Nebraska Public Power District

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NLS9100363
June 7, 1991

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

Gentlemen:

Subject: Proposed Change No. 96 to Technical Specifications
Verification of Equipment Operability
Cooper Nuclear Station
NRC Docket 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 demonstration of operability for certain portions of the Standby Liquid Control System, Core and Containment Cooling Systems, Standby Gas Treatment System, Reactor Building Closed Cooling Water System, and the Service Water System may be undesirable during the applicable Limiting Condition for Operations, where the other redundant train, system, subsystem, or component is inoperable. The District proposes to require that the operability of certain equipment be verified instead of demonstrated in the CNS Technical Specifications. To verify operability, an administrative check would be performed, by examination of appropriate plant records. Such records would include appropriate surveillance tests, temporary modification logs, equipment tagging records, operating logs, and shift turnover records.

Demonstration of operability (testing) for certain redundant trains, systems, subsystems, or components often requires a configuration or lineup which may degrade a given system, subsystem, or component's ability to perform its specified function(s). The District also contends that increased testing frequencies required for certain trains, systems, subsystems or components when the redundant counterpart is found to be inoperable, could reduce reliability of the remaining train, system, subsystem or component by subjecting the equipment to unnecessary startup transients and wear while operating. In light of the above issues, the District proposes that CNS Technical Specifications be changed to require "verification" of operability,

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as compared to demonstration (testing) for the systems identified in attachment to this letter. This change is requested only for those systems, subsystems, or components where demonstration of operability is undesirable from a standpoint of nuclear safety. However, verification of operability does not preclude the testing of a given train, system, subsystem, or component to determine operability. Testing may be necessary in instances where the cause of the inoperable condition could also apply to the remaining train, system, subsystem or component.

The attached contains a summary of individual Technical Specification changes associated with Proposed Change No. 96, the attendant 10 CFR 50.92 evaluation, and the applicable revised Technical Specification pages (including markups). This proposed change has been reviewed by the necessary Safety Review Committees and incorporates all amendments to the CNS Facility Operating License through Amendment 142 issued May 22, 1991.

In addition to the signed original, 37 copies are also submitted for your use. 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 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,

Guy R. Horn

Guy R. Horn
Nuclear Power Group Manager

GRH/dnm:dmr 13041
Attachment

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

NRC Regional Office
Region IV
Arlington, TX

NRC Resident Inspector
Cooper Nuclear Station

STATE OF NEBRASKA)
)ss
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

Subscribed in my presence and sworn to before me this 11th day of June, 1991.

NOTARY PUBLIC

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

REVISED TECHNICAL SPECIFICATIONS
VERIFICATION OF OPERABILITY

Revised Pages

4	117	127	215b
108	118	131	215c
110	119	165a	
115	120	183	
116	125	205a	

I. INTRODUCTION

In the event that certain systems, subsystems, or components are found to be inoperable, the Cooper Nuclear Station (CNS) Technical Specifications (TS) presently require the corresponding redundant train, system, subsystem, or component of that system, as well as other systems, including associated auxiliaries, to be tested immediately and periodically thereafter to satisfy operability requirements. This testing often requires the temporary removal of the operable train, subsystem, system or component from availability thus reducing its ability to perform the designed safety function(s). In addition, the increased testing frequency currently required for the operable train, system, subsystem, or component could result in decreased reliability. It is for the above reasons that Nebraska Public Power District (District) proposes the revision of the CNS Technical Specifications to allow for verification of operability, as opposed to the current methodology of demonstration (testing), for certain redundant trains, systems, subsystems, components, and related auxiliaries associated with the following:

- Standby Liquid Control System (TS Section 3.4/4.4)
- Core and Containment Cooling Systems (TS Section 3.5/4.5)
- Standby Gas Treatment System (TS Section 3.7/4.7)
- Reactor Building Closed Cooling Water System (TS Section 3.9/4.9)
- Service Water System (TS Section 3.12/4.12)

Verification of operability, as defined in the proposed Technical Specification change, would consist of an administrative check, by examination of appropriate plant records (logs, surveillance test records) to determine that a system, subsystem, train, component, or device is not inoperable. The verification of operability would allow the subject system, subsystem, component, or device to remain available to perform its intended design function during the applicable Limiting Conditions for Operations (LCO).

The proposed verification of operability takes credit for the CNS ASME Section XI In-Service Testing Program and the equipment surveillance requirements to provide the needed assurance that redundant trains,

systems, subsystems, and components will operate when needed. Previous testing under these programs have shown a high degree of reliability for equipment in question. The proposed change can eliminate daily testing requirements which may temporarily impair the systems' ability to perform and could cause degradation in system reliability.

II. DESCRIPTION OF CHANGES

The proposed Technical Specification change revises portions of Sections 1.0, 3.4/4.4, 3.5/4.5, 3.7/4.7, 3.9/4.9, 3.10/4.10, and 3.12/4.12 to allow for the verification of operability of redundant trains, subsystems, components, and related auxiliaries during conditional surveillances. This is accomplished by replacing the term "demonstrating" with the term "verifying" in the applicable Surveillance Requirements. The bases have also been changed to agree with the revised sections, along with other minor editorial changes. Please refer to the enclosed Summary of Changes, along with the included typed and annotated versions of the Technical Specification changes, associated with Proposed Technical Specification Change No. 96 for details of individual proposed changes.

III. SIGNIFICANT HAZARDS DETERMINATION

10 CFR 50.91(a)(1) requires that licensee requests for operating licensee 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 Specification Change is judged to involve no significant hazards based on the following:

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

Evaluation

1. This proposed change defines the terminology "verification of operability," and allows for the consistent application of the verification process on portions of the Standby Liquid Control System (SLC), Core and Containment Cooling Systems, Standby Gas Treatment System (SBGT), Reactor Building Closed Cooling Water System (REC), and Service Water System. The proposed change does not impact any USAR safety analysis involving these systems.

   The verification process has been applied only to those redundant trains, systems, subsystems or components where the current requirements for testing under a given LCO could adversely affect system, subsystem, or component availability or reliability. Currently, if any redundant train, system, subsystem, or component of the above identified systems were determined to be inoperable, realignment of valves for testing

may render the remaining subsystem or train of that system or other systems in a degraded mode for the length of the test.

The proposed change by allowing for verification to be used in-lieu-of testing, would improve overall system availability and reliability, thus resulting in a reduction of the potential consequence of accidents previously evaluated. System availability would be improved though the reduced scope and frequency of surveillance testing during LCO conditions, much of which is now required on a daily basis. Reduced testing would also result in fewer startup transients on equipment and systems, along with less run time and equipment wear, thus reducing the probability of equipment failures.

Based on this discussion, the District has determined that this change does not involve a significant increase in the probability or consequences of accidents previously evaluated.

2. Other changes associated with this proposed change involve the renumbering of paragraphs in the Definitions section, correction of five typographical errors, and the addition of two paragraph continuation numbers. Three changes involve the removal of weekly surveillance test requirements in situations where the corresponding LCO is limited to seven days. An additional change consists of clarifying Surveillance Requirement 4.12.C.2. This change reflects the fact that not all components are required to maintain the operability of the service water system.

The above identified changes are editorial in nature and have no impact on plant hardware, plant design, or operations. These editorial changes do not modify or add any initiating parameters that would cause a significant increase in the probability or consequence of an accident previously evaluated.

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

Evaluation

1. The proposed change consists of allowing for the verification of operability as opposed to demonstrating operability through testing for the above identified systems under the applicable LCOs. The proposed change will not reduce the availability of these systems when required to mitigate accident conditions. Excessive testing of systems and components can reduce rather than increase reliability through the increased probability of equipment failure and human error. However, an acceptable level of testing can be achieved through the CNS ASME Section XI Testing Program combined with the equipment surveillance requirements that will remain in the Technical Specifications. This testing will provide adequate assurance of system performance.

The proposed change revises only surveillance requirements, and associated design bases discussions, and one definition. No change alters the plant design or its transient response. Therefore, the proposed change does not create the possibility for a new or different kind of accident from any accident previously evaluated.

2. Other changes associated with this proposed change involve the renumbering of paragraphs in the Definitions section, correction of five typographical errors, and the addition of two paragraph continuation numbers. Three changes involve the removal of weekly surveillance test requirements in situations where the corresponding LCO is limited to seven days. An additional change consists of clarifying Surveillance Requirement 4.12.C.2. This change reflects the fact that not all components are required to maintain the operability of the service water system.

   The above identified changes are editorial in nature and do not involve any alteration to the plant design, setpoints, or operating parameters. Therefore, these editorial changes do not create the possibility for a new or different kind of accident from any accident previously evaluated.

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

Evaluation

1. As discussed above, the proposed change reduces the amount of testing but does not decrease equipment availability or reliability to respond to design basis events. The proposed change will not reduce the minimum equipment operability requirements during an LCO or normal operating conditions (described in the Bases sections of the Technical Specifications) for the systems identified in the evaluation to question one. The appropriate systems, subsystems, trains, and components will respond in accordance to existing evaluations to mitigate the effects of design basis accidents. Therefore the District finds that the proposed change does not create a significant reduction in the margin of safety.

2. Other changes associated with this proposed change involve the renumbering of paragraphs in the Definitions section, correction of five typographical errors, and the addition of two paragraph continuation numbers. Three changes involve the removal of weekly surveillance test requirements in situations where the corresponding LCO is limited to seven days. An additional change consists of clarifying Surveillance Requirement 4.12.C.2. This change reflects the fact that not all components are required to maintain the operability of the service water system.

The above identified changes are editorial in nature and do not involve any change to plant design, hardware, instrument setpoints, or operation. Therefore, the proposed change does not involve a significant reduction in the margin of safety.

IV. CONCLUSION

The District has evaluated the proposed changes described in the Summary of Changes (attached) 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, the reasons detailed above, the District requests the NRC approval of this Proposed Change 96.

SUMMARY OF CHANGES

The following is a list of changes to CNS Technical Specifications associated with Proposed Change No. 96.

Editorial Changes

1) Page 4, Definitions - Section 1.0

Renumber the existing paragraph L.B. as paragraph M. Renumber the existing paragraph M, as paragraph N. Revise existing paragraph M by removing the first letter "s" from the word "functions(s)" (line 3, 8, and 9). Delete the existing paragraph N.

2) Pages 115 and 118

a) Surveillance Requirement 4.5.A.4 - Correct typographical error (line 4) by replacing the term "operating" with "operable."

b) Limiting Condition for Operation 3.5.C.4 - Correct typographical error (line 2) by replacing the term "an" with "and."

3) Pages 119, 120, and 127

a) Surveillance Requirement 4.5.D.2 - Remove the term "and weekly thereafter" regarding actions to be taken with the HPCIs, when it is determined that the RCIC subsystem is inoperable. This change is consistent with LCO 3.5.D.2 which limits the inoperable status of the RCICs to seven days.

b) Surveillance Requirement 4.5.E.2 - Remove the term "and at least weekly thereafter" regarding actions to be taken with the ADS subsystem actuation logic for the other ADS valves. This change is consistent with LCO 3.5.E.2 which limits the inoperable status of one valve in the ADS to seven days.

c) Bases 3.5.D - Remove the term "and weekly" (line 7) regarding HPCI operability during RCIC outage. RCIC outage is limited to seven days.

4) Page 215b

a) Add the term "3.12 (cont'd)" directly under the heading "LIMITING CONDITIONS FOR OPERATIONS."

b) Add the term "4.12 (cont'd)" directly under the heading "SURVEILLANCE REQUIREMENTS."

5) Page 215c, Surveillance Requirement 4.12.C.2

a) Insert the word "required" between the terms "any" and "service water system component". This change reflects the reality that not all service water system components are required.

Demonstrate/Verify Changes

1) Page 4, Definitions - Section 1.0

Term N.1.1 - Add an additional paragraph to definition of term "Operable - Operability". This new paragraph delineates what constitutes a verification of operability.

2) Pages 108 and 110, Standby Liquid Control System

(a) Surveillance Requirement 4.4.B.1 - Change the term "demonstrated" to "verified" regarding actions to be taken with redundant components when a component of the standby liquid control system is found to be inoperable.

(b) Bases 3.4.B - Remove a portion of the last sentence to reflect the philosophy that testing no longer needs to be performed on the redundant system components when a given system component is out of service. As an administrative note, Page 108 is also subject to change by proposed TS Change No. 51

3) Pages 115, 116, 117, 118, 119 and 120, Core and Containment Cooling Systems

(a) Surveillance Requirement 4.5.A.2 - Change terms "demonstrated" (lines 5 and 8) to "verified" regarding actions to be taken with the operable core spray subsystem and LPCI subsystem when one core spray subsystem is inoperable.

(b) Surveillance Requirement 4.5.A.4 - Change terms "demonstrated" (line 8) to "verified " regarding actions to be taken with remaining active components of the LPCI subsystems, the containment cooling subsystem and both core spray systems when it is determined that one of the RHR (LPCI) pumps is inoperable.

(c) Surveillance Requirement 4.5.A.5 - Change terms "demonstrated" (line 4) to "verified" regarding actions to be taken with both core spray subsystems and containment cooling subsystem when it is determined that the LPCI subsystem is inoperable.

(d) Surveillance Requirement 4.5.B.2 - Change the term "demonstrated" (line 5) to "verified" regarding actions to be taken with remaining active components of the containment cooling subsystems when it is determined that any RHR service water booster pump is inoperable.

(e) Surveillance Requirement 4.5.B.3 - Change the term "demonstrated" (line 7) to "verified" regarding actions to be taken with the operable subsystem loop when one containment cooling subsystem loop becomes inoperable.

(f) Surveillance Requirement 4.5.C.2 - Reword complete paragraph to accommodate the change of the term "demonstrated" to "verified" regarding actions to be taken with the RCIC, LPCI subsystem and both core spray subsystems when one HPCI subsystem is inoperable.

(g) Surveillance Requirement 4.5.D.2 - Change the term "demonstrated" (line 3) to "verified" regarding actions to be to be taken with the HPCIS when it is determined that the RCIC subsystem is inoperable.

(h) Surveillance Requirement 4.5.E.2 - Remove the requirement (line 4) that the HPCI subsystem shall be demonstrated operable when it is determined that one valve is inoperable. Replace with requirement that HPCI subsystem shall be verified to be operable immediately.

(i) Surveillance Requirement 4.5.F.1 - Change the term "demonstrated" (line 5) to "verified" regarding actions to be taken with all low pressure core cooling and containment cooling subsystems when it is determined that one diesel generator is inoperable.

4) Page 125, 127 and 131, Core and Containment Cooling Systems, Bases.

(a) Bases 3.5.A (Paragraphs 1,2 and 3 on Page 125)

Paragraph 1 - Removal of discussion (lines 4 and 5) of daily test on the remaining core spray subsystems should a core spray subsystem fail.

Paragraph 2 - Change the term "demonstrated" (line 3) to "verified" regarding actions taken should one core spray subsystem becomes inoperable. Remove sentence (line 4) stating "This demonstration includes a manual initiation of the pumps and associated valves."

Paragraph 3 - Change the term "demonstrated" (line 5) to "verified" regarding actions taken should the loss of one LPCI pump occur.

(b) Bases 3.5.B (Paragraph 2, Page 125) - Change term "demonstrating" (line 2) to "verifying" regarding the maintaining of the overall core and containment cooling reliability. Remove sentence (line 3) stating that "The degree of operability to be demonstrated depends on the nature of the reason for the out-of-service equipment." Change discussion to read "For routine out-of-service periods caused by preventive maintenance, etc., the operability of other systems and components will be verified as given in the Technical Specifications." Change word "the" to the word "a" (line 8). Change the term "should be thorough enough" to "may be needed" (line 8). Remove sentence starting with "In any event".

(c) Bases 3.5.D (Page 127) - Change term "demonstrations" (line 7) to "verifications" regarding HPCI operability during RCIC outage.

(d) Bases 3.5.E (Paragraph 5, Page 127) - Change term "demonstrated" to "verified" regarding the HPCIS when one ADS value is out of service.

(e) Bases 4.5 (Paragraph 2 and 3, Page 131) - Change term "demonstrating" (line 2) to "verifying" regarding the maintaining of the overall core and containment cooling reliability. Remove discussion (line 3) regarding the degree of operability to be demonstrated depends on the nature of the reason for the out-of-service equipment. Rewrite sentence, starting in line 4, to read "For routine out-of-service periods caused by preventive maintenance, etc., the operability of other systems and components will be verified as given in the Technical Specifications." Change word "the" to the

word "a" (line 8). Change the term "should be thorough enough" to "may be needed (line 8). Remove statement "in addition to operability checks" (line 12). Remove Paragraph 3 which addresses increased testing frequencies for redundant components.

5) Page 165a, 183 and 205a, Standby Gas Treatment System

(a) Surveillance Requirement 4.7.B.4.c - Change the term "demonstrated" (line 3) to "verified" regarding actions to be taken with the other standby gas treatment system when one standby gas treatment becomes inoperable.

(b) Page 183, Containment Systems, Bases 4.7.B and 4.7.C Paragraph 6 - Change sentence, starting in line 2, to require the other standby gas treatment system to be verified daily if one standby gas treatment system is inoperable.

(c) Surveillance Requirement 4.10.E - Same change as (5)(a). As an administrative note, page 165a is also subject to change by proposed TS Change No. 69.

6) Page 215b and 216c, Reactor Building Closed Cooling Water System (REC) and Service Water System

(a) Surveillance Requirement 4.12.B.2 - Change term "demonstrated" (line 4) to "verified" regarding actions to be taken with the other REC loop when any active component in an REC loop is inoperable.

(b) Surveillance Requirement 4.12.C.2 - Change term "demonstrated" (line 5) to "verified" with regards to actions to be taken with the operable service water system when it is determined that any service water system component is inoperable.