

ML020590197.txt

LICENSEE: SOUTHERN CALIFORNIA EDISON & SAN DI
SITE: SAN ONOFRE 2 3 EN NUMBER:26100
DOCKET: 05000361 05000362 EVENT DATE: 09-21-93
RX TYPE: PWR PWR EVENT TIME: 13:30
VENDORS: CE CE NOTIFY DATE: 09-21-93
EMERGENCY CLASS: N/A REGION: 5 STATE: CA TIME: 16:47
OPS OFFICER: WILLIAM HUFFMAN
10 CFR SECTION: NONR OTHER UNSPEC REQMNT
UNIT SCRAM RX INIT INITIAL MODE CURR CURRENT MODE
CODE CRIT PWR PWR
2 N Y 100 POWER OPERATION 100 POWER OPERATION
3 N Y 100 POWER OPERATION 100 POWER OPERATION

CALCULATION ERROR IN LARGE BREAK LOCA ANALYSIS.

THE FOLLOWING IS THE TEXT OF THE EVENT REPORT FAXED TO THE
OPERATION CENTER:

"THIS NOTIFICATION IS FOR SAN ONOFRE UNITS 2 AND 3 AND IS BEING
MADE PURSUANT TO 10 CFR 50.46(a)(3)(ii).

AT 13:00 PDT ON SEPTEMBER 21, 1993, SOUTHERN CALIFORNIA EDISON
(SCE) COMPLETED ITS REPORTABILITY ASSESSMENT OF A CONDITION
INVOLVING AN ERROR DISCOVERED IN OUR LARGE BREAK LOSS OF COOLANT
ACCIDENT (LBLOCA) ANALYSIS. ABB-CE HAS NOTIFIED SCE TO ADVISE US
OF A 74 DEGREE F INCREASE IN PEAK CLAD TEMPERATURE (PCT) DUE TO
CORRECTION OF A CE DATA ENTRY ERROR THAT WAS MADE IN THE 1977
LBLOCA ANALYSIS OF RECORD. THE CE ERROR WAS FOUND DURING CE'S
EVALUATION OF THE UNIT 3 CYCLE 7 RELOAD. A CORRESPONDING
REDUCTION IN THE CALCULATED POST LOCA CONTAINMENT PRESSURE, BASED
ON THE CORRECT VALUE IN THE LBLOCA MODEL, RESULTED IN A LONGER
TIME TO CORE REFLOOD AND THE PROJECTED INCREASE IN PCT.

CURRENT PLANT OPERATION AT FULL POWER DEMONSTRATES GREATER THAN
20% CONSERVATISM WITH RESPECT TO THE ACCIDENT LIMIT OF 13.9
KW/FT. AS A RESULT, ACTUAL PCT WOULD NOT REACH 2200 DEGREES F IN
A LBLOCA. IN THE INTERIM, SCE IS SETTING DOWN ITS PEAK KILOWATT
PER FOOT POWER ALARM SETPOINT TO COMPENSATE FOR THIS PROBLEM.
SCE'S CORRECTIVE ACTIONS HAVE BEEN DISCUSSED WITH APPROPRIATE
MEMBERS OF THE NRC STAFF AND WILL BE REPORTED IN THE 30 DAY
WRITTEN REPORT. THE LICENSE EVENT REPORT WILL CONTAIN AN
ASSESSMENT OF THE CONDITION AND APPROPRIATE CORRECTIVE ACTION."

THIS ERROR MAY APPLY TO OTHER CE PLANTS AND CE IS EVALUATING A
PART 21 REPORT ON THE PROBLEM.

THE NRC RESIDENT INSPECTOR, NRR PM (FIELDS) AND R5 PM (WONG) HAVE
BEEN BRIEFED BY THE LICENSEE. NO STATE OR LOCAL AUTHORITIES OR

PRESS RELEASE WAS MADE.

*** UPDATE FROM LICENSEE:GIBSON TO NRC:HUFFMAN @ 2135 EDT ON 9/21/93 ***

THE LICENSEE STATES THAT TO ENSURE THE CURRENT CONSERVATISM OF THE CALCULATED LINEAR HEAT RATE ACCIDENT LIMIT IS MAINTAINED IN ALL ALLOWABLE AREAS OF OPERATION, AND TO ENSURE THE VALIDITY OF THE EXISTING LARGE BREAK LOCA ANALYSIS ASSUMPTIONS, OPERATING MARGIN WILL BE RESERVED. THIS WILL BE ACCOMPLISHED BY REDUCING THE CURRENT VALUE FOR THE LINEAR HEAT RATE ALARM IN THE CORE OPERATING LIMIT SUPERVISORY SYSTEM FROM 13.9 KW/FT TO 13.4 KW/FT. THIS INTERIM SETPOINT REDUCTION WILL BE MAINTAINED PENDING RE-ANALYSIS OF THE LARGE BREAK LOCA TO CORRECT FOR THE DATA ERROR.

R5DO (SCARANO) INFORMED.

LICENSEE: ASEA BROWN BOVARI

SITE: ASEA BROWN BOVARI

DOCKET:

RX TYPE:

VENDORS:

EMERGENCY CLASS: N/A REGION: 1 STATE: CT

OPS OFFICER: RUDY KARSCH

10 CFR SECTION: CDEG 21.21(c)(3)(i)

EN NUMBER:26113

EVENT DATE: 09-24-93

EVENT TIME: 00:00

NOTIFY DATE: 09-24-93

TIME: 12:11

DEFECTS/NONCOMPLIANCE

A ONE ORDER OF MAGNITUDE ERROR IN AN INPUT PARAMETER FOR APPENDIX K CALCULATIONS FOR SONGS UNITS 1 & 2 WAS DISCOVERED. THE ACTUAL PEAK CLAD TEMPERATURE UNDER LOCA CONDITIONS COULD EXCEED THE 2200 DEGREE F LIMIT.

THE FOLLOWING IS EXCERPTED FROM THE PART 21 FAX REPORT:

"THE DEFECT IS AN ERROR IN THE INPUT TO THE LARGE BREAK LOCA ANALYSIS. A PAINT THICKNESS A FACTOR OF TEN LARGER THAN WAS INTENDED WAS USED FOR THE WALLS IN CONTAINMENT.

"SINCE PAINT IS A HEAT INSULATOR, THE LARGER PAINT THICKNESS RESULTS IN A REDUCED RATE OF ENERGY ABSORPTION FROM THE CONTAINMENT ATMOSPHERE AND A CORRESPONDINGLY HIGHER CONTAINMENT PRESSURE DURING THE LOCA. THE HIGHER CONTAINMENT PRESSURE IMPROVES BOTH THE CORE REFLOOD RATE AND REFLOOD HEAT TRANSFER COEFFICIENTS, REDUCING THE CALCULATED PEAK CLADDING TEMPERATURE (PCT) DURING A POSTULATED LOCA.

"AN EVALUATION BY ABB-CE SHOWS THAT USING THE INTENDED PAINT THICKNESS INCREASES THE CALCULATED PCT BY 74 DEGREES F. THIS CHANGE WOULD INCREASE THE CALCULATED MAXIMUM PCT FOR THE LARGE BREAK LOCA ABOVE THE 2200 DEGREE F LIMIT SPECIFIED IN 10 CFR

50.46(b)(1)."

HOO NOTE: THE LICENSEE HAS IMPOSED AN ADMINISTRATIVE LIMIT ON LINEAR HEAT RATE. THE LIMIT HAS BEEN REDUCED FROM 13.9 kw/ft TO 13.4 kw/ft TO ASSURE THAT PCT DOES NOT EXCEED 2200 DEGREES. SONGS 1 & 2 HAVE A DIGITAL DESIGN REACTOR PROTECTION SYSTEM THAT INCLUDES A CORE OPERATING LIMIT SUPERVISORY SYSTEM WHICH CALCULATES LINEAR HEAT RATE. THE OUTPUT OF THIS CALCULATION WILL TRIGGER ANNUNCIATORS TO ALERT THE OPERATORS IF LIMITS ARE EXCEEDED. THESE ANNUNCIATORS ARE "LINEAR HEAT RATE LIMIT VIOLATION" AND "DNBR LIMIT VIOLATION". ABB DOES NOT THINK THIS ERROR WAS MADE IN THE CALCULATIONS FOR ANY OTHER NUCLEAR PLANTS (PALO VERDE, WATERFORD, ANO 2, ETC). SEE ALSO EVENT# 26100.