



Nebraska Public Power District

Always there when you need us

50.46

NLS2005107
December 28, 2005

U.S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D.C. 20555-0001

Subject: Reporting of Changes and Errors in ECCS Evaluation Models
Cooper Nuclear Station, Docket No. 50-298, DPR-46

- Reference:**
1. Letter to U.S. Nuclear Regulatory Commission from John H. Swailes (Nebraska Public Power District) dated December 28, 2000, "Reporting of Changes and Errors in ECCS Evaluation Models" (NLS2000114)
 2. Letter to U.S. Nuclear Regulatory Commission from John H. Swailes (Nebraska Public Power District) dated June 6, 2001, "Reporting of Changes and Errors in ECCS Evaluation Models" (NLS2001055)
 3. Letter to U.S. Nuclear Regulatory Commission from Paul V. Fleming (Nebraska Public Power District) dated December 22, 2004, "Reporting of Changes and Errors in ECCS Evaluation Models" (NLS2004153)
 4. General Electric Nuclear Energy Report for Cooper Nuclear Station, GE-NE-L12-00867-09-02, Revision 2, "MIG Project Task 407 SAFER/GESTR-LOCA Loss-of-Coolant Accident Analysis," May 2000

The purpose of this letter is to revise the baseline Licensing Basis (LB) Peak Clad Temperature (PCT) values previously submitted (References 1 and 3) and to submit the annual report in accordance with 10 CFR 50.46(a)(3)(ii). The Nebraska Public Power District (NPPD) is submitting this report enumerating the impact of changes and errors in the evaluation model used by General Electric/Global Nuclear Fuel (GE/GNF) to demonstrate compliance with the Emergency Core Cooling System (ECCS) requirements of 10 CFR 50.46.

10 CFR 50.46(a)(3)(ii) requires that licensees report changes or errors "in an acceptable evaluation model or in the application of such model." Significant changes or errors are to be reported within 30 days. 10 CFR 50.46(a)(3)(i) defines a significant change as one which results in a calculated PCT different by more than 50 degrees Fahrenheit (°F) from the temperature last calculated.

A001

COOPER NUCLEAR STATION

P.O. Box 98 / Brownville, NE 68321-0098
Telephone: (402) 825-3811 / **Fax:** (402) 825-5211
www.nppd.com

The Cooper Nuclear Station (CNS) ECCS-LOCA (Emergency Core Cooling System-Loss of Coolant Accident) evaluation results were updated in August 2001 by GE/GNF for GE14 fuel. This evaluation used the limiting cases as defined in the previous analysis (Reference 4) with the latest ECCS-LOCA analysis input and calculation procedures. Results were provided for GE14 fuel assuming an analytical peak linear heat generation rate of 12.4 kilowatt per foot. The CNS ECCS parameters and analysis methodology were consistent with those defined in Reference 4. The LB PCT determined was < 1880 °F which is below the analysis limit of ≤ 2200 °F.


The previous calculated value was 1760 °F. The change of approximately 120 °F is significant and should have been reported within 30 days after receiving the updated evaluation results. This updated value should have been utilized in all subsequent reports as the baseline LB PCT for GE14 fuel. Attachment 1 summarizes the impact of the errors on this updated LB PCT and the resulting estimated PCT since August 2001. Attachment 1 Column 1 shows the information as reported with the total annual adjustment and estimated LB PCT shown. Column 2 shows the same annual adjustments applied to the updated baseline LB PCT and demonstrates that estimated LB PCT remained below 2200 °F.

By Reference 3, CNS reported a correction that removed 95 °F of error that had been identified as having been incorrectly applied to GE14 fuel. The 95 °F of error had been previously reported (Reference 2). GE/GNF had reported this to NPPD via Error Notifications 2001-01 and 2001-02. These two error notices reported the respective errors as applicable to CNS without differentiating between the two fuel types (GE9 and GE14) then in use. It was subsequently determined by GE/GNF that the 95 °F only applied to the analysis for GE9 fuel and not to the analysis for GE14 fuel. No changes or analysis errors have been reported during this calendar year. During the preparation of the annual 10 CFR 50.46 report the updated LB PCT for GE14 fuel was identified along with the original failure to report this change.

The current analysis for GE14 fuel only contains 5 °F error and no action is required under 10 CFR 50.46(a)(3)(ii). The CNS core no longer contains GE9 fuel, therefore no PCT data is included for the GE9 fuel type. Attachment 2 summarizes the current baseline PCT, the PCT error accumulation, and the resultant estimated LB PCT.

If you have any questions, please call George Griffith at (402) 825-5831.

Sincerely,


Paul V. Fleming
Licensing Manager

/cb

NLS2005107
Page 3 of 3

Attachments

**cc: Regional Administrator w/attachments
USNRC - Region IV**

**Senior Project Manager w/attachments
USNRC - NRR Project Directorate IV-1**

**Senior Resident Inspector w/attachments
USNRC - CNS**

CNS Records w/attachments

NPG Distribution w/o attachments

**Evaluation of Impact on Actual
 LB PCT (°F) Value of Annual Error Accumulations
 Cooper Nuclear Station**

	GE14 (as reported)	GE14 (Updated LB PCT)
Baseline PCT	1760	<1880
2001 PCT Error Accumulation	+95 (subsequently determined to not be valid for GE14 fuel) yields 1855 estimated LB PCT	+95 yields < 1975 estimated LB PCT
2002 PCT Error Accumulation	+95 (includes +95 error subsequently determined to not be valid for GE14 fuel) yields 1855 estimated LB PCT	+95 yields <1975 estimated LB PCT
2003 PCT Error Accumulation	+100 (includes +95 error subsequently determined to not be valid for GE14 fuel) yields 1860 estimated LB PCT	+100 yields <1980 estimated LB PCT
2004 PCT Error Accumulation	+5 (invalid error was identified and removed) yields 1765 estimated LB PCT	+5 yields <1885 estimated LB PCT
2005 PCT Error Accumulation	+5 yields 1765 estimated LB PCT	+5 yields <1885 estimated LB PCT
New Estimated Licensing Basis PCT Value	1765	<1885

**Current Baseline LB PCT (°F) Value and Error Accumulation
Cooper Nuclear Station**

	GE14
Baseline PCT (Updated value)	< 1880
Existing Error (Reported in prior years)	5
Errors Reported in 2005	None
PCT Error Accumulation	5
New Estimated Licensing Basis PCT Value	< 1885

Correspondence Number: NLS2005107

The following table identifies those actions committed to by Nebraska Public Power District (NPPD) in this document. Any other actions discussed in the submittal represent intended or planned actions by NPPD. They are described for information only and are not regulatory commitments. Please notify the Licensing Manager at Cooper Nuclear Station of any questions regarding this document or any associated regulatory commitments.

COMMITMENT	COMMITMENT NUMBER	COMMITTED DATE OR OUTAGE
None		