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NLS2013006
January 14, 2013

50.46(a)(3)(ii)

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

Subject: Annual Report of Changes and Errors in Emergency Core Cooling System Evaluation Models for 2012
Cooper Nuclear Station, Docket No. 50-298, DPR-46

References:
1. Letter from David Van Der Kamp, Nebraska Public Power District, to U.S. Nuclear Regulatory Commission, dated August 18, 2008, "Failure to Include Error in Emergency Core Cooling System Evaluation Model in Annual Report for 2006"

2. Letter from David Van Der Kamp, Nebraska Public Power District, to U.S. Nuclear Regulatory Commission, dated September 21, 2011, "10 CFR 50.46(a)(3)(ii) Report"

Dear Sir or Madam:

The purpose of this letter is to submit the 2012 annual report of changes or errors in the Emergency Core Cooling System (ECCS) Evaluation Models pursuant to 10 CFR 50.46(a)(3)(ii) for Cooper Nuclear Station (CNS).

By reference letters 1 and 2, Nebraska Public Power District previously reported errors in the ECCS evaluation model for GE14 fuel. These errors continue to apply to the ECCS evaluation methodology for 2012 and have a cumulative impact of 130°F on the Peak Cladding Temperature (PCT). In November 2012, CNS received General Electric Hitachi (GEH) 10 CFR 50.46 Notification Letter 2012-01 which reported an additional change to the ECCS acceptable evaluation model for GE14 fuel that results in a 15°F increase in the PCT. This 10 CFR 50.46 Notification estimated the magnitude of the change in PCT due to the change in fuel properties from GESTR to PRIME. PRIME fuel properties will be used as part of the evaluation model at the next ECCS-Loss of Coolant Accident reanalysis. Collectively, the errors/changes reported by GEH result in a PCT of 2185°F for GE14 fuel.

During the fall 2012 refueling outage, CNS installed GNF2 fuel in the core. The licensing basis PCT for the GNF2 fuel was 2140°F. However, GEH 10 CFR 50.46 Notification Letter 2012-01 reported to CNS in November 2012 (discussed above) also affected GNF2 fuel, resulting in a 30°F increase in the PCT. This change increases the PCT from 2140°F to 2170°F for GNF2 fuel.

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All changes/errors are itemized in the attachment to this letter. CNS continues to comply with the PCT limit of 2200°F specified in 10 CFR 50.46(b)(1) for both GE14 and GNF2 fuel types.

This letter makes no regulatory commitments.

If you have any questions regarding this report, please contact Lorne Covington, Reactor Engineering Supervisor, at (402) 825-5052.

Sincerely,

David W. Van Der Kamp
Licensing Manager

/lb

Attachment - Changes/Errors in Emergency Core Cooling System Evaluation Models for 2012

cc: Regional Administrator w/attachment
USNRC - Region IV

Cooper Project Manager w/attachment
USNRC - NRR Project Directorate IV-1

Senior Resident Inspector w/attachment
USNRC - CNS

NPG Distribution w/attachment

CNS Records w/attachment

Changes/Errors in Emergency Core Cooling System Evaluation Models for 2012
Nebraska Public Power District - Cooper Nuclear Station

GE14 Fuel

GE Hitachi 10 CFR 50.46 Notification Letter	Date	Subject	PCT Impact (°F)
2006-01	7/28/06	Impact of Top Peaked Power Shape for Small Break Loss of Coolant Accident Analysis	0°F
2011-02	9/2/11	Impact of Database Error for Heat Deposition on the Peak Cladding Temperature (PCT) for 10x10 Fuel Bundles	35°F
2011-03	9/2/11	Impact of Updated Formulation for Gamma Heat Deposition to Channel Wall for 9x9 and 10x10 Fuel Bundles	95°F
2012-01	11/29/12	PRIME Fuel Properties Implementation for Fuel Rod Thermal/Mechanical Performance, Replacing GESTR Fuel Properties	15°F
			Total = 145°F

PCT at beginning of 2012 = 2170°F
PCT at end of 2012 = 2185°F

GNF2 Fuel

GE Hitachi 10 CFR 50.46 Notification Letter	Date	Subject	PCT Impact (°F)
2012-01	11/29/12	PRIME Fuel Properties Implementation for Fuel Rod Thermal/Mechanical Performance, Replacing GESTR Fuel Properties	30°F
			Total = 30°F

Initial PCT = 2140°F
PCT at end of 2012 = 2170 °F