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 FACIL:50-361 San Onofre Nuclear Station, Unit 2, Southern Californ 05000361
 AUTH.NAME AUTHOR AFFILIATION
 MORGAN,H.E. Southern California Edison Co.
 RECIP.NAME RECIPIENT AFFILIATION
 MARTIN,J.B. Region 5, Ofc of the Director

SUBJECT: Discusses facility operation over two seperate periods w/
 estimated actual reactor power greater than 102%.

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Southern California Edison Company

SAN ONOFRE NUCLEAR GENERATING STATION

P. O. BOX 128

SAN CLEMENTE, CALIFORNIA 92672

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H. E. MORGAN
STATION MANAGER

TELEPHONE
(714) 368-6241

December 30, 1988

U. S. Nuclear Regulatory Commission
Office of Inspection and Enforcement
Region V
1450 Maria Lane, Suite 210
Walnut Creek, California 94596-5368

Attention: John B. Martin, Regional Administrator

Dear Sir:

Subject: Docket No. 50-361
License Condition 2.G 14-Day Report
San Onofre Nuclear Generating Station, Unit 2

Reference: Letter, H. E. Morgan (SCE) to J. B. Martin (NRC); Subject: Docket
No. 50-361, Prompt Report, License Condition 2.C.(1)", dated
December 19, 1988.

The referenced letter provided the confirmation of a prompt notification made pursuant to License Condition 2.G to Facility Operating License NPF-10 for San Onofre Unit 2. The notification advised the NRC of the preliminary determination that, contrary to License Condition 2.C.(1), Unit 2 had probably operated over two separate periods (October 1983 through January 1984, and from April through June 1987) with estimated actual reactor power greater than 102%. License Condition 2.C.(1), "Maximum Power Level", authorizes SCE to operate the facility at reactor core power levels not in excess of full power (3390 megawatts thermal).

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Licensee Event Report (LER) 88-028 (Docket No. 50-361) describes some factors associated with the secondary calorimetric power calculation which resulted in the operation of Unit 2 at an estimated actual power slightly in excess of 100%. As one corrective action, the Plant Performance Monitoring Program has been enhanced to routinely monitor plant parameters related to the determination of reactor power to further reduce the probability of operation above 100% power. Included in the enhancement of the program was the development of a new methodology to approximate reactor power based upon calculations utilizing empirical data from plant operation independent of secondary calorimetric inputs. This methodology is acknowledged to contain a larger inherent error than the secondary calorimetric power calculation, and it is intended to be used only as a check against secondary calorimetric power.

In applying this methodology to plant historical data, SCE previously determined that Unit 2 had been operated in excess of 102% actual power on the two occasions discussed above. Upon further evaluation, we have determined that from April through June 1987, actual power did not exceed 102%.

The cause of plant operation at an estimated actual power greater than indicated power from October 1983 to January 1984 was correctly determined to have been the degradation of one of the carbon steel feedwater flow venturi pressure taps, which resulted in a decreased differential pressure sensed across the venturi. This condition resulted in a decrease in indicated feedwater flow (and therefore indicated reactor power), relative to actual feedwater flow (actual power). The subsequent gradual increase in actual plant power to maintain 100% indicated power resulted in estimated actual power exceeding 102%. An evaluation at the time of this occurrence concluded that 102% actual power was not exceeded; however, the recent application of the new methodology to this time period indicates that 102% actual power was exceeded. Within this time period, it should be noted that between December 23, 1983 and January 4, 1984, the reliability of the data which concludes that 102% actual power was exceeded is greater than that for the remainder of the period. Actual power was determined to be approximately 103 to 104%; however, this estimate relies to some degree upon the use of engineering judgement due to uncertainties in the new methodology.

The feedwater flow venturi was repaired following the failure described above. Furthermore, during the first refueling outage (completed in February 1985), the carbon steel feedwater flow venturis were replaced with stainless steel venturis.

No other instances of extended operation above 102% estimated actual power were identified from the review of Unit 2 and Unit 3 historical power data. Therefore, with the exception of the event discussed above, neither Unit 2 nor Unit 3 has been operated at an estimated actual power in excess of 102%, preserving the initial power assumption utilized in the safety analyses.

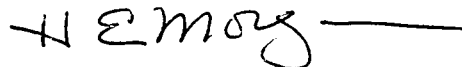
Mr. J. B. Martin

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December 30, 1988

The enhanced Plant Performance Monitoring Program will continue to be applied to current plant parameters related to the determination of plant power, including: 1) trending the feedwater venturi flow transmitter outputs to determine when a venturi or transmitter is failing; and 2) application of the new methodology to approximate plant power. This will serve to further reduce the probability of operation above 100% actual power.

Sincerely,



H. E. MORGAN
STATION MANAGER

AHGershkoff

cc: F. R. Huey (USNRC Senior Resident Inspector, Units 1, 2 and 3)

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