Nebraska Public Power District

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NSD920176
February 25, 1992

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

Gentlemen:

Subject: Proposed Change No. 103 to Technical Specifications
Clarification of DC Power System Technical Specifications
Cooper Nuclear Station
NRC Locket No. 50-298, DPR-46

In accordance with the applicable provisions specified in 10 CFR 50, the Nebraska Public Power District (District) requests that the Cooper Nuclear Station (CNS) Technical Specifications be revised as specified in the attachment. The District has determined that the CNS DC Power Systems technical specifications require clarification to better define DC System operability criteria, surveillance requirements, and actions to be taken following determination of unsatisfactory surveillance results. Therefore, the District proposes to change the CNS DC Power technical specifications to correspond to the Standard Technical Specifications format to provide the necessary clarification.

Accordingly, the attached contains a description of the proposed change, the attendant 10 CFR 50.92 evaluation, and the CNS Technical Specification pages revised by the institution of this change. This proposed change has been reviewed by the necessary Safety Review Committees and incorporates all amendments to the CNS Facility Operating License through Amendment 151 issued November 19, 1991.

By copy of this letter and attachment the appropriate State of Nebraska official is being notified in accordance with 10 CFR 50.91(b)(1). Copies to the NRC Region IV Office and the CNS Resident Inspector are also being sent in accordance with 10 CFR 50.4(b)(2).

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Should you have any questions or require any additional information, please contact me.

Sincerely,

G. R. Horn
Nuclear Power Group Manager

GRH/TJA/MJB
Attachment

cc: H.R. Borchert
Department of Health
State of Nebraska

NRC Regional Administrator
Region IV
Arlington, TX

NRC Resident Inspector
Cooper Nuclear Station

STATE OF NEBRASKA)
)
PLATTE COUNTY)

G. R. Horn, 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 request on behalf of Nebraska Public Power District; and that the statements contained herein are true to the best of his knowledge and belief.

G. R. Horn

G. R. Horn

Subscribed in my presence and sworn to before me this 25th day of February, 1992.

Colleen M Kuta

NOTARY PUBLIC

GENERAL NOTARY-State of Nebraska
COLLEEN M. KUTA
My Comm. Exp. Aug. 4, 1993

REVISED TECHNICAL SPECIFICATIONS
CLARIFICATION OF DC POWER SYSTEM TECHNICAL SPECIFICATIONS

Revised Pages

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I. INTRODUCTION

The Nebraska Public Power District (District) requests that the NRC approve the proposed changes to the Cooper Nuclear Station (CNS) Technical Specifications described below. The proposed change clarifies the performance criteria and surveillance requirements for the CNS DC Power Systems by reformatting them in accordance with the Fermi-2 Standard Technical Specifications (STS), NUREG-1089.

The proposed changes are detailed below in Section II, and the Significant Hazards determination is provided in Section III. The District's analysis has determined that approval of this proposed change involves no significant hazards consideration.

II. DESCRIPTION OF CHANGES

The proposed changes are provided in Appendix A to this attachment. As discussed above, the changes consist of reformatting the CNS DC Power Systems technical specifications. The limiting conditions for operation (LCO) action statements have been revised, existing surveillance requirements have been reformatted, and additional surveillance requirements were included to correspond with STS. In addition, several changes were made to the bases section concerning DC Power Systems to also maintain consistency with the STS. The Table of Contents changes and re-paginated section 3/4.9 are editorial changes only. The balance of the proposed changes are described in the following discussion.

Format Changes (Pages 194, 195, and 197)

The surveillance requirements for both the 125 VDC and 250 VDC unit batteries and chargers have been combined.

The electrolyte level, float voltage, and specific gravity limits for pilot cell and other connected cell values have been incorporated into new Technical Specification Table 3.9.1.

New, allowable values for each connected cell consisting of electrolyte level, float voltage, and specific gravity have been defined and included in new Technical Specification Table 3.9.1.

LCO Action Statement (Page 194 and 195)

The existing Action Statement has been replaced with the following:

"From and after the date that one of the four unit 125 volt or 250 volt batteries is made or found to be inoperable for any reason, restore the inoperable battery to OPERABLE status within 2 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours."

"From and after the date that a unit battery charger is made or found to be inoperable, restore the inoperable battery charger to OPERABLE status or replace with the spare battery charger within 4 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours."

Surveillance Requirements (Page 194 and 195)

Several new Surveillance Requirements have been added as discussed below. All other changes relate to relocation of and/or reformatting of existing surveillance requirements in accordance with the STS format.

The batteries will be verified operable within 7 days after a discharge to meet the new category B limits, which are the connected cell limits. This surveillance specifies acceptable discharge and overcharge terminal voltage values.

The batteries will be verified quarterly that no visible corrosion exists at either terminal or connectors that could affect connection resistance, or the connection resistance of these items is less than 150×10^{-6} ohm.

Once each operating cycle the following will be verified: 1) the cell, cell plates, and battery racks shall be visually inspected, 2) the cell-to-cell and terminal connections are free of corrosion, and 3) the resistance of each cell-to-cell and terminal connection is $\leq 150 \times 10^{-6}$ ohm.

In addition, the required float voltage for the pilot cell and other connected cell limits has been reduced from 2.15 volts to 2.13 volts in accordance with the manufacturer's recommendations, and included in new Table 3.9.1. The District has verified that the voltage limit of 2.13 volts provides sufficient margin for the batteries in meeting their design bases. Further, the electrolyte level surveillance has been changed from "between the minimum and maximum level marks" to "≥ Minimum level indication mark, and ≤ ¼" above the maximum level indication mark," and also relocated to new Table 3.9.1. This change is more prescriptive, and is in accordance with the STS wording.

Bases Changes (Pages 198, 199, and 200)

The changes to the Bases section are consistent with the wording found in STS for DC Power Systems. The bases now discuss NRC endorsed standards which outline the surveillance requirements for demonstrating Operability. In addition the bases now discuss why the operability determinations and follow up actions ensure battery capacity, capability, and operability even during operation with a cell's parameter outside the normal limit but within the allowable limits.

III. SIGNIFICANT HAZARDS DETERMINATION

10 CFR 50.91(a)(1) requires that licensee requests for operating license amendments be accompanied by an evaluation of significant hazards posed by the issuance of the amendment. This evaluation is to be performed with respect to the criteria given in 10 CFR 50.92(c). The following analysis meets these requirements.

Evaluation of this Amendment with Respect to 10 CFR 50.92

The enclosed Technical Specifications change is judged to involve no significant hazards based on the following:

1. Does the proposed change involve a significant increase in the probability or consequences of an accident previously evaluated?

   Evaluation

   This proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated. The proposed change reformats the existing DC Power System limiting conditions for operation and accompanying surveillance requirements into a format consistent with the Standard Technical Specifications, which is in accordance with applicable NRC guidance.

   The CNS Technical Specifications, like the Standard Technical Specifications, currently provide a set of surveillance acceptance criteria associated with the station DC power sources. These criteria vary according to the appropriate surveillance interval, i.e., weekly, quarterly, or during refueling. However, the Standard Technical Specifications identify discrete actions associated with each surveillance requirement which are commensurate with the significance of surveillance results, and which provide an explicit means for determining DC Power System operability. In contrast, the CNS Technical Specifications provide only the action statement associated with the corresponding limiting condition for operation for battery inoperability, and while clearly defining surveillance test acceptance criteria, do not clearly define the criteria for battery operability as with the STS. This proposed change will reformat the DC Power System technical specifications to conform to the Standard Technical Specifications style which will assist the licensee in making accurate operability determinations and follow

appropriate actions. Therefore, these format changes do not constitute a significant increase in the probability or consequences of an accident previously evaluated.

In addition to improving DC Power System operability determinations, the change to the Standard Technical Specifications format will reduce the allowable reactor operation time with an inoperable battery to correspond with applicable NRC guidance. Currently, the CNS Technical Specifications allow continued reactor operation with an inoperable station battery for a period of ten days. The Standard Technical Specifications, in accordance with NRC Regulatory Guide 1.93, "Availability of Electric Power Sources," allow reactor operation to continue while attempts are made to restore operability of the battery for a period of two hours after which the reactor must be in Hot Shutdown within the next 12 hours if battery operability cannot be restored. Therefore, this change will significantly reduce the allowable reactor operation time with an inoperable battery; accordingly, this change does not represent a significant increase in the probability of previously evaluated accidents.

This proposed change also adds additional DC Power System surveillance requirements, not currently in the CNS Technical Specifications, in accordance with the guidance provided in the Standard Technical Specifications. These new surveillance requirements provide further assurance of battery operability and clarify operability determinations, and accordingly do not involve a significant increase in the probability or consequences of an accident previously evaluated.

This proposed change lowers the minimum float voltage for the pilot cell and other connected cells from 2.15 to 2.13 volts. This value is consistent with the vendor (C & D) recommendations for the acceptable float voltage for the type of batteries installed (lead calcium) at CNS for the category A and B limits as defined in the STS and the attached Table 3.9.1. In no way does the reduction of this new float voltage value affect the capability of the DC power system to perform its intended safety function. The vendor has indicated and the District has verified that a voltage of 2.13 volts for each connected cell will ensure the battery's capability to perform its design function.

These category A and B values provide the first level of surveillance and resulting evaluation. The category B allowable value of 2.10 volts for a connected cell ensures the capability of the remaining battery cells to perform their design function. The battery vendor has indicated, and District engineering has verified that the battery is capable of performing its design function with a cell value much lower than the category B allowable value, therefore, reduction of the category A and B float voltage from 2.15 volts to 2.13 volts and the generation of a category B absolute allowable value of 2.10 volts and their attendant corrective actions does not constitute a significant increase in the probability or consequences of an accident previously evaluated.

Based on the above discussions, the changes proposed in this amendment request do not represent a significant increase in the probability or consequences of an accident previously evaluated.

2. Does the proposed change create the possibility for a new or different kind of accident from any accident previously evaluated?

Evaluation

This proposed change will revise the LCO action statements and the surveillance requirements for the CNS DC Power System to conform to the Standard Technical Specifications style which will assist and improve the ability of the licensee to make accurate operability determinations and follow appropriate actions concerning the DC power system. This proposed change will not involve any plant design change, affect any plant design criteria, or change the operation or the function of the DC power system as described in the USAR. This proposed change also does not allow any new mode of plant operation. Therefore, this proposed change does not create the possibility of a new or different kind of accident from any accident previously evaluated.

3. Does the proposed change create a significant reduction in the margin of safety?

Evaluation

This proposed change does not change existing facility equipment or represent any new mode of plant operation. This proposed change incorporates additional surveillance requirements and reformats the existing surveillance requirements of the DC power system, making them more stringent than previously required. The additional surveillance requirements and new format style is consistent with the existing requirements and use NRC endorsed criteria for DC power systems. Additionally, this proposed change will not reduce the capability of the 125 volt and 250 volt battery systems to perform their intended function, therefore maintaining the margin of safety. The remaining changes consist of reformatting the DC Power System technical specifications to conform to the Standard Technical Specifications style which will assist the District in making accurate operability determinations and follow appropriate actions. Based on this discussion, this proposed change does not involve a significant reduction in the margin of safety.

IV. CONCLUSION

The District has evaluated the proposed changes described above against the criteria given in 10 CFR 50.92(c) in accordance with the requirements of 10 CFR 50.91(a)(1). This evaluation has determined that this proposed change does not 1) involve a significant increase in the probability or consequences of an accident previously evaluated, 2) create the

possibility for a new or different kind of accident from any accident previously evaluated, or 3) create a significant reduction in the margin of safety. Therefore, for the reasons detailed above, the District requests NRC approval of this Proposed Change 103.

APPENDIX