

Nebraska Public Power District

COOPER NUCLEAR STATION
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NLS950244
December 18, 1995

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

Subject: Follow-up Information to IE Bulletin 80-13 Response;
Visual Inspection of Core Spray Spargers
Cooper Nuclear Station, NRC Docket No. 50-298, License No. DPR-46

Reference: Letter (No. NLS950228) to USNRC Document Control Desk from J. H. Mueller
(NPPD) dated November 22, 1995: Visual Inspection of Core Spray Spargers

Gentlemen:

In the above reference, the Nebraska Public Power District (District) provided the 1995 Core Spray Sparger inspection results for the Cooper Nuclear Station (CNS). The District also requested Nuclear Regulatory Commission (NRC) review and approval of these results prior to startup from the current refueling outage, which is currently scheduled to conclude December 22, 1995. During a telephone conference on December 8, 1995, the NRC requested additional information to support the review and approval of the submittal. In response to this request, the District is providing, herein, information regarding the Core Spray emergency and faulted condition, weld fabrication techniques, and NDE uncertainties. The District will provide additional information regarding the effects of the indications in a separate letter by February 8, 1996.

Core Spray Emergency and Faulted Condition, and Weld Fabrication Techniques

General Electric has prepared a report summarizing the stresses for applied loadings of the Core Spray line for normal, upset, emergency, and faulted conditions for CNS. The report (attached) provides the details on the calculated stresses for various loads, load combinations, and various operating conditions, and allowable flaw calculations for the indication identified as weld # 1 on A-Loop (worst case). In response to questions regarding weld techniques, the allowable flaw calculations were conducted using the equations given in Appendix C of ASME Section XI. The subject weld was made by gas tungsten arc welding (GTAW) process which is a nonflux welding procedure. Additional detail concerning emergency and faulted conditions and weld fabrication information is provided in the attached report.

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It should be noted that there are small differences in the Level B stress values between the attached report and the report provided in Attachment 2 of the District's November 22, 1995 submittal (referenced). These differences are a result of splitting the Level B stresses into the various component load sources in the attached report versus the single total P_m and P_b values stated in the referenced submittal. The stated P_m in the referenced submittal is 1155 psi including the secondary membrane stress versus the membrane stress of $[1100+(51+5)]$ or 1156 psi in the attached report.

The stated P_b (including the P_e component) in the referenced submittal is 1431 psi versus the stated value of $(1169+289)$ or 1458 psi in the attached report. In the case of P_b , the difference is slightly larger because the bending stresses are obtained by combining the nominal bending and torsional stresses by the square root of the sum of squares (SRSS) method. In the referenced submittal, all the nominal bending and torsional stress components were first added up and then combined by SRSS, whereas in the attached report the nominal bending and torsional stress components were combined by SRSS at the individual load level. The negligible numerical differences between these two reports have no effect on the conclusions stated in the referenced submittal and are conservative.

NDE Uncertainties

It is the District's position that the indication lengths which were used in the fracture mechanics evaluation (provided in the reference) are conservative and that no additional margin for NDE uncertainties is required. The District's position is based on the use of both UT and Visual examination techniques, the close correlation of the results of the examinations, and the conduct of these respective examinations. Because the UT examination demonstrated that the indications originated on the outside diameter surface, both UT and visual examination methods are valid to provide a determination of indication length.

The visual examination incorporated 0.0005 inch wire resolution, which is well in excess of the resolution requirements (0.001 inch) of IE Bulletin 80-13. The visual examiner bounded the visual ends of the indication by selecting a whole number pipe circumference azimuth past each end of the indication. The UT examination was performed to confirm the visual examination results. The UT examination followed the indication to the loss of signal at each end of the indication with no adjustment for beam spread. As such, the UT transducer position at the loss of signal was past the end of the indication. The UT examiner bounded the ends of the UT indication by selecting a whole number pipe circumference azimuth past the transducer position at the loss of signal point at each end of the indication. UT and visual examination results for indication length correlated well.

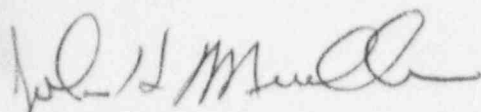
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The information provided in this letter should be sufficient to address the concerns voiced in the December 8, 1995 NRC telephone conference, and allow for your office's review and approval of the information submitted November 22, 1995 (referenced above). The District regards the NRC review and approval of referenced information as necessary prior to the startup of CNS from its current refueling outage, which is currently scheduled to conclude December 22, 1995. As stated previously in this letter, the District will provide additional information regarding the effects of the indications in a separate letter by February 8, 1996. It is the District's understanding that this additional information is not critical to your review, and is not needed prior to startup. If this should not be the case, or if you need additional information beyond that currently provided, please contact me as soon as practicable.

Sincerely,



John H. Mueller
Site Manager

/dnm

Attachments

cc: Senior Project Manager
USNRC - NRR Project Directorate IV-1

Senior Resident Inspector
USNRC - Cooper Nuclear Station

Regional Administrator
USNRC - Region IV

NPG Distribution