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NLS2016055
August 29, 2016

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

Subject: Response to Nuclear Regulatory Commission Request for Additional Information Regarding License Amendment Request to Revise Technical Specifications - Safety Limit Minimum Critical Power Ratio
Cooper Nuclear Station, Docket No. 50-298, License No. DPR-46

References:
1. Email from Thomas Wengert, U.S. Nuclear Regulatory Commission, to Jim Shaw, Nebraska Public Power District, dated August 18, 2016, "Cooper Nuclear Station - Request for Additional Information Regarding TS Section 2.0, "Safety Limits" (CAC No. MF7605)"

2. Letter from Oscar A. Limpias, Nebraska Public Power District, to the U.S. Nuclear Regulatory Commission, dated April 21, 2016, "License Amendment Request to Revise Technical Specifications - Safety Limit Minimum Critical Power Ratio"

Dear Sir or Madam:

The purpose of this letter is for the Nebraska Public Power District to respond to the Nuclear Regulatory Commission's Request for Additional Information (RAI) (Reference 1) related to the Cooper Nuclear Station "License Amendment Request to Revise Technical Specifications - Safety Limit Minimum Critical Power Ratio" (Reference 2).

The response to the RAI is provided in the attachment to this letter.

This letter does not contain any new regulatory commitments.

If you have any questions concerning this matter, please contact Jim Shaw, Licensing Manager, at (402) 825-2788.

A001
NRR

COOPER NUCLEAR STATION
P.O. Box 98 / Brownville, NE 68321-0098
***Telephone:** (402) 825-3811 / **Fax:** (402) 825-5211*
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I declare under penalty of perjury that the foregoing is true and correct.

Executed on: 8/29/16
(Date)

Sincerely,

Oscar A. Limpias
Vice President – Nuclear and
Chief Nuclear Officer

/dv

Attachment: Response to Nuclear Regulatory Commission Request for Additional Information Regarding License Amendment Request to Revise Technical Specifications - Safety Limit Minimum Critical Power Ratio

cc: Regional Administrator w/ attachment
USNRC - Region IV

Cooper Project Manager w/ attachment
USNRC - NRR Plant Licensing Branch IV-2

Senior Resident Inspector w/ attachment
USNRC - CNS

NPG Distribution w/o attachment

CNS Records w/ attachment

Attachment

Response to Nuclear Regulatory Commission Request for Additional Information Regarding License Amendment Request to Revise Technical Specifications - Safety Limit Minimum Critical Power Ratio

Cooper Nuclear Station, Docket No. 50-298, License No. DPR-46

The Nuclear Regulatory Commission Request for Additional Information (RAI) regarding the License Amendment Request (LAR) to revise Technical Specifications - Safety Limit Minimum Critical Power Ratio (SLMCPR) is shown in italics. The Nebraska Public Power District (NPPD) response to the request is shown in normal font.

RAI

Enclosure 1, "GNF Additional Information Regarding the Requested Changes to the Technical Specification SLMCPR- Cooper Nuclear Station Cycle 30," to the LAR contained the relevant analysis methodologies used by GNF to perform the cycle-specific SLMCPR analysis. The GNF report stated the following methodologies were used to perform this analysis:

- *NEDE-24011-P-A, "General Electric Standard Application for Reactor Fuel (GESTAR II)" (Reference 1)*
- *NEDC-32601P-A, "Methodology and Uncertainties for Safety Limit MCPR Evaluations," August 1999. (Reference 2)*
- *NEDE-10958-PA, "General Electric Thermal Analysis Basis Data, Correlation and Design Application," January 1977. (Reference 3)*
- *NEDC-32505P-A, "R-Factor Calculation Method for GE11, GE12 and GE13 Fuel," Revision 1, July 1999. (Reference 4)*

The April 21, 2016, LAR lists the following methodologies as the applicable methods used:

- *NEDE-24011-P-A, "General Electric Standard Application for Reactor Fuel," (Revision specified in the COLR)*
- *NEDE-23785-1-P-A, "The GESTR-LOCA and SAFER Models for the Evaluation of the Loss-of-Coolant Accident," Volume III, Revision 1, October 1984.*
- *NEDO-31960 and NEDO-31960 Supplement 1, "BWR Owner's Group Long Term Stability Solutions Licensing Methodology" (the approved Revision at the time the reload analysis is performed)*

The NRC staff agrees that the first listed methodology (NEDE-24011) is appropriate for the SLMCPR analysis. However, the NRC staff does not believe the other two methodologies listed in the LAR are related to the SLMCPR analysis. Please confirm that the GNF report is correct and verify that the methodologies listed in the GNF report were the methodologies used for the SLMCPR analysis.

NPPD Response

NPPD has confirmed that the following two methodologies which were referenced in the April 21, 2016, LAR are not associated with the determination of the SLMCPR for Cycle 30.

- NEDE-23785-1-P-A, "The GESTR-LOCA and SAFER Models for the Evaluation of the Loss-of-Coolant Accident," Volume III, Revision 1, October 1984
    - This methodology is associated in determining the cycle specific 10CFR50.46 requirements during a Loss-of-Coolant Accident event and does not impact the determination of SLMCPR.

- NEDO-31960 and NEDO-31960 Supplement 1, "BWR Owner's Group Long-Term Stability Solutions Licensing Methodology" (the approved Revision at the time the reload analysis is performed)
    - This methodology is used in determining the cycle specific stability related parameters during a stability event and does not impact the determination of SLMCPR.

The correct methodologies which were used to determine the Cycle 30 SLMCPR are the four that were referenced in Section 3.0 of the Global Nuclear Fuel Report 000N6035-R1-NP which was previously included in the April 21, 2016, LAR.

- Global Nuclear Fuel, "General Electric Standard Application for Reactor Fuel," NEDE-24011-P-A, Revision 22, November 2015 (which is specified in the Cycle 30 COLR).
- General Electric Nuclear Energy, "Methodology and Uncertainties for Safety Limit MCPR Evaluations," NEDC-32601P-A, August 1999.
- General Electric Company, "General Electric Thermal Analysis Basis Data, Correlation and Design Application," NEDE-10958-PA, January 1977.
- General Electric Nuclear Energy, "R-Factor Calculation Method for GE11, GE12 and GE13 Fuel," NEDC-32505P-A Revision 1, July 1999.