Nebraska Public Power District

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February 24, 1993

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, DC 20555

Subject: Clarification of the Response to Generic Letter 87-02, Supplement 1
Cooper Nuclear Station
Docket No. 50-298, DPR-46

References: 1) Letter from U.S. NRC to All USI A-46 Licensees who are Members of the Seismic Qualification Utility Group (SQUG) dated May 22, 1992, "Supplement No. 1 to Generic Letter (GL) 87-02 that Transmits Supplemental Safety Evaluation Report No. 2 (SSER No. 2) on SQUG Generic Implementation Procedure, Revision 2, as Corrected on February 14, 1992 (GIP-2)"

2) Letter from G. R. Horn (NPPD) to U. S. NRC Document Control Desk dated September 21, 1992, "Response to Supplement 1 to Generic Letter 87-02"

3) Letter from H. Rood (NRC-NRR) to G. R. Horn (NPPD) dated November 25, 1992, "Evaluation of Licensee's 120-Day Response to Supplement No. 1 to Generic Letter 87-02 for Cooper Nuclear Station"

Gentlemen:

On May 22, 1992, the Nuclear Regulatory Commission (NRC) Staff issued Generic Letter 87-02, Supplement 1 (Reference 1), to all Unresolved Safety Issue (USI) A-46 licensees who are members of the Seismic Qualification Utility Group (SQUG). This generic letter, in part, required those addressees who have committed to implement the SQUG Generic Implementation Procedure, Revision 2 (GIP-2), to provide an implementation schedule, and provide the detailed information as to what procedures and criteria were used to generate the in-structure response spectra to be used for USI A-46. On September 21, 1992, the Nebraska Public Power District (District) provided its response (Reference 2) to Generic Letter 87-02, Supplement 1. In this correspondence, the District committed to the SQUG commitments set forth in the GIP in their entirety, including the clarifications, interpretations, and exceptions identified in the SSER-2. The District also provided the procedures and criteria which were used to generate the licensing-basis in-structure response spectra for Cooper Nuclear Station (CNS). On November 25, 1992, the NRC provided its response (Reference 3) to the District's submittal. In this correspondence, the NRC indicated that the District's response was acceptable provided: 1) the Staff's interpretation of the District's response to the generic letter (Reference 1) as a commitment to the entire GIP-2, including both the SQUG commitments and implementation guidance, is correct; and

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2) the in-structure response spectra is considered as "median-centered" in-structure response spectra, rather than "conservative design" spectra. In response to the NRC's evaluation (Reference 3), the District hereby provides a clarification of its position to each of the two above identified issues.

Commitments to the GIP

The District stated in Reference 2 that "the District generally will be guided by the remaining (non-commitment) sections of the GIP, i.e., GIP implementation guidance, which comprises suggested methods for implementing the applicable commitments." It appears that this statement has raised a concern regarding whether the District will fully implement all provisions of the guidance sections of the GIP and, if not, what the District's process will be for notifying the Staff of deviations. With regard to this concern, the District's actions will be in accordance with Part I, Section 1.3 of the GIP, Rev. 2 (Corrected February 14, 1992), which was accepted by the Staff in its SSER No. 2 on the GIP, dated May 22, 1992. This section states, in part, that "USI A-46 licensees may use the GIP guidance or may substitute clearly equivalent methods without prior notification to the NRC." This section also states that "licensees are encouraged to notify the NRC Staff as soon as they decide to make significant or programmatic deviations from the GIP guidance."

Although the District currently plans to implement all of the GIP implementation guidance, it is premature to state that there will be no significant or programmatic deviations. As stated in Reference 2, the District will notify the Staff of any significant or programmatic deviations from the guidance portions of the GIP, as soon as practical. Justifications for such deviations, as well as for other, minor deviations, will be retained on site for NRC review.

In-Structure Response Spectra

Reference 3 states that the in-structure response spectra (IRS) submitted to the NRC per Reference 2 are considered to be "median centered" IRS instead of "conservative design" IRS. This was based on the NRC conclusion that the following parameters are unfavorable:

1. Non-conservative input spectrum with Regulatory Guide 1.61 damping

2. Soil-property variations not in accordance with the Standard Review Plan

The input spectrum used for CNS is the N69W component of the July 21, 1952, Taft earthquake. Even though the Regulatory Guide 1.60 design response spectrum envelopes the CNS design input spectrum submitted per Reference 2, the CNS input spectrum is much closer to the Regulatory Guide 1.60 spectrum than the Housner spectrum. The District considers the input spectrum to be roughly in accordance with Regulatory Guide 1.60 as suggested by the GIP for "conservative design" spectrum consideration. As such, Regulatory Guide 1.61 damping is considered to be appropriate for USI A-46 applicability.

The Standard Review Plan (SRP) did not exist at the time when the CNS IRS were developed. CNS structures are founded on soil with medium stiffness, which indicates that a soil-structure interaction analysis performed in accordance with the SRP would likely reduce spectral peaks. Therefore, the District is confident that the soil-structure interaction model used per Reference 2 is conservative compared to the SRP.

The IRS submitted per Reference 2 are at 5 percent damping. However, the NRC indicated in Reference 3 that these IRS were evaluated for A-46 applicability based on 1% or ½% damping. This misunderstanding likely occurred because the original Earth Sciences work, included with Reference 2, addressed only 1% and ½% damped IRS. In 1987, the District contracted Burns and Roe (the original CNS architect engineer) to develop the 5% damped IRS using the same criteria as originally specified in the Earth Sciences Report, except that the new IRS were to be broadened 15% and smoothed per NRC Regulatory Guide 1.122. The 5% damped IRS developed from the Burns and Roe effort were attached to Reference 2.

It is the District's understanding of the GIP that IRS developed from design ground motion spectra can be considered to be "conservative design" spectra when computed roughly in accordance with current NRC Regulatory Guides and the Standard Review Plan. It is the District's position that the IRS included with Reference 2 meets this criteria.

The District requests formal NRC approval of the two above identified positions as soon as practical. As stated in Reference 2, the District intends to integrate and coordinate the A-46 and the Individual Plant Examination for External Events (IPEEE) seismic reviews to the maximum extent possible. The District plans to perform the seismic walkdown portion of the IPEEE and A-46 by the conclusion of the first refueling outage scheduled to commence at least 180 days after all A-46 open issues are resolved, including approval of the issues discussed in this letter. Given the NRC acceptance of all open items by April 1994 (180 days prior to the 1994 refueling outage), the A-46 walkdown will occur during the 1994 refueling outage (currently scheduled to commence in October 1994). As stated in Reference 2, the District will inform the NRC if the completion schedule for the resolution of A-46 cannot be achieved 180 days following the 1994 refueling outage.

Please contact me if you need more information.

Sincerely,

G. R. Horn
Nuclear Power Group Manager

GRH/GRS/dnm

cc: Regional Administrator
USNRC - Region IV
Arlington, Texas

NRC Resident Inspector
Cooper Nuclear Station