Nebraska Public Power District
Nebraska's Energy Leader

50.90

NLS2002135
November 25, 2002

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

Subject: Design Basis Accident Radiological Assessment Calculation Methodology-Additional Information
Cooper Nuclear Station
NRC Docket No. 50-298, DPR-46

Reference:

1. Letter from D. Wilson (Nebraska Public Power District) to U.S. Nuclear Regulatory Commission, dated February 26, 2002, "License Condition 2.C.(6) Seismic Evaluation" (NLS2002014).

2. Letter from U.S. Nuclear Regulatory Commission to D. Wilson (Nebraska Public Power District), dated October 23, 2001, "Cooper Nuclear Station-Issuance of Amendment Regarding Revised Radiological Dose Assessment and Technical Specification Changes (TAC No. MB1419)."

3. Letter from J. Swailes (Nebraska Public Power District) to U.S. Nuclear Regulatory Commission, dated February 28, 2001, "Proposed License Amendment Related to the Design Basis Accident Radiological Assessment Calculational Methodology" (NLS2001011).

4. Letter from U.S. Nuclear Regulatory Commission to J. Swailes (Nebraska Public Power District), dated April 7, 2000, "Cooper Nuclear Station-Issuance of Amendment on Design Basis Accident Radiological Assessment Calculational Methodology Revision (TAC No. MA7758)."

5. Letter from J. Swailes (Nebraska Public Power District) to U.S. Nuclear Regulatory Commission, dated March 24, 2000, "Design Basis Accident Radiological Assessment Calculational Methodology – Response to Request For Additional Information (Question #6)" (NLS2000035).

The purpose of this letter is to request a revision to License Condition 2.C.(6), and to obtain Nuclear Regulatory Commission (NRC) approval of the remaining design basis accident radiological dose calculational methodologies and the associated seismic evaluation methodology.

A001

Cooper Nuclear Station
P O Box 98 / Brownville, NE 68321-0098
***Telephone:** (402) 825-3811 / **Fax:** (402) 825-5211*
http //www nppd com

In Reference 1, the Nebraska Public Power District (NPPD) submitted the seismic evaluation required by Cooper Nuclear Station (CNS) License Condition 2.C.(6). In that submittal, NPPD requested an NRC review schedule that would allow for adequate time to define the final scope of associated modifications within the constraints of CNS outage planning. While most of the technical issues have been resolved with the NRC, approval of the seismic methodology has not been obtained. As a result, the seismic modifications being prepared to resolve outlier issues and configure the Main Steam Isolation Valve (MSIV) leakage pathway will continue to be "at risk" and subject to potential rework until this occurs. Accordingly, NPPD is faced with the likely possibility of either an extended outage to accommodate the modification scope or a mid-cycle outage in order to comply with the License Condition as it currently exists.

NPPD respectfully proposes the following course of action:

1. Revise License Condition 2.C.(6). The License Condition currently states:

> *No later than 8 weeks after the Cooper Nuclear Station (CNS) Cycle 21 startup, the licensee shall submit a request for the staff to review and approve a seismic evaluation to ensure the structural integrity of the main steam line piping from the main steam isolation valves (MSIV) to the main turbine condenser, the main turbine condenser, and the turbine building. The evaluation will be performed to assess the ability of the aforementioned main steam piping and main turbine condenser to remain sufficiently intact to direct main steam leakage from the MSIVs to the main turbine condenser, consistent with the leakage assumptions in the design-basis accident dose calculations during and after a Safe Shutdown Earthquake. This seismic evaluation will employ an analytical methodology acceptable to the staff and will identify any modifications necessary to support the evaluation. The licensee's approved request shall be fully implemented, including the completion of modifications, within 12 months of approval or prior to CNS Cycle 22 startup, whichever is later.*

NPPD proposes that the License Condition be revised to state the following:

> *Upon receiving NRC approval of the licensee's seismic evaluation of the main steam isolation valve leakage pathway to the main turbine condenser, the main turbine condenser, and the turbine building, the licensee shall fully implement the approved request, including the associated modifications, prior to restart from refueling outage 22. Until implementation is completed, potassium iodide will continue to be made available to Control Room personnel during a loss of coolant accident with core damage.*

The first 3 sentences are deleted since NPPD has completed these actions with the submittal of Reference 1. Based on the information provided by NPPD, the NRC concluded in Reference 2 that there was reasonable assurance that the offsite radiological consequences of a Loss of Coolant Accident (LOCA) would be within 10CFR100 guidelines. The NRC also stated it had performed its own evaluation of control room

operator doses applying a protection factor of 10 for utilization of potassium iodide. As provided in Reference 3, a Decontamination Factor of 10 is afforded by crediting iodine plateout in the main turbine condenser, with no credit for potassium iodide use. In Reference 4, the NRC concluded that NPPD had provided sufficient information to justify the functionality of the main steam piping and the main turbine condenser following a safe shutdown earthquake so that iodine removal could be accomplished. Additionally, the Probabilistic Safety Assessment conclusions provided in Reference 5 remain valid. The likelihood of a LOCA combined with a seismic event above the Operating Basis Earthquake seismic spectra (occurring either concurrently or up to 30 days post-accident) is much less than 1 x 10E-07 (e.g., on the order of 1 x 10E-11), which is below the Regulatory Guide 1.174 screening criteria. Accordingly, continued reliance on iodine plateout in the main turbine condenser, coupled with use of potassium iodide as an interim compensatory measure assures Control Room personnel doses will remain within 10CFR50 Appendix A, General Design Criterion (GDC) 19 limits during the next operating cycle. Following Cycle 22, the revised License Condition assures the approved seismic methodology for the MSIV leakage pathway will be fully implemented. Combined with permanent approval of the LOCA methodology (as described below), it will no longer be necessary to credit the availability of potassium iodide as an interim compensatory measure as described in Reference 2. NPPD requests a target approval date of January 30, 2003, to coincide with inclusion in the NRC approval of the remaining design basis accident calculational methodologies described below.

2. Complete NRC reviews of remaining design basis accident radiological assessment calculational methodologies with a target approval date of January 30, 2003 (as previously requested in Reference 1) as follows:

   - Permanent approval for the Main Steamline Break Accident (MSLBA) and Control Rod Drop Accident (CRDA) provided in Reference 3.
   - Interim approval of the LOCA provided in Reference 3 during Cycle 22.

   NPPD requests that the LOCA radiological assessment calculation methodology revert to permanent approval concurrent with NRC approval of the seismic evaluation methodology.

   The MSLBA and CRDA do not rely on a seismically rugged MSIV leakage path to the main turbine condenser. Accordingly, permanent approval is justified. Based on a teleconference with the NRC Project Manager for CNS on November 4, 2002, the permanent approval of the LOCA dose calculation should accompany NRC approval of the seismic methodology that is being applied to the MSIV leakage pathway. Until this occurs, interim approval of the LOCA dose calculation is appropriate. NPPD recognizes that under this arrangement the agreed on seismic methodology of the MSIV leakage pathway would not be fully implemented at the time of permanent approval of the LOCA methodology. However, as noted previously, Control Room personnel doses will remain within the GDC 19 limits, based on the seismic functionality of the MSIV leakage pathway and the interim commitment to make potassium iodide available. This approach

is analogous to a recent regulatory precedent for Brunswick Steam Electric Plant, Unit 2, in an NRC Safety Evaluation dated May 30, 2002. In that Safety Evaluation, the NRC approved revised design basis accident radiological consequences analyses on a permanent basis, prior to fully establishing the seismic ruggedness of the MSIV leakage pathway. Similar to CNS, the licensee was using a License Condition to control the activities necessary to demonstrate seismic ruggedness per the approved methodology.

3. Complete NRC review of the License Condition 2.C.(6) seismic evaluation.

   NRC approval of the seismic evaluation is necessary for the implementation of the necessary modifications. As discussed previously, NPPD's understanding is that permanent approval of the LOCA dose calculation will accompany NRC approval of the seismic evaluation.

This submittal has been reviewed by the appropriate onsite and offsite safety review committees and incorporates amendments to the CNS Facility Operating License through Amendment 195 issued September 30, 2002. This submittal is associated with Reference 3 which is currently under review by the NRC, and provides related schedular obligations and reiterates a previously existing commitment to make potassium iodide available under certain circumstances. This submittal does not affect the technical issues that are the subject of Reference 3. Accordingly, the No Significant Hazards Consideration noticed in the Federal Register by the NRC pursuant to 10CFR50.91(a) on September 19, 2001 does not need to be revised. By copy of this letter the appropriate State of Nebraska official is being notified in accordance with 10CFR50.91(b)(1). Copies to the Region IV Office and the CNS Resident Inspector are also being sent in accordance with 10CFR50.4(b)(1).

Should you have any questions regarding this matter, please contact Paul V. Fleming at (402) 825-2774.

Sincerely,

David L. Wilson
Vice President-Nuclear

/wrv

cc: Regional Administrator
USNRC Region IV

Senior Project Manager
USNRC - NRR Project Directorate IV-1

Senior Resident Inspector
USNRC

Nebraska Health and Human Services
Department of Regulation and Licensure

NPG Distribution

Records

STATE OF NEBRASKA)
)
NEMAHA COUNTY)

David L. Wilson, being first duly sworn, deposes and says that he is an authorized representative of the Nebraska Public Power District, a public corporation and political subdivision of the State of Nebraska; that he is duly authorized to submit this correspondence on behalf of the Nebraska Public Power District; and that the statements contained herein are true to the best of his knowledge and belief.

David L. Wilson

Subscribed in my presence and sworn to before me this 25 day of November, 2002.

NOTARY PUBLIC

GENERAL NOTARY - State of Nebraska
WILMA M. WERNER
My Comm. Exp. Oct. 26, 2006

Correspondence No: NLS2002135

The following table identifies those actions committed to by the Nebraska Public Power District (NPPD) in this document. Any other actions discussed in the submittal represent intended or planned actions by NPPD. They are described to the NRC for the NRC's information and are not regulatory commitments. Please notify the NL&S Manager at Cooper Nuclear Station of any questions regarding this document or any associated regulatory commitments.

COMMITMENT	COMMITTED DATE OR OUTAGE
None	N/A