



**Nebraska Public Power District**

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10 CFR 50.55a

NLS2009038  
June 18, 2009

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

Subject: 10 CFR 50.55a Request Number RV-06, Revision 0  
Cooper Nuclear Station, Docket No. 50-298, DPR-46

Dear Sir or Madam:

The purpose of this letter is to request that the Nuclear Regulatory Commission (NRC) grant Nebraska Public Power District (NPPD) relief from certain inservice test (IST) code requirements for Cooper Nuclear Station (CNS) pursuant to 10 CFR 50.55a. Specifically, this request provides relief from certain IST valve testing requirements as they pertain to check valves, solenoid operated valves, and air operated valves within the Control Rod Drive system.

10 CFR 50.55a Request Number RV-06, Revision 0 is applicable to the fourth ten-year IST interval, which began March 1, 2006. NPPD requests NRC approval of the attached request by June 28, 2010, which represents a standard twelve-month review period following the submittal. Approval of this request is not needed to support currently scheduled work at CNS. However, it is needed to make the fourth ten-year interval IST program consistent with NUREG 1482, Revision 1. The NUREG states, in part, that specific relief is required to implement the guidance of Generic Letter 89-04 for those plants that are updating to later editions of the American Society of Mechanical Engineers Code for Operation and Maintenance of Nuclear Power Plants. The need for this request was identified during a recent self assessment and has been entered into the CNS corrective action program for resolution.

The underlying intent of the NUREG has and continues to be met. NPPD is submitting this request in order to ensure that the documentation requirements of the latest NRC guidance are met. RV-06, including the basis and details of this request, is provided in the attachment.

**COOPER NUCLEAR STATION**

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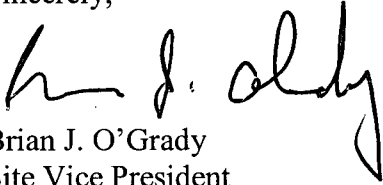
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If you have any questions concerning this matter, please contact David Van Der Kamp, Licensing Manager, at (402) 825-2904.

Sincerely,



Brian J. O'Grady  
Site Vice President

/dnm

Attachment

cc: Regional Administrator w/ attachment  
USNRC - Region IV

Cooper Project Manager w/ attachment  
USNRC - NRR Project Directorate IV-1

Senior Resident Inspector w/ attachment  
USNRC - CNS

NPG Distribution w/ attachment

CNS Records w/ attachment

**10 CFR 50.55a Request Number RV-06, Revision 0  
CRD Technical Specification Testing  
Cooper Nuclear Station  
Docket No. 50-298, DPR-46**

**Proposed Alternative  
in Accordance with 10 CFR 50.55a(a)(3)(i)**

--Alternative Provides Acceptable Level of Quality and Safety--

**1. ASME Code Component(s) Affected**

Valve	Class	Category	System
CRD-SOV-SO120*	2	B	CRD
CRD-SOV-SO121*	2	B	CRD
CRD-SOV-SO122*	2	B	CRD
CRD-SOV-SO123*	2	B	CRD
CRD-AOV-CV126*	2	B	CRD
CRD-AOV-CV127*	2	B	CRD
CRD-CV-114CV*	2	C	CRD
CRD-CV-138CV*	2	C	CRD

\*Typical of 137 Hydraulic Control Units (HCUs)

**2. Applicable Code Edition and Addenda**

American Society of Mechanical Engineers (ASME) Code for Operation and Maintenance of Nuclear Power Plants (OM Code) 2001 Edition through 2003 Addenda.

**3. Applicable Code Requirement**

ASME OM Code ISTC-3500 Valve Testing Requirements – Active and passive valves in the categories defined in ISTC-1300 shall be tested in accordance with the paragraphs specified in Table ISTC-3500-1 and the applicable requirements of ISTC-5100 and ISTC-5200.

ISTC-3510 Exercising Test Frequency – Active Category A, Category B, and Category C check valves shall be exercised nominally every three (3) months except as provided by ISTC-3520, ISTC-3540, ISTC-3550, ISTC-3560, ISTC-5221, and ISTC-5222.

ISTC-3560 Fail-Safe Valves – Valves with fail-safe actuators shall be tested by observing the operation of the actuator upon loss of valve actuating power in accordance with the exercising frequency of ISTC-3510.

ISTC-5131(a) Valve Stroke Testing – Active valves shall have their stroke times measured when exercised in accordance with ISTC-3500.

ISTC-5151(a) Valve Stroke Testing – Active valves shall have their stroke times measured when exercised in accordance with ISTC-3500.

ISTC-5221(a) Valve Actuator Movement – The necessary valve actuator movement during exercise testing shall be demonstrated by performing both an open and a close test.

**4. Reason for Request**

Pursuant to 10 CFR 50.55a, “Codes and Standards,” paragraph (a)(3), relief is requested from the requirements of ASME OM Code ISTC-3500, ISTC-3510, ISTC-3560, ISTC-5131(a), ISTC-5151(a), and ISTC-5221(a). The proposed alternative would provide an acceptable level of quality and safety.

This relief is needed to make the fourth ten-year inservice test (IST) program consistent with NUREG 1482, Revision 1.

**5. Proposed Alternative and Basis for Use**

**Background Information**

It is typical for Boiling Water Reactors to perform the subject Control Rod Drive (CRD) testing per their respective plant Technical Specifications. However, the guidance for how this testing should be documented in the IST programs has changed. Generic Letter (GL) 89-04 and NUREG 1482, Revision 0, both stated that licensees were to document the use of GL 89-04, Position 7, in the IST program, but did not require that the documentation be in the form of a 10 CFR 50.55a request. Initially, for the fourth ten-year IST interval, Nebraska Public Power District (NPPD) continued to follow the guidance from GL 89-04 and NUREG 1482, Revision 0, by documenting the subject CRD testing in a Technical Position at Cooper Nuclear Station (CNS). However, during a recent self assessment, NPPD determined that CNS did not meet the latest Nuclear Regulatory Commission (NRC) guidance, NUREG 1482, Revision 1 (published January 2005). This NUREG states, in part, that specific relief is required to implement the guidance in GL 89-04 for those plants that are updating to later editions of the Code. Although the underlying intent of the NUREG has and continues to be met, NPPD is submitting this request in order to ensure that the documentation requirements of the latest NRC guidance are met. The proposed alternatives and the basis for use are discussed in further detail below.

CRD-CV-138CV; CRD-SOV-SO120, SO121, SO122, SO123:

The CRD cooling water header check valve (typical of 137 HCUs) has a safety function to close in the event of a scram to prevent diversion of pressurized HCU accumulator water to the cooling water header. The withdrawal and exhaust solenoid valves (typical of 137) have a safety function to close in order to provide a boundary to non-code class piping.

Normal control rod motion will verify that the associated cooling water check valve has moved to its safety function position of closed. Industry experience has shown that rod motion may not occur if this check valve were to fail in the open position.

The solenoid valves listed above have a safety function to close in order to provide a class 2 to non-code class boundary isolation. During normal operation, these solenoid valves are used for control rod insertion and withdrawal. They are exercised open and closed during normal operation of the associated CRD. They are not equipped with position indication or control switches. They automatically change position to affect control rod movement.

Therefore, control rod exercising in accordance with the CNS Technical Specifications, Surveillance Requirement (SR) 3.1.3.2 and SR 3.1.3.3, will provide an acceptable level of quality and safety for these valves. This testing method is consistent with GL 89-04, Position 7, and NUREG 1482, Revision 1, Section 4.4.6.

CRD-AOV-CV126, CRD-AOV-CV127, and CRD-CV-114CV:

These valves operate as an integral part of their respective HCU to rapidly insert the control rods in support of a scram. The CRD scram inlet valve, CRD-AOV-CV126 (typical of 137), opens with a scram signal to pressurize the lower side of the Control Rod Drive Mechanism (CRDM) pistons from the accumulator or from the charging water header. The CRD outlet isolation valve, CRD-AOV-CV127 (typical of 137), opens with scram signal to vent the top of the CRDM piston to the scram discharge header. The CRD scram outlet check valve, CRD-CV-114CV (typical of 137), opens to allow flow from the top of the CRDM piston to the scram discharge header.

Individual stroke time measurements of air-operated valves CRD-AOV-CV126 and CRD-AOV-CV127 are impractical due to their rapid acting operation and they are not equipped with position indication. Therefore, valve stroke times will not be measured. Additionally, the air-operated valves fail-open on a loss of air or power. Normal opening removes power to the pilot solenoid valve, simulating a loss of power. On loss of power, the solenoid vents the air operator and CRD-AOV-CV126 and CRD-AOV-CV127 are spring-driven open. Thus, each time a scram signal is given, the valves "experience" a loss of air/power to verify each valve's fail-safe open feature.

Testing these valves simultaneously would result in a full reactor scram. An excess number of scrams performed routinely could cause thermal and reactivity transients, which could lead to fuel, vessel, CRD, or piping damage. The CRDs cannot be tested during cold shutdown because the control rods are inserted and must remain inserted. Therefore, control rod scram time testing in accordance with the CNS Technical Specifications, SR 3.1.4.1 and SR 3.1.4.2, will provide an acceptable level of quality and safety for these valves. This testing method for these valves is consistent with GL 89-04, Position 7, and NUREG 1482, Revision 1, Section 4.4.6.

**6. Duration of Proposed Alternative**

This proposed alternative will be utilized for the entire fourth ten-year interval.

**7. Precedents**

This 10 CFR 50.55a request combines previously approved relief requests (RV-02, RV-03, and RV-05) for the third ten-year interval at CNS (TAC No. M94530, February 19, 1997). Other approved industry 10 CFR 50.55a requests also exist for similar alternative testing: Fermi-2 Request VRR-009 (TAC No. MA6390, February 17, 2000) and Perry-1 Request VR-1 (TAC No. MB1300, June 7, 2001).

