



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

December 31, 2012

Mr. Brian J. O'Grady  
Vice President-Nuclear and CNO  
Nebraska Public Power District  
72676 648A Avenue  
Brownville, NE 68321

SUBJECT: COOPER NUCLEAR STATION – SAFETY EVALUATION CORRECTIONS TO  
AMENDMENT NO. 243 RE: REVISION OF TECHNICAL SPECIFICATIONS –  
SAFETY LIMIT MINIMUM CRITICAL POWER RATIO (TAC NO. ME8853)

Dear Mr. O'Grady:

By letter dated November 9, 2012 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML12299A092), the U.S. Nuclear Regulatory Commission (NRC, the Commission) issued Amendment No. 243 to Renewed Facility Operating License No. DPR-46 for the Cooper Nuclear Station (CNS). The amendment modified TS Section 2.0, "Safety Limits," by revising the two recirculation loop and single recirculation loop safety limit Minimum Critical Power Ratio (MCPR) values to reflect results of a cycle-specific calculation. Specifically, the amendment revised the safety limit in TS 2.1.1.2 by changing the value of MCPR for two-loop operation from  $\geq 1.10$  to  $\geq 1.11$  and the value of MCPR for single-loop operation from  $\geq 1.12$  to  $\geq 1.13$ .

Due to an administrative error, the NRC staff's safety evaluation issued the amendment with the incorrect final No Significant Hazards Determination. This was an oversight on the part of the NRC staff and does not affect the NRC's final determination that the amendment involves no significant hazards consideration. The NRC staff concludes that the three standards of 10 CFR 50.92(c) are satisfied. This administrative oversight does not affect the NRC staff's overall conclusions associated with approval of Amendment No. 243.

Enclosed are the corrected pages 6, 7, and 8 of the safety evaluation to be included with the issued amendment. We regret any inconvenience this may have caused.

B. O'Grady

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If you have any questions, please contact me at 301-415-1377 or via e-mail at [lynnea.wilkins@nrc.gov](mailto:lynnea.wilkins@nrc.gov).

Sincerely,

A handwritten signature in black ink, appearing to read "Lynnea E. Wilkins". The signature is fluid and cursive, with a large initial "L" and a long horizontal stroke extending across the middle of the name.

Lynnea E. Wilkins, Project Manager  
Plant Licensing Branch IV  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket No. 50-298

Enclosure:  
As stated

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ENCLOSURE

REVISED SAFETY EVALUATION PAGES 6, 7, AND 8 FOR  
AMENDMENT NO. 243 DATED NOVEMBER 9, 2012

it clarified that the current practice discussed in the license amendment request is applicable to all fuel in the core.

### 3.3 NRC Staff Conclusion

Based on the following considerations, the NRC staff concludes that:

1. The licensee performed its SLMCPR calculations using NRC-approved methods;
2. The licensee confirmed the applicability of generic uncertainty values for the CNS core design and operating configuration; and
3. The licensee provided additional information to confirm that its calculational treatment of channel bow is appropriate relative to CNS-specific operating practice and predicted design values.

Based on the above, the NRC staff concludes that the licensee's proposed revision to the SLMCPR value is acceptable. The SLMCPR will continue to provide assurance that 99.9 percent of the fuel rods in the core will not exceed the critical power ratio, and that fuel cladding integrity will be maintained under conditions of normal operation and with appropriate margin for anticipated operational occurrences, consistent with GDC 10 and CNS UFSAR Appendix F, Design Criterion 6. Additionally, the changes will not impact the licensee's compliance with the regulatory requirements of 10 CFR 50.36(c)(1)(i)(A).

### 4.0 FINAL NO SIGNIFICANT HAZARDS CONSIDERATION

The NRC's regulations in 10 CFR 50.92 state that the NRC may make a final determination that a license amendment involves no significant hazards consideration if operation of the facility, in accordance with the amendment, would not: (1) involve a significant increase in the probability of a different kind of accident from any accident previously evaluated; or (3) involve a significant reduction in a margin of safety.

As required by 10 CFR 50.91(a), an evaluation of the issue of no significant hazards consideration is presented below:

1. Do the proposed changes involve a significant increase in the probability or consequences of an accident previously evaluated?

Response: No.

Four accidents have been evaluated previously as reflected in the CNS [Cooper Nuclear Station] Updated Safety Analysis Report (USAR). These four accidents are (1) loss-of-coolant, (2) control rod drop, (3) main steam line break, and (4) fuel handling. The probability of an evaluated accident is derived from the probabilities of the individual precursors to that accident. Changing the SLMCPR values does not increase the probability of an evaluated accident. The change does not require any

physical modifications to the plant or any components, nor does it require a change in plant operation. Therefore, no individual precursors of an accident are affected.

The consequences of an evaluated accident are determined by the operability of plant systems designed to mitigate those consequences. This proposed change makes no modification to the design or operation of the systems that are used in mitigation of accidents. Limits have been established, consistent with Nuclear Regulatory Commission (NRC) approved methods, to ensure that fuel performance during normal, transient, and accident conditions is acceptable. The proposed change to the values of the SLMCPR continues to conservatively establish this safety limit such that the fuel is protected during normal operation and during any plant transients or anticipated operational occurrences.

Based on the above, NPPD [Nebraska Public Power District] concludes that the proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated.

2. Do the proposed changes create the possibility of a new or different kind of accident from any accident previously evaluated?

Response: No.

Creation of the possibility of a new or different kind of accident from an accident previously evaluated would require creation of precursors of that accident. New accident precursors may be created by modification of the plant configuration or changes in how the plant is operated. The proposed change does not involve a modification of the plant configuration or in how the plant is operated. The proposed change to the SLMCPR values assures that safety criteria are maintained.

Based on the above, NPPD concludes that the proposed change does not create the possibility of a new or different kind of accident from any previously evaluated.

3. Do the proposed changes involve a significant reduction in a margin of safety?

Response: No.

The values of the proposed SLMCPR provides a margin of safety by ensuring that no more than 0.1% of fuel rods are expected to be in boiling transition if the Minimum Critical Power Ratio limit is not violated. The proposed change will ensure the appropriate level of fuel protection is maintained. Additionally, operational limits are established based on the proposed SLMCPR to ensure that the SLMCPR is not violated during all

modes of operation. This will ensure that the fuel design safety criteria are met (i.e., that at least 99.9% of the fuel rods do not experience transition boiling during normal operation as well as anticipated operational occurrences).

Based on the above, NPPD concludes that the proposed changes do not involve a significant reduction in a margin of safety.

Based on the above evaluation, the NRC staff concludes that the three standards of 10 CFR 50.92(c) are satisfied. Therefore, the NRC staff has made a final determination that no significant hazards consideration is involved for the proposed amendment and that the amendment should be issued as allowed by the criteria contained in 10 CFR 50.91.

#### 5.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Nebraska State official was notified of the proposed issuance of the amendment. The State official had no comments.

#### 6.0 ENVIRONMENTAL CONSIDERATION

The amendment changes a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The NRC staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendment involves no significant hazards consideration, and there has been no public comment on such finding published in the *Federal Register* on August 7, 2012 (77 FR 47127). Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendment.

#### 7.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) there is reasonable assurance that such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: B. Parks

Date: November 9, 2012

B. O'Grady

- 2 -

If you have any questions, please contact me at 301-415-1377 or via e-mail at [lynnea.wilkins@nrc.gov](mailto:lynnea.wilkins@nrc.gov).

Sincerely,

*/RA/*

Lynnea E. Wilkins, Project Manager  
Plant Licensing Branch IV  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket No. 50-298

Enclosure:  
As stated

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