



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

July 24, 2013

Mr. Oscar A. Limpias
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. 246 RE: REVISIONS TO THE FUEL HANDLING ACCIDENT DESCRIPTION IN THE UPDATED SAFETY ANALYSIS REPORT (TAC NO. ME8992)

Dear Mr. Limpias:

By letter dated June 26, 2013 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML13148A225), the U.S. Nuclear Regulatory Commission (NRC, the Commission) issued Amendment No. 246 to Renewed Facility Operating License No. DPR-46 for the Cooper Nuclear Station (CNS). The amendment revised the description of the Fuel Handling Accident (FHA) in Section XIV-6.4 of the CNS Updated Safety Analysis Report (USAR). The revised USAR FHA description is based on changes to the Design Basis Accident (DBA) dose calculation, to reflect a 24-month cycle source term using a Global Nuclear Fuels (GNF) 10 x 10 fuel array, a reduced Radial Peaking Factor, and inclusion of a calculated shine contribution to the total dose.

Two errors, on the part of the NRC staff, were identified subsequent to issuance of Amendment No. 246, as documented by e-mail dated July 8, 2013, from William Victor (Nebraska Public Power District, the licensee) to Lynnea Wilkins (NRC).

1. Page 6, last paragraph states: "The EPU radiological dose consequences of an FHA are shown in Table 3.2." This dose calculation was not associated with an Extended Power Uprate, so the reference to EPU should be omitted.
2. Page 7, Table 3.2 lists the 24-hour decay period EAB dose as 1.459 TEDE. The value provided in NEDC 05-031 (enclosed with the license amendment request) was 1.4499 rem TEDE, which rounds up to 1.450.

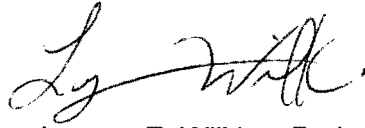
These errors are administrative in nature and do not affect the NRC staff's overall conclusions associated with Amendment No. 246. Enclosed are the corrected pages 6 and 7 of the safety evaluation to be included with the issued amendment. We regret any inconvenience this may have caused.

O. Limpias

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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.

Sincerely,

A handwritten signature in black ink, appearing to read "Lynnea E. Wilkins". The signature is fluid and cursive, with the first name "Lynnea" being more prominent than the last name "Wilkins".

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

CORRECTED PAGES 6-7 OF SAFETY EVALUATION

DATED JUNE 26, 2013 RE: AMENDMENT NO. 246

COOPER NUCLEAR STATION

DOCKET NO. 50-298

RADTRAD was also used by the licensee to determine the total amount of activity that was loaded upon the CREFS filter during a FHA release. Also, the licensee assumed higher parameters to be more conservative with regard to the total source term accumulated on the filter. These changes included:

- CREFS Flowrate - increased to 990 cfm versus using 810 cfm. The use of a higher flowrate results in higher halogen accumulation onto the CREFS filter versus the base case. This is conservative as it results in higher shine contribution.
- Filter Efficiency - a value of 100 percent filter efficiency was used for all halogen species as that also maximizes higher halogen accumulation onto the filter versus the base FHA calculation.

The licensee calculated the value of 114 mrem for cloud and CREFS filter CR shine. This value has been added to the dose consequences of the 24-hour decay time case to provide the most limiting dose consequences for the FHA event. The NRC staff concludes that this calculation is acceptable because the methodology and assumptions used are consistent with CNS current licensing basis and the regulatory guidance in RG 1.183.

3.3 NRC Staff Conclusion

The NRC staff has evaluated the licensee's revised accident analyses for the radiological consequences of a FHA and concludes that the licensee has adequately accounted for the effects of the proposed changes to the CNS FHA analysis. The NRC staff further concludes that the plant site and the dose-mitigating engineered safety features remain acceptable with respect to the radiological consequences of a postulated FHA since the calculated TEDE doses at the EAB, LPZ, and in the CR are within regulatory limits. The radiological dose consequences of an FHA are shown in Table 3.2. Therefore, the NRC staff concludes that the licensee's proposed change is acceptable with respect to the radiological consequences of FHA.

Table 3.1

Cooper Fuel Handling Accident Atmospheric Dispersion Factors (sec/m³)
Ground Level Release from Reactor Building Vent

Time Period	Exclusion Area Boundary	Low Population Zone	Control Room Intake
0-2 hr	5.2×10^{-4}	2.9×10^{-4}	4.15×10^{-3}
2-8 hr	---	2.9×10^{-4}	3.24×10^{-3}
8-24 hr	---	7.3×10^{-5}	1.32×10^{-3}
24-96 hr	---	2.5×10^{-5}	9.01×10^{-4}
96-720 hr	---	5.2×10^{-6}	7.22×10^{-4}

Table 3.2

Calculated FHA Radiological Consequences

	EAB	LPZ	CR
Calculated results, TEDE			
24-hr decay period	1.450	0.809	4.568*
7 day decay period	0.622	0.347	4.393
Dose acceptance criteria, TEDE	6.3	6.3	5

* Includes 114 mrem due to gamma shine from external sources

4.0 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.

5.0 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 April 16, 2013 (78 FR 22570). 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.

6.0 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 Contributors: D. Duvigneaud
L. Brown

Date: June 26, 2013

O. Limpias

- 2 -

If you have any questions, please contact me at 301-415-1377 or via e-mail at 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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