



Nebraska Public Power District

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NLS2024004
January 10, 2024

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 2023
Cooper Nuclear Station, Docket No. 50-298, DPR-46

Reference: Letter from Linda Dewhirst, Nebraska Public Power District, to U.S. Nuclear
Regulatory Commission, dated January 19, 2023, "Annual Report of Changes and
Errors in Emergency Core Cooling System Evaluation Models for 2022"

Dear Sir or Madam:

The purpose of this letter is to submit the 2023 annual report of changes and errors in the
Emergency Core Cooling System (ECCS) evaluation models pursuant to 10 CFR 50.46(a)(3)(ii)
for Cooper Nuclear Station (CNS).

Per the reference letter, Nebraska Public Power District previously reported errors/changes in the
ECCS evaluation models for GNF2 fuel. These errors continued to apply to the ECCS
evaluation methodologies for 2023. There were no new changes or errors affecting the licensing
basis peak clad temperature (PCT) in 2023. CNS continues to comply with the PCT limit of
2200°F specified in 10 CFR 50.46(b)(1).

Attachment 1 to this letter itemizes the changes/errors in the ECCS evaluation models that
remained applicable in 2023 and Attachment 2 provides data that demonstrates compliance with
the ECCS performance requirements of 10 CFR 50.46.

This letter makes no regulatory commitments.

If you have any questions regarding this report, please contact Ryan VanderPlas, Fuels Engineer,
at (402) 825-5409.

Sincerely,

Linda Dewhirst
Regulatory Affairs & Compliance Manager

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Attachments: 1) Changes/Errors in Emergency Core Cooling System Evaluation Models
Applicable in 2023

2) 10 CFR 50.46 Criteria in Emergency Core Cooling System Evaluation Models
for 2023

cc: Regional Administrator w/attachments
USNRC - Region IV

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

Senior Resident Inspector w/attachments
USNRC - CNS

NPG Distribution w/attachments

CNS Records w/attachments

Changes/Errors in Emergency Core Cooling System Evaluation Models Applicable in 2023

GNF2 Fuel

GE Hitachi 10 CFR 50.46 Notification Letter	Date	Subject	PCT Impact
2017-01	6/12/17	GNF2 Lower Tie Plate Leakage	-20°F
2017-02	8/2/17	Fuel Rod Plenum Temperature Update	0°F
2019-05	11/1/19	SAFER Lower Limit on Differential Pressure for Bypass Leakage	0°F
2020-01	4/14/20	PRIME Code Errors for Evaluation Model Fuel Rod Condition Inputs	0°F
2021-01	2/18/21	Fuel Pellet to Plenum Spring Conductance Input to ECCS LOCA Calculations	0°F
2021-02	2/18/21	Inner Cladding Surface Roughness Input to Gap Conductance Model	0°F
			Total = -20°F

10 CFR 50.46 Criteria in Emergency Core Cooling System Evaluation Models for 2023

Fuel Type	Licensing Basis PCT	Local Oxidation	Core-Wide Metal-Water Reaction
GNF2	2130°F	<6.00%	<0.10%