

**PROPRIETARY INFORMATION**

December 3, 2004

Mr. Randall K. Edington  
Vice President-Nuclear and CNO  
Nebraska Public Power District  
P. O. Box 98  
Brownville, NE 68321

SUBJECT: COOPER NUCLEAR STATION – REQUEST FOR ADDITIONAL  
INFORMATION ON LICENSE AMENDMENT REQUEST TO REVIEW  
TECHNICAL SPECIFICATIONS (TS) - SAFETY LIMIT MINIMUM CRITICAL  
POWER RATIO (SLMCPR) (TAC NO. MC4953)

Dear Mr. Edington:

By letter dated October 25, 2004, Nebraska Public Power District (NPPD) requested the NRC staff's approval for an amendment to change the Cooper Nuclear Station TS to revise dual recirculation loop and single recirculation loop SLMCPR values to reflect results of a cycle specific calculation.

The NRC staff has reviewed the information provided in the October 25, 2004, submittal and has determined that the additional information identified in the enclosure is required in order for the NRC staff to complete its review. As agreed upon with Coy Blair on December 2, 2004, NPPD will respond to the request for additional information (RAI) within 30 days from the date of this letter.

Pursuant to 10 CFR 2.390, we have determined that the RAI provided as Enclosure 1 contains proprietary information. Proprietary information contained in Enclosure 1 is indicated in **bold**. We have prepared a non-proprietary version of the RAI (Enclosure 2). However, we will delay placing Enclosure 2 in the public document room for a period of ten working days from the date of this letter to provide you with the opportunity to comment on the proprietary aspects. If you believe that any information in Enclosure 2 is proprietary, please identify such information line-by-line and define the basis pursuant to the criteria of 10 CFR 2.390.

Sincerely,

*/RA/*

Michelle C. Honcharik, Project Manager, Section 1  
Project Directorate IV  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Docket No. 50-298

Enclosures: 1. Request for Additional Information (Proprietary)  
2. Request for Additional Information (Non-proprietary)

cc w/encl 2: See next page

Enclosure 1 transmitted  
herewith contains sensitive  
unclassified information.  
When separated from  
Enclosure 1, this document  
is decontrolled.

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cc w/encl 2: See next page

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ACCESSION NO: ML

\*No substantive changes

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PROPRIETARY INFORMATION

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REQUEST FOR ADDITIONAL INFORMATION

ISSUES RELATED TO REVISION OF TECHNICAL SPECIFICATIONS

SAFETY LIMIT MINIMUM CRITICAL POWER RATIO

NEBRASKA PUBLIC POWER DISTRICT

COOPER NUCLEAR STATION

DOCKET NO. 50-298

1. Enclosure 1 of the October 25, 2004, submittal shows an increase in the GEXL R-factor from [ ]. State whether or not Cooper Nuclear Station (CNS) is experiencing or has recently experienced channel bow as discussed in the GNF-A Part 21 report (MFN-03-045, ADAMS Accession No. ML033280519). If so, provide the technical justification supporting the change in the R-factor from [ ]. Use sufficient details for the staff to determine if the amount of the increase provides an adequate safety limit minimum critical power ratio (SLMCPR) margin to mitigate the consequences of channel bow. If CNS has not experienced any channel bow, the licensee may instead provide confirmation that they would submit an amendment request with the technical justification supporting the change in the R-factor from [ ] at the time that CNS experiences channel bow.
2. In the submittal the licensee shows that the core flow rate and the random effective TIP reading uncertainties were increased by the inverse of the core flow fraction to conservatively account for an increase in relative uncertainty that may occur as core flow decreases. Provide technical justification as to why this increase is adequate to account for the uncertainty at the 75 percent rated flow/rated power condition.
3. For a given operating statepoint (power/flow condition), the bundle power distribution is a function of the control blade pattern assumed. In Appendix A of NEDC 32601-P-A, in discussing limiting control blade patterns, it is stated that [ ]. The currently approved SLMCPR methodology does not identify the limiting rod patterns that would be selected in calculating the SLMCPR at the minimum core flow statepoints at rated power. State explicitly that the rod patterns used to calculate the SLMCPR at minimum core flow (75 percent rated flow) at rated power would result in power distribution and core thermal-hydraulic conditions (radial and axial power peaking and distribution and void distribution) that would reasonably bound the conditions CNS would operate under throughout Cycle 23, such that the calculated SLMCPR would not be invalidated during the plant operation.

ENCLOSURE 2

4. Explain why the reduced power distribution uncertainties from NEDC-32694P-A were used for the 75 percent rated flow condition for Cycle 22 and the GETAB power distribution uncertainties for the 75 percent rated flow condition for Cycle 23. Which power distribution uncertainties were used for the 100 percent rated flow/rated power condition for Cycle 23?
5. What are the [ ] values for the 100 percent rated flow/rated power SLMCPR evaluation for Cycle 23?
6. In Reference 4 of Enclosure 1 of the October 25, 2004 submittal, GNF-A states that there were "scoping analyses" performed which indicate that the [ ] criteria should not be changed. Provide further justification that this statement is currently valid. Provide the updated Figure III.5-1 (Updated Figure 4.4) and Figure III.5-2 from NEDC-32601-P-A showing the impact from data from GE14 fuel. Also describe how the off-rated flow/rated power condition has been considered in the [ ] criterion.
7. Enclosure 1 of the October 25, 2004, submittal stated that [ ]]. Provide the limiting power shapes and the power/flow condition at which these power shapes were determined. What were the limiting axial power shapes that were determined for the 100 percent rated power/75 percent rated flow and 100 percent rated power/100 percent rated flow conditions?