

January 5, 2006

Mr. Randall K. Edington
Vice President-Nuclear and CNO
Nebraska Public Power District
P. O. Box 98
Brownville, NE 68321

SUBJECT: COOPER NUCLEAR STATION - ISSUANCE OF AMENDMENT RE: CONTROL
ROD SCRAM TIME TESTING (TAC NO. MC8074)

Dear Mr. Edington:

The Commission has issued the enclosed Amendment No. 216 to Facility Operating License No. DPR-46 for the Cooper Nuclear Station. The amendment consists of changes to the Technical Specifications (TSs) in response to your application dated July 21, 2005.

The amendment would revise the TSs testing frequency for the surveillance requirement (SR) in TS 3.1.4, "Control Rod Scram Times." Specifically, the proposed change would revise the frequency for SR 3.1.4.2, control rod scram time testing, from "120 days cumulative operation in MODE 1" to "200 days cumulative operation in MODE 1."

A copy of our related Safety Evaluation is also enclosed. The Notice of Issuance will be included in the Commission's next biweekly *Federal Register* notice.

Sincerely,

/RA/

Brian Benney, Project Manager
Plant Licensing Branch IV
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket No. 50-298

Enclosures: 1. Amendment No. 216 to DPR-46
2. Safety Evaluation

cc w/encls: See next page

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NEBRASKA PUBLIC POWER DISTRICT

DOCKET NO. 50-298

COOPER NUCLEAR STATION

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 216

License No. DPR-46

1. The Nuclear Regulatory Commission (the Commission) has found that:
 - A. The application for amendment by Nebraska Public Power District (the licensee) dated July 21, 2005, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and regulations set forth in 10 CFR Chapter I;
 - B. The facility will operate in conformity with the application, the provisions of the Act, and the rules and regulations of the Commission;
 - C. There is reasonable assurance (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations;
 - D. The issuance of this license amendment will not be inimical to the common defense and security or to the health and safety of the public; and
 - E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment and Paragraph 2.C.(2) of Facility Operating License No. DPR-46 is hereby amended to read as follows:

- (2) Technical Specifications

- The Technical Specifications contained in Appendix A, as revised through Amendment No. 216, are hereby incorporated in the license. The Nebraska Public Power District shall operate the facility in accordance with the Technical Specifications.

3. The license amendment is effective as of its date of issuance and shall be implemented within 30 days from the date of issuance. The licensee shall incorporate the Technical Specifications Bases changes described in its application dated July 21, 2005, in the next periodic update to the Technical Specifications Bases Section.

FOR THE NUCLEAR REGULATORY COMMISSION

/RA/

David Terao, Chief
Plant Licensing Branch IV
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical
Specifications

Date of Issuance: January 5, 2006

ATTACHMENT TO LICENSE AMENDMENT NO. 216

FACILITY OPERATING LICENSE NO. DPR-46

DOCKET NO. 50-298

Replace the following page of the Appendix A Technical Specifications with the enclosed revised page. The revised page is identified by an amendment number and contains a marginal line indicating the area of change.

REMOVE

3.1-13

INSERT

3.1-13

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 216 TO

FACILITY OPERATING LICENSE NO. DPR-46

NEBRASKA PUBLIC POWER DISTRICT

COOPER NUCLEAR STATION

DOCKET NO. 50-298

1.0 INTRODUCTION

By application dated July 21, 2005 (Agencywide Documents and Access Management System Accession No. ML052090146), Nebraska Public Power District (the licensee), requested changes to the Technical Specifications (TSs) for Cooper Nuclear Station (CNS).

The proposed changes would revise the TSs testing frequency for the surveillance requirement (SR) in TS 3.1.4, "Control Rod Scram Times." Specifically, the proposed change would revise the frequency for SR 3.1.4.2, control rod scram time testing, from "120 days cumulative operation in MODE 1" to "200 days cumulative operation in MODE 1."

These changes are based on TS Task Force (TSTF) change traveler TSTF-460 (Revision 0) that has been approved generically for the boiling-water reactor (BWR) Standard TS, NUREG-1433 (BWR/4) and NUREG-1434 (BWR/6) by revising the frequency of SR 3.1.4.2, control rod scram time testing, from "120 days cumulative operation in MODE 1" to "200 days cumulative operation in MODE 1." A notice announcing the availability of this proposed TS change using the consolidated line item improvement process was published in the *Federal Register* on August 23, 2004 (69 FR 51864).

2.0 REGULATORY EVALUATION

The TS requirement governing the control rod scram time surveillance is intended to assure proper function of control rod insertion. Following each refueling outage, all control rod scram times are verified. In addition, periodically during power operation, a representative sample of control rods is selected to be inserted to verify the insertion speed. A representative sample is defined as a sample containing at least 10 percent of the total number of control rods. The current TS stipulates that no more than 20 percent of the control rods in this representative sample can be "slow" during the post outage testing. With more than 20 percent of the sample declared to be "slow" per the criteria in Table 3.1.4-1, additional control rods are tested until this 20 percent criterion (e.g., 20 percent of the entire sample size) is satisfied, or until the total number of "slow" control rods (throughout the core, from all surveillances) exceeds the Limiting Condition for Operation limit. For planned testing, the control rods selected for the sample should be different for each test. The acceptance criterion for at-power surveillance

testing will be redefined from 20 percent to 7.5 percent and will be incorporated into the TS Bases in accordance with its Bases Control Program. This tightened acceptance criterion for at-power surveillance aligns with the TS 3.1.4 requirement for the total control rods allowed to have scram times exceeding the specified limit.

The proposed change does not affect any current operability requirements and the test frequency being revised is not specified in regulations. As a result, no regulatory requirements or criteria are affected.

3.0 TECHNICAL EVALUATION

3.1 Statement of Proposed Changes

CNS's TS SR 3.1.4.2 states "verify, for a representative sample, each tested control rod scram time is within the limits of Table 3.1.4-1 with reactor steam dome pressure \$800 psig." SR 3.1.4.2 has a frequency of "120 days cumulative operation in MODE 1." The proposed change revises the frequency to "200 days cumulative operation in MODE 1." The TS Basis for SR 3.1.4.2 will be revised to reference the new frequency and to reduce the percentage of the tested rods which can be "slow" from 20 percent to 7.5 percent.

3.2 Evaluation of Proposed Change

The control rod insertion (scram) time test results at CNS have shown the control rod scram rates to be highly reliable. In its submittal dated July 21, 2005, the licensee stated that it has performed a review of the control rod drive system SCRAM time test results for CNS.

This review determined the following:

From June 13, 1999, to May 20, 2005, (approximately six years), CNS conducted a total of 2188 individual control rod scram time tests. Out of those tests only four (4) control rods were identified as 'slow.'

CNS replaced the ASCO [American Switch Co.] scram solenoid pilot valves (SSPVs) with AVCO SSPVs on the 137 Hydraulic Control Units in 2003. The AVCO valve was selected because of its enhanced design, in which the elastomer diaphragms that are used in the ASCO valve are eliminated. By replacing the ASCO SSPVs with the AVCO SSPVs, the potential for elastomer diaphragm degradation is eliminated. This is considered to be an improvement to the Control Rod Drive System in that it has reduced the scram times to notch position 46. Since replacement of the SSPVs in 2003 a total of 827 individual control rod scram time tests have been performed with no 'slow' rods identified.

The extensive historical database substantiates the claim of high reliability of the CNS's control rod drive system. The current TS, with TS Bases in SR 3.1.4.2, requires that 10 percent of the 137 control rods (or at least 14 rods) be tested via sampling every 120 cumulative days of operation in Mode 1. It also states the acceptance criteria for at-power surveillance testing, that the sample remains representative is met if 20 percent or fewer of the control rods in the sample tested are found to be slow, per the criterion in TS Table 3.1.4-1. This acceptance criterion will be re-defined for at-power surveillance testing from 20 percent to 7.5 percent when

the surveillance period is extended to 200 cumulative days of operation in Mode 1. This tightened acceptance criterion for at-power surveillance aligns with the TS 3.1.4 requirement for the total control rods allowed to have scram times exceeding the specified limit.

The licensee will incorporate the revised acceptance criterion value of 7.5 percent into the TS Bases in accordance with its Bases Control Program, as a condition of this license amendment.

The Nuclear Regulatory Commission (NRC) staff considers the extended surveillance interval to be justified by the demonstrated reliability of the control rod insertion system, based on historical control rod scram time test data, and by the more restrictive acceptance criterion for determining whether the sample of control rods tested remains representative. Therefore, the NRC staff finds the proposed TS change acceptable.

4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Nebraska State official was notified of the proposed issuance of the amendment. The State official had no comments.

5.0 ENVIRONMENTAL CONSIDERATION

The amendment changes a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The NRC staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendment involves no significant hazards consideration, and there has been no public comment on such finding published October 25, 2005 (70 FR 61661). Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b) no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendment.

6.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: Bhalchandra Vaidya

Date: January 5, 2006

Cooper Nuclear Station

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December 2005