UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

OFFICE OF NUCLEAR REACTOR REGULATION
HAROLD R. DENTON, DIRECTOR

In the Matter of	)	
	)	
SOUTHERN CALIFORNIA EDISON COMPANY	)	Docket No. 50-206
	)	(10 CFR 2.206)
(San Onofre Nuclear Generating Station, Unit 1)	)	
	)	

DIRECTOR'S DECISION UNDER 10 CFR SECTION 2.206

By essentially identical petitions received since November 1979 (44 FR 75535, December 20, 1979), approximately 1560 residents of California requested that the Nuclear Regulatory Commission's (NRC) Director, Office of Nuclear Reactor Regulation, suspend or revoke the operating license for the San Onofre Nuclear Generating Station, Unit 1. By letter dated July 10, 1981, Mr. Ralph Nader also requested that operation of San Onofre Unit 1 be suspended pending completion of a "license review" for the facility. The petitions and Mr. Nader's letter have been considered under 10 CFR 2.206 of the Commission's regulations. However, we have responded to Mr. Nader's request in a separate decision under 10 CFR 2.206.

The asserted bases for the request by the petitioners are that San Onofre Unit 1 is not designed to withstand possible ground motion from earthquakes that may occur and that evacuation plans are inadequate to cope with a potential accident at the site. The licensee responded to the petition in a filing dated January 23, 1980. Also, in an updated version of the petition distributed by the Alliance for Survival in 1980, the petitioners expressed additional

seismic concerns in light of the Livermore earthquake of January 1980. The updated petition also pointed out that the Rogovin Report to the Nuclear Regulatory Commission on the Three Mile Island accident recommended that old reactors near major cities be shut down until realistic evacuation plans are available for use.

I have reviewed the information submitted by the petitioners and other relevant information bearing on the issues addressed in the original and updated petitions. For the reasons set forth below, the petitioners' request that the operating license for San Onofre Nuclear Generating Station Unit 1 be suspended or revoked is denied.

I.

With respect to the issues of the seismic capability of San Onofre Unit 1 the petitioners assert that: (1) San Onofre Unit 1 is not designed to withstand possible ground motions from earthquakes on the Newport-Inglewood and Christianitos (sic) faults and their branches which pass close to the reactor, (2) these ground motions could break cooling water pipes, cause a loss-of-coolant accident and lead to a meltdown of the fuel rods, (3) the addition of a concrete shell to the reactor dome and other modifications are inadequate to ensure against damages from possible ground motions during a maximum possible earthquake, (4) new and relevant information regarding ground motion potential was unavailable when the Atomic Energy Commission (AEC)* approved the design criteria for

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*The NRC's predecessor

Unit 1 and these criteria were based on inadequate data on measurements for ground motions close to the source of the earthquakes, and (5) The Livermore earthquake of January 1980 made seismic focusing an issue relevant to San Onofre's earthquake hazards.

The San Onofre Unit 1 was licensed by the AEC on March 27, 1967. In the original seismic design, all components, systems and structures which were designated as important to the nuclear safety of the plant were designated Seismic Category A. The design basis used for Seismic Category A was what in today's terminology would be consistent with a 0.25g Housner Spectrum defined Operating Basis Earthquake (OBE) and a 0.5g Housner defined Safe Shutdown Earthquake (SSE). Specifically, structures, systems and components associated with the reactor coolant system, boron injection and residual heat removal were designed as Seismic Category A. Safety injection system components were also designed as Seismic Category A. The Turbine Building extensions were designated Seismic Category B and designed to a 0.2g static criteria.

Since the original plant was constructed, various structures and systems have been added to the plant. These new items were designed to higher seismic levels. Specifically, the sphere enclosure building and the diesel generator and its associated structures, system and components were designed to a 0.67g modified Newmark response spectrum.

In 1973, Southern California Edison Company (SCE) (the licensee) initiated a program to reevaluate and modify as necessary the capability of San Onofre Unit 1 to withstand seismic events. The criterion for this program was

the 0.67g Housner response spectrum. The first phase of this program consisted of reevaluating (1) systems to prevent a design basis accident, including the main reactor coolant loop, Nuclear Steam Supply System (NSSS) components and the reactor building and (2) the major structure in mitigating a design basis accident, the containment. Based upon its reanalyses, the licensee concluded for the containment sphere, the reactor building and structural steel framing that these structures have resistance capacities in excess of those required to meet 0.67g Housner Spectra. As a result, modifications were not necessary. While we have not completed our review of these reanalyses, our preliminary review indicates that these results appear reasonable and are consistent with results from audit analyses performed by NRC of similar structures at other Systematic Evaluation Program (SEP) plants. However, additional restraints were required for several of the larger NSSS components which were base supported. These modifications were implemented during an outage in 1976-1977.

Following initiation of the SEP in 1978, subsequent phases of the seismic reevaluation program were incorporated into the SEP. This program is proceeding in three phases: (1) reevaluation of balance-of-plant structures; (2) reevaluation of piping and mechanical equipment required to shut down the plant; and (3) reevaluation of piping and mechanical equipment required to mitigate accidents. The earthquake input being used for this program is the 0.67g Housner response spectrum.

Portions of the Turbine Building Complex were originally designed as Category B structures (0.2g Static) yet they contained systems and components necessary for safe shutdown and accident mitigation, i.e., Category A systems and components. As discussed in our attached Safety Evaluation Report (SER)

two parts of the Turbine Building Complex (the North Extension and West Heater Platform) require upgrading on a priority basis. The licensee has agreed to implement appropriate modifications to these structures to increase their capacity to resist earthquakes or to shut down the plant if modifications are not complete by June 1, 1982. In the interim the staff concludes that the North Turbine Building Extension, based upon recent modifications to upper column to girder connections, has the capability to resist earthquakes of about 0.4g Housner.

The NRC staff issued letters dated August 4, 1980 and April 24, 1981 to SCE requesting details of the seismic reevaluation program including the scope of review, the evaluation criteria, the schedule for completion and justification for continued operation in the interim until completion of the seismic reevaluation program. The licensee responded by letters dated September 24, 1980, February 23, April 24, July 7, August 11, September 28, October 5, 1981 and October 19, 1981. In addition, on June 1 through June 3, 1981 the NRC met with SCE at San Onofre Unit 1 to review the seismic analyses program for the auxiliary feedwater system.

The NRC staff has evaluated the licensee's responses and has prepared a Safety Evaluation Report of the Interim Seismic Adequacy for San Onofre Unit 1. This report addresses the licensee's conclusion that continued operation is acceptable in the interim until the seismic reevaluation, and any necessary upgrading, is complete. A copy of the Safety Evaluation Report of the Interim Seismic Adequacy for San Onofre Unit 1 is attached to this decision and is hereby incorporated by reference.

The response to the petitioner's allegations (issues 1, 4 and 5) concerning the ground motions from the maximum earthquake on the Newport-Inglewood and Cristianitos faults, new information on ground motions, and near field effects are as follows:

The geologic and seismologic investigations and reviews for the San Onofre Nuclear Generating Station (SONGS) site are among the most extensive ever conducted for nuclear power plants. This effort has included seismologic and geologic studies of Southern California and Baja California in general and specific studies related to the immediate site vicinity. See NUREG-0712, "Safety Evaluation Report for San Onofre Units 2 and 3".

The Offshore Zone of Deformation (OZD) is about 8 km from the SONGS site at its closest approach to the site. The maximum earthquake on the OZD was determined from historic data and instrumentally recorded seismicity and from fault parameters, including slip rate, fault length, and fault area. The vibratory ground motion at the site due to the occurrence of the maximum earthquake on the OZD was determined by the use of empirical methods, theoretical models, and an examination of recent recordings of strong ground motion from earthquakes.

The seismic record in the Southern California region extends back to the 18th century. From 1932 to the present a relatively complete listing of instrumentally determined earthquakes is available. Listing of earthquakes of Richter Magnitude 5 or greater within 320 km of the site and all listed earthquakes within 80 km of the site, for which instrumental records are available, were reviewed. The spatial density of these events varies with location. The vicinity of the SONGS site (within approximately 30 km) appears to be one of relatively low seismicity.

The areas of Southern California which might be characterized as seismically active are the San Jacinto, San Fernando, White Wolf, and Imperial Valley faults. These faults are in the range of 80 km to 240 km from the SONGS site at their closest approach and, therefore, are considered to present no significant seismic challenge to the plants.

The Newport-Inglewood Fault is approximately 35 km northwest of the SONGS site at its closest approach to the site. As a conservatism in estimating the maximum earthquake to be expected on the OZD, the staff considers the Newport-Inglewood fault, the Southcoast Offshore Zone of Deformation and the Rose Canyon fault as one continuous zone of deformation.

The licensee and the NRC staff have spent several years conducting exhaustive investigations and reviews of the geology and seismology of southern California and particularly the SONGS region to determine the proper earthquake parameters.

For safe-shutdown, the Category A systems, components and structures at SONGS Unit 1 are designed to a Housner spectrum anchored at zero period by an acceleration of 0.5g. This design significantly exceeds the ground motion expected from a magnitude 5 earthquake at a distance of 8 km. In addition, San Onofre Unit 1 is presently being backfitted to increase its margin of safety with respect to an M_S (surface wave magnitude) = 7 earthquake on the OZD.

Although not identified as the Cristianitos Zone of Deformation (CZD), a feature aligned along the CZD known as Fault E, which is not part of the present day mapped Cristianitos Fault, was identified and mapped in 1971 by Marine Advisors Associates, consultants to the Southern California Edison Company. The fault was removed from their 1972 maps because further interpretation did not substantiate a continuous fault, but rather a discontinuous zone of deformation.

A detailed investigation was made in 1980 by Southern California Edison at the request of the NRC, assisted by the U. S. Geological Survey (USGS), to determine the offshore extent of the Cristianitos Fault and to determine whether it is structurally related to the Offshore Zone of Deformation (OZD) of which the Newport-Inglewood fault is a part. The closely spaced, high resolution seismic reflection profiles taken offshore of the SONGS site revealed a zone of discontinuous, en-echelon faults and folds which were collectively referred to as the CZD. The CZD is not seen in the sea cliff exposure along its projected trend. Also, a Pleistocene erosion platform, which is believed to be 40,000 to 80,000 years old, can be seen in the seismic reflection profiles to overlie, undisturbed, the CZD. Since this would indicate that the CZD has not moved for at least that period of time, it is considered to be noncapable and does not present a hazard to the SONGS site. (See NUREG-0712, Section 2.5.1.12).

With respect to issues (2) and (3) concerning breakage of water pipes and damage from an earthquake, the petition failed to state specifically the basis for the allegations of the inadequacy of the Unit 1 facilities. To address issues (2) and (3), the staff has examined information regarding the possible effects of seismic events on plant structures and safety systems. In its letter dated August 11, 1981, the licensee enclosed a summary of the performance of steel-framed structures in six past earthquakes dating from 1952 through 1979 and including the largest recorded earthquake in modern times. The licensee noted that, in general, the steel framed structures reviewed were designed for 0.1g or 0.2g static (the turbine building extensions are steel framed structures designed for 0.2g static) and experienced two to three times the design acceleration level without significant damage. In the large number of structures reviewed, which had experienced severe ground motion, no plastic collapse or other gross structural failure was found.

Our basis for allowing continued operation of the San Onofre Unit 1 facility, pending completion of the seismic reevaluation program, is described in detail in Section III, "Seismic Resistance of Structures, Systems and Components", Section IV, "Seismic Reevaluation Program", and Section V, "Conclusion", of the attached Safety Evaluation Report.

As discussed in the Safety Evaluation Report, significant seismic upgrading of the San Onofre Unit 1 facility is underway, much has been accomplished and more is scheduled. The staff also agrees with the licensee's April 28, 1980 basis for continued operation for those structures, systems and components which were originally designed to meet a 0.5g Housner Spectra as ground motion input.

However, not all safety related structures and systems were designed to this level of ground motion. In particular two critical areas of the Turbine Building complex (North Extension and West Heater Platform), several masonry walls and the Auxiliary Feedwater System are in this category. It is the NRC's judgment that the inherent seismic capability of the AFW system and the additional water supply that bypasses the normal suction piping provide an adequate basis for continued operation during the seismic reanalysis and upgrading of the Auxiliary Feedwater System. Based on our review to date, we consider the masonry walls have adequate seismic resistance, although spalling and rebar overstraining may be expected to occur at levels somewhat below the 0.67g Housner Spectra used by the licensee in his analyses. Our evaluation of the North Turbine Building Extension and the West Feedwater Heater Platform indicate an inherent capacity to withstand seismic events in excess of the original design (0.2g Static). The staff estimates that the North Turbine Building Extension would have the capacity to withstand an earthquake input level of 0.4g Housner.

The staff has concluded that certain modifications to (1) the North Turbine Building Extension and (2) the West Feedwater Heater Platform are necessary in the near term to increase the capability of certain plant structures to resist earthquakes at SONGS 1 to assure that continued operation of the facility is not inimical to the health and safety of the public.

For the reasons discussed in Section II.B., Near-Term Seismic Hazard, of the attached Safety Evaluation Report the probability is low that ground motion at the reactor site greater than that characterized by 0.4g Housner Spectrum would be exceeded. Therefore, considering the plant's ability to resist strong ground motion, as discussed in Section III of the attached Safety Evaluation Report, Seismic Resistance of Structures, Systems and Components, and considering the low probability of the ground motion discussed above until June 1, 1982; the staff concludes that short term operation of San Onofre Unit 1 during the seismic reevaluation of the facility and the implementation of any modification shown to be necessary as a result of seismic reanalysis is acceptable under the following conditions:

(1) Structural upgrading of the North Turbine Building Extension and West Heater Platform by adding diagonal steel bracing is to be completed by June 1, 1982, or the facility is to be shutdown, until such upgrading is completed;

(2) Results of seismic analysis of structures are submitted for NRC review by January 31, 1982, and for all other items on the schedule specified in the licensee's November 3, 1981 letter;

(3) Any modifications shown to be necessary as a result of the seismic analysis which are not implemented by January 1, 1983, are justified on a case-by-case basis with a schedule for implementation; and

(4) Prior to upgrading of the North Turbine Building Extension and West Heater Platform, either the gantry crane is to be parked at the extreme south limit of travel or the reactor is to be shut down during periods when crane movement is required.

II.

With respect to the issue of the evacuation plans for San Onofre Unit 1 the petitioners assert: (1) because the population growth near San Onofre Unit 1 plant has been more rapid and extensive than could have been anticipated during the licensing of Unit 1, there are no adequate evacuation plans for the area's residents in the event of a loss of coolant accident; (2) there are about nine million people that live in the area that could be affected by accidental release of radioactive gases from Unit 1; (3) the State and local governments are not prepared to evacuate the population within the short time between the accident and the spread of radioactive gases; (4) when the AEC issued the construction permit in March 1964, it was impossible to know that the population would increase so rapidly; and (5) the Rogovin Report to the NRC on the Three Mile Island accident recommended that older reactors near major cities (like San Onofre 1) should be shutdown until realistic evacuation plans are developed.

Presently, the licensee has in place an NRC approved (October 1976) emergency plan for San Onofre Unit 1, which includes planning provisions for both onsite and offsite and, contrary to the petitioners contentions 1 and 4, accounts for population growth since the issuance of the construction permit for Unit 1 in 1964. A new proposed regulation was published in the Federal Register (44 FR 7516) on December 19, 1979, to clarify, expand, and further upgrade NRC's emergency planning regulations in 10 CFR Part 50, Appendix E. After public comments were received, a new regulation was issued with an effective date of November 3, 1980. In compliance with this regulation, the licensee submitted an updated emergency plan for NRC review in January 1981.

In addition, contrary to petition contention 3, the licensee submitted to the Federal Emergency Management Agency (FEMA), with copies to NRC, emergency plans for Orange and San Diego Counties, the cities of San Clemente and San Juan Capistrano, the U. S. Marine Corps at Camp Pendleton, and the California State Department of Parks and Recreation.

The new regulations require 10 mile radius emergency planning zones around nuclear power plants. The 10 mile radius area is referred to as the plume exposure pathway Emergency Planning Zone (EPZ) and applies to potential airborne exposure. Within the EPZ the resident population estimates are approximately 80,000 in 1980 and 98,000 in 1990 contrary to petitioners' contention 2. Its size is based on a conclusion that it is unlikely that any protective actions would be required beyond the plume exposure pathway EPZ, even for most core-melt accidents. In addition, for worst-case core-melt accidents, acute fatalities would not be expected outside 10 miles. The detailed planning basis for this EPZ is described in the NRC/FEMA Report, NUREG-0396, EPA 520/1-78-016, "Planning Basis for the Development of State and Local Government Radiological Emergency Response Plans in Support of Light Water Nuclear Power Plants". The planning basis is also described in NUREG-0654/FEMA-REP-1, "Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants."

A report by Science Applications, Inc. (SAI) was done for the California legislature and is the basis for a recommendation by the California Office of Emergency Services (COES) for extended emergency planning zones larger than the 10 mile EPZ. The risk study performed for the State of California is similar in many respects to those studies that were the basis for NUREG-0396, but one of the most important differences was the COES assumption that no

protective actions would be taken offsite for seven days for those individuals in local areas of high radiation after cloud passage. The staff believes that a more realistic exposure time is considerably shorter and that correspondingly smaller planning distances should result from use of the COES Methodology. The staff, however, has no objection to offsite authorities laying explicit plans for distances farther than 10 miles if those authorities choose to expend resources for this purpose. The NRC's conclusion is that evacuation plans for the population beyond the 10 mile EPZ are not required and that evacuation plans within the 10 mile EPZ are adequate.

An emergency exercise was enacted May 13, 1981 to demonstrate the Emergency Plan at SONGS. This exercise was witnessed by the NRC and FEMA and in a June 3, 1981 memorandum from FEMA to the NRC, FEMA states, in part, that:

> "A joint exercise was conducted on May 13, 1981, to evaluate the offsite capabilities of the State and local jurisdictions to respond to a nuclear emergency at the San Onofre station. The exercise reflected a general overall state of preparedness to implement general emergency plans."

In an enclosure to that memorandum, it is further stated that:

> "On May 13, 1981, FEMA Region IX with support from FEMA headquarters, Regions VIII and X, and the RAC conducted an evaluation of the offsite capabilities of the local and State jurisdictions to respond to a nuclear emergency at SONGS. The evaluation preparation, conduct, and subsequent critique process, closely followed guidance provided by FEMA National Program Office. The findings of that evaluation reflected a general overall preparedness to implement their plans and to respond to the scenario from an operational standpoint, but significant shortfalls were observed in the ability to conduct radiological response operations. Further, the critical areas of ingestion pathway sampling and analysis, as well as Reentry and Recovery operations were not observed due to the restricted nature of the scenario. Communications, EOF facility, and general coordination were also considered to be weak and needed further address through training and drill efforts. The evacuation portion of the exercise was considered adequate but was felt it did not totally test the evacuation requirement and, therefore, refelected a need for further study, drill and exercise."..."A range of protective actions has been

> developed for the plume exposure pathway EPZ for both emergency workers and the public. Guidelines for the choice of protective actions during an emergency are developed and in place. Protective actions for the ingestion exposure pathway EPZ, appropriate to the locale, are generally developed. Further development and testing of these guidelines is recommended, but do not impose an impediment to the total response capability."

In summary, FEMA found the state and local government emergency response plans "minimally adequate", but found the offsite capability for implementation inadequate pending taking of corrective actions. In a letter dated June 26, 1981, to the NRC, SCE stated that a series of meetings had been held with FEMA and with all local jurisdictions to develop a plan of action for the continuing development of emergency preparedness. The plan and its schedule for implementation are described in Appendix A. FEMA, in a July 14, 1981 memo from R. Jaske to B, Grimes of the NRC, states that they have confirmed with FEMA Region IX that SCE's letter of June 26, 1981, represent agreed positions concerning FEMA's major concerns, what needs to be done to correct them, and SCE's proposed actions to assist in correcting them. The NRC staff has reviewed the corrective action proposed by the licensee to address the FEMA determinations and concluded that when completed these actions will adequately resolve the expressed concerns. Accordingly, in an October 26, 1981 letter the NRC advised SCE that the deficiencies identified by FEMA must be resolved and SCE must clearly demonstrate that the deficiencies have been corrected before the staff can complete its assessment of the overall state of emergency preparedness with respect to Unit 1. SCE forwarded to FEMA a letter dated October 15, 1981, showing the completion of all items identified earlier. FEMA is reviewing this letter and expects to make a final determination in mid November, 1981. In view of the NRC staff's previous

evaluation of the current emergency plan, the present efforts to further upgrade the emergency preparedness at San Onofre, and the schedule to meet FEMA's concerns in the near-term, there is no unacceptable risk to the health and safety to the public that would justify an order to shut down San Onofre Unit 1.

III.

On the basis of the foregoing, I have determined that no adequate basis exists for ordering the suspension or revocation of the operating license for the San Onofre Nuclear Generating Station Unit 1. Consequently, the petitioners' request is denied.

A copy of this decision will be filed with the Secretary for the Commission's review in accordance with 10 CFR 2.206(c). As provided in this regulation, the decision will become the final action of the Commission twenty-five (25) days after issuance, unless the Commission, on its own motion, institutes review of the decision within that time.

Harold R. Denton

Harold R. Denton, Director
Office of Nuclear Reactor Regulation

Dated at Bethesda, Maryland,
this 16th day of November, 1981

Attachment:
1. Appendix A - Corrective Actions Required to Address FEMA Determinations of 6/3/81
2. Safety Evaluation Report of the Interim Adequacy for San Onofre Unit 1

APPENDIX A

CORRECTIVE ACTIONS REQUIRED TO ADDRESS FEMA DETERMINATIONS OF JUNE 3, 1981*

	FEMA CONCERNS	FEMA RECOMMENDATION	RESPONSE**
	FEMA Region IX Evaluation of Plans and Capabilities		
	"Most Critical Concern"		
1.	The assessment and monitoring of actual offsite radiological consequences of a radiological emergency condition through methods, systems and equipment is considered to be weak and in need of improvement to meet minimum criteria.	Develop a multi-jurisdictional response capability to assure adequate coverage of plume pathway and standardized procedures which allow flexibility in response.	Continue to install the Health Physics Computer which will provide a prompt conservative assessment of the actual radiological consequences of an accident. This will be operational to a limited degree by fuel load with full operation expected by July 1982. Further develop standard radiological monitoring procedures (SOP's) for the local jurisdictions and the Offsite Dose Assessment Center (ODAC) by August 1981. SCE additionally will assess the local jurisdictions' current equipment against their needs and identify any deficiencies noted. SCE will provide staffing to assume a role of leadership in this function. SCE will provide training programs for personnel involved in use of the SOP's.
	"Serious Concern"		
2.	The interim - EOF shows a lack of clear operating procedures, fragmentation of the facility, lack of management direction communications, size of the facility, and is a significant impedance to the San Clemente EOC operation.	Until the permanent EOF is completed, the interim EOF should be relocated to a single location separate from the San Clemente EOC and staffed with management, communicators and other support personnel necessary for EOF operations.	SCE will develop SOP's to make current EOF operations clearer and more manageable along the lines of the current planning arrangements. Limited physical improvements of the present facilities will be identified and accomplished.

*The schedule for these actions is identified in pages A-4 and A-5.

**As a result of a meeting between FEMA and SCE on June 15, 1981, it is SCE's understanding that the significant concerns addressed in the FEMA Region IX Evaluation of the May 13, 1981 Exercise are covered in these planned actions.

FEMA CONCERNS	FEMA RECOMMENDATION	RESPONSES
"Major Concerns"		
3. A need to clarify monitoring and assessment duties for both plume and ingestion pathways as they pertain to State OES, State Radiological Health and local jurisdiction.	Develop a joint standardized multi-jurisdictional response team.	(See item [1] above.) SCE will develop standardized procedures for the five involved counties to obtain samples, conduct analyses, and take necessary protective actions for the ingestion pathway emergency planning zone consistent with the State Radiological Health proposed ingestion pathway procedures. Develop an integrated radiological response team to be directed by the Offsite Dose Assessment Center (ODAC) to conduct field monitoring.
4. Means to provide early notification and clear instructions to the public within the plume exposure pathway EPZ have not been installed or tested.	Install sirens and provide warning dissemination capacity to remote areas where public address systems from surface or airborne vehicle is required.	SCE will proceed with current plans for siren installation. SCE will develop SOP's for public notification via the Emergency Broadcast System (EBS) and local stations identified in the plans. SCE will develop SOP's for coordination and decisionmaking in use of sirens.
5. Adequate emergency facilities and equipment to support the emergency response have not been provided.	SCE provide response equipment which was promised to the local jurisdictions, including sirens and additional communications equipment.	Agreements have been made between SCE and local agencies that specific equipment will be ordered by the local jurisdictions and billed to SCE. Equipment procurement has begun and is continuing. SCE will follow up with report on status of equipment received or on order. SCE will review equipment needs and status of equipment procurement activities.
6. Radiological emergency response training has essentially not been provided to those who may be called upon to assist in an emergency.	SCE, in conjunction with the State of California, should develop the necessary training to meet the identified needs in the local jurisdictions.	(See items [1] and [3] above.) SCE will develop and implement a program of training in the critical areas of radiation monitoring and assessment, communications, decisionmaking and coordination regarding protective actions, etc.

FEMA CONCERNS	FEMA RECOMMENDATION	RESPONSES
"Sufficient Concern to Remain a Major Issue"		
7. SCE has not made information available about how the public would be notified or what the public's initial actions should be in an emergency.	Disseminate advance public information.	SCE will proceed with the public education program that includes an emergency response brochure and radiation information brochure mailer, preparation and distribution of flyers and posters, new ads, community meetings, etc.

SUMMARY OF PLANNED ACTION

	SCHEDULE
1. Develop SOP's covering the following topics:	Items (a) through (h):
a. Operation of the Offsite Dose Assessment Center (ODAC)	1st draft - 7/15/81 Final draft - 9/1/81 Implement - 10/1/81
b. Radiation surveys by field monitoring teams	
c. Emergency Communications	
d. Use of the siren alerting system and public notification	
e. Coordination relating to protective actions	
f. Acquisition, display and use of meteorological data	
g. Operation of the EOF	Item (i):
h. Ingestion pathway monitoring	1st draft - 9/15/81 Final draft - 11/1/81
i. Existing SOP's covering other plan elements	Implement - 12/1/81
2. Obtain equipment required to carry out radiation monitoring functions	
a. Survey types and quantities of equipment actually in place	7/15/81
b. Initiate procurement of equipment shortages	8/1/81
3. Develop additional communications capability	
a. Expand interagency phone network to include CHP	7/15/81
b. Provide speaker monitors at EOC's	7/15/81
c. Provide teletype message system network between all principal centers	10/15/81
d. Provide additional communication circuits	10/15/81

		SCHEDULE
4.	Make physical improvements to the EOF	
	a. Identify possible improvements	9/1/81
	b. Obtain agreements to make improvements	9/1/81
	c. Construct improvements	10/15/81
5.	Install Sirens	50% by 7/1/81 90% by 9/1/81 100% by 10/15/81
6.	Accomplish training in use of new and existing procedures, facilities, and equipment	
	a. Develop training program (long and short term)	7/15/81
	b. Develop training material (short term program)	9/1/81
	c. Conduct training and drills (short term program)	9/1/81 through 10/15/81
	d. Implement long term training program	11/1/81 through 2/1/82
7.	Public Information Program	Ongoing, Initial program complete 9/1/81

		SCHEDULE
4.	Make physical improvements to the EOF	
	a. Identify possible improvements	9/1/81
	b. Obtain agreements to make improvements	9/1/81
	c. Construct improvements	10/15/81
5.	Install Sirens	50% by 7/1/81 90% by 9/1/81 100% by 10/15/81
6.	Accomplish training in use of new and existing procedures, facilities, and equipment	
	a. Develop training program (long and short term)	7/15/81
	b. Develop training material (short term program)	9/1/81
	c. Conduct training and drills (short term program)	9/1/81 through 10/15/81
	d. Implement long term training program	11/1/81 through 2/1/82
7.	Public Information Program	Ongoing, Initial program complete 9/1/81