June 22, 1988

Docket Nos.: 50-361 and 50-362

Mr. Kenneth P. Baskin
Vice President
Southern California Edison Company
2244 Walnut Grove Avenue
Post Office Box 800
Rosemead, California 91770

Mr. Gary D. Cotton
Senior Vice President
Engineering and Operations
San Diego Gas & Electric Company
101 Ash Street
Post Office Box 1831
San Diego, California 92112

Gentlemen:

SUBJECT: ISSUANCE OF AMENDMENT NO. 63 TO FACILITY OPERATING LICENSE NPF-10 AND AMENDMENT NO. 52 TO FACILITY OPERATING LICENSE NPF-15 SAN ONOFRE NUCLEAR GENERATING STATION, UNITS 2 AND 3 (TACS 66970 AND 66971)

The Nuclear Regulatory Commission (the Commission) has issued the enclosed Amendment No. 63 to Facility Operating License No. NPF-10 and Amendment No. 52 to Facility Operating License No. NPF-15 for the San Onofre Nuclear Generating Station, Units 2 and 3, located in San Diego County, California.

The amendments revise the Facility Operating Licenses Section 2.B(6) to allow storage of spent fuel produced by the operation of San Onofre Unit 1 in either Unit 2 or Unit 3.

These amendments cover Proposed Change Number (PCN) 242 and were requested by your letter of December 30, 1987, as supplemented by letters dated January 12, February 22, March 11, 18 and March 23, 1988. A Notice of Issuance will be included in the Commission's regular bi-weekly Federal Register notice.

Also enclosed for your information is a copy of the Environmental Assessment and the related Notice of Availability of the Environmental Assessment. The Notice has been published in the Federal Register.

Sincerely,

original signed by

Donald E. Hickman, Project Manager
Project Directorate V
Division of Reactor Projects - III, IV, V and Special Projects
Office of Nuclear Reactor Regulation

Enclosures:
1. Amendment No. 63 to NPF-10
2. Amendment No. 52 to NPF-15
3. Safety Evaluation
4. Environmental Assessment dated June 15, 1988

cc: See next page

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*See previous concurrence

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

June 22, 1988

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Mr. Kenneth P. Baskin
Southern California Edison Company

San Onofre Nuclear Generating
Station, Units 2 and 3

cc:
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ATTN: Chief, Environmental
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Radiological Health Section
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Mr. Jack McGurk, Acting Chief
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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

SOUTHERN CALIFORNIA EDISON COMPANY

SAN DIEGO GAS AND ELECTRIC COMPANY

THE CITY OF RIVERSIDE, CALIFORNIA

THE CITY OF ANAHEIM, CALIFORNIA

DOCKET NO. 50-361

SAN ONOFRE NUCLEAR GENERATING STATION, UNIT 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 63
License No. NPF-10

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment to the license for San Onofre Nuclear Generating Station, Unit 2 (the facility) filed by the Southern California Edison Company (SCE) on behalf of itself and San Diego Gas and Electric Company, The City of Riverside and The City of Anaheim, California (licensees) dated December 30, 1987 complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's regulations as set forth in 10 CFR Chapter I;

   B. The facility will operate in conformity with the application, as amended, the provisions of the Act, and the regulations of the Commission;

   C. There is reasonable assurance: (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations set forth in 10 CFR Chapter I;

   D. The issuance of this license amendment will not be inimical to the common defense and security or to the health and safety of the public;

   E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by deleting paragraph 2.B(6) in its entirety and adding a new paragraph 2.B(6) to read as follows:

   (6) SCE, pursuant to the Act and 10 CFR Parts 30, 40, and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of San Onofre Nuclear Generating Station, Units 1 and 2. Transshipment of Unit 1 fuel between Units 1 and 2 shall be in accordance with SCE letters to U.S. Nuclear Regulatory Commission dated March 11, March 18 and March 23, 1988, and in accordance with the Quality Assurance requirements of 10 CFR Part 71.

3. This license amendment is effective as of the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

George W. Knighton, Director
Project Directorate V
Division of Reactor Projects - III, IV, V and Special Projects
Office of Nuclear Reactor Regulation

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

SOUTHERN CALIFORNIA EDISON COMPANY

SAN DIEGO GAS AND ELECTRIC COMPANY

THE CITY OF RIVERSIDE, CALIFORNIA

THE CITY OF ANAHEIM, CALIFORNIA

DOCKET NO. 50-362

SAN ONOFRE NUCLEAR GENERATING STATION, UNIT 3

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 52
License No. NPF-15

1. The Nuclear Regulatory Commission (the Commission) has found that:

   A. The application for amendment to the license for San Onofre Nuclear Generating Station, Unit 3 (the facility) filed by the Southern California Edison Company (SCE) on behalf of itself and San Diego Gas and Electric Company, The City of Riverside and The City of Anaheim, California (licensees) dated December 30, 1988 complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act) and the Commission's regulations as set forth in 10 CFR Chapter I;

   B. The facility will operate in conformity with the application, as amended, the provisions of the Act, and the regulations of the Commission;

   C. There is reasonable assurance: (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations set forth in 10 CFR Chapter I;

   D. The issuance of this license amendment will not be inimical to the common defense and security or to the health and safety of the public;

   E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by deleting paragraph 2.B(6) in its entirety and adding a new paragraph 2.B(6) to read as follows:

   (6) SCE, pursuant to the Act and 10 CFR Parts 30, 40, and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of San Onofre Nuclear Generating Station, Units 1 and 3. Transshipment of Unit 1 fuel between Units 1 and 3 shall be in accordance with SCE letters to U.S. Nuclear Regulatory Commission dated March 11, March 18 and March 23, 1988, and in accordance with the Quality Assurance requirements of 10 CFR Part 71.

3. This license amendment is effective as of the date of its issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

George W. Knighton, Director
Project Directorate V
Division of Reactor Projects - III,
IV, V and Special Projects
Office of Nuclear Reactor Regulation

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

SUPPORTING AMENDMENT NO. 63 TO FACILITY OPERATING LICENSE NO. NPF-10

AND AMENDMENT NO. 52 TO FACILITY OPERATING LICENSE NO. NPF-15

SOUTHERN CALIFORNIA EDISON COMPANY, ET AL

SAN ONOFRE NUCLEAR GENERATING STATION UNITS 2 AND 3

DOCKET NOS. 50-361 AND 50-362

1.0 INTRODUCTION

By letter dated December 30, 1987, as supplemented by letters dated January 12, February 22, March 11, 18 and 23, 1988 Southern California Edison Company (SCE), et al (the licensees) submitted a proposed change to Facility Operating Licenses NPF-10 and NPF-15. The proposed change would revise Section 2.B(6) of each license.

Section 2.B(6) of the licenses currently authorizes SCE to possess "such byproduct and special nuclear materials as may be produced by the operation of the facility." The proposed change would replace "the facility" with "San Onofre Unit 1 and Unit 2" in NPF-10 and with "San Onofre Unit 1 and Unit 3" in NPF-15. The effect of this change would be to allow storage of spent fuel produced by operation of Unit 1 in either the Unit 2 or the Unit 3 spent fuel pools. The removal of spent fuel from Unit 1 is the subject of a separate amendment.

The applications for operating licenses for San Onofre Nuclear Generating Station (SONGS) Units 2 and 3 submitted by SCE were intended to include the storage of Unit 1 spent fuel in the Units 2 and 3 spent fuel pools. This intent was clearly documented in the Final Safety Analysis Report (FSAR) for San Onofre Units 2 and 3. FSAR Sections 9.1.2, "Spent Fuel Storage," and 9.1.3, "Spent Fuel Pool Cooling and Cleanup System," specifically address the storage of Unit 1 fuel in the Unit 2 or Unit 3 spent fuel pool. The staff reviewed the designs of these systems and found them acceptable. These reviews are documented in the Safety Evaluation Report (SER) Related to the Operation of San Onofre Nuclear Generating Station, Units 2 and 3 (NUREG-0712). The SER also reviewed the possibility of damage to the spent fuel storage facility from a dropped spent fuel shipping cask and found that the design provided adequate protection. However, two issues related to the transfer of Unit 1 spent fuel to the Unit 2 or Unit 3 spent fuel pool were not addressed in the FSAR and as a result were not reviewed by the staff. These issues are the potential drop of a Unit 1 fuel assembly into the Unit 2 or Unit 3 spent fuel pool and the environmental impact of the fuel transfer. As originally written, the operating licenses for San Onofre Units 2 and 3 did not provide for storage of Unit 1 spent fuel in the Units 2 or 3 spent fuel pools.

2.0 EVALUATION

RADIOLOGICAL CONSEQUENCES OF ACCIDENTAL RELEASES

The staff has reviewed the material submitted by SCE in support of its request to allow the transfer of SONGS 1 spent fuel to the spent fuel storage pools of SONGS 2 and 3 (Ref. 1). (The letter of December 30, 1987, was not notarized. One of the subsequent letters, that of February 22, 1988, was notarized, as required by the Commission's regulations 10 CFR 50.30(b). The substance of the letters is consistent and the NRC staff considered all six letters in reviewing the application). The licensee has identified the potential fuel handling accident which could occur with the dropping of a SONGS 1 fuel assembly into the SONGS 2 or 3 spent fuel storage pool as the only potential fuel or cask handling accident that has not been previously reviewed and discussed in the SONGS 2/3 Final Safety Analysis Report (FSAR). The staff agrees that this fuel handling accident is the only relevant spent fuel or cask handling accident which has not been previously analyzed by the licensee and NRC staff.

The fuel handling accident which was previously analyzed by the licensee and NRC staff evaluated the dropping of a SONGS 2 or 3 fuel assembly that had decayed for 72 hours, into the spent fuel storage pool. The staff analyses, which utilized the conservative assumptions from Regulatory Guide 1.25 (Ref. 2), were reported in the SER dated February 1981 in support of the Operating Licenses of the SONGS 2 and 3 facilities. The consequences of this accident resulted in doses well below the 10 CFR Part 100 guideline dose levels. The consequences of dropping a spent fuel assembly from SONGS 1 with 120 days decay, the minimum decay time before the movement of the fuel, will be less than that previously analyzed by the staff for SONGS 2 and 3. The staff agrees with SCE that the fuel and cask handling accidents previously analyzed for SONGS 2 and 3 bound any accidents that could result from the movement of spent fuel from SONGS 1 to SONGS 2 or 3. All of these potential accidents yielded potential doses which were within the guidelines of 10 CFR Part 100.

OCCUPATIONAL RADIATION EXPOSURE

The staff has reviewed the licensee's plan to transfer spent fuel assemblies between Unit 1 and Units 2 or 3 with respect to occupational radiation dose and concludes that design and operational considerations are in accordance with the ALARA policy. This conclusion is based on the licensee having considered the requirements of 10 CFR 20.101 and 20.103, and the guidelines of Regulatory Guides 8.8 and 8.10 (Ref. 3 and 4, respectively). The cumulative occupational dose for the spent fuel transfer operation is estimated by the licensee to be less than 0.1 person-rem per spent fuel assembly. The estimate is based on the licensee's detailed breakdown of occupational dose for each transfer. The licensee considered the number of individuals performing a specific job, their occupancy time while performing this job, and the average dose rate in the area where the job is to be performed. The spent fuel assemblies contribute a negligible dose rate in the spent fuel pool area because of the depth of water in the spent fuel pool. One potential source of radiation is radioactive corrosion

products, called crud. Crud may be released to the spent fuel pool water during fuel movement. This could increase radiation levels in the vicinity of both spent fuel pools. The licensee expects that crud on the spent fuel pool walls for either unit will not present a significant contribution to exposure. Further, the spent fuel pool cleanup system will remove deposits in the spent fuel pool water and thereby reduce crud levels.

The licensee has committed to minimize "hot particle contamination" by the use of an extensive operational radiological safety program. Cask exteriors will be thoroughly decontaminated by steam cleaning each time they come out of either spent fuel pool. Casks will be surveyed and wiped down to ensure proper decontamination and covered with a nylon bag for transfer between the units. Health Physics will implement controls during transshipment of Unit 1 spent fuel to the Units 2 and 3 fuel handling buildings. The staff has reviewed this and other procedures for the above program and compared them with recent NRC technical updates on the subject matter (Ref. 5), and concluded that the licensee has taken adequate measures to minimize hot particle contamination and to assure that operational radiological safety will be ALARA.

The licensee has stated that no damaged Unit 1 spent fuel assemblies are to be transferred to Units 2 or 3. In addition, the licensee will not move any leaking fuel assemblies or any plutonium assemblies. The staff finds this acceptable.

The fuel transfer operation will be conducted in accordance with the Quality Assurance Requirements of 10 CFR Part 71 related to Spent Fuel Shipment. During the spent fuel assembly transfer, occupational exposure will be limited by the existing ALARA procedures and guidelines. Further, NRC inspectors will periodically monitor implementation of the procedures, surveillance and radiation protection program (conference call with Region V on March 17, 1988 and March 23, 1988). Therefore, the staff concludes that the radiation protection program is adequate for ensuring that occupational radiation exposure during the spent fuel transfer will be maintained in accordance with ALARA guidelines, including Regulatory Guide 8.8, and the requirements of 10 CFR Part 20.

3.0 SUMMARY

The staff has reviewed the licensee's submittals and has independently assessed the radiological consequences of accidental releases and the occupational radiation exposure that could result from the transfer of Unit 1 spent fuel to Units 2 or 3. The staff finds that the proposed fuel transfer operation is acceptable. However, the license will be conditioned to require SCE to conduct the fuel transshipments in accordance with the supplemental information provided in SCE letters to NRC dated March 11, March 18 and March 23, 1988 and in accordance with the Quality Assurance Requirements of 10 CFR Part 71.

4.0 CONTACT WITH STATE OFFICIAL

The NRC staff also advised the Chief of the Radiological Health Branch, State Department of Health Services, State of California, of the proposed determination of no significant hazards consideration. No comments were received from the State or from the public.

5.0 ENVIRONMENTAL CONSIDERATION

Pursuant to 10 CFR 51.21, the NRC prepared an environmental assessment. A notice of environmental assessment and finding of no significant impact was published in the Federal Register on June 22, 1988, 53 FR 23468. 10 CFR 51.32.

6.0 CONCLUSION

The Commission made a proposed determination of no significant hazards consideration which was published in the Federal Register on February 12, 1988, 53 FR 4247. No comments were received.

We have concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, and (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of these amendments will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: I. Spickler

Dated: June 22, 1988

REFERENCES

1. Letters dated December 30, 1987, January 12, February 22, March 11, 18 and 23, 1988 from Southern California Edison Company to the U. S. Nuclear Regulatory Commission.

2. Regulatory Guide 1.25, "Assumptions Used for Evaluating the Potential Radiological Consequences of a Fuel Handling Accident in the Fuel Handling and Storage Facility for Boiling and Pressurized Water Reactors," Office of Standards Development, USNRC.

3. Regulatory Guide 8.8, "Information Relevant to Ensuring that Occupational Radiation Exposures at Nuclear Power Stations Will Be As Low As Is Reasonably Achievable", Office of Standards Development, USNRC.

4. Regulatory Guide 8.10, "Operating Philosophy for Maintaining Occupational Radiation Exposures As Low As Is Reasonably Achievable" (Nuclear Power Reactors), Office of Standards Development, USNRC.

5. IE Information Notice No. 87-39, "Control of Hot Particle Contamination at Nuclear Power Plants".

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

ENVIRONMENTAL ASSESSMENT AND FINDING OF NO SIGNIFICANT IMPACT BY THE OFFICE OF NUCLEAR REACTOR REGULATION RELATING TO THE TRANSFER OF UNIT 1 SPENT FUEL TO THE UNITS 2 AND 3 SPENT FUEL POOLS OF THE SAN ONOFRE NUCLEAR GENERATING STATION DOCKET NOS. 50-361 AND 50-362

Identification of the Proposed Action

Section 2.B(6) of the licenses currently authorizes Southern California Edison Company (SCE) to possess "such byproducts and special nuclear materials as may be produced by the operation of the facility." The change proposed by SCE would replace "the facility" with "San Onofre Unit 1 and Unit 2" in NPF-10 and with "San Onofre Unit 1 and Unit 3" in NPF-15. The effect of this change would be to allow storage of spent fuel produced by operation of Unit 1 in either Unit 2 or Unit 3. The change proposed by the staff would include that proposed by SCE and would add the following sentences to the end of Section 2.B(6) of Facility Operating Licenses NPF-10 and NPF-15, as indicated:

NPF-10

"Transshipment of Unit 1 fuel between Units 1 and 2 shall be in accordance with SCE letters to U.S. Nuclear Regulatory Commission dated March 11, 18 and 23, 1988 and in accordance with the Quality Assurance requirements of 10 CFR Part 71."

NPF-15

"Transshipment of Unit 1 fuel between Units 1 and 3 shall be in accordance with SCE letters to U.S. Nuclear Regulatory Commission dated March 11, 18, and 23, 1988 and in accordance with the Quality Assurance requirements of 10 CFR Part 71."

Need for the Proposed Action

The Spent Fuel Pool at San Onofre Unit 1 is designed to store 216 spent fuel assemblies. Currently there are 67 spaces available for future storage. During each refueling, 52 assemblies are removed from the core and placed in the spent fuel pool. The next refueling outage for San Onofre Unit 1 is in August 1988 (Cycle X refueling).

Following the Cycle X refueling outage, only 15 unfilled spaces will remain. Therefore, the plant will not be capable of refueling at the following refueling outage, which is scheduled in 1990, unless additional

space is made available by transshipment. In addition, In-Service Inspection of the reactor vessel, which requires unloading the entire core, is necessary during the 1990 refueling outage. If the spent fuel is not removed from the spent fuel pool prior to the 1990 refueling outage, operation of San Onofre Unit 1 would cease.

Environmental Impacts of the Proposed Action

The environmental impacts of plant operations were estimated in the "Final Environmental Statement Related to Operation of San Onofre Nuclear Generating Station, Unit 1," U.S. Atomic Energy Commission, October 1973 and "Final Environmental Statement Related to the Operation of San Onofre Nuclear Generating Station, Units 2 and 3," U.S. Nuclear Regulatory Commission, April 1981 (NUREG-0490). Since these documents did not consider the transfer of Unit 1 spent fuel between the units as recently proposed, the environmental impacts as a consequence of this transfer will be addressed here.

The proposed amendment (Ref. 1) would not alter the type or amount of fuel that can be received, used, and possessed at the site. Limitations on the amount of fuel that may be stored in the San Onofre Nuclear Generating Station (SONGS) Units 2 and 3 spent fuel pools and the manner in which it may be stored and handled would also not be changed. Only the Unit 1 spent fuel that has aged for at least 120 days will be transferred to Units 2/3 spent fuel pools. A GE-IF-300, 70 ton, 7 element cask, registered with the NRC and for which a Certificate of Compliance has been issued by the NRC, will be used to transfer spent fuel between units. The cask will be used in accordance with its Certificate of Compliance except for the four deviations described by the licensee in its March 18 and March 23, 1988 letters. The staff has independently evaluated these deviations and determined that they will not adversely affect public health and safety for the on-site transshipment which the licensee has proposed.

The transfer process will begin with the spent fuel handling machine transferring an assembly underwater from the Unit 1 spent fuel storage racks to the spent fuel shipping cask. The fuel assembly will be placed in the cask while maintaining a prescribed minimum water level above the assembly. After the assembly has been loaded into the cask, the cask will be prepared for transport. Controls will be in effect to reduce the possible spread of contamination. The crane will then load the cask onto the transport vehicle for travel to Units 2/3, a distance of approximately 1/4 of a mile, all of which will be on the plant site. The offloading and storage of the Unit 1 spent fuel at Units 2/3 will be accomplished in a manner similar to the above. The process will be repeated for each spent fuel assembly transferred. For purposes of assessing the environmental impact of the proposed transfer, the licensee conservatively estimated that no more than 216 Unit 1 spent fuel assemblies will be transferred per year between units. Station security will accompany the casks during transportion between units. Health Physics personnel will be monitoring the operation to maintain occupational dose "as low as is reasonably achievable" (ALARA).

Occupational Radiation Exposure

The cumulative occupational radiation dose for the proposed transfer operation is estimated to be less than 0.1 person-rem per spent fuel assembly. This small radiation dose will not affect the licensee's ability to maintain individual occupational doses within the limits of 10 CFR Part 20, and is as low as is reasonably achievable (ALARA). A radiation protection program, as identified in the guidelines of Regulatory Guide 8.8 (Ref. 2), will preclude any significant occupational radiation doses. Based on present and projected operations, the staff estimates that the proposed transfer of Unit 1 spent fuel to Units 2 or 3 will add only a small fraction to the total annual occupational radiation dose at the facility. The total cumulative occupational dose for 1985 and 1986 at the site was approximately 773 person-rems per year. The total cumulative dose for seven spent fuel assemblies in one cask would be less than 1 person-rem. The licensee estimated no more than 216 spent fuel assemblies would be transferred in any one year; this corresponds to a dose of about 22 person-rems. This would be less than 3% of the annual cumulative occupational dose at site. Thus, the staff concludes that the proposed transfer of spent fuel will not result in any significant increase in doses received by workers.

Public Radiation Exposure

While 10 CFR Part 71 does not apply to on-site fuel movements, the licensee has agreed to use the cask in accordance with its 10 CFR Part 71 Certificate of Compliance with the approved exceptions noted above. These exceptions will not significantly affect the cask's compliance with the 10 CFR Part 71 Package Approval Standards. 10 CFR 71.43 provides that a package (shipping cask) must be designed, constructed, and prepared for shipment so that under specified tests for normal conditions of operation, there will be no loss or dispersal of radioactive contents, no significant increase in external radiation levels, and no substantial reduction in the effectiveness of the packaging. 10 CFR 71.51 provides for additional requirements for design, construction and preparation to ensure that under severe hypothetical accident conditions any release of radioactive materials or increase in external radiation would be within prescribed, acceptable limits. The licensee has documented a special procedure, 50123-X-9, "Transshipment of Spent Fuel Using the IF-300 Cask," for the cask that is to be used for transporting the spent fuel between Unit 1 and Units 2 or 3. This procedure describes the helium leak test procedures and acceptance criteria used on the GE-IF-300 cask to verify its compliance with 10 CFR Part 71 requirements.

10 CFR 71.47 provides that radiation levels external to the package must not exceed 10 mrem/hr at any point two meters beyond the outermost sides of the transporting vehicles. For a cask meeting this criterion, the corresponding dose rate is approximately 0.0001 rem/hr at the nearest site boundary. The licensee stated that the time of travel from the Unit 1 cask area to the Unit 2 or Unit 3 cask area will be about 1/2 hour.

The transport speed of the cask will be less than five miles per hour and the speed of other traffic in the area will be less than ten miles per hour. Under the above conditions, and assuming a maximum of 31 transfers per year, the staff estimates that the annual dose commitments to a maximally exposed individual at the nearest site boundary due to the proposed transfer of spent fuel between the units will be less than 2 millirem. This estimated annual total dose commitment is within the limitations of the plant Technical Specifications, which are based on the offsite dose requirements of 10 CFR Parts 20 and 50 and 40 CFR Part 190. Likewise, the staff estimates that the annual population dose to the general public due to the proposed transfer would be a small fraction of the three person-rem population dose estimated in the Final Environmental Statements for Units 1, 2, and 3 for transportation of all fuel and waste. Thus, the estimated annual total population dose including the proposed transfer of spent fuel would be very small compared to the annual cumulative dose of about 61,000 person-rems to this same population from background radiation.

Radiological Consequences of Accidental Release

The staff has reviewed the potential consequences of postulated design basis accidents which involve spent fuel or cask handling as part of the review of the acceptability of the licensee's request to transport spent fuel from the SONGS 1 spent fuel pool to those of SONGS 2 and 3. The radiological consequences of these accidents were previously analyzed by the staff and reported in the Safety Evaluation Report related to the operating licenses for SONGS 2 and 3 dated February 1981.

The spent fuel cask handling accidents for Units 2 and 3 need not be reanalyzed because the casks will not be raised to a height in excess of 30 feet above an unyielding surface, the height from which the casks were proofed. The consequences of such an accident are therefore minimal. The only accident not previously analyzed by the staff and the licensee is the potential fuel handling accident which could occur with the dropping of a SONGS 1 fuel assembly into the SONGS 2 or 3 spent fuel storage pool. The staff and licensee have previously analyzed the consequence of dropping a SONGS 2 or 3 fuel assembly into the respective spent fuel storage pools occurring 72 hours after plant shutdown, the minimum time at which fuel from the reactors could be moved into the pools. The consequences of this accident resulted in offsite doses which were well below the 10 CFR Part 100 guideline dose levels of 300 rem to the thyroid and 25 rem to the whole body. The consequences of dropping a spent fuel assembly from SONGS 1 with 120 days decay, the minimum decay time before the movement of the fuel from the SONGS 1 to SONGS 2 or 3 spent fuel storage pools, will be far less than that previously analyzed by the staff for SONGS 2 and 3. The staff agrees with SCE that the fuel and cask handling accidents previously analyzed for SONGS 2 and 3 bound any accidents that could result from the movement of spent fuel from SONGS 1 to SONGS 2 or 3. All of these potential accidents yielded doses which were within the guidelines of 10 CFR Part 100.

Non-Radiological Impacts

The staff has evaluated the potential non-radiological environmental impacts associated with the proposed spent fuel transfer and concluded that they are not significant. The staff has concluded that the proposed license change would not cause a significant increase in the impact to the environment and will not change any conclusions reached by the staff in the Final Environmental Statement for each unit.

Agencies and Persons Consulted

The Commission's staff did not consult other agencies or persons concerning this action.

Finding of No Significant Impact

The Commission's staff has reviewed the proposed license change to transfer the spent fuel between the units relative to the requirements set forth in 10 CFR Part 51. Based upon the environmental assessment, the staff concluded that there are no significant radiological or non-radiological impacts associated with the proposed action and that the proposed license change would not have a significant effect on the quality of the human environment. Therefore, the Commission has determined, pursuant to 10 CFR 51.31, not to prepare an environmental impact statement for the proposed license change.

For further details with respect to this action, see (1) the application for license change dated December 30, 1987 as supplemented by letters of January 12, February 22, March 11, 18, and 23, 1988, (2) the "Final Environmental Statement Related to the Operation of San Onofre Nuclear Generating Station, Units 2 and 3," dated April 1981, (3) the "Final Envionmental Statement Related to Operation of San Onofre Nuclear Generating Station, Unit 1" dated October 1973, and (4) the Environmental Assessment dated June 15, 1988. These documents are available for public inspection at the Commission's Public Document Room, 1717 H Street, Washington, D.C. 20555, and at the General Library, University of California at Irvine, Irvine, California 92713.

References

1. Letters dated December 30, 1987, February 22, March 18 and March 23, 1988 from Southern California Edison Company to the U. S. Nuclear Regulatory Commission.

2. Regulatory Guide 1.25, "Assumptions Used for Evaluating the Potential Radiological Consequences of a Fuel Handling Accident in the Fuel Handling and Storage Facility for Boiling and Pressurized Water Reactors," Office of Standards Development, USNRC.

Dated: June 15, 1988