

UNITED STATES OF AMERICA  
 NUCLEAR REGULATORY COMMISSION

In the Matter of )  
 )  
 SOUTHERN CALIFORNIA EDISON COMPANY )  
 AND SAN DIEGO GAS AND ELECTRIC ) Docket No. 50-206  
 COMPANY )  
 )  
 (San Onofre Nuclear Generating )  
 Station, Unit No. 1) )

EXEMPTION

I.

The Southern California Edison Company (SCE) and the San Diego Gas and Electric Company (the licensees) hold Provisional Operating License No. DPR-13, which authorizes SCE to operate the San Onofre Nuclear Generating Station, Unit No. 1 (the facility) at power levels not in excess of 1347 megawatts (thermal) rated power. The facility, which is located in San Diego County, California, is a pressurized water reactor (PWR) used for the commercial generation of electricity.

II.

On November 19, 1980, the Commission published a revised Section 10 CFR 50.48 and a new Appendix R to 10 CFR 50 regarding fire protection features of nuclear power plants (45 FR 76602). The revised Section 50.48 and Appendix R became effective on February 17, 1981. Section 50.48(c) established the schedules for satisfying the provisions of Appendix R. Section III of Appendix R contains fifteen subsections, lettered A through O, each of which specifies requirements for a particular aspect of the fire protection features at a nuclear power plant. III.G. specifies detailed requirements for fire protection of the equipment used for safe shutdown by means of separation and

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barriers (III.G.2). If the requirements for separation and barriers could not be met in an area, alternative or dedicated safe shutdown capability, independent of that area and equipment in that area, was required (III.G.3).

Section 50.48(c) required completion of all modifications to meet the provisions of Appendix R within a specified time from the effective date of this fire protection rule, February 17, 1981, except for modifications to provide alternative or dedicated safe shutdown capability. These latter modifications (III.G.3) require NRC review and approval. Hence, Section 50.48(c) requires their completion within a certain time after NRC approval. The date for submittal of design descriptions of any modifications to provide alternative or dedicated safe shutdown capability was specified as March 19, 1981.

By letter dated March 19, 1981, as supplemented November 9, 1981, Southern California Edison Company requested an exemption from 10 CFR 50.48(c) with respect to the requirements of Section III.G. This request would have extended the deadline for submittal of plans and schedules for a safe shutdown capability, including design descriptions of modifications needed to satisfy Section III.G.3, from March 19, 1981 to approximately six months after completion of the Systematic Evaluation Program (SEP). The NRC granted an exemption dated May 10, 1982 which extended the deadline for the submittal of plans and schedules for a safe shutdown capability including design descriptions of modifications needed to satisfy Section III.G.3 until July 1, 1982 rather than approximately six months after completion of the SEP as requested by the licensees. In not granting the exemption for the period of time requested by the licensees, the Commission cited the fact

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that none of the other plants in the SEP requested a schedular delay that is linked to the completion of the SEP subsequent to the issuance of the revised 10 CFR 50.48.

### III.

By letter dated June 30, 1982, the licensees provided information regarding the items requested in the May 10, 1982 staff letter. In addition, the licensees' June 30, 1982 letter, as supplemented by letter dated August 3, 1982, requested exemptions that would link implementation schedules or measures for fire protection of safe shutdown capability with modifications identified during the SEP Integrated Assessment. The licensees further requested reconsideration of their previous exemption request to extend the deadline for submittal of plans, schedules and design descriptions in accordance with 10 CFR 50.48(c)(5) until approximately six months after the completion of the SEP. Specifically, the licensees requested the following exemptions:

1. An exemption from the schedular implementation requirements of 10 CFR §50.48(c)(3) for modifications and additions identified in Enclosure 1 to the June 30, 1982 submittal, with the exception of the remote shutdown panel additions, to be implemented as part of any modifications identified during SEP Integrated Assessment, or no earlier than the following dates: (a) for modifications, prior to startup from the next refueling outage which is currently expected in late 1983, and (b) for additions, prior to startup from the second refueling outage from the date of the June 30, 1982 letter, which is currently in mid-1985.

2. An exemption from the schedular implementation requirements to 10 CFR §50.48(c)(4) for the remote shutdown panel additions identified in Enclosures 1 and 2 to the June 30, 1982 letter, to be implemented as part of any modifications identified during SEP Integrated Assessment, no earlier than the dates listed under item 1 above.
3. Commission reconsideration of its May 1982 exemption decision with respect to the submittal of plans, schedules, and design descriptions in accordance with 10 CFR §50.48(c)(5) as originally requested by the licensees' submittals of March 19, 1981 and November 9, 1981, to allow subsequent modifications of the plans enclosed with the June 30, 1982 submittal to conform with SEP as it develops.

In support of this request, the licensees stated that they will have to make extensive modifications to San Onofre Unit No. 1 to meet the fire protection rule. The licensees' August 3, 1982 submittal estimates that the total cost of these measures is approximately \$50 million. Because extensive facility modifications would have been required under an alternative or dedicated shutdown approach, the licensees stated that they elected to adopt a separation and fire suppression approach involving many of the same measures by providing two fully safety-qualified shutdown trains meeting the separation requirements, together with any necessary fire suppression measures.

The implementation schedules specified in Section 50.48(c) require implementation of all of the measures identified by the licensees during the current outage, with the exception of the modifications associated with the remote

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shutdown panel. The licensees stated that application of this schedule could cause a prolonged outage of San Onofre Unit No. 1 lasting two or three years and that supply of backup power during such an extended outage will result in substantial costs to the ratepayers without corresponding safety benefits.

Some of the additions identified in the licensees' June 30, 1982 submittal are a second 4KV switchgear room, approximately 1000 power and control circuits to meet separation requirements and for new equipment, a new auxiliary feed-water train, a remote shutdown panel, and new redundant valves for the CVCS and RHR Systems. The licensees also stated that the modifications and additions described in their June 30, 1982 submittal may be impacted by the results of SEP Integrated Assessment. The SEP topics which may impact the modifications and additions for fire protection of safe shutdown capability are:

- III-2 Wind and Tornado Loadings
- III-4 Tornado Missiles
- III-5.A Effects of Pipe Break on Structures Systems and Components  
Inside Containment
- III-5.B Pipe Break Outside Containment
- V-10.B RHR Reliability
- V-11.A Requirements for Isolation of High and Low Pressure Systems
- V-11.B RHR Interlock Requirements
- VII-3 Systems Required for Safe Shutdown

With regard to the potential impact of these SEP topics, the licensees indicated in their August 3, 1982 submittal that:

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1. The resolution of open items in the area of applied criteria and backfit requirements resulting from SEP Integrated Assessment may lead to design changes to the modifications and additions of fire protection safe shutdown,
2. The new circuits that will be installed must satisfy the separation requirements of Appendix R. These requirements will be used as design criteria for the location of these circuits. SEP Topics III-5.A and III-5.B involve the review of pipe breaks inside and outside containment and their effect on neighboring safe shutdown equipment. An integrated design approach would include the requirements resulting from these topic reviews as part of the design criteria for locating the new circuits. This would eliminate the risk of routing the new circuits associated with redundant trains of safe shutdown equipment in an area where they would be impacted by a high energy pipe break. Similar design criteria should be applied to the design of the new Auxiliary Feedwater Train and in addition, the possible effects of tornadoes should be included as defined in SEP Topics III-2 and III-4,
3. The modifications and additions of fire protection safe shutdown provide improved redundancy through separation of the systems and equipment required for safe shutdown. As such, these modifications will both impact and be impacted by the SEP review of Topic VII-3. In some cases, new

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equipment is required to be added such as the redundant MOV's for the RHR system. These were added to the Fire Protection Safe Shutdown system since they resolve possible single failure concerns which might arise from SEP Integrated Assessment of the Safe Shutdown Topic and Topic V-10.B. Topics V-11.A and V-11.B have resulted in NRC concerns with respect to the RHR system which are to be resolved as part of SEP Integrated Assessment. The resolution of these concerns may create new requirements on the RHR system which should be included as design criteria in conjunction with the criteria for these systems resulting from Fire Protection.

#### IV.

By letter dated November 22, 1982, the licensees stated that no modifications could be implemented independent of the SEP without incurring the risk of additional retrofit since all modifications can be considerably impacted by the SEP. Despite this risk, the licensees indicated that certain modifications identified in Section 8.6.2.4, "Instrument Air System," are currently being installed as part of the seismic upgrade of San Onofre Unit No. 1. The licensees' November 22, 1982 letter further indicated that they plan to complete all modifications prior to startup from the refueling outage for Cycle 11 operation which is expected to commence in the 1988-1989 time frame.

The NRC staff has completed its review of the licensees' June 30, 1982 submittal. By letter dated November 18, 1982, the NRC safety evaluation regarding fire protection of safe shutdown capability for San Onofre Unit No. 1

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was forwarded to the licensee. This safety evaluation found that the licensees' conceptual design of the alternative shutdown capability for the control room and cable spreading room complies with the requirements of Sections III.G and III.L of Appendix R to 10 CFR Part 50 pending resolution of NRC staff concerns regarding high/low pressure interfaces. These concerns are to be resolved in the final design.

The NRC staff agrees with the licensees' assessment that the resolution of open items in the Systematic Evaluation Program could affect the design of the extensive modifications and additions proposed by the licensees to meet the Fire Protection Rule. However, in judgment of the NRC staff, it is premature to assess the degree of interaction of the proposed fire protection modifications with those modifications that will be identified during the SEP Integrated Assessment. This degree of interaction can be assessed during the Integrated Assessment. The current schedule for the SEP Integrated Assessment is to issue the draft Integrated Plant Safety Assessment Report (IPSAR) for ACRS review on August 5, 1983 and issue the final IPSAR for Commission review on September 30, 1983.

On this basis, the Commission cannot find that Southern California Edison's proposed schedule is supported by adequate details regarding the interaction between possible SEP modifications and modifications to meet the Fire Protection Rule. Therefore, in the judgment of the Commission, a delay in the date for computing the implementation of fire protection features in 10 CFR 50.58(c)(3) and 10 CFR 50.48(c)(4) until one month after publication of the final IPSAR on September 30, 1983 will provide adequate time to assess the integration of SEP modifications with the proposed fire protection features.



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Accordingly, a schedular exemption for the date to be used in computing the implementation of the fire protection features in 10 CFR 50.48(c)(3) and 10 CFR 50.48(c)(4) until October 31, 1983 is the subject for consideration.

With regard to the licensees' request for reconsideration of the May 10, 1982 exemption, in the judgment of the Commission no new information or persuasive justification has been provided by the licensees. Accordingly, the Commission declines to modify the May 10, 1982 exemption.

#### V.

Prior to the issuance of Appendix R to 10 CFR 50, San Onofre Unit No. 1 had been reviewed against the criteria of Appendix A to the Branch Technical Position 9.5-1 (BTP 9.5-1). The BTP 9.5-1 was developed to resolve the lessons learned from the fire at Browns Ferry Nuclear Plant. It is broader in scope than Appendix R, formed the nucleus of the criteria developed further in Appendix R and in its present, revised form constitutes the section of the Standard Review Plan used for the review of applications for construction permits and operating licenses of new plants. The review was completed by the NRC staff and its fire protection consultants and a Fire Protection Safety Evaluation (FPSE) was issued. A few items remained unresolved. Further discourse between the licensee and the NRC staff resulted in resolution of these items as documented in Supplement No. 1 to the FPSE dated February 4, 1981. The licensee has completed most of the fire protection modifications and has indicated that the remaining modifications not associated with alternative or dedicated shutdown capability are scheduled to be completed during the current outage which began on February 27, 1982. In addition, as stated in our FPSE, the licensee has taken several measures to provide

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alternate shutdown capability in the interim by the installation of an additional source of offsite power, modifications to the station air system, provisions for isolation capability of affected control systems, and development of station procedures. Therefore, San Onofre Unit 1 has been upgraded to a high degree of fire protection already.

Based on the above considerations, we find that the licensees have completed a substantial part of the fire protection features at San Onofre Unit No. 1 in conformance with the requirements of the Fire Protection Rule. The remaining changes are those that are likely to interact with SEP modifications. Based on our review of the information provided in the licensees' June 30, 1982 submittal, as supplemented by letters dated July 8, 1982, and August 3, 1982, we find that the licensees have proposed extensive modifications and additions to meet the Fire Protection Rule and the design of these modifications and additions could be impacted by the resolution of SEP open items. We find that because of the already completed upgrading of San Onofre Unit No. 1, there is no undue risk to the health and safety of the public involved with continued operation until the completion of the modifications for fire protection of safe shutdown capability on the schedule as modified and discussed in Section IV, above. Therefore, exemptions should be granted with regard to the schedule for completion of modifications to meet Appendix R to 10 CFR Part 50.

#### VI.

Accordingly, the Commission has determined that, pursuant to 10 CFR 50.12, an exemption is authorized by law and will not endanger life or property or the common defense and security and is otherwise in the public

interest and hereby grants the following exemptions with respect to the schedular implementation of modifications and additions to San Onofre Unit No. 1 to meet the requirements of Section III.G of Appendix R to 10 CFR Part 50:

1. The effective date of the Fire Protection Rule used for computing the implementation of the fire protection features specified in 10 CFR 50.48(c)(3) is replaced by October 31, 1983.
2. The date of NRC approval used for computing the implementation of the fire protection features specified in 10 CFR 50.48(c)(4) is replaced by October 31, 1983.

The NRC staff has determined that the granting of this exemption will not result in any significant environmental impact and that pursuant to 10 CFR 51.5(d)(4) an environmental impact statement or negative declaration and environmental impact appraisal need not be prepared in connection with this action.

FOR THE NUCLEAR REGULATORY COMMISSION

  
Edson G. Case, Deputy Director  
Office of Nuclear Reactor Regulation

Dated at Bethesda, Maryland  
this 23rd day of March, 1983.