. This Tab inappropriately references the loss of the 4 kilovoltage busses.
- j. Procedures should be revised to assure that personnel who may be recalled are provided with information regarding radiological conditions. Currently, procedures discuss these precautions for personnel exiting the plant, but do not specifically address personnel coming to the plant.

6. Exit

An exit interview was held on October 25, 1989 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. During this meeting, the licensee's attention was directed to four areas, that were discussed during their critique and felt by the NRC team to require further evaluation with respect to the need for improvement. These areas included: core damage assessment; determining the time for core uncover; dose assessment and source term; and methods for disseminating information among the emergency response facilities. The licensee agreed to examine these areas and provide the NRC with their recommendations. Other items discussed are summarized in Sections 2 through 4 of this report.

Attachment

NRC EXIT INTERVIEW ATTENDEES

Ken Bellis, NA&EP
Dave Peacor, NGS
Harold Ray, NGS
Joe Shields, NGS
H.E. Morgan, NGS
D.F. Pilmer, NE&C
C. Anderson, SEP
B. Culverhouse, SEP
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G. Gibson, ONL
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