

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

Application of SOUTHERN CALIFORNIA EDISON)
COMPANY, ET AL. for a Class 103 License to) DOCKET NO. 50-361
Acquire, Possess, and Use a Utilization)
Facility as Part of Unit No. 2 of the San) Amendment Application
Onofre Nuclear Generating Station) No. 43

SOUTHERN CALIFORNIA EDISON COMPANY, ET AL. pursuant to 10 CFR 50.90,
hereby submit Amendment Application No. 43.

This amendment application consists of Proposed Change NPF-10-248
to Facility Operating License No. NPF-10. Proposed Change NPF-10-248 is a
request to revise Technical Specification 3/4.3.1, "Reactor Protective
Instrumentation." The proposed change would increase the interval for
surveillance tests which verify the isolation characteristics of isolation
amplifiers and optical isolators used to maintain electrical separation
between core protection calculator/control element assembly calculator
channels, from 18 months to "refueling interval," to support nominal 24 month
fuel cycle operation.

Pursuant to 10 CFR 170.12, the required amendment application fee of
\$150 is enclosed.

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PDR ADOCK 05000361
P DCD

Subscribed on this 25th day of April, 1988.

Respectfully submitted,

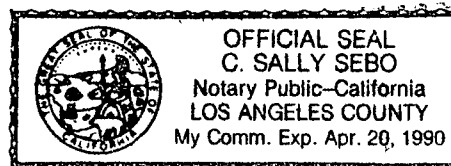
SOUTHERN CALIFORNIA EDISON COMPANY

By: Kenneth P. Bunker

Subscribed and sworn to before me this
25th day of April, 1988.

C. Sally Sebo

Notary Public in and for the County of
Los Angeles, State of California



My Commission Expires: Apr. 20, 1990

Charles R. Kocher
James A. Beoletto
Attorneys for Southern
California Edison Company

By: James A. Beoletto

SAN DIEGO GAS & ELECTRIC COMPANY

By: *ED Cotton*

David R. Pigott
Samuel B. Casey
Orrick, Herrington & Sutcliffe
Attorneys for San Diego
Gas & Electric Company

By: *David R Pigott*

Subscribed and sworn to before me this
7 day of April.

Stephanie E Hitt
Notary Public in and for the City
and County of San Diego, California

STATE OF CALIFORNIA } SS.
COUNTY OF San Diego

On April 7 1988, before me, the undersigned, a Notary Public in and for
said State, personally appeared DD Cotton and

_____, personally known to me (or proved to me on the
basis of satisfactory evidence) to be the persons who executed the within instrument as _____

In Vice President and _____ Secretary, on behalf of _____

San Diego Gas & Electric
the corporation therein named, and acknowledged to me that
such corporation executed the within instrument pursuant to
its by-laws or a resolution of its board of directors.

WITNESS my hand and official seal.

Signature Stephanie E Hitt



(This area for official notarial seal)

THE CITY OF ANAHEIM

By: *Jason W. Hoyt*

Alan R. Watts
Rourke & Woodruff
Attorneys for the City of Anaheim

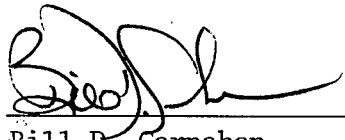
By: *Alan R Watts*

Subscribed and sworn to before me this
15th day of *April, 1988*.



Cathy Karpow
Notary Public in and for the County
of Orange, State of California


THE CITY OF RIVERSIDE

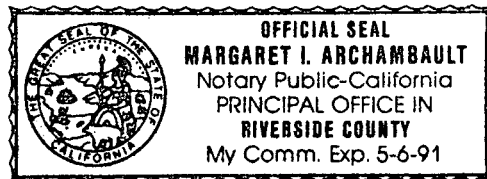
By: 
Bill D. Carnahan
Public Utilities Director

Alan R. Watts
Rourke & Woodruff
Attorneys for the City of Riverside

By: 

Subscribed and sworn to before me this
4th day of April, 1988.


Notary Public in and for the County of
Riverside, State of California



UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

Application of SOUTHERN CALIFORNIA EDISON)	
COMPANY, <u>ET AL.</u> for a Class 103 License to)	DOCKET NO. 50-362
Acquire, Possess, and Use a Utilization)	
Facility as Part of Unit No. 3 of the San)	Amendment Application
Onofre Nuclear Generating Station)	No. 29

SOUTHERN CALIFORNIA EDISON COMPANY, ET AL. pursuant to 10 CFR 50.90, hereby submit Amendment Application No. 29.

This amendment application consists of Proposed Change NPF-15-248 to Facility Operating License No. NPF-15. Proposed Change NPF-15-248 is a request to revise Technical Specification 3/4.3.1, "Reactor Protective Instrumentation." The proposed change would increase the interval for surveillance tests which verify the isolation characteristics of isolation amplifiers and optical isolators used to maintain electrical separation between core protection calculator/control element assembly calculator channels, from 18 months to "refueling interval," to support nominal 24 month fuel cycle operation.

Pursuant to 10 CFR 170.12, the required amendment application fee of \$150 is enclosed.

Subscribed on this 25th day of April, 1988.

Respectfully submitted,

SOUTHERN CALIFORNIA EDISON COMPANY

By: Kenneth P. Bunker

Subscribed and sworn to before me this
25th day of April, 1988.

C. Sally Sebo
Notary Public in and for the County of
Los Angeles, State of California



My Commission Expires: Apr. 20, 1990

Charles R. Kocher
James A. Beoletto
Attorneys for Southern
California Edison Company

By: James A. Beoletto

SAN DIEGO GAS & ELECTRIC COMPANY

By: *SD Cotton*

David R. Pigott
Samuel B. Casey
Orrick, Herrington & Sutcliffe
Attorneys for San Diego
Gas & Electric Company

By: *David R Pigott*

Subscribed and sworn to before me this
7 day of April.

Stephanie E Hill
Notary Public in and for the City
and County of San Diego, California

STATE OF CALIFORNIA } SS.
COUNTY OF San Diego

On April 7, 1988, before me, the undersigned, a Notary Public in and for said State, personally appeared D. D. Cotton and

_____, personally known to me (or proved to me on the basis of satisfactory evidence) to be the persons who executed the within instrument as _____

Dr Vice President and _____ Secretary, on behalf of _____
San Diego Gas + Electric

the corporation therein named, and acknowledged to me that such corporation executed the within instrument pursuant to its by-laws or a resolution of its board of directors.

WITNESS my hand and official seal.

Signature Stephanie E. Hitt



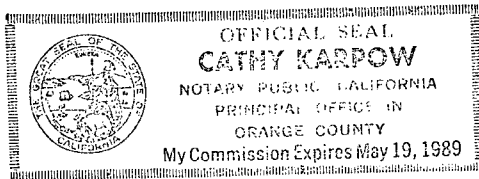
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THE CITY OF ANAHEIM

By: *Jordan W. Hoyt*

Alan R. Watts
Rourke & Woodruff
Attorneys for the City of Anaheim

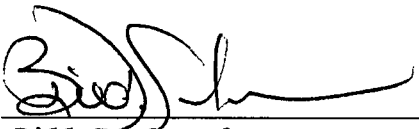
By: *Alan R. Watts*



Subscribed and sworn to before me this 1st day of April, 1988.

Cathy Karpow
Notary Public *in* and for the County
of Orange, State of California

THE CITY OF RIVERSIDE

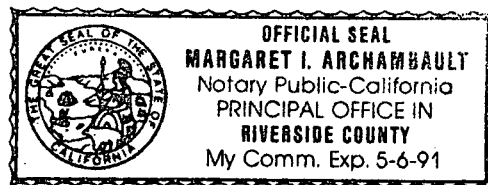
By: 
Bill D. Carnahan
Public Utilities Director

Alan R. Watts
Rourke & Woodruff
Attorneys for the City of Riverside

By: Alan R Watts

Subscribed and sworn to before me this
4th day of April, 1988.

Margaret I. Archambault
Notary Public in and for the County of
Riverside, State of California



DESCRIPTION OF PROPOSED CHANGE NPF-10/15-248 AND SAFETY ANALYSIS

This is a request to revise Technical Specification 3/4.3.1, "Reactor Protective Instrumentation."

Existing Specifications

Unit 2: See Attachment "A"

Unit 3: See Attachment "C"

Proposed Specifications

Unit 2: See Attachment "B"

Unit 3: See Attachment "D"

Description

The proposed change would revise Technical Specification (TS) 3/4.3.1, "Reactor Protective Instrumentation." TS 3/4.3.1 defines the number of channels of instrumentation required to be operable for each reactor trip functional unit, periodic surveillance tests to verify operability, and action to be taken if the minimum operability requirements are not met. TS 3/4.3.1 ensures that the various functional units of the reactor protective instrumentation will detect abnormal conditions and initiate a reactor trip to mitigate the consequences of transients and accidents, consistent with the assumptions of the safety analyses.

Two of the functional units covered by TS 3/4.3.1 are the Core Protection Calculators (CPC) and the Control Element Assembly Calculators (CEAC). Each of the four CPC channels monitor a number of process parameters and calculate departure from nucleate boiling ratio (DNBR) and local power density (LPD). If any two CPC's detect the onset of a condition where the specified acceptable fuel design limits for DNBR or LPD could be exceeded, a reactor trip will occur. One of the parameters monitored by the CPC's and used in the calculation of DNBR and LPD is control element assembly (CEA) position. There are 91 CEA's each with two reed switch position transmitter (RSPT) stacks, each RSPT stack associated with one of four instrumentation channels. Thus, for a given CEA, position information can directly be provided to only the two CPC's in the same channels as the RSPT stacks if electrical separation between the four channels is to be maintained. Electrical separation of the four instrumentation channels is important from a reliability standpoint and to minimize the potential for common mode failures of the reactor protection system.

Consequently, each CPC channel directly receives position information for only 23 "target" CEA's from RSPT stacks in the same channel. Because of this the CPC's cannot account for deviations in the position of CEA's located in symmetrical positions in the core. Such deviations are accounted for in the CPC calculations by penalty factors generated by the two CEAC's which each monitor the positions of all 91 CEA's.

The penalty factors calculated by the two CEAC's (CEAC #1 in channel "B" and CEAC #2 in channel "C") are transmitted by optically isolated data links to each of the four CPC's. Each CEAC receives position information for 68 CEA's directly from RSPT stacks in its channel. CEAC #1 receives position information for the remaining 23 CEA's from channel "A" RSPT's through CEA position isolation amplifiers. CEAC #2 receives position information for the remaining 23 CEA's from channel "D" RSPT's through CEA position isolation amplifiers. The CEA position isolation amplifiers and optical isolators in the CEAC/CPC data transfer links provide the desired inter channel electrical isolation.

One of the surveillance requirements, TS 4.3.1.4, requires that the isolation characteristics of each Control Element Assembly Position Isolation Amplifier (CEA PIA) Assembly and each optical isolator for CEAC to CPC data transfer be measured every 18 months. Specifically, the isolation amplifiers are checked by applying 120 volts AC across the output for 30 seconds and verifying that the input voltage does not exceed 0.015 volts DC and by applying 120 volts AC across the input for 30 seconds and verifying that the output voltage does not exceed 8 volts DC. By performing this check, the isolation amplifier is subjected to the maximum voltages that would be expected in the event of a worst-case fault on either the input or the output.

For the optical isolators, the input to output insulation resistance is verified to be greater than 10 megohms when tested using a megohmmeter on the 500 volt DC range. This assures that the optical isolator is effectively performing its isolation function.

Fulfillment of these surveillance requirements requires that two reactor protection channels be out-of-service simultaneously. Although this could be accomplished during plant operation, the Plant Protection System trip logic would be in an undesirable one-out-of-two configuration, significantly increasing the risk of a spurious reactor trip and engineered safety features actuation. This would be contrary to SCE's trip reduction program and TS 4.3.1.4 requires that these surveillance tests be performed during a plant shutdown.

SONGS 2 has recently entered its first nominal 24 month fuel cycle. SONGS 3 will enter its first nominal 24 month cycle with cycle 4 startup in mid-1988. A plant shutdown is required to perform these surveillances. The current 18 month surveillance interval could necessitate a plant shutdown solely for the purpose of performing 18 month surveillance requirements. To avoid the need for an otherwise unnecessary shutdown, the proposed change would increase the surveillance test interval from 18 months to "once each refueling."

A review of the results of the required surveillance tests on the position amplifiers over the period from March, 1982 through December, 1987, has confirmed that the measured input and output values are well below the specified limits and that no adverse trend in the measured data exists.

For the 18 month tests performed on the optical isolators to date, the measured resistance has always exceeded 10 megohms. Since only pass/fail information is recorded for this test so it is not possible to trend quantitative results. However, no adverse trend in equipment performance has been noted.

Most credible failures that could be experienced by the CEA PIAs and the CEAC/CPC data transfer optical isolators would be detected and flagged by either the CPC's or the CEAC's as sensor failures. The probability of an undetected on-line failure is considered to be very low.

Since the proposed changes would increase the surveillance interval from 18 months to "refueling interval" for a nominal 24 month cycle, the actual time interval between surveillances will be a function of the plant capacity factor for that particular fuel cycle. The equilibrium fuel cycle length will be approximately 513 effective full power days (EFPD). Assuming a production factor of 90% and a 75 day refueling outage, the actual cycle length, and surveillance interval, would be approximately 21 months. Currently, Specification 4.0.2 allows a 25% extension of surveillance intervals which would accommodate uninterrupted operation for the equilibrium cycle length, except that the Specification 4.0.2 limitation on the application of a 25% extension, such that three consecutive intervals do not exceed 3.25 times the nominal interval, eventually would impact operation. Thus, the proposed change does not represent a radical increase over what is already permitted by technical specifications.

Safety Analysis

The proposed changes discussed above shall be deemed to involve a significant hazards consideration if there is a positive finding in any one of the following areas:

1. Will operation of the facility in accordance with this proposed change involve a significant increase in the probability or consequences of an accident previously evaluated?

Response: No

The proposed change extends the surveillance interval for tests which verify the isolation characteristics of isolation amplifiers and optical isolators used to maintain electrical separation between CPC/CEAC channels. The CPCs are credited with initiation of a reactor trip for a number of previously evaluated anticipated operational occurrences and accidents. Thus, the proposed change potentially could affect the reliability of the CPC system and the consequences of previously evaluated accidents. However, extending the surveillance interval for

these tests would not significantly increase the probability or consequences of a previously evaluated accident. No problems have been identified by the 18-month testing, nor is any system degradation expected as a result of extending the surveillance interval. Additionally, as discussed above, the proposed surveillance interval extension does not represent a radical change from what is currently permitted by Specification 4.0.2. Accordingly, it is concluded that the proposed change does not involve a significant increase in the probability or consequences of a previously evaluated accident.

2. Will operation of the facility in accordance with this proposed change create the possibility of a new or different kind of accident from any accident previously evaluated?

Response: No

The proposed change affects only the frequency of CEA position isolation amplifier and CEAC/CPC optical isolator surveillance testing. The proposed change does not alter the configuration of the facility or its operation. Therefore, the proposed change does not create the possibility of a new or different kind of accident.

3. Will operation of the facility in accordance with the proposed change ... involve a significant reduction in a margin of safety?

Response: No

The proposed change affects only the frequency of CEA position isolation amplifier and CEAC/CPC optical isolator surveillance tests which potentially could result in a small reduction in the confidence in isolation device operability and the associated margin of safety. However, the 18 month surveillances, historically, have identified no problems. Therefore, the proposed change will not result in a significant reduction in a margin of safety.

Safety and Significant Hazards Determination

Based on the above Safety Analysis it is concluded that: (1) the proposed change does not constitute a significant hazards consideration as defined by 10 CFR 50.92; and (2) there is reasonable assurance that the health and safety of the public will not be endangered by the proposed change; and (3) this action will not result in a condition which significantly alters the impact of the station on the environment as described in the NRC Final Environmental Statement.

9508F

ATTACHMENT "A"
UNIT 2 EXISTING SPECIFICATIONS