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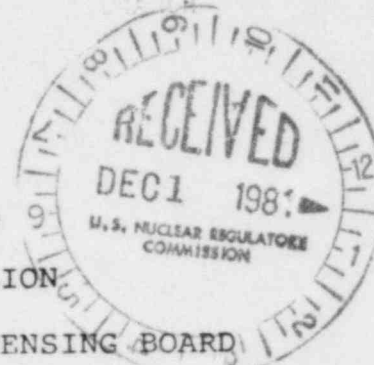
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OFFICE OF SECRETARY
OF SERVICE

8 UNITED STATES OF AMERICA
9 NUCLEAR REGULATORY COMMISSION

10 BEFORE THE ATOMIC SAFETY AND LICENSING BOARD



13 In the Matter of

14 SOUTHERN CALIFORNIA EDISON
15 COMPANY, ET AL.

16 (San Onofre Nuclear
17 Generating Station, Units 2 and 3)

) Docket Nos. 50-361 OL
) 50-362 OL

) INTERVENORS' PROPOSED
) FINDINGS OF FACT AND
) CONCLUSIONS OF LAW ON
) EMERGENCY PLANNING AND
) PREPAREDNESS ISSUES.
)
)
)

19 TO THE ATOMIC SAFETY AND LICENSING BOARD AND A.T. PARTIES:

20 The Intervenor Guard and Carsten, et al. hereby submit to
21 the Board pursuant to stipulation contained on the record and
22 10 C.F.R. 2.54 their proposed Findings of Fact, Conclusions of
23 Law and conditions with respect to the above referenced licensing
24 proceedings.

25 Intervenor have attempted as much as possible to conform
26 in their citations and abbreviations to the proposed findings and
27 conclusions of law of the Applicant in order that they might be

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1 more easily helpful to the Board and the parties.

2 DATED: November 20, 1981.

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Respectfully submitted,

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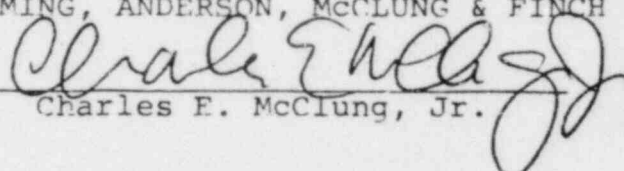
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PHVLLIS M. GALLAGHER and
CHAPLES E. McCLUNG, JR. of
FLEMING, ANDERSON, McCLUNG & FINCH

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By


Charles E. McClung, Jr.

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1 A. CONTENTION No.1. (Offsite Public Protective Action
2 Capability).

3 "Whether the state of emergency preparedness for
4 SONGS 2 and 3 provides reasonable assurance that
5 offsite transient and permanent population within
6 the plume exposure pathway emergency planning zone
7 C.F.R. § 50.47(c)(2), for SONGS 2 and 3 can be
8 evacuated or otherwise adequately protected in the
9 event of a radiological emergency with offsite
10 consequences occurring at SONGS 2 and 3 as required
11 by 10 C.F.R. § 50.47(a)(1), (b)(10) and Part 50,
12 Appendix E.IV.

13 1. This contention while in general form is meant to test
14 the offsite jurisdictions ability to take a range of protective
15 actions in the event of a radiological emergency. This includes
16 the capability of choosing what action to take, a range of various
17 actions to take and the coordination between the various offsite
18 jurisdictions of such actions. The underlying intent of this
19 contention asks whether or not the offsite jurisdictions can and
20 will be able to affect dose savings and limit injury to an
21 acceptable amount in the event of a radiological emergency with
22 offsite consequences. This contention refers to 10 C.F.R. §50.47
23 (b)(10) which is supplemented by Section II.J of NUREG-0654.

24 1. Implementation of protective actions

25 2. Implementation of protective actions is addressed in NUREG-
26 0654 II J9 and II J10. Significant deficiency in the plans exist.
27 Discussion of a range of protective actions and the basis for
28 choosing between the various protective actions are deficient in
most of the plans according to the RAC Review and OES Review.
(Intervenor's Exhibits #13, 16, 17, 18, 19, 20 and 25.)

2. Emergency Plans for Special Groups.

3. NUREG-0654 provides for special provision for special groups

1 who may be impaired in terms of mobility (NUREG-0654, II.J10-d).
2 The RAC review and the OES Review indicated that there were no
3 demonstrated capability to execute aid to the handicapped.
4 (Intervenor's Exhibits #13, 16, 17, 18, 19, 20 and 25.)

5 4. NUREG J.10.E. provides that radio protective drugs should
6 be available to those who cannot evacuate immediately.

7 5. RAC Review and OES Review found that these were not add-
8 ressed in the plan. (Intervenor's Exhibits #13, 16, 17, 18, 19,
9 20 and 25.)

10 6. Testimony of Charles Fleming from the California State
11 Department of Rehabilitation indicates that fully 7% of the
12 population of the emergency planning zone is seriously disabled
13 meaning that they would have serious sensory or
14 motor disabilities which would severely impact functioning in the
15 case of emergency or evacuation situation. (Fleming, Tr. 10112.,
16 Logue Tr. 1074 Ditty 9841, 9836.) Mr Fleming testified that there
17 would be necessary special vehicles and preparation for this
18 population to aid them in evacuation. There would be need for
19 special care at the relocation facilities for these people.
20 (Fleming, Tr. 10118.) No plans exist in either respect.

21 7. The applicants plans and that of the local jurisdictions
22 to insure evacuation of transients, special population and school
23 children rely on Orange County Transit District bus support. The
24 only witness on this subject was Jan Goodwin, Chairman of the
25 United Transportation Union Local 19, which is the union for the
26 bus drivers in the Orange County Transit District, (Goodwin, Tr.
27 9984) Ms. Goodwin indicated in her testimony that the drivers
28 were completely unaware of any emergency responsibility with

1 respect to a radiological emergency. That there are no plans in
2 place at the OCTD to provide the support outlined in the various
3 other planning documents, there have been no training programs for
4 drivers for what they should do in the event of a radiological
5 emergency and that significant problems and delays could occur
6 in the deployment of busses due to lack of prior planning and
7 deficiencies in the communication system in deployment of the bus
8 drivers. (Goodwin, Tr. 9885-9896.) She also testified that
9 substantial number of drivers are women of childbearing age and
10 there is no provision for noting this in the dispatchers records.
11 (Goodwin, Tr. 9908.)

12 8. Small group homes for the elderly are not easily
13 identified. Such homes are proliferating due to the high cost
14 of housing. Some are licensed and some not. (Ditty, Tr. 9843.)

15 9. The added time factor of anxiety, disorientation and
16 other kinds of mental states not conducive to orderly evacuation
17 would be expected in many of the elderly in the event of a
18 nuclear accident. (Ditty, Tr. 9850.)

19 10. A survey conducted by Intervenor's Witness, Carolyn
20 Logue, president of the South Orange County Community Service
21 Council, surveying 12 facilities (list of facilities Tr. 10,080)
22 of special populations found 11 had not been included in any
23 emergency planning, (Logue, Tr. 10078.)

24 11. Of the 11 sample facilities of the survey not included
25 in the planning, one R.H. Dana for Handicapped had 74 disabled or
26 physically handicapped, of which 35 students need special help in
27 transportation, such as wheelchair or non-ambulatory students, such
28 as 6 or 7 year old children of six months capacity intellectually

1 and physically. (Logue, Tr. 10057.)

2 12. The loading of buses via lifts and ramps is a slow proc-
3 ess, extending evacuation times. (Logue, Tr. 10057.)

4 13. Mobilization time is a crucial consideration in choice of
5 protective actions by decisionmakers during a nuclear power plant
6 accident. (Murri, Tr. 7926.)

7 14. An increase in mobilization time greater than one hour
8 would lengthen the evacuation times. (Brothers, Tr. 8114.)

9 15. No consideration has been given to the existence of
10 "board and care" facilities within the Plume. Exposure Pathway EPZ
11 in arriving at mobilization times. (Brothers, Tr. 8124).

12 16. The Board finds that the stage of emergency preparedness
13 of the response jurisdictions and the applicant does not provide
14 adequate identification of the numbers and locations of elderly
15 and handicapped who may require assistance, and consequently no
16 adequate estimate of the numbers or types of transportation
17 vehicles and personnel necessary for their protection.

18 17. Wilbur Smith Associates estimates peak summer beach
19 population: 19,600 daily, State Beaches; 22,000 daily, San
20 Clemente City Beaches; figuring 40% weekday utilization, 65%
21 present at any given time, Wilbur Smith sets transient tourist
22 population at 23,000 (Applicants' exhibit 123, Page.26 Table 2)

23 18. County beaches and harbor populations were not shown by
24 Wilbur Smith in population counts nor in timings.

25 19. A second segment of transient population noted by Wilbur
26 Smith consists of out-of-town tourists and recreation orientated
27 visitors. Dana Point Harbor and San Juan Capistrano Mission are
28 in a listing of tourist attractions, but population counts and

1 timings are not shown. (Applicants' Exhibit 132, page 25.)

2 20. There is inadequate transportation planning for the
3 Capistrano Unified School District, private and church schools who
4 need transportation: as shown by the School District's Emergency
5 Coordinator's testimony. (Swanson, Tr. 8793-96, 8813, 8803)
6 Wilbur Smith Study estimates "Evacuation of schools (public) beyond
7 the five mile boundary would require the use of Orange County Transit
8 District buses dispatched from central or northern Orange County."¹
9 Mobilization and travel time into the EPZ is estimated to take from
10 2 hours and 30 minutes for the Irvine OCTD facility to 3 hours and
11 30 minutes for buses from the Garden Grove OCTD facility.

12 (Applicants Exhibit #132, page. 58)

13 21. The planning for school populations is unrealistic in
14 the base assumption that parents will evacuate, leaving their
15 children in hope that the children may be bused out three to four
16 hours later, when in a fast moving accident the plume could be
17 over the area before the decisionmaking and alerting had taken
18 place.

19 2. Purpose of Evacuation time estimates

20 22. Purpose of evacuation planning was set forth by NRC
21 Witness, Brian Grimes as "removal of individuals from a particular
22 area with the objective of removing them prior to exposure to
23 radiation." (Grimes, Tr. 11021.)

24 23. In requiring an assessment of local jurisdictions
25 capability to respond, the board realizes that any analysis of
26 adequacy of manpower, equipment and roadways is also meaningless
27 unless it is measured against a time criteria. Obviously the
28 available personnel and material are adequate to evacuate the
public of the EPZ over some extended time period; that adequacy is

1 not the issue. The issue is whether evacuation can be
2 accomplished in such a way that the public is protected, which
3 means within some reasonable time span, in which damaging doses
4 of radiation can be avoided.

5 24. Accurate time estimates are an essential element of an
6 acceptable plan. (NUREG-0654, J-II.0.1. 10 C.F.R. Part 50
7 Appendix IV.)

8 25. The purpose of these estimates is to "identify to all
9 concerned those instances to which unusual evacuation constraints
10 exist and where special planning measures should be considered."
11 NUREG-0654 Appendix 4-2.

12 26. The time required for confirmation was not included in
13 Wilbur Smith Study (Applicants' Exhibit 132) and confirmation is
14 essential component of evacuation time, to assure reasonable
15 protection.

16 27. Further no practical method of confirmation of
17 evacuation has been evolved, no estimates of number of manpower
18 needed is given in any plan.

19 28. Orange County plan designates "a brightly colored cloth"
20 to indicate an evacuated residence. (Applicants' Exhibit #53 p.VI6)

21 29. San Clemente Plan includes instructions to residents to
22 tie a cloth to the door which is visible from the street. "A
23 white cloth will signify resident has received notification and no
24 help is needed. A red or orange colored cloth will signify
25 receipt of notification and need of assistance to evacuate."
26 (Applicants' Exhibit 55, p.VII26.)

27 30. No reasonable assurance can be given that residents will
28 know what color cloth to use, will have that color cloth, will use

1 the cloth in the haste of evacuation, and that conflicts in the
2 plans could cause confusion and lengthen evacuation plans.

3 31. It is noteworthy that the "principle response officials
4 of San Clemente and State Parks, (San Clemente Director of
5 Emergency Services and State Parks Pendleton Coast Area Manager)
6 did not record their agreement with the estimates when questioned
7 on the record. (Stowe, Tr.8534; Carvalho, Tr. 105791)

8 32. A delay in decision making regarding appropriate
9 protective action can be expected where plans have not been made
10 for dealing with an accident, but must be adapted to provide a
11 protective response for an unexpected accident. (Murri, Tr. 7908)

12 33. Another factor leading to delay in deciding on the
13 appropriate protective actions to be taken is the difficulty of
14 tracking the plume. The plume would be sought within a thirty
15 mile circumference using off-road vehicles by a three teams of
16 two persons each. Since the terrain is hilly and rugged, wind
17 directions are subject to sudden shifts and variations. (Barr,
18 Tr.7631, 7627)

19 34. The Wilbur Smith and Associates Study did not do a time
20 estimate of the time it would take to evacuate the area which is
21 within the Plume Exposure Pathway EPZ off-shore. (Brothers, Tr.
22 8193)

23 35. Evacuation time estimates are a tool for decisionmakers
24 who will be evaluating the choice of protective actions to be taken
25 concerning the lead time necessary to effect an evacuation prior
26 to a release. (Brothers, Tr. 8206)

27 36. The Wilbur Smith and Associates estimate that within
28 fifteen minutes of the notification to evacuate, 90% of the

1 population will have received notification, an assumption not a
2 conclusion based on the regulations. (Brothers, Tr. 8109)

3 37. The Wilbur Smith and Associates estimate that 90%
4 of the people in the Plume Exposure Pathway EPZ would have
5 returned to their homes within twenty-seven minutes is based on
6 the assumption that the population which lives in the area also
7 works in the area. (Brothers, Tr. 8110) This assumption was not
8 tested. (Brothers, Tr. 8223.)

9 38. An increase in mobilization time greater than one hour
10 would lengthen the evacuation times. (Brothers, Tr. 8114)

11 39. Time estimates under normal conditions assume that no
12 roadways are physically blocked or unavailable to traffic.
13 (Brothers, Tr. 8123)

14 40. If there were an impediment requiring diversion of
15 traffic, the time estimate assumes that it would take a minimal
16 amount of time to implement such a diversion. (Brothers, Tr. 8123)

17 41. If diversion must take place at a traffic control
18 point which is not manned by a traffic control officer, diversion
19 would take long. (Brothers, Tr. 8121)

20 42. The time for decisionmakers to decide what course of
21 action to take was lengthened during the drill by communication
22 and coordination problems with other response agencies, including
23 line tieups by officials, the challenging of decisions, requests
24 for additional information, etc. (Mecham, Tr. 10051)

25 43. Applicants have failed to demonstrate that reasonable
26 assurance exists that the transient and permanent populations
27 within the plume exposure pathway EPZ can be evacuated or otherwise
28 adequately protected in the event of a radiological emergency with

1 offsite consequences at SONGS 2 and 3.

2 4. Unique Geographical Constraints.

3 44. South Orange County is expected to double its population
4 in 10 years, impacting on adequacy of the single evacuation routes
5 (Carvalho Tr. 10,784). San Clemente officials raised objection to
6 failure of the timing study to factor in future populations of
7 San Clemente of four tracts which have already received preliminary
8 city approvals projecting 33,000 persons, a 120% increase over
9 city 27,325 current population. (Carvalho, Tr. 10,789, Mecham,
10 Tr.10030, 10,031.)

11 45. Lack of adequate evacuation routes was cited by San
12 Clemente officials, a timing constraint and a barrier to adequate
13 evacuation planning. Secondary evacuation routes are lacking and
14 the city's topographical unsuitability for a circulation plan in
15 the developed area, has added complications of roadway access of
16 lack of frontage roads and traffic congestion near the beach.
17 (Carvalho, Tr. 10,783, Bloom, Tr. 10,298, 10,301)

18 46. Existing County of Orange plans project no additional
19 north-south roads available for evacuation prior to approximately
20 1995. (Mecham, Tr. 10,032)

21 47. A second evacuation route into the northerly sectors
22 (Foothill Corridor), or Easterly to inland areas through Camp
23 Pendleton (Christianitos) is needed in half that time. (Carvalho,
24 Tr. 10,784) Camp Pendleton persists in prohibiting such a roadway
25 will not allow any off ramps into the backcountry. (Bloom, Tr.
26 10255)

27 48. Freeway 5 will continue to be the primary evacuation route
28 for the increasing population of San Clemente through approximately

1 1995. Meham, Tr. 10034.

2 49. Additional constraint to evacuation alternatives is the
3 hilly-canyon terrain (northwesterly sectors), no frontage roads
4 along freeway, gated communities with one way ingress and egress,
5 and many narrow-not through streets, which present a maze in
6 which transient populations would have great difficulty finding
7 their way to the traffic directional controls at I-1 and Highway 101.
8 (Bloom, Tr. 10,285, 10,290, 10,884)

9 50. These issues are significant to the protection of the
10 public, and justify a re-assessment of evacuation timing.

11 51. No reasonable assurance of realization of new
12 evacuation routes can be provided within the next decade and there
13 is no reasonable assurance that governmental constraints will
14 restrict populations from moving into the EPZ.

15 52. The uniquely inadequate roadway directions and systems,
16 concentration of populations in the northwesterly EPZ, mountain
17 and ocean geographic or topographic conditions defying evacuation
18 potential and location in the fastest growing area of the United
19 States preclude a finding of reasonable assurance that the offsite
20 populations can be protected in the event of a radiological
21 emergency.

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1 B. CONTENTION 2F (Emergency Response and Augmentation
2 Capability)

3 "Whether there is reasonable assurance that the
4 emergency response planning and capability of
5 implementation for SONGS 2 and 3, affecting the
6 off-site transient and permanent population,
7 will comply with 10 C.F.R. §50.47 (a)(1) and (b)
8 or (c)(1) as regards:

9
10 F. the capability of each principal response
11 organization to respond and to augment this
12 initial response on a continuous basis, 10 C.F.R.
13 §50.57 (b)(1) ...

14 1. Identification of Offsite Response Organizations

15 53. The planning standards contained in 10. C.F.R. §50.47
16 differentiate between supporting and principal response
17 organizations. Based on testimony and exhibits in this case, it is
18 possible to separate those response organizations which have
19 decisionmaking authority regarding protective measure actions and
20 those organizations which support the decisionmaking organizations
21 in implementing the protective actions. The first type of response
22 organization is principal, and, the second type of organization is
23 supporting for purposes of meeting NRC requirements.

24 54. Principal response organizations for SONGS include:

- 25 ° Southern California Edison
- 26 ° The County of Orange
- 27 ° The County of San Diego
- 28 ° The U.S. Marine Corps
- ° The City of San Clemente
- ° The City of San Juan Capistrano
- ° The State Parks
- ° The School District

1 55. Each of the principal response organizations identified
2 in the paragraph above, has the authority to make decisions on
3 protective actions for some segment of the populace in the event
4 of a radiological emergency. Although each of these principal
5 response organizations has the authority to make independent
6 decisions regarding protective actions, coordination of their
7 respective decisions and implementation of the decisions in the
8 various jurisdictions, is necessary. (Intervenor's Exhibit #13,
9 general comment 14; Intervenor's Exhibit #14 at II-6; Intervenor's
10 Exhibit #15.)
11

12 2. Capability of Principal Response Organizations
13 to Respond and to Augment the Initial Responses
14 on a Continuous Basis

15 56. In reviewing the capability of principal response
16 organizations to respond initially and to augment this initial
17 response on a continuous basis, FEMA used Sections II.A and II.C of
18 NUREG-0654 to provide guidelines. In general, the plans of the
19 counties of Orange and San Diego met the relevant guidelines, with
20 only minor exceptions noted. (Intervenor's Exhibits #13, 16 and 17.)

21 57. Both the RAC and the State OES, however, found
22 deficiencies in the plans of San Juan Capistrano and the State Parks.
23 Most importantly, none of these principal response organizations
24 has the capability to respond on a 24-hour basis. (Intervenor's
25 Exhibits #13, 19 and 25.)

26 58. In addition, FEMA, in its evaluation of the May 13,
27 1981 exercise, remarked on the problem of staffing for both the
28 City of San Juan Capistrano and the State Parks. The evaluation

concludes that these staffing problems interfere with the response organizations' capability to augment their initial responses. (Intervenor's Exhibit #14.)

59. In order to address these staffing problems, FEMA recommends that alternate key personnel be identified for the City of San Juan Capistrano (Intervenor's Exhibit #14 at II-27.) and that officials in adjacent jurisdictions consider supplementing the staffing needs of the State Parks. (Intervenor's Exhibit #14 at II-33,34.)

60. The "Action Plan" developed by the Applicants' to address the concerns of FEMA (Applicants' Exhibit #144.) does not address the response and augmentation limitations of the City of San Juan Capistrano, the State Parks or the School District. Accordingly, there is no reasonable assurance that these principal response organizations have the necessary capability to respond and to augment their initial response in the event of a radiological emergency at SONGS.

3. Capability of Principal Response Organizations to Coordinate Both Initial and Continuing Responses

61. The "Interim Findings and Determination Relating to the Status of State and Local Emergency Preparedness for the SONGS 2 and 3" issued by FEMA on June 3, 1981 (Intervenor's Exhibit #15.) identified "significant concern" over the need for improvements in the coordination among local jurisdictions in their response to radiological emergencies at SONGS.

62. FEMA's concern over the need for better coordination among local jurisdictions in making decisions about protective

1 actions and in implementing those decisions, was also expressed in
2 the RAC review of the local radiological emergency response plans
3 (Intervenor's Exhibit #13, General Comments on Orange County Plan -
4 #14,20; General Comments on San Diego Plan - #13; General Comments
5 on San Clemente Plan - #11; General Comments on San Juan
6 Capistrano Plan - #12.) and in FEMA's evaluation of the May 13,
7 1981 exercise (Intervenor's Exhibit #14 at II-6, II-11, II-14,
8 II-15, II-18 and II-23.)

9 63. In the May 13, 1981 exercise, the lack of coordination
10 among local jurisdictions was best illustrated by the independent
11 decisions by the Cities of San Clemente and San Juan Capistrano
12 to evacuate the populace and a decision by the County of Orange to
13 shelter populations in adjacent unincorporated areas of the county.
14 FEMA, in its evaluation of the exercise, recommended that
15 procedures be developed for coordination. (Intervenor's Exhibit
16 #14.)

17 64. The "Action Plan" developed to address FEMA concerns
18 (Applicants' Exhibit #144) does nothing to address this concern.
19 The interagency agreement IAEP is only a draft plan written by the
20 applicants and not suitable for actual use by any agency. (Turner,
21 Tr.8944)

22 65. Further drills are necessary to better test decision-
23 making procedures of principal response organizations and their
24 ability to coordinate implementation of their decisions.
25 (Intervenor's Exhibit #14 at II-11, II-14, II-15, II-17, II-18,
26 II-23, II-31.) FEMA also recommends that a future drill be
27 conducted to test decision-making procedures for protective actions
28 in both the plume and ingestion exposure EPZs (Ibid. at II-15, II-

1 21, II-25.)

2 64. The May 13, 1981 exercise failed to test procedures for
3 making decisions on appropriate protective measures and for
4 coordinating implementation of those decisions. A new drill is
5 required to test such procedures so that the necessary evaluation
6 can be made. Until the new exercise is conducted and evaluated,
7 there is no assurance that principal response organizations have
8 the capability to respond in the event of a radiological
9 emergency at SONGS.

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1 C. CONTENTION 2A (Emergency Response Organization
2 Notification and Continuous Communication Capacity)

3 "Whether there is a reasonable assurance that the
4 emergency response planning and capability of
5 implementation for SONGS 2 and 3, affecting the
6 offsite transient and permanent population, will
7 comply with 10 C.F.R. Section 50.47 (a)(1) and
8 (b) or (c)(1) as regards:

9 A. The procedures for notification by Applicants
10 of State and local response organizations, 10
11 C.F.R. Section 50.47 (b)(5), and for notification
12 of and continued communication among emergency
13 personnel by all involved organizations, 10 C.F.R.
14 Section 50.47 (b)(6).

15 1. Notification by Applicants of State and Local
16 Response Organizations

17 67. The ability of the Applicants to notify State and local
18 response organizations of a radiological emergency has been
19 assessed in several ways, including:-the RAC review of offsite
20 emergency plans vis-a-vis NUREG-0654; the OES review of offsite
21 emergency plans vis-a-vis NUREG-0654; FEMA's evaluation of the May
22 13, 1981 exercise; and, the June 3, 1981 Interim Findings issued
23 by FEMA. (Intervenors Exhibits 13, 14, 15, 16, 17, 18, 19, 20 and
24 25.)

25 68. In reviewing the adequacy of the offsite radiological
26 emergency plans, both the RAC and the OES found that the City of
27 San Juan Capistrano and the State parks had no provision or back-
28 up for being notified on a 24-hour basis. This lack of capability
for 24-hour notification was also observed in FEMA's evaluation
of the May 13, 1981 exercise. (^{Intervenors} Exhibits 13, 14 at II-27, 20 and
25 25).

26 69. In its general comments on the emergency plan of Orange
27 County the RAC noticed that there was some confusion in communi-
28 cations between the Emergency Operations Center (EOC) of the

1 County of Orange and the onsite Technical Support Center (TSC),
2 and between the County EOC and the Emergency Operations Facility
3 (EOF). To remedy this situation FEMA recommended that the direct
4 line from the onsite TSC to the Orange County EOC be devoted to
5 initial alerting purposes only and that communications with the
6 EOF be conducted through alternative means. (^{Interviewer's} Exhibit 13,
7 General Comment #5 on the Orange County Plan.)

8 70. In reviewing the radiological emergency response plans
9 of the principal offsite organizations, the RAC and the OES also
10 reviewed compliance with the NRC guidance for periodic testing of
11 emergency communications. Both the RAC and the OES found that
12 plans by the Counties of Orange and San Diego provided for such
13 periodic testing, but that plans by the cities of San Clemente
14 and San Juan Capistrano and by the State parks did not. The
15 School District has ~~no apparent~~ no apparent provision
16 for periodic testing. (^{Interviewer's} Exhibits 13, 16, 17, 18, 19, 25.)

17 71. There is no reasonable assurance that SCE is capable
18 of notifying and alerting the City of San Juan Capistrano and
19 the State parks on a 24-hour basis.

20 2. Notification and Continuous Communication Among
21 Emergency Personnel by All Involved Organizations

22 72. NRC guidance for meeting NRC regulations which require
23 provisions for prompt and continuous communications among emer-
24 gency personnel of all principal response organizations set forth
25 criteria for: altering emergency personnel; identifying those
26 individuals with specific responsibilities who should be contacted;
27 continuous communication between the principal response organiza-
28 tions and state and other local governments; and communication

1 with federal agencies, the utility and field monitoring teams.
2 (NUREG-0654 E, F.)

3 73. Both the RAC and the OES reviewed the radiological
4 emergency response plans of the principal offsite organizations
5 for compliance with the criteria above. (^{Intervenor's} Exhibits 13, 16, 17,
6 18, 19, 20 and 25.)

7 74. The RAC and the OES found that the plans of the
8 Counties, the Cities and the State Parks provide for alerting of
9 their respective emergency personnel but that all of these plans
10 lack specified procedures for doing so. Testing of the capability
11 of these organizations to alert their respective emergency per-
12 sonnel was not demonstrated on the May 13, 1981 exercise for the
13 City of San Juan Capistrano. In its evaluation of the exercise,
14 FEMA concluded that the City of San Juan Capistrano had failed in
15 alerting and notifying its EOC staff. FEMA also found that back-
16 up notification procedures for such notification by the County of
17 Orange and the City of San Clemente had failed. In conclusion,
18 FEMA recommended that alerting procedures be developed for the
19 City of San Juan Capistrano and that these procedures be tested
20 before their adequacy is judged. (Intervenors Exhibits 13, 16, 17,
21 18, 19, 25; Intervenor's Exhibit 14 at II-26.)

22 75. Furthermore, after observing the testing of provisions
23 for continuous communication with the state government and among
24 local governments, FEMA recommended that there should be at least
25 two additional "hot lines" established between the EOC and the
26 EOC's of the principal response organizations. These additional
27 lines will help facilitate continuous communication among contiguous
28 local governments within the plume exposure EPZ. FEMA reiterated

1 its recommendation for installation of these two yellow phones in
2 the Iterim Findings issued June 3, 1981. Lack of such additional
3 phone was identified as a "serious" concern. (^{Intervener's} Exhibit 14 at
4 II-36; † Exhibit 15, pgs. 4 and 5.)

5 76. FEMA made a general comment that there was a lack of
6 discipline within all principal offsite response organizations
7 with regard to the use of the telephone and communication systems.
8 FEMA observed that the phones designated for use in transmitting
9 information on radiation and for coordination among various organi-
10 zations were used for other purposes. To remedy this situation,
11 FEMA recommended several corrective actions:

- 12 " (1) That all jurisdictions review their plans and
13 procedures to develop more disciplined handling
14 of internal and interjurisdictional communica-
15 tions.
16 (2) That the presently used hot line (yellow phone)
17 be identified as to the specific nature of
18 communications that are to be carried out.
19 (3) That additional phone lines similar to the hot
20 line be considered for specific pre-identified
21 use as follows:
22 (a) ODAC coordination of information.
23 (b) Interjurisdictional coordination and decision-
24 making by decision makers.
25 (4) That EOC communications equipment be staffed by
26 communicators and services by runners to handle
27 dissemination of messages to EOC personnel.
28 (5) That communications equipment areas be isolated
from decision-making areas so as to not interfere
with each other. Areas should be developed with
acoustical materials to reduce sound interferences
with other operations.
(6) That interjurisdictional (including utility) hard
copy communications be improved to provide more
timely distribution of information to all partici-
pants.
(7) That Standard Operation Procedures (SOPs) be writ-
ten to identify communications operations."

1 77. FEMA's evaluation of the May 13, 1981 highlighted one
2 particular hinderance in the capability of the State parks to
3 continue communications with other local organizations and with
4 the state government. Specifically, FEMA observed that the EOC
5 for the State Parks is in San Clemente and that as a result of
6 being so close to the plant might require early relocation. Such
7 relocation would interrupt communications between the State Parks
8 and others. To remedy this situation, FEMA recommended that a
9 "yellow phone" be installed at the Doheny State Beach Park so that
10 continuous communication with the State Parks might be allowed in
11 the early stages of a radiological emergency at SONGS 2 and 3
12 with offsite consequences. (^{Intervenor's} Exhibit 14 at II-32.)

13 78. In its Interim Findings issued on June 3, 1981, FEMA
14 noted "major" concern over the ability of the principal offsite
15 response organizations to communicate with the OES. These find-
16 ings recommend that these communications with the state be im-
17 proved to increase in clarity and timeliness. The "Action Plan",
18 submitted into the record as an outline for actions planned to
19 address the June 3, 1981 FEMA concerns, does not address this
20 major concern. (^{Intervenor's} Exhibit 15 at 4 and 5; Applicants' Exhibit 144.)

21 79. In their review of the plans of offsite principal re-
22 sponse organizations, both the RAC and the OES found that the
23 Counties of Orange and San Diego provided for communication with
24 federal agencies, but that this communication is accomplished only
25 through land lines with no back-up provisions. The RAC and the
26 OES found that the Cities of San Clemente and San Juan Capistrano,
27 and the State Parks failed to make any provisions for communications
28 with federal agencies in their respective radiological emergency

response plans. (^{Intervenor's} Exhibits 13, 16, 17, 18, 19 and 25; NUREG-0654
II. F.1.c.)

80. There was general agreement in nearly all of the review documents that existing communications between offsite principal response organizations and field teams is poor. The OES found that the various emergency response plans, if they addressed this criterion at all, were weak in providing for communications with field teams. Such communications were addressed in the plans for the Counties of Orange and San Diego, but not in the plans for the Cities of San Clemente and San Juan Capistrano or in the State Parks. FEMA, in this same evaluation, said that specific procedures should be developed for communications with field teams and, then, should be tested. Later in the evaluation, FEMA notes that communications with field monitoring teams should be accomplished through radios and not telephones.

(^{Intervenor's} Exhibits 16, 17, 18, 19, 25; Exhibit 14 at II-16 and II-19.)

81. The evidence in the record shows that while there is some planning and capability for notification and continuous communication among emergency personnel by all involved offsite organizations, there are important exceptions. The plans of the Cities of San Clemente and San Juan Capistrano and the State Parks fail to even address provisions for continuous communications with the state and with contiguous local governments within the plume exposure EPZ, communications with federal agencies, and communications with field teams. The Counties of Orange and San Diego do address communications with several of the above groups in their respective plans, but there are specific problems. For instance, the plan for County of Orange fails to address continuous

1 communication with state government and with contiguous local
2 governments within the plume exposure EPZ. The County of San
3 Diego fails to address continuous communications with the state.
4 The lack of effective communication between local offsite re-
5 sponse organizations and the state was labelled a "major" concern
6 by FEMA in its June 3, 1981. This concern was not addressed in
7 the "Action Plan", therefore there is no assurance that the
8 capability for communications between principal response organiza-
9 tions and the state of California exists. Overall, the ability
10 of local response organizations to communicate with federal
11 agencies, other local governments, and field teams is also very
12 weak, and there is no reasonable assurance that such communica-
13 tions can be accomplished in the event of a radiological emergency
14 at SONGS 2 and 3 with offsite consequences.

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1 D. CONTENTION 2B (Emergency Public Alert and
2 Notification System).

3 "Whether there is reasonable assurance that the
4 emergency response planning and capability of
5 implementation for SONGS 2 and 3, affecting the
6 offsite transient and permanent population,
7 will comply with 10 C.F.R. §50.47(a)(1) and (b)
8 or (c)(1) as regards:

9 B. the means for notification and instruction
10 to the populace within the plume exposure
11 pathway Emergency Planning Zone, 10 C.F.R.
12 §50.47 (b)(5);"

13 82. The Applicants have chosen a two-step notification
14 process for their public alert system. Sirens go off, and the
15 public turns on their radios and listen for instructions on the
16 emergency broadcast system. This method of alert requires public
17 knowledge of the program and good coordination of an emergency
18 broadcast message system (EBS).

19 83. It is clear from the evidence in this case that sirens
20 do not adequately cover nor were they intended to cover the
21 populated areas outside the ten mile concentric circle EPZ in the
22 area of Dana Point and San Juan Capistrano. (Applicants' Exhibit
23 #139. Intervenor's Exhibit #13 Orange County General Comments.)
24 The Board finds that the sirens must extend to that area and there
25 has been no showing of any reasonable reason for not complying with
26 the requirement in this case.

27 84. The Board takes judicial notice of the fact that the
28 applicants have indicated in their brief in support of their
findings of fact at page 30 they may delay the testing of their
implementation of their siren system until 1982 because of recent
NRC proposed extension of the public notification of the
requirement contained in Federal Register 46587 (September 21, 1981).

1 This Board feels that it is imperative that the public notification
2 and alert system be in place prior to full operation of the plant.
3 The Board is also concerned that there is inadequate notification
4 of boaters. The State Parks and NRC officials suggest that boats
5 can be brought from the EPZ to San Diego. This method of
6 notification is clearly insufficient to meet the 15 minutes
7 requirement found in 10 C.F.R. §50.47, Appendix IV.D. (Stowe, Tr.
8 8533; Sears 10678.)

9 85. San Clemente Emergency Planning Officials and the FEMA
10 representatives suggested that a better notification system for
11 offshore and possibly onshore would be the NOAA radio system.
12 (Intervenor's Exhibit #13, General Comment No. 26 re NOAA.)

13 86. This type of device could be installed aboard ships in
14 the area as well as homes to provide immediate notification and
15 live or prerecorded messages directly into the houses or boats.
16 (Mechem, Tr. 10045-48). Extensive work needs to be done on the
17 coordination of the Emergency Broadcast System for radiological
18 emergency purposes. (Intervenor's Exhibit #14, page 2-1, 2)

19
20 87. The interim findings indicated dated June 3, 1981
21 (Intervenor's Exhibit 15) indicated the emergency broadcasting
22 network needed further testing and drill to insure operational
23 capability.

24 88. Until the siren and emergency broadcasting system is
25 coordinated and tested it cannot be said that there is reasonable
26 assurance that the populace within the plume exposure pathway can
27 be notified as provided in the regulations.

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1 E. CONTENTION 2C (Public Education and Information
2 Program)

3 "Whether there is reasonable assurance that the
4 emergency response planning and capability of
5 implementation for SONGS 2 and 3, affecting the
6 offsite transient and permanent population, will
7 comply with 10 C.F.R. Section 50.47(a)(1) and
8 (b) or (c)(1) as regards:

9 C. the information and the procedure for dissemina-
10 tion of the information to the public within the
11 plume exposure pathway EPZ on a periodic basis
12 on how they will be notified and what their actions
13 should be in the event of an emergency, 10 C.F.R.
14 Section 50.47 (b)(7); . . ."

15 1. The initial Public Education and Information Program.

16 89. NRC Regulations and guidance for dissemination of in-
17 formation to the public within the plume exposure EPZ on how they
18 will be notified and what their actions should be in the event of
19 a radiological emergency at SONGS 2 and 3 is a crucial link in the
20 development of effective emergency preparedness. Mr. Brothers
21 testified in this proceeding that the time estimates developed by
22 Wilbur Smith & Associates for evacuation of the populace within
23 the plume EPZ assumed that the public knew what to do when alerted
24 of the accident. (NUREG-0654 Section II. G.; Brothers, Tr. 8109 et seq.)

25 90. Much evidence has been presented on what SCE has or
26 plans to do in its initial programs for public education. SCE's
27 plans include a mailing of a pamphlet and handbook to the home of
28 every resident in the plume EPZ. The first provides information
on what to do and where to go in the event of a radiological
emergency at SONGS; the second provides basic background informa-
tion on the effects of radiation. (Applicants' Exhibit 148;
Cramer, Tr. 7047-7048).

1 91. SCE has promised to send posters similar in format and
2 content to the Pamphlet to businesses within the plume EPZ for
3 these establishments to display at all times. Similarly, posters
4 and flyers will be used at the State parks and beaches to provide
5 emergency information to the users of these facilities. There
6 was evidence presented that the posters currently displayed at the
7 State parks do not explain that if there were an emergency that
8 there may be releases of radiation offsite. Instead, these posters
9 instruct beachgoers to wait on the beach when they hear the sirens
10 until they receive instruction from a park official. The current
11 posters explain that the sirens could mean that there is a fire
12 or chemical spill on the bluffs or highway. This information is
13 misleading and needs to be changed. Posters displayed at both
14 State parks and at local businesses must contain information on
15 the unique hazards of an accident at SONGS with offsite radiologi-
16 cal emergencies. These same posters, if they are indeed like the
17 pamphlets or handbooks, must describe protective measures for
18 radiation to be taken in response to a radiological emergency.
19 (Applicants' Exhibits 69, 123-130; Cramer, Tr. 7049-7050; Stowe,
20 Tr. 8493-8497).

21 92. The initial mailing of the pamphlet and handbook to all
22 residents and the signs and posters were not prepared in Spanish
23 for residents who speak only Spanish. As much as 8.4% of the
24 population in the plume exposure EPZ may speak Spanish and not
25 English. SCE should prepare the two mailings ^{one} in Spanish and at-
26 tempt to reach this sizeable minority population. (Mecham, Tr.
27 10,043).

28 93. NUREG-0654, Section II. G. provides that offsite re-

1 sponse organizations: provide for periodic coordinated public
2 information; public education for permanent and transient popula-
3 tions; and coordinated education of the news media. In general
4 the plans of the counties of Orange, and San Diego and the State
5 Parks provide for each of the above but their individual efforts
6 are not coordinated in any way with other adjacent jurisdictions.
7 In general neither the plan of the City of San Clemente nor the
8 plan of the City of San Juan Capistrano addressed in adequate
9 detail any of these guidance criteria for public information.

10 ^{Intervenor's}

([^] Exhibits 13, 16, 17, 18, 19, 25).

11 94. There is evidence that SCE has yet taken steps to
12 educate renters with mailings of the pamphlet and handbook, unless
13 their name appears on the utility service account. SCE plans to
14 send individual copies of the pamphlet to new residents within the
15 so-called "extended EPZ" when they apply for electricity hookups
16 or to have electricity turned on. The Board finds that it would
17 be helpful to also distribute the handbook to these new residents
18 in the "extended EPZ". There should also be some provision for
19 disseminating both items to renters who do not need to call to
20 establish new electric service. (Cramer, Tr. 7041, 7045.)

21 95. In its Interim Findings issued June 3, 1981, FEMA
22 noted a "Major" concern that advance public information dissemina-
23 tion be monitored to assure credibility of releases and standardi-
24 zation of terminology. FEMA believes that the "public must be
25 intimately familiar with protective action procedures." FEMA
26 recommends follow-up surveys with those who live and work within
27 the plume EPZ to see if the message is getting through. Subse-
28 quent programs should be altered according to what the surveys

1 reveal. Among the questions asked, SCE or its representative
2 should inquire into the most effective communication medium.
3 There is no evidence in the record that SCE did any preliminary
4 research to determine how it might best reach the populace within
5 the plume EPZ. The board takes judicial notice that numerous
6 studies in similar matters traditionally reveal that the tele-
7 vision advertisements are most effective and that bill inserts
8 are the least. Yet, SCE's public education programs fail to use
9 the first and uses the last. (Intervenors' Exhibit 15 at 5;
10 Nauman, Tr. 10,541.)

11 2. Dissemination of Information on a Periodic Basis.

12 96. Evidence presented in the case on periodic communica-
13 tions with the public in an effort to continue awareness of what
14 to do in the event of an accident at SONGS was basically promisory.
15 SCE plans to do a public information update at least annually.
16 If there are changes in the content of information which should be
17 made known to the public, revisions would be provided in the
18 annual general program update or earlier, if required. (Cramer,
19 Tr. 7051-7052.)

20 97. In order to insure that the public is well-informed
21 on what to do in the event of an emergency, the Board finds that
22 SCE or, preferably, local response organizations will need to
23 repeat the direct mailing of the pamphlet and handbook or some
24 equivalent on at least an annual basis. With this condition,
25 there is some assurance that the public will receive information
26 on what to do in the event of an emergency on a periodic basis.

27 98. With the conditions noted herein, including revised
28 posters for businesses and the State parks, Spanish pamphlets and

1 handbooks, and follow-up surveys on the effectiveness of initial
2 mailings, together with annual updates, there is some degree of
3 assurance that SCE will provide information to the public on what
4 to do in the event of a radiological emergency at SONGS.

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1 F. CONTENTION 2I (Interim Emergency Operations
2 Facility).

3 "Whether there is reasonable assurance that the
4 emergency response planning and capability response
5 planning and capability of implementation for SONGS
6 2 and 3, affecting the offsite transient and
7 permanent population, will comply with 10 C.F.R.
8 §50.47(a)(1) and (b) or (c)(1) as regards:

9 I. the physical design, communications equipment
10 and operating procedures for the Interim
11 Emergency Operations Facility, 10 C.F.R. §50.47
12 (b)(3) and (b)(8);"

13 99. The operation and the failure of the operation of the
14 Interim Emergency Operations Facility in the May 13 exercise was
15 one of the most serious concerns contained in the FEMA findings.
16 (Intevenor's Exhibit #15.)

17 100. The Interim EOF is set up in six distinct components.
18 The Board finds that this crucial facility should not be fragmented
19 in this way for an extended period of time because of the potential
20 communications and logistic problems which may take place.
21 (Pilmer prepared testimony; Intervenor's Exhibit #15.)

22 101. The applicants scheduled for completing by October 1982
23 and in that light the Board does not feel that this is a significant
24 impediment to the emergency response capability for SONGS.

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1 G. CONTENTION 2D (Medical Services for Injured
2 Contaminated Individuals.)

3 "Whether there is reasonable assurance that
4 the emergency response planning and capability
5 of implementation for SONGS 2 and 3, affecting
6 the offsite transient and permanent population
7 will comply with 10 C.F.R. §50.47(a)(1) and
8 (b) or (c)(1) as regards:

9 D. The arrangements for medical services for
10 contaminated and injured individuals, 10 C.F.R.
11 §50.47(b)(12);"

12 102. The guidelines for the offsite jurisdiction and the
13 applicants preparation for offsite medical care are found in NUREG-
14 0654 §L.1. and L.4. While the guidelines are not completely clear
15 as to what precautions the offsite jurisdictions must take as
16 regards arrangements for medical services, it is clear there should
17 be some arrangement at local jurisdictions hospitals. (Nauman,
18 Tr. 10544.)

19 103. Orange County, San Clemente, San Juan Capistrano do not
20 have arrangements in their plans for transferring victims of a
21 radiological emergency. (Intervenor's Exhibits #13, 16, 18, 19 and
22 25.) There is also very limited planning for the capability of
23 evaluating exposure and updating in the local hospitals (Ibid.)

24 104. The effectiveness of potassium iodide as a blocking
25 agent is directly related to the time at which it is administered.
26 After the exposure has occurred, the earlier it is administered,
27 the more effective it will be. If it is administered prior to
28 exposure, it can be completely effective in preventing uptake of
radioactive iodine. (Linnemann, Tr. 7080)

105. The risk from small doses of potassium iodide for
emergency uses is slight. (Linnemann's testimony.)

1 106. To deal with the medical problems of exposure to
2 radiation at high levels, history and physical, complete blood
3 counts, thyroid uptake studies, chromosome analysis of the
4 circulating lymphocytes, whole body counts and bioassay should be
5 considered. (Linnemann's testimony). Specially equipped medical
6 centers are needed to provide such care. (Linnemann's, Tr. 7106)

7 107. No special arrangements for the use of radio protective
8 drugs has been made for the general public, even for children, who
9 are particularly vulnerable to radiation injury via thyroid uptake.
10 No special arrangements have been made for medical services for the
11 general public in the event of a serious nuclear power plant
12 accident.

13 108. The Board finds that in order to adequately address
14 needs for serious medical care in the event of a radiological
15 emergency at SONGS there must be provided planning basis through
16 arrangements between local response organizations and the
17 hospitals in the area for the treatment, care and monitoring of
18 exposed contaminated or injured people.

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1 H. CONTENTION 2G (Radiological Emergency
2 Response Training)

3 "Whether there is reasonable assurance that
4 the emergency response planning and
5 capability of implementation for SONGS 2
6 and 3, affecting the offsite transient and
7 permanent population, will comply with
8 10 C.F.R. §50.47(a) (1) and (b) or (c) (1)
9 as regards:

10 ...

11 G. radiological emergency response training
12 to those who may be called on to assist in
13 an emergency, 10 C.F.R. §50.47(b) (15); . . ."

14 1. Offsite personnel requiring training.

15 109. NRC Regulations and guidance require that radiological
16 emergency response training be provided to those who may be called
17 on to assist in an emergency. NRC guidance calls for training of
18 appropriate individuals, appropriate offsite organizations
19 (including mutual aid personnel), and specific individuals who
20 implement the emergency response plans. (NUREG-0654 §II.0)

21 110. The RAC and the OES reviewed the emergency response
22 plans of local jurisdictions within the plume exposure EPZ for
23 adequacy vis-a-vis NUREG-0654. In general, the RAC and OES found
24 that the plans the Counties of Orange and San Diego contained
25 some sort of provision for training of emergency personnel.
26 However, neither of these plans were at all specific about whom
27 should receive this training. The plans of the Cities of San
28 Clemente and San Juan Capistrano and the State Parks failed to
address this NUREG-0654 criteria at all. (Intervenors Exhibits
#13, 16, 17, 18, 19, 25, NUREG-0654 II. 0.1., II 0.1.b., II.0. 4.
a-j., II.0.5.)

1 11 . NUREG-0654 Section 11.0.4.(a)-(j) requires training
2 for individuals who fall into the following categories; Directors
3 or coordinators of the response organizations; personnel
4 responsible for accident assessment; radiological monitoring teams
5 and radiological analysis personnel; police, security and fire
6 fighting personnel; repair and damage control/correctional action
7 teams (onsite); first aid and rescue personnel; local support
8 services personnel including Civil Defense/Emergency Service
9 personnel; medical support personnel; licensee's headquarters
10 support personnel; and personnel responsible for transmission of
11 emergency information and instructions. Provision for training
12 individuals working in these categories is made in the Orange
13 County, San Diego, and State Parks plans, but there is no
14 training schedule provided. Such training is not addressed in the
15 plans by either San Clemente or San Juan Capistrano. (Intervenor's
16 Exhibit #13, 16, 17, 18, 19, 25.)

17 2. Programs for Radiological Emergency Training

18 12 . Evidence has been presented which shows that SCE began
19 an offsite radiological emergency training program in March 1981.
20 At SCE's request, the Radiation Management Corporation (RMC)
21 provided radiological emergency training to personnel of private
22 and public agencies within Orange and San Diego Counties who
23 might be called on to assist in an emergency response to an accident
24 at SONGS. The Orange County training took place March 23 through
25 March 26, 1981. The San Diego County training took place April 20
26 through April 24, 1981. In Orange County, training was presented
27 to 127 people who represented 29 offsite organizations. In San
28 Diego, training was presented to 259 people representing 76

1 offsite response agencies. RMC has been requested to provide
2 additional training in the future. (Applicants' Exhibits #85, 86;
3 Linnemann, Tr. 7091, 7092.)

4 113. Notwithstanding the existence of the classes by RMC in
5 March and April of 1981, FEMA in its review of an exercise held on
6 May 13, 1981 found several major problems with the level of
7 training by all personnel. In its evaluation of the May 13, 1981
8 exercise, FEMA made a general comment that "The specific areas
9 dealing with radiological issues, ... reflected areas of concern
10 and the need for further training and drills to improve
11 proficiency and to assure an ongoing capability to respond to the
12 needs of an offsite nuclear emergency. ... There is a need for
13 milestone depiction indicating proposed meetings, training, drills,
14 and exercises both within the next year and over a five-year
15 period." (Intervenor's Exhibit #14, at II-1.)

16 114. FEMA, in this evaluation of the May 13, 1981 exercise,
17 concluded that an understanding of basic Radiological Defense
18 principles is not sufficient training for radiation monitoring.
19 FEMA observed that only the San Clemente's field monitoring team
20 was qualified for radiation monitoring. To remedy the deficiency
21 in training, FEMA recommended, that SCE conduct training for
22 monitoring teams, dose assessment, personnel, decisionmakers,
23 Public Information Officers, the news media and communications
24 personnel. (Intervenor's Exhibit #14 at II-5.)

25 115. In addition, FEMA singled out the problem of training
26 the Marine Corps field monitoring teams. Through observations on
27 May 13, 1981, FEMA found that the Marine monitoring teams were
28 untrained and unfamiliar with the procedures that they were

1 supposed to use. FEMA concluded that basic Marine training
2 programs are inadequate in terms of training for radiological
3 emergencies and recommended that SCE provide training to the Marines.
4 (Intervenor's Exhibit #14 at II.30.)

5 116. The written testimony of Mr. Kenneth Nauman in this
6 proceeding concluded that the training provided to emergency
7 response personnel in the past has been limited and that
8 additional training is necessary. Mr. Nauman's testimony said that
9 he felt that the planning standard in NRC Regulations relating to
10 radiation emergency response training was met only to "some
11 degree". (Nauman prepared testimony at page 11 dated Aug 24, 1981)

12 117. At SCE's request, the NUS Corporation has developed a
13 program of initial training and periodic retraining for offsite
14 emergency response personnel. Outlines for these upcoming courses
15 were submitted on the very last day of hearing. Mr. Kenneth Nauman
16 testified that he is skeptical about this training program and
17 expressed an interest in reviewing the outlines and attending a
18 class before he made a judgment on the adequacy of this training
19 program. (Nauman, Tr. 10464 et seq)

20 118. The Board finds that radiological emergency training
21 programs are essential and that until a major portion of those
22 individuals, especially decisionmakers, who may be called on to
23 assist in an emergency, have been successfully through the
24 training, there is no reasonable assurance that there is an
25 acceptable number of emergency personnel who are qualified to carry
26 out offsite emergency plans. (Nauman, Tr 10464 et seq.)

27 119. In addition, it is important the assurance of trained
28 individuals to implement emergency response plans continues through

1 time. SCE has presented some evidence that the training programs
2 of the NUS Corporation will continue in time. The Board finds
3 that a promise of continued training is essential to providing
4 reasonable assurance. At the same time, it is important that SCE
5 and the offsite jurisdictions monitor not only the names of the
6 individuals who take the training, but also a current list of
7 employees with responsibilities in the event of a radiological
8 emergency. If SCE discovers that job turnover in one particular
9 organization or in classification of emergency worker is high, the
10 frequency of training opportunities will need to be increased.

11
12 I. CONTENTION 2H (Plume EPZ Radiation Monitoring
13 and Dose Assessment)

14 "Whether there is reasonable assurance that
15 the emergency response planning and capability
16 of implementation for SONGS 2 and 3 affecting
the offsite transient and permanent population,
will comply with 10 C.F.R. §50.47 (a)(1) and
(b) or (c)(1) as regards:

17 F. the methods, staffing, systems, and
18 equipment for assessing and monitoring actual
19 or potential offsite consequences of a
radiological emergency condition within the
plume exposure pathway EPZ for SONGS 2 and 3,
20 10 C.F.R. §50.47 (b)(9) ..."

21 1. SCE Resources and Capability.

22 120. Applicants have onsite resources and capability
23 available to help assess and monitor actual or potential offsite
24 consequences of a radiological emergency condition within the
25 Plume exposure EPZ. In its efforts to help this assessment and
26 monitoring, SCE has procedures established to obtain in-plant
27 radiation levels, radiation release rates and certain
28 meteorological data for the vicinity of the plant. Field

1 monitoring can confirm the accuracy of offsite dose projections
2 made on the basis of this onsite data. (Applicant's Exhibit #51,
3 Section 6.2.5; Ray, Tr. 7847)

4 121. A Meteorological tower is located onsite immediately
5 north of SONGS 1. The tower has instrumentation which records and
6 displays temperature, lapse rate, wind speed and wind directional
7 variability. This information is recorded and displayed in the
8 Control Room and the Technical Support Center (TSC). A backup
9 tower which can duplicate the functions of the primary tower is
10 scheduled to be installed onsite by July 1982. (Applicant's
11 Exhibit #51, Table 7-3; Barr, Tr. 7165.)

12 122. If plant radiation instruments go off-scale or become
13 inoperable, health physics personnel can be dispatched to perform
14 measurements of radiation levels at predetermined locations around
15 the plant using portable instrumentation. SCE has said that the
16 results of these measurements would be communicated to the TSC via
17 portable radio. These results would then be used to estimate
18 release rates and offsite dose projections in the same manner as
19 results taken from installed monitoring devices. (Barr, Tr. 7166-
20 7167.)

21 123. In making the calculations, SCE applies atmospheric
22 dispersion coefficients based on available meteorological data and
23 established dose conversion factors, which relate airborne
24 radioactivity concentration to direct dose rate, thyroid dose rate,
25 and lifetime integrated doses. The dose conversion factors are
26 contained in the Offsite Dose Calculation Manual which provides a
27 methodology for the consideration of multiple pathways of
28 radioactive materials propagated within the Plume EPZ. Upon

1 determination of the projected offsite dose rates, they are
2 provided to the onsite Emergency Coordinator in the TSC and to the
3 Offsite Dose Assessment Center (ODAC). (Applicant's Exhibit #51,
4 Section 6.2.5; Barr, Tr. 7168-7169)

5 124. SCE is currently developing a more advanced method at
6 SONGS 2 and 3 to perform the offsite dose calculations. SCE has
7 purchased a Health Physics Computer System to be implemented
8 within the next year as an aid in performing offsite dose
9 calculations. (Barr, Tr. 7176.)

10 125. Each monitoring team will consist of a trained health
11 physics technician and one other person assigned from the SONGS
12 maintenance department. The health physics technician will
13 perform all of the required monitoring duties and communications
14 with the TSC. The maintenance worker will be under the direction
15 of the health physics technician and will assist in transporting
16 equipment, driving the survey vehicle, recording data, and
17 providing any other assistance required by the health physics
18 technician. (Barr, Tr. 7173-7174)

19 126. The Manager, Health Physics, for SONGS testified that
20 he is capable of initially deploying within about 30 minutes at
21 least two offsite monitoring teams and three teams once SONGS 2 and
22 3 are both operational to three of 16 22-1/2 degree pie shaped
23 sectors of the plume exposure pathway which uses SONGS as a focal
24 point. These three teams could be augmented with two additional
25 teams within about sixty minutes, if necessary. Additional teams
26 would be dispatched as additional manpower becomes available.
27 (Barr, Tr. 7173.)

28 127. SCE has agreements with a variety of outside

1 organizations which might be called in to help in radiation
2 monitoring. In general, however, these organizations are located
3 in areas outside the plume exposure EPZ and personnel from these
4 organizations could take unreasonably long times in getting to the
5 plume exposure EPZ. (Applicant's Exhibit #101, Barr, Tr. 7174;
6 Exhibit #51, Appendix E; Barr, Tr. 7174-7175.)

7 128. Due to the importance of prompt radiation monitoring
8 and dose assessment in deciding appropriate protective actions to
9 overall personnel limitations of SCE in conducting all monitoring
10 activities, and to the importance of letting offsite response
11 organizations have credible and reliable data on which to make
12 decisions on protective measures, offsite response organizations
13 have the responsibility for conducting their own radiation
14 monitoring programs. The applicant's capability puts too strong
15 a reliance on the guesswork of dose projections and extrapolations
16 rather than actual field sampling.

17 129. SCE has established the Offsite Dose Assessment Center
18 (ODAC). The ODAC is located in the Interim EOF to direct offsite
19 emergency response organization dose assessment and monitoring
20 activities and to coordinate these activities with SCE's monitoring
21 activities and dose assessment. (Intervenor's Exhibit #142;
22 Pilmer, Tr. 7379.)

23 130. Assuming that SCE finishes construction of the back-up
24 tower for measuring meteorological parameter onsite and installs
25 the Health Physics Computer, there is some assurance that SCE has
26 the capability and resources to perform initial radiation
27 monitoring and to calculate an offsite dose projection. It is
28 incumbent upon the offsite response organizations, however, to

1 verify and validate the initial assessment provided by SCE.
2

3 2. The Resources and Capabilities of Offsite
4 Emergency Response Organizations,

5 131. NRC Regulations and guidance require offsite emergency
6 response organizations to have the capability and resources for
7 plume monitoring, to have specified procedures for field team
8 monitoring, and to have methods by which these organizations can
9 convert measured parameters into dose rates. (NUREG-0654 §II.I.
10 7-10.)

11 132. The RAC and the OES have reviewed the radiological
12 emergency response plans of the principal response organizations
13 for SONGS vis-a-vis the criteria set forth in NUREG-0654. In this
14 review, these groups assessed the descriptions in each of the plans
15 of the capability and resources for plume monitoring within the
16 plume exposure EPZ. The RAC and the OES found that the Orange
17 County plan addressed its capability and resources for such
18 monitoring, but failed to provide specifics on either. The San
19 Diego County plan says that the state and the utility have primary
20 responsibility for such monitoring and, therefore, the County's
21 plan fails to meet this criterion. The plans of San Clemente, San
22 Juan Capistrano and the State Parks fail to address this criterion
23 directly. (NUREG-0654 II.I. 7; Intervenor's Exhibits #13, 16, 17,
24 18, 19, 25.)

25 133. In assessing whether the respective plans adequately
26 described specific provisions for field team monitoring methods,
27 activation, transportation, etc., the RAC found that the plans of
28 Orange County, San Diego and the City of San Clemente failed to

1 provide methods, equipment and expertise to make rapid
2 assessments or hazards through liquid or gaseous pathways. The
3 City of San Juan Capistrano and the State Parks did not even
4 attempt to address this criterion from NUREG-0654. (NUREG-0654 II.
5 I, 8; Intervenor's Exhibits #13, 16, 17, 18, 19, and 25.)

6 134. The RAC and the OES also reviewed the plans of
7 principal local response organizations to assess whether they
8 addressed three criteria which NUREG-0654 calls a state
9 responsibility, but ^{what} in the State of California, is, in fact, a *state*
10 responsibility: provisions for detection and measurement of iodine
11 in the plume; conversion of measured parameters to dose rates; and
12 plume tracking. The reviewing organizations found that none of
13 the principal response organization plans addressed any of these
14 requirements. (NUREG-0654 II.I. 9, 10 and 11; Intervenor's
15 Exhibits #13, 16, 17, 18, 19, and 25.)

16 135. The general lack of specified provisions for radiation
17 monitoring in the plume exposure EPZ by local response
18 organizations was re-emphasized by the RAC in its general comments
19 on the various plans. In its general comment #13 on the Orange
20 County plan, the RAC noted that "the ability to prevent
21 unacceptable exposure and provide effective, proper actions will be
22 dependent on the ability to obtain valid radiological measurements.
23 Yet is this plan, one of the most, if not the most important
24 activities--radiological monitoring--seems to have the least degree
25 of address." In this general comment, the RAC goes on to
26 recommend that health physicists provide input to revision of the
27 plan. (Intervenor's Exhibit #13.)

28 136. In general comments #15 and #25 on the Orange County

1 plan and in general comments on each of the other plans reviewed,
2 the RAC calls attention to another major deficiency in the
3 capability and resources of local response organizations to
4 perform radiation monitoring in the plume exposure EPZ, as
5 described in the plans. These general comments point to an "almost
6 complete lack of meteorological understanding in the plans which
7 raises grave concern since evacuation hinges on it." The general
8 comments ask what nearby weather observations are available since
9 the data that the local response organizations intend to rely
10 on is not generally local. Meteorological data is currently
11 available from Lindberg Field, San Diego; Palomar Airport, Carlsbad;
12 Oceanside Airport; El Toro Marine Corps Air Station; Orange County;
13 and Camp Pendleton Headquarters Landing Field. There are no sources
14 for meteorological data, for instance from the City of San Clemente
15 or San Juan Capistrano. (Intervenor's Exhibit #13--General
16 Comments #15 and 25 on Orange County Plan; #38 on San Diego Plan;
17 #16 on the San Clemente Plan; in the San Juan Capistrano plan
18 critique; and #21 on the State Parks plan.)

19 137. In addition, the RAC in its general comments observed
20 that the plans of the local response organizations were deficient
21 in not providing for greater interjurisdictional communication on
22 joint analysis of dose accumulations, dose assessment information
23 releases and other activities. (Intervenor's Exhibit #13, General
24 Comment #7 on Orange County Plan.)

25 138. In several instances, FEMA was able to observe the
26 capability of implementation of plan provisions, where they
27 existed, during the May 13, 1981 exercise.

28 139. In its general findings contained in its evaluation of

1 the May 13, 1981 exercise, FEMA observed that the meteorological
2 data available from the National Weather Service was not used well
3 in most instances. "Weather status boards were not maintained,
4 where established in EOCs, and weather information was not
5 considered regarding all actions." From this observation, FEMA
6 recommended that: "(1) ... all jurisdictions review plans and
7 procedures to factor in weather information to all phases of
8 planning; and, (2) ... the utility and jurisdictions establish a
9 line of communication with the National Weather Service by formal
10 agreement to assure adequate coverage and response to offsite
11 emergencies." (Intervenor's Exhibit #14 at II-3.)

12 140. In its general findings on the May 13, 1981 exercise,
13 FEMA also observed that there was no demonstration of a flexible
14 monitoring response capability to plume tracking through the use
15 of sector or zone designators in accordance with Table J-1 in
16 NUREG-0654. FEMA went on to recommend that the zone designation
17 system be applied to all field monitoring and sampling techniques
18 used by principal response organizations. The zone designation
19 system would require extensive drilling once it was established in
20 order to insure that field teams were familiar with it. (Inter-
21 venor's Exhibit #14 II-6.) Use of such a zone designation system
22 would help to coordinate inter-jurisdictional monitoring team
23 response capability. (Ibid.)

24 141. FEMA's findings on the May 13, 1981 exercise detailed
25 a variety of additional problems relating to radiation monitoring
26 efforts by local response organizations, the most important of
27 which are exhibited below opposite FEMA's recommendation for
28 remedies to these identified issues:

Problems

Recommendations

1. Only the San Clemente field monitoring team showed capability for radiation monitoring.
2. None of the jurisdictions had capability to conduct radioiodine air sampling.
3. No monitoring of doses received by field teams was observed.
4. There was a lack of coordination among principal response organizations for radiation monitoring.
5. Sampling-collecting capability of Orange County was not demonstrated.
6. Sampling techniques used by San Clemente should be improved.

1. All field teams require additional training, written operation procedure and proper direction from a coordinated health physics center.
2. Aerial monitoring should be factored into exercises and drills. (Equipment needs already discussed in findings of fact above.)
3. Monitoring of field doses be conducted.
4. Utility and local jurisdictions should develop a unified radiological response team which is directed by the ODAC. And, procedures should be formalized for various types of monitoring, including: plume; deposition; egress to prevent contamination of personnel and equipment; airborne material; sampling of soil, vegetation, water and pipes.
5. Further drills should be conducted. Air Sampling equipment should be obtained.

There should be air sampling. There is no water or vegetation sampling ability. Cross-contamination of samples is possible under current procedure, field monitoring teams need more information on the status of the emergency.

(Intervenor's Exhibit #14, II-4, 5, II-13, II-22.)

142. In addition, FEMA recommended that the Marine Corps bring in a health physicist to make educated decisions on protective actions and field monitoring in the event of an

1 emergency. FEMA also suggested that the Marine Corps standardize
2 its radiation monitoring procedures so that other off-site
3 response organizations might share in the information collected.
4 (Intervenor's Exhibit #14 at II-30, 31.)

5 143. FEMA found that the Marine Corps should consider
6 adopting provisions under which it can calculate a dose
7 assessment on its own, in light of the fact that there are base
8 populations very near to the plant and that the Marines may not
9 want to wait to hear from the ODAC. (Ibid.)

10 144. The general dissatisfaction in the state of current
11 procedures of off-site local emergency response organizations for
12 radiation monitoring and dose assessment expressed in FEMA's
13 evaluation of the May 13, 1981 exercise was reiterated, to a large
14 degree, in the Interim Findings which FEMA issued on June 3, 1981.
15 In the June 3 Interim Findings, FEMA noted "Major" concern over:
16 the lack of coordinated planning and a consolidated cooperative
17 approach to radiation monitoring especially consider the fact that
18 some jurisdictions, like San Juan Capistrano, lack response
19 personnel to really do radiation monitoring; the conflicts in
20 plan responsibilities; and the lack of clarity in the monitoring
21 and assessment duties for both plume and ingestion pathway EPZs "as
22 they pertain to the state OES, State Radiological Health, and local
23 jurisdictions." The "Action Plan" submitted into evidence by the
24 Applicants says that SCE will develop Standard Operating Procedures
25 (SOPs) for local jurisdictions and the Off-site Dose Assessment
26 Center (ODAC) by August 1981, and that SOPs to coordinate the
27 activities of state and local governments in ingestion pathway
28 monitoring will be developed. Until these actions and other

1 actions identified in the three paragraphs below are taken, there
2 is no reasonable assurance that off-site response organizations
3 will be able to provide for field monitoring or dose assessment in
4 the event of a radiological emergency with off-site consequences.
5 (Intervenor's Exhibit #15, pg. 3; Applicants' Exhibit #144.)

6 145. In the June 3, 1981 Interim Findings, FEMA also
7 identified "Major" concern over: the lack of clarity in operation
8 of the ODAC since dose assessment responsibilities are split bet-
9 ween the TSC and the EOF which impedes joint-decisionmaking: and,
10 the fragmented nature of coordination of field monitoring teams
11 which limits overall assessment. In response to these concerns,
12 the "Action Plan" lists SCE's intent to develop SOPs for ODAC by
13 August 1981 and its intent to develop an "integrated radiological
14 response team to be directed by the ODAC to conduct field monitor-
15 ing." The "Action Plan" is less than clear whether this
16 integrated radiological response team will conduct field
17 monitoring in both the plume and ingestion exposure pathway EPZs.
18 The "Action Plan" implies that the integrated response team will
19 be used for ingestion pathway monitoring only. The Board finds
20 that such an integrated monitoring team should be used for both
21 plume and ingestion pathways, and until the integrated team is
22 developed, there is no reasonable assurance that local response
23 organizations have the capability or resources to conduct radiation
24 monitoring. (Intervenor's Exhibit #15, pg. 4; Applicants'
25 Exhibit #144.)

26 146. The Board also notes that two of the concerns expressed
27 in the paragraph above are not addressed in the "Action Plan".
28 Specifically, there is no address made of the identified need to

1 revise local plans to change procedures for field monitoring
2 teams, and more importantly, there is no mention of the division
3 in responsibility between the TSC and the ODAC for dose assessment.
4 Until, such a division is made there is no reasonable assurance
5 that local jurisdictions working, though the ODAC can verify dose
6 projections provided by SCE personnel. Lack of this ability
7 would interfere with the responsibilities of the local jurisdictions
8 to assess the emergency and recommend specific protective actions
9 to the public. (Intervenor's Exhibit #15, pg.4; Applicants'
10 Exhibit #144.)

11 147. In addition local jurisdictions should work to
12 incorporate provisions to meet applicable NUREG-0654 criteria, and
13 to make necessary changes in procedures to remedy problems
14 identified in preceding paragraphs. Until corrective measures based
15 on the RAC and FEMA are adopted and incorporated by local
16 jurisdictions, there is no assurance that there are resources and
17 capabilities of off-site response organizations to conduct
18 radiation monitoring in the plume exposure pathway EPZ.

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1 J. CONTENTION 2K (General Plan for Reentry and Recovery.)

2 "Whether there is reasonable assurance that the
3 emergency response planning and capability of
4 implementation for SONGS 2 and 3, affecting the
5 offsite transient and permanent population, will
6 comply with 10 CFR Section 50.47(a)(1) and (b) or
7 (c)(1) as regards:

8 K. General Plans for Reentry and Recovery, 10 C.F.R.
9 Section 50.47 (b)(13); ...

10 144. A guideline for the requirements contained in 50.47(b)(13)
11 can be found in NUREG-0654 II, M at page 70. The planning criteria
12 indicates that each organization should develop general plans and
13 procedures for reentry and recovery and provide the means by which
14 decisions to allow protective measures and allow reentry into
15 evacuated area. This process should consider both existing and
16 potential conditions. A review of local jurisdiction plans of
17 Orange County, San Diego County, San Clemente, San Juan Capistrano
18 and the State parks indicates that none of these plans contain
19 sufficient material to meet this planning standard. (Intervenor's
20 Exhibit #13, San Clemente (an informal review at page 5);
21 Intervenor's Exhibits #16, 17, 18, 19 and 20.)

22 149. The applicants have offered no evidence that such plans exist
23 Its position that ad hoc planning is all that it required. (Pilmer
24 Tr. 7390.)

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1 K. CONTENTION 3 (Plume EPZ Determination.)

2 "The emergency response plans failed to meet the
3 requirements of 10 C.F.R. 50.47 (c)(2) because
4 the local emergency planning officials have
5 arbitrarily established the boundaries of plume
6 exposure EPZ in that they have mechanically applied
7 a ten mile boundary and that the Interagency Agree-
8 ment (IAEP) among all local jurisdictions defines
9 the EPZ by drawing compass lines on a map of the
10 area. In determining the exact size of the EPZ
11 emergency planning officials have failed to consider
12 the following local conditions:

1. topography
2. meteorology
3. evacuation routes
4. demography
5. jurisdictional boundaries
6. SAI report
7. land characteristics."

12 1. The Boundary of the Plume Exposure Pathway EPZ.

13 150. With this contention Intervenor challenge the manner
14 in which the exact boundary of the plume exposure pathway EPZ was
15 drawn by the local emergency planning officials whose task is to
16 draw that boundary. Also this contention asks the Board to review
17 the emergency planning zones as set forth in the various plans to
18 ascertain whether they are in fact consistent with one another and
19 to determine whether or not there is agreement on the extent and
20 nature of the emergency plume exposure emergency planning zone.

21 151. A review of the various plans themselves of the local
22 jurisdictions indicates that there is not agreement in those plans
23 as to what the plume exposure emergency planning zone is. For
24 instance, San Clemente plan indicates that it is simply a compass
25 drawn circle at ten miles (Applicants' Exhibit 55, Figure 1).
26 The plan for San Juan Capistrano also indicates that the EPZ is
27 drawn at ten miles notwithstanding the fact this bisects the city
28 (Applicants' Exhibit 56, page 5, Figure 1). The emergency plan for

1 San Diego County also draws the EPZ line at a ten mile concentric
2 circle. (Applicants' Exhibit 53).

3 152. On the other hand, the SOP for the Marine Corps does
4 not contain any reference to an EPZ because the plan was written
5 and adopted before the EPZ concept came into effect. (Applicants'
6 Exhibit 58).

7 153. Orange County plan indicates that the City of San Juan
8 Capistrano and the incorporated community of Dana Point are in-
9 cluded within the emergency planning zone even though they are
10 outside the concentric ten mile circle in the northern sector.
11 Orange County draws the line around these two population centers
12 rather than bisect the various communities.

13 154. The emergency plan of the State of California also
14 draws its line to include San Juan Capistrano and Dana Point in-
15 creasing the boundary to the northern section to approximately
16 12 miles. The State of California plan also includes all of
17 Camp Pendleton, the southern aspect of the EPZ going out to ap-
18 proximately 15 miles. (Intervenors Exhibit 23 at page 7.)

19 155. The record reflects a set of emergency planning zones
20 ranging from the state's emergency planning zone which includes
21 Camp Pendleton to the south and San Juan Capistrano and Dana
22 Point to the north to the ten mile radius plans found in San
23 Clemente and San Juan Capistrano. The lines of the various plans
24 should be standardized and should have the same emergency planning
25 zone for the plume exposure passway specified in each of the
26 principal response organizations' plans. The exact extent of the
27 zone will be set out below.

28 156. The existence of the potential conflict and discrepan-

1 cies between the various emergency planning zones which in the
2 local response organizations plans ^{was} confirmed by Mr. Grimes
3 of the NRC. (Grimes, Tr. 11,164.)

4 2. How the Line was Drawn.

5 167. It is apparent from a review of the record that the
6 Applicant defined the extent and boundary of the zone. The local
7 planning officials acceded to the superior knowledge of the Appli-
8 cants' consultants with respect to the NRC regulations and guide-
9 lines. It is clear from a review of the testimony of these con-
10 sultants, Mr. Woodard and Mr. Murri, that the Applicants' recommen-
11 dations to the various local agencies contained very conclusive
12 weight. (Turner, Tr. 8938; Hunt, Tr. 9253.)

13 156. The Applicants' experts testimony indicates that the
14 consulting firm of Pickard, Lowe and Garrick (PL&G) made a review
15 of the characteristics of the site compared with reactor safety
16 study that was used in the formulation of the ten mile generic
17 boundary in NUREG-0396. The consultants argued that because
18 certain site specific characteristics at San Onofre made either
19 the risk and the consequences different than the factors considered
20 in the reactor safety study in NUREG-0396 that less than a ten mile
21 EZ was necessary for SONGS. The Board finds that this is not the
22 type of analysis which is contemplated by the regulations asking
23 the local planning officials to consider the local demography
24 topography and other site specific characteristics. In fact this
25 expert testimony is an attempt to challenge the regulation and is
26 therefore impermissible. The Applicants' use of dispersion analy-
27 sis and comparative dispersion analysis to justify a ten mile EPZ
28 or a less than ten mile EPZ to the local planning officials usurped

1 the local planning officials independent judgment as to the use
2 in the drawing of these boundary lines to take into consideration
3 the pragmatic characteristics of the local plant and populations.
4 It is no more permissible to use a dispersion analysis to justify
5 lowering the boundary of the EPZ than it is to use such analysis
6 to extend the EPZ beyond the generic ten mile limit. The latter
7 was ruled out in the case of the SAI report which the Intervenor
8 attempted to argue justified increasing the size of the EPZ.

9 (Woodard Direct Testimony.)

10 159. The Applicants' definition of the EPZ in fact uses site
11 specific characteristics only to decrease the size of the EPZ.
12 This is done in two places. The first along San Juan Creek to the
13 north, the San Juan Creek bed is followed instead of the ten mile
14 concentric circle which dips under the ten miles and bisects San
15 Juan Capistrano and Dana Point. Also the Applicants' did not
16 include an area in Riverside County which is contained within the
17 EPZ if drawn at a ten mile zone based on their analysis that there
18 was insufficient population to warrant planning.

19 160. The Applicants' attempt to get around obvious arbitrary
20 character of their determination of the emergency planning zone
21 by creating a novel zone, the "extended zone". This zone does not
22 appear anywhere in the regulations. The Applicants' attempt to
23 create an emergency planning zone for some purposes and other
24 emergency planning zones for other purposes. (Tr. 8725). There is
25 no authority and they have provided no such authority for these
26 various planning zones. They argue that the "extended EPZ" is
27 an emergency planning zone for informational and evacuation pur-
28 poses but that it does not need to have adequate sirens. The

1 Board finds that the emergency planning zone must be an emergency
2 planning zone for all purposes and that to create additional zones
3 which are not found in the regulations might lead to confusion.

(Pilmer, written testimony.)

4 (61). The record reflects that confusion took place in this
5 case as the public information packages were not sent to the
6 extended EPZ as defined by the Applicant. (Ferguson, Tr. 8718.)

7 (62). In fact the use of this term created confusion in the
8 local emergency planning official as to what the emergency planning
9 zone is. Mr. Turner, a representative from Orange County Emergency
10 Planning Agency, indicated that the City of San Juan Capistrano
11 was contained within the emergency planning zone while the witness
12 from San Juan Capistrano indicated that it was not. (Ferguson,
13 Tr. 8725; Turner, Tr. 8738.)

14 (63). It is clear from the records that not all local juris-
15 dictions were even made privy to the emergency planning zone
16 decision. Mr. Stowe, the representative from the State Parks and
17 Beaches, was not consulted with respect to the size of the emergency
18 zone even though his beaches extend beyond the concentric circle
19 to the south. (Stowe, Tr. 8556). Firechief Coleman, the emergency
20 planning coordinator for the City of San Clemente, was not con-
21 sulted with respect to the formation of the emergency planning
22 zone. (Coleman, Tr. 8630.)

23 (64). While the City of San Juan Capistrano was consulted their
24 recommendation was ignored. They wanted their entire city to be
25 contained within the emergency planning zone but the Applicants'
26 declined to accede to their request. (Ferguson, Tr. 8725.)
27 Mr. Mechum indicated that the City Council of San Clemente was not
28 considered in the drawing of the emergency planning zone boundaries.
(Mechum, Tr. 10,054.)

1 165. Mr. Hunt, representative from the emergency planning
2 organizations in San Diego County, indicated that he was consulted
3 by the Applicants' consultants and he was convinced to draw the
4 boundary line as a concentric circle. He pointed out that most
5 of the EPZ south of the plant is contained in part of the Camp
6 Pendleton Marine Base and only small portions north of the Marine
7 Base near Riverside County are contained within San Diego County.
8 (Hunt, Tr. 9253.)

9 166. There is no indication that anyone from the City of
10 Riverside was ever consulted with respect to drawing the emergency
11 planning zone to exclude Riverside County for the Applicants'
12 purposes. There is also no evidence presented in the record by
13 any party which would show that the Marine Corps was consulted
14 in drawing the EPZ boundary as a concentric circle to bisect the
15 Marine Reserve.

16 167. It is interesting to point out that the emergency
17 planning official for Orange County, Mr. Turner, indicates that
18 there is no such thing as an "extended planning zone" as referred
19 to by the Applicants. In fact that term is being confused with a
20 term known as the "extended planning zone" as provided by the State
21 of California. (Turner, Tr. 8938.)

22 168. The records indicate that the State of California has
23 developed an additional emergency planning to supplement the
24 NRC ten mile EPZ guidelines. The State of California has an
25 emergency planning zone called the basic planning zone which is
26 equivalent to the NRC plume exposure pathway EPZ. (Intervenors
27 Exhibit 23, page 10.) It encompasses San Juan Capistrano and
28 Dana Point on the north edge of the sector and it encompasses the

1 entire Camp Pendleton Marine Base on the south.

2 169. In addition to this planning zone the State of California
3 has developed what it calls an "extended planning zone" which
4 extends approximately ten miles from the basic planning zone.
5 The extended planning zone was created by the State of California
6 because it feels that planning greater than ad hoc measures
7 should be in place beyond the basic evacuation zone which is the
8 plume exposure passway EPZ. This extended planning zone is not a
9 concern of this hearing except as it might impact upon the emer-
10 gency response required by the NRC regulations. (Kearns, Tr. 10,150)

11 170. The Board finds that there is potential confusion in
12 terminology between what the Applicants have labeled extended
13 planning zone for siren purposes and the extended planning zone
14 used by the State of California. There should be only one emer-
15 gency planning zone under the NRC regulations and that should be
16 the plume exposure pathway EPZ for all purposes. If the Applicants
17 propose to now comply with certain regulations for parts of that
18 emergency planning zone, i. e. for the sirens, they should meet
19 that regulation directly and propose their reasons why compliance
20 is not necessary rather than by redefining the zone to produce
21 compliance.

22 3. The Proper EPZ Determination.

23 171. The Board would note its concern that the Applicant did
24 not discuss with Riverside County the possibility of having an
25 emergency response plan based on their inclusion in the ten mile
26 emergency planning zone. In that regard the Board points out
27 that San Diego County has only a similar amount of territory in
28 similar location within the plume exposure pathway concentric

1 circle EPZ. (Hunt, Tr. 9279.) The rationale for the plume
2 exposure pathway EPZ is that a jurisdiction will plan for the EPZ
3 and therefore have plans in place so that they may react and have
4 a basis for their ad hoc reaction for emergencies which might
5 extend beyond ten miles. The Board finds that just as it is
6 appropriate to have San Diego to develop emergency response plan
7 because of their proximity to the nuclear power plant, it is also
8 prudent to include Riverside County in the emergency planning dis-
9 cussions and therefore the Board determines that the emergency
10 planning EPA should include that portion of Riverside County
11 which would be contained in the concentric circle at the ten mile
12 zone.

13 [72]. The Board is also concerned that there is no evidence
14 in the record that the Marine Corps was ever consulted in the draw-
15 ing of this boundary line. The Marine Corps' SOP was developed
16 prior to the adoption of NUREG-0396, 0654 and the various planning
17 standards relating to emergency planning zones. It is unclear,
18 in fact, whether the emergency planning zone is anywhere indicated
19 in the Camp Pendleton plan. The only evidence in the record with
20 respect to considering the Camp Pendleton Marine Corps Base is
21 that provided by Mr. Kearns from the State Office of Emergency
22 Services who indicated (Tr. 10,152) that the State of California
23 believes that the NRC regulation would be properly complied with
24 by including the entire Marine Corps Base which only extends to
25 approximately 15 miles from the plant within the plume exposure
26 pathway EPZ. One obvious reason for this is that the Marine Corps
27 plan calls for them to march into the back country of Camp Pendleton
28 which is a mountainous area with few roadways and, if any accidents

1 in the area escalated to the point where additional territory
2 needed to be evacuated and measures needed to be taken, the Marine
3 Corps would be totally unplanned for and any of their attempts to
4 evacuate using the Highway 5 towards San Diego would be very
5 difficult without going back into the emergency planning zone and
6 risking exposure. Indeed the emergency plan for the Marine Corps
7 indicates that they intend to be able to redeploy to the emergency
8 planning zone within 72 hours. (Applicants' Exhibit 58). The
9 Board finds therefore that the entire Camp Pendleton Marine Corps
10 Base should be included within the plume exposure pathway EPZ for
11 emergency planning purposes.

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1 received and understands the emergency preparedness information on
2 or before December 31, 1982.

3 8. The applicants in conjunction with local response
4 organizations should mail the emergency response pamphlet and
5 handbook to the residents in the plume exposure pathway EPZ at
6 least once a year during their annual public information program.

7 9. An integrated and operating procedure for coordination
8 of protective action decisions should be in place before full
9 power operation of the plant.

10 10. Coordinated drill of radiological response monitoring
11 assessment together with protective action decision making should
12 be done and reviewed before full power operation of the plant.

13 11. The installation of an additional dedicated telephone
14 line for use by decision makers coordinating protective action
15 decisions and them alone should be implemented prior to December
16 31, 1982.

17 12. A SOP for discrimination between the use of various
18 redundant communications systems between various local response
19 organizations should be drafted and in place prior to full power
20 operation of the SONGS.

21 13. Emergency plan for the county of Riverside should be
22 drafted to cover the part of that county included in the plume
23 exposure emergency planning zone prior to December 31, 1982.

24 14. The SOP for the Marine Corps Emergency Plan should be
25 revised in accordance with including the entire camp within the
26 plume exposure emergency planning zone.

27 15. Applicants' and the local jurisdictions must demonstrate
28 that there are emergency plans in place to provide protective

1 response action for special population groups such as the elderly,
2 physically handicapped and children before full power operation
3 of the plant.

4 16. There must be an independent review of the Wilbur Smith
5 study and the computer program which underlies it before December
6 31, 1982.

7 17. Further update of the applicants' time estimate study
8 should be made with a detailed description of proposed population
9 increases and demonstration of use of alternative routes and future.

10 18. A completed emergency operations facility offsite
11 meeting the updated requirements of NUREG-0696 shall be completed
12 before December 31, 1982.

13 19. A completed siren system tested and operational into
14 all areas of the EPZ including all of Dana Point and San Juan
15 Capistrano to be in effect prior to full power operation of the
16 plant.

17 20. The permanent emergency operations facility shall be
18 in place by December 31, 1982.

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2 CONCLUSIONS OF LAW

3 ___ Upon consideration of the record of the proceeding and
4 in light of the foregoing findings and discussion, the Board
5 concludes that, with respect to the requirements of the Atomic
6 Energy Act of 1954, as amended, and the rules and regulations of
7 the commission relating onsite and offsite planning and emergency
8 preparedness:

9 (1) The Plume and Extended EPZs established for
10 SONGS do not meet the requirements of 10 C.F.R.
11 §50.47(c)(2).

12 (2) The principal offsite emergency response
13 organizations do not have the capability to
14 respond to emergencies at SONGS 2 and 3 and to
15 augment this initial response on a continuous
16 basis as required by 10 C.F.R. §50.47(b)(1).

17 (3) Applicants' capability to notify involved
18 most State and local emergency response
19 organizations meets the requirements of 10
20 C.F.R. §50.47(b)(5) and Part 50, Appendix E.IV,
21 except for San Juan Capistrano and the State
22 Parks and beaches.

23 (4) The capability of Applicants and the
24 involved offsite emergency response organizations
25 to notify and alert the various agencies and
26 personnel involved in responding to a
27 radiological emergency at SONGS 2 and 3 does not
28 meet the requirement of 10 C.F.R §50.47(b)(6)

1 and Part 50, Appendix E.IV.

2 (5) The capability of Applicants and the involved offsite
3 emergency response organizations to implement continued
4 communication among all involved organizations does not
5 meet the requirements of 10 C.F.R. § 50.47(b)(6) and
6 Part 50, Appendix E.IV.

7 (6) The various onsite and offsite emergency response
8 organization notification and communication systems are
9 not adequate and capable of being implemented in
10 compliance with 10 C.F.R. §50.47(b)(5) and (6) and Part
11 50, Appendix E.IV.

12 (7) Each of the principal response organizations has
13 an emergency operations center but does not have the
14 communications and transportation equipment necessary
15 to support its role during an emergency at SONGS 2 and
16 3 affecting the offsite transient and permanent
17 population in compliance with 10 C.F.R. §50.47(b)(8).

18 (8) Applicants' emergency response planning and
19 implementation capability as regards the physical
20 design, communications equipment, and operating
21 procedures for the Interim EOF does not meet the
22 requirements of 10 C.F.R. §50.47(b)(3) and (b)(8)
23 and Part 50, Appendix E.IV.

24 (9) The Applicants' capabilities to accomplish all
25 necessary offsite radiological dose assessment and
26 protective action recommendation functions do not
27 satisfy the standards for offsite dose assessment
28 and radiation monitoring capability set forth in

1 10 C.F.R. §50.47(b)(9) without the need to consider
2 the additional offsite radiation monitoring and
3 dose assessment capabilities of Federal, State and
4 local agencies.

5 (10) The plans, procedures and capabilities of the
6 involved offsite jurisdictions and supporting
7 Federal, State and local agencies to perform radiation
8 monitoring and dose assessment, as coordinated in the
9 Offsite Dose Assessment Center, do not satisfy the
10 standards for offsite dose assessment and radiation
11 monitoring capability required by 10 C.F.R. §50.47
12 (b)(9).

13 (11) The plans, procedures and capabilities of the
14 State and local jurisdictions and SCE to assess and
15 monitor actual or potential offsite consequences of
16 a radiological emergency condition within the
17 Ingestion EPZ are not adequate and do not satisfy
18 the requirements of 10 C.F.R. §50.47(b)(9).

19 (12) The radiological emergency response training
20 being provided to onsite personnel at SONGS who may
21 be called upon to assist in an emergency is not
22 adequate and does not satisfy the requirements of
23 10 C.F.R. §50.47(b)(15).

24 (13) Insufficient radiological emergency response
25 training has been provided to onsite and offsite
26 emergency response personnel who may be called on
27 to assist in an emergency and such training
28 satisfies the requirements of 10 C.F.R. §50.47(b)(15).

1 (14) Adequate arrangements for medical services for
2 contaminated and injured individuals have not been
3 made in compliance with 10 C.F.R. §50.47(b)(12).

4 (15) The information and procedure for dissemination
5 of such information to the public within the
6 Plume and Extended EPZs on a periodic basis is not
7 adequate to inform the public on how they will be
8 notified and what their actions should be in the event
9 of an emergency in compliance with 10 C.F.R. §50.47(b)
10 (7) and Part 50, appendix E.IV.

11 (16) The physical and administrative means for
12 prompt emergency notification to the populace within
13 the Extended and Plume EPZs is not adequate and does
14 not meet the requirements of 10 C.F.R. §50.47(b)(5)
15 and Part 50, Appendix E.IV.

16 (17) The means to provide instruction to the
17 populace within the Extended and Plume EPZs is not
18 adequate and does not meet the requirements of
19 10 C.F.R. §50.47(b)(5).

20 (18) The general plans of SCE and the local response
21 agencies for recovery and reentry following a
22 radiological emergency at SONGS 2 and 3 are not
23 adequate and do not satisfy the requirements of
24 10 C.F.R. § 50.45(b)(13) and Part 50, Appendix E.IV.

25 (19) There is not reasonable assurance that the
26 offsite transient and permanent population within
27 the Extended and Plume EPZs for SONGS 2 and 3 can
28 be evacuated or otherwise adequately protected in

1 the event of a radiological emergency with offsite
2 consequences, as required by 10 C.F.R. §50.47(a)
3 (1), (b) (10) and Part 50, Appendix E.IV.

4 (20) The onsite and offsite radiological emergency
5 response plans are not adequate, and the capability
6 to implement these plans currently does not exist.

7 (21) The overall state of onsite and offsite
8 emergency planning and preparedness does not provide
9 reasonable assurance that adequate protective measures
10 can and will be taken in the event of a radiological
11 emergency involving SONGS 2 and 3, as required by
12 10 C.F.R. §50.47(a) (1)

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UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

SECRETARY
OF SERVICE
SEARCH

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of)
)
SOUTHERN CALIFORNIA EDISON COMPANY,)
 ET AL.)
)
(San Onofre Nuclear Generating Station,))
Units 2 and 3))

Docket Nos. 50-361 OL
50-362 OL

CERTIFICATE OF SERVICE

I hereby certify that copies of Intervenor's Proposed Findings of Fact and Conclusions of Law on Emergency Planning and Preparedness Issues dated November 20, 1981 in the above captioned proceedings was served on the following parties by deposit in the United States mail or if indicated by an asterisk by expedited overnight service on November 24, 1981

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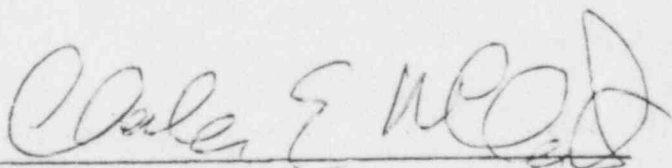
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