



Nebraska Public Power District

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NSD930488
April 23, 1993

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

Gentlemen:

Subject: Exigent Amendment Request
Proposed Change No. 118 to Technical Specifications
Removal of Requirements Associated With the ECCS Area Coolers
Cooper Nuclear Station, NRC Docket 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 also requests that the NRC treat this amendment request as an exigent change, as this amendment is required to support ASME Class I pressure testing, currently scheduled for May 10, 1993, prior to CNS startup from the present outage.

This proposed change removes Sections 3/4.5.H, "Engineered Safeguards Compartments Cooling," and its associated Bases section from the CNS Technical Specifications. As detailed in the attachment, these requirements are redundant to controls provided in the definition of OPERABILITY in the CNS Technical Specifications. Therefore, removal of these requirements will not adversely impact the assurance of Emergency Core Cooling System pump operability, and will make the CNS Technical Specifications consistent with the BWR/4 Standard Technical Specifications in this regard.

This proposed change has been classified as "exigent" as the District has determined that these changes are required prior to reactor startup from the current outage. During the performance of the ongoing Design Basis Reconstitution Program, the District determined that a pipe break accident postulated to occur in the Core Spray System discharge line, combined with a loss of off-site power, and with a failure of one Emergency Diesel Generator could result in fewer than the required number of low pressure Emergency Core Cooling System (ECCS) pumps assumed in the CNS accident analysis available to respond to the event. This is postulated to occur, in part, due to the loss of the Engineered Safeguards Compartment Coolers associated with the assumed failed Diesel Generator. This condition was previously reported to the NRC in accordance with 10 CFR 50.72 on March 26, 1993.

Prior to ASME Class I pressure testing, required to be performed before startup from the current outage, the District will complete modifications to the RHR pump compartments which will ensure adequate area cooling even in the absence of the RHR pump area coolers. This will eliminate the dependence on these area coolers for assuring RHR pump operability. However, the CNS Technical Specifications must also be revised to reflect this change and decouple the requirement that the RHR area coolers be operable for all postulated events. Revising the CNS

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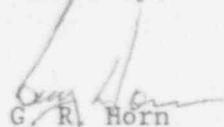
Technical Specifications to be consistent with the BWR/4 Standard Technical Specifications will accomplish this objective. Therefore, as detailed in the attachment, the District requests that the NRC modify the CNS Technical Specifications to delete these requirements, as the ongoing plant modifications would remove the need for the affected area coolers to be operable to maintain the operability of the area ECCS motors and pumps.

The attached contains a description of the proposed change, the attendant 10 CFR 50.92 evaluation, a mark-up showing the proposed changes to the CNS Technical Specification pages, and the new CNS Technical Specifications as proposed. Additionally, the attached contains an explanation of the need for exigency, and why it could not be avoided. This proposed change has been reviewed by the necessary Safety Review Committees and incorporates all amendments to the CNS Facility Operating License through Amendment 160 issued March 11, 1993

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).

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

Sincerely,



G. R. Horn
Nuclear Power Group Manager

GRH/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

REVISED TECHNICAL SPECIFICATIONS
REMOVAL OF REQUIREMENTS ASSOCIATED WITH
ECCS AREA COOLERS

Revised Pages

ii
123
128
215b

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 changes remove the requirements associated with the Engineered Safeguards Compartment Coolers, Sections 3.5.H and 4.5.H of the CNS Technical Specifications. The District also requests that the NRC treat this amendment request as an exigent change, as this amendment is required to support ASME Class I pressure testing, currently scheduled for May 10, 1993, prior to CNS startup from the present outage.

This proposed change removes Sections 3/4.5.H, "Engineered Safeguards Compartments Cooling," and its associated Bases section from the CNS Technical Specifications. As detailed below, these requirements are redundant to controls provided in the definition of OPERABILITY in the CNS Technical Specifications. Therefore, removal of these requirements will not adversely impact the assurance of Emergency Core Cooling System pump operability, and will make the CNS Technical Specifications consistent with the BWR/4 Standard Technical Specifications in this regard.

This proposed change has been classified as "exigent" as the District has determined that these changes are required to support ASME Class I pressure testing required prior to reactor startup from the current outage. During the performance of the ongoing Design Basis Reconstitution Program, the District determined that a pipe break accident postulated to occur in the Core Spray System discharge line, combined with a loss of off-site power, and with a failure of one Emergency Diesel Generator could result in fewer than the required number of low pressure Emergency Core Cooling System (ECCS) pumps assumed in the CNS accident analysis available

to respond to the event. This is postulated to occur, in part, due to the loss of the Engineered Safeguards Compartment Coolers associated with the assumed failed Diesel Generator. This condition was previously reported to the NRC in accordance with 10 CFR 50.72 on March 26, 1993.

Prior to performing the ASME Class I pressure testing, the District will complete modifications to the RHR pump compartments which will ensure adequate area cooling even in the absence of the RHR pump area coolers. This will eliminate the dependence on these area coolers for assuring RHR pump operability. However, the CNS Technical Specifications must also be revised to reflect this change and decouple the requirement that the RHR area coolers be operable for all postulated events. Revising the CNS Technical Specifications to be consistent with the BWR/4 Standard Technical Specifications will accomplish this objective. Therefore, the District requests that the NRC modify the CNS Technical Specifications to delete these requirements, as the ongoing plant modifications would remove the need for the affected area coolers to be operable to maintain the operability of the area ECCS motors and pumps. These issues, as well as a discussion of the need for exigency and why this could not have been avoided are discussed in more detail below.

II. DISCUSSION

During ongoing efforts associated with the District's Design Basis Reconstitution Program for CNS, the District identified an issue concerning the design of the low pressure ECCS area coolers. The northwest corner room contains one RHR Pump powered by Division I AC power and one powered by Division II AC power. The fan for the room cooler is powered by Division I AC power. Likewise, the southwest corner room contains one RHR Pump powered from each AC Division. The fan in the southwest corner room is powered from Division II AC power. Re-evaluation of the CNS ECCS design and the associated low pressure ECCS pump area cooler configuration during the District's Design Basis Reconstitution Program identified a concern during a Design Basis Loss-of-Coolant Accident, Loss-of-Offsite Power and a concurrent single failure which results in one diesel generator failing.

Following a Design Basis Accident, two of the available RHR Pumps are rendered inoperable due to the loss of offsite power and failure of one diesel. One of the remaining two RHR Pumps will not have any area cooling, since one of the fans in one of the two corner rooms would be powered by the diesel that is assumed to fail. Consequently, after approximately 10 minutes, one of the two remaining RHR Pumps is postulated to fail due to overheating. This scenario would result in only one RHR Pump in one loop and one Core Spray loop available to mitigate the consequences of an accident.

The DBA LOCA consists of a Recirculation System suction or discharge line break, with a concurrent Loss-of-Offsite Power and failure of a diesel. This line break bounds all other large breaks and is the design basis accident for containment and ECCS performance analyses. In this case, the failure of one of the two remaining RHR Pumps after approximately 10 minutes is within the licensing basis of the plant. As documented in GENE-187-18-0892^{1/}, General Electric has analyzed the peak cladding temperature and ECCS performance with only a single Core Spray Pump available for coolant injection into the vessel, which has shown that the core thermal limits are maintained for this event. In this case, the ECCS Pumps available include one Core Spray Pump, two RHR Pumps for the first 10 minutes and one Core Spray Pump and one RHR Pump after 10 minutes. For long term cooling, the single Core Spray Pump can maintain core cooling, while the single RHR Pump can provide for Suppression Pool Cooling. Therefore, under design basis accident conditions, the plant ECCS performance and LOCA Analysis assumptions remain valid, and with respect to this event, within the licensing basis.

However, review of ECCS capability performed as part of the District's Design Basis Reconstitution Program identified a scenario where the AC dependence of the area coolers becomes a concern. The District determined during this review that a Core Spray System line break in the opposite division of the assumed failed Diesel Generator would create a situation where less than the analyzed number of ECCS pumps would be available to mitigate the accident.

With a Core Spray line break, one Core Spray subsystem is lost due to the line break and one Core Spray subsystem is lost due to the assumed failure of the diesel. In addition, one RHR Pump is also lost in each loop due to failure of the diesel, leaving only one RHR Pump per loop. One of these RHR Pumps is assumed to fail after approximately 10 minutes due to the AC dependence of the area cooler, and its associated diesel generator failure, causing the RHR motor to overheat. This leaves a single RHR Pump to meet both the core and containment cooling requirements of the accident after 10 minutes. Due to the loss of both Core Spray subsystems and failure of three of the four RHR Pumps in the Core Spray line break scenario, the Cooper Nuclear Station would be outside the current licensing basis during plant operation.

Under current plant conditions, with the reactor shutdown, this design concern is not a safety issue. As discussed above, the only event in which this issue would be of concern is a Core Spray System line break accident, which is not a credible event with the plant in a cold shutdown condition. However, prior to ASME Class I pressure testing and subsequent startup from the refueling outage, the District will complete a design change to ensure that a loss of RHR pump area cooling will not cause the failure of one of the remaining RHR pumps due to pump motor overheating.

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1. GENE-187-18-0892, "Loss of Coolant Accident Analysis with 125 Volt DC Power Source Failure for Cooper Nuclear Station," August, 1992.

III. EXPLANATION OF THE NEED FOR EXIGENCY AND WHY IT COULD NOT BE AVOIDED

As discussed above, the circumstances requiring removal of the Technical Specifications for the ECCS pump area coolers were identified during the District's ongoing Design Basis Reconstitution effort. This situation was identified and reported to the NRC under 10 CFR 50.72 on March 26, 1993. Therefore, the District could not have submitted this request prior to the identification of the situation.

The requested proposed changes to the CNS Technical Specifications are required prior to Class I ASME pressure testing and reactor startup following the current refueling outage. While as discussed above, the District is performing a design change to ensure the operability of the RHR pumps even without the RHR pump area coolers, the CNS Technical Specifications still require these coolers to be "in service," hence, OPERABLE; otherwise the associated pumps, in this case the RHR pumps, must be declared INOPERABLE. Therefore, without approval of this proposed change, the required number of ECCS pumps needed for ASME Class I pressure testing and for plant operation would not be available; thus plant startup could not occur.

Therefore, this request is exigent in nature. Accordingly, the District requests that the NRC treat it as exigent, and in accordance with the guidance provided in 10 CFR 50.92, expedite this requested change.

IV. DESCRIPTION OF CHANGES

The changes to the CNS Technical Specifications consist of removing the operability and surveillance requirements associated with the Engineered Safeguards Compartments Cooling, Sections 3.5.H and 4.5.H of the CNS Technical Specifications. The associated Bases section is also removed. A mark-up of the affected CNS Technical Specification pages are provided in Appendix A, and the new affected CNS Technical Specification pages are provided in Appendix B. The specific changes proposed to the CNS Technical Specifications are detailed below.

- Page ii - Section H, "Engineered Safeguards Compartments Cooling," is removed from the Table of Contents.
- Page 123 - Sections 3.5.H and 4.5.H, "Engineered Safeguards Compartments Cooling" are deleted from the Limiting Conditions for Operation and Surveillance Requirements sections.
- Page 128 - Section H, "Engineered Safeguards Compartments Cooling," is deleted from the Bases section.
- Page 215b - "engineered safeguards compartment cooling systems" is replaced with "Core Standby Cooling Systems"

V. 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

The proposed Technical Specification changes associated with removal of the Limiting Conditions for Operation and Surveillance Requirements for the Engineered Safeguards Compartments Cooling do not constitute a significant increase in the probability or consequences of an accident previously evaluated. These area coolers provide cooling for the Emergency Core Cooling System (ECCS) pumps, and were originally provided in the CNS plant design to ensure that the ECCS pump areas were maintained below a specified temperature to ensure operability of the ECCS pumps. The District is currently performing a design change to improve the natural air circulation characteristics in the RHR pump areas which will eliminate the need for these coolers to assure RHR pump operability.

The removal of the Technical Specifications associated with the ECCS pump unit coolers will not impact the determination of operability for those pumps which will still require the coolers to assure operability, namely the Core Spray System pumps, and the HPCI and RCIC pumps. These specifications were included in the original version of the Technical Specifications when CNS was licensed. Since that time, the definition of OPERABILITY in the CNS Technical Specifications was revised with Amendment No. 99 to include the following requirements:

"...all attendant instrumentation, controls, normal and emergency electrical power sources...cooling or seal water, lubrication or other auxiliary equipment that are required for the system, subsystem, train, component or device to perform its function(s) are also capable of performing their related support function(s)."

Therefore, the presence of dedicated Technical Specifications for the ECCS pump area coolers are not required and are redundant to the existing Technical Specification requirements for the ECCS, given the above definition of OPERABILITY. For those areas which will

still require the area coolers to assure pump operability (Core Spray, HPCI, and RCIC areas), the definition of OPERABILITY will provide the necessary controls, and appropriate actions will be taken in accordance with their individual Technical Specifications should their area coolers become inoperable for any reason.

Based on the above discussion, the requirement for adequate equipment cooling will still be maintained within the CNS Technical Specifications to ensure operability of the ECCS. The design change being performed will ensure that an adequate number of RHR pumps will remain available to respond to the postulated Core Spray System line break accident. Further, the ECCS pump area coolers will continue to be surveillance tested and maintained through plant procedural controls. Therefore, this change will not result in a significant increase in the consequences of an accident previously evaluated. The physical plant changes being made to correct this situation consists of removing the RHR pump compartment hatches, replacing the hatches with grating, and providing curbing around the hatch opening to eliminate flooding concerns. These changes do not impact plant piping, instrumentation and controls, or other components. Review and evaluation under the District's design change process has determined that the design changes associated with this amendment request will not result in a significant increase in the probability 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 only remove requirements from the CNS Technical Specifications which are redundant to other controls already provided for within the CNS Technical Specifications. These controls are provided in Section 1.0.N of the Definitions portion of the CNS Technical Specifications, which require that all attendant support systems or components necessary for a given system or component to perform its function are also capable of performing their related support functions. Therefore, this change to the CNS Technical Specifications will only remove a redundant requirement. In addition, plant procedural controls will ensure that the ECCS area coolers will continue to be adequately surveillance tested and maintained.

The plant change associated with this proposed Technical Specification change consists of removal of the RHR compartment equipment hatches to provide for improved natural circulation cooling. No changes to plant piping or instrumentation and controls are associated with this design change. These changes have been evaluated under the District's design change process which has determined that these physical modifications will not create the possibility for a new or different kind of accident from those previously evaluated.

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

Evaluation

The proposed Technical Specifications changes will not create a significant reduction in the margin of safety. Section 3.5.H and 4.5.H, and their associated Bases section are redundant to the controls provided in the CNS Technical Specifications Definitions section for the determination of operability. Therefore, their removal from the CNS Technical Specifications will not create a reduction in equipment availability and will not create a significant reduction in the margin of safety. The physical plant changes associated with this proposed Technical Specifications change will remove an ECCS pump operability concern, and will therefore, not create a significant reduction in the margin of safety.

VI. ADDITIONAL BASIS FOR NO SIGNIFICANT HAZARDS DETERMINATION

The definition of OPERABILITY in the CNS Technical Specifications is consistent with the corresponding definition of OPERABILITY provided in the BWR/4 Standard Technical Specifications (NUREG-1433). This document was the result of extensive development and review by both the NRC Staff and the industry. These Standard Technical Specifications do not contain dedicated requirements for secondary plant support systems, including ECCS pump area coolers. This support function is accounted for within the definition of OPERABILITY as given within the Standard Technical Specifications. This proposed change would move CNS more in line with the Standard Technical Specifications in this respect.

VII. 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 will 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, and also requests that the NRC expedite the processing this proposed change in accordance with the guidance provided in 10 CFR 50.91 for exigent amendment requests.