



Nebraska Public Power District

COOPER NUCLEAR STATION
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NLS940145
January 24, 1995

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

Subject: Inservice Testing Program Relief Requests
Cooper Nuclear Station
NRC Docket No. 50-298, License No. DPR-46

Gentlemen:

Attached for your review and approval are Relief Requests RV-63, RV-64, RV-65, and RV-66 to the Cooper Nuclear Station (CNS) Inservice Testing (IST) program. The Nebraska Public Power District (the District) is submitting these relief requests in accordance with the requirements of 10 CFR 50.55a(f)(5)(iii) and 50.55a(f)(5)(iv). The District asks that these relief requests, once granted, become effective immediately, and remain in effect through the second ten year IST interval, which concludes subsequent to the conclusion of the next scheduled refueling outage.

Should you have any questions or require additional information regarding these requests, please call.

Sincerely,

John H. Mueller
Site Manager

/dnm
Attachment

cc: Regional Office
USNRC Region IV

NRC Resident Inspector
Cooper Nuclear Station

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RELIEF REQUEST RV-63

VALVE(s): NBI-CV-49BCV NBI-CV-50BCV
 NBI-CV-51BCV NBI-CV-52BCV

NBI-SOV-SSV738
NBI-SOV-SSV739

CLASS: 3

FUNCTION: The reference leg injection check valves and solenoid operated valves have an active safety function in the open position to inject CS water to the reactor vessel level instrumentation lines in case the reference leg water has flashed or boiled off due to accident conditions in the drywell.

REQUIRED
TEST: Check valves shall be exercised at least once every 3 months, or during cold shutdown periods in accordance with the requirements of IWV-3521 and IWV-3522.

Power operated valves shall be exercised at least once every 3 months, or during cold shutdown periods in accordance with the requirements of IWV-3411 and IWV-3512.

BASIS FOR
RELIEF: This system provides the capability for the Core Spray System to supply a backfill of water for maintaining inventory of the Nuclear Boiler Instrumentation System cold reference legs (condensing chambers 3A and 3B) during accident conditions in the drywell where the reference leg inventory could be compromised. Exercising these valves to the open position, full or partial, would require manually isolating and venting the Cold Reference Leg Backfill System. This is not practicable during power operation or cold shutdown, other than refueling, due to the possible introduction of air into the system. This could cause a spurious reactor vessel level indication which could cause a reactor trip during power operation. During cold shutdown spurious level indications could interrupt the operation of systems required for decay heat removal, thereby placing the reactor in an unsafe condition. During refueling outages, sufficient time exists for decay heat to be reduced to a level which minimizes the impact of momentary interruption in the operation of systems required for decay heat removal such that testing can be performed.

ALTERNATIVE
TEST: Exercising these check valves to the full open position, and full exercising with stroke timing to the open position of the solenoid operated valves, shall be performed during each refueling outage.

RELIEF REQUEST RV-64

VALVE(s): NBI-CV-55CV NBI-CV-56CV

CLASS: 3

FUNCTION: These Cold Reference Leg Continuous Backfill System check valves have an active safety function in the closed position to isolate the Class 3 instrumentation piping from the Seismic IIS non-class CRD piping.

REQUIRED TEST: Check valves shall be exercised at least once every 3 months, or during cold shutdown periods in accordance with the requirements of IWV-3521 and IWV-3522.

BASIS FOR RELIEF: This system provides for a continuous flow of water from the CRD drive water pumps to prevent noncondensable gases from building up in the Nuclear Boiler Instrumentation System cold reference legs (condensing chambers 3A and 3B). Exercising these valves to the closed position would require manually isolating and venting of the Cold Reference Leg Continuous Backfill System upstream of the check valves. This is not practicable during power operation or cold shutdown, other than refueling, due to the possibility of causing a spurious reactor vessel level indication from entrained air in the system. False level indications resulting from entrained air in the system may either cause a reactor trip during power operation or interrupt the operation of systems required during cold shutdown for decay heat removal, thereby placing the reactor in an unsafe condition. During refueling outages, sufficient time exists for decay heat to be reduced to a level which minimizes the impact of momentary interruption in the operation of systems required for decay heat removal such that testing can be performed.

ALTERNATIVE TEST: Exercising these check valves to the closed position shall be performed during each refueling outage. Exercise testing shall be accomplished by performing a Section XI seat leakage test.

RELIEF REQUEST RV-65

VALVE(s): HPCI-SOV-SSV64 and HPCI-SOV-SSV87

CLASS: 2

FUNCTION: The HPCI turbine and exhaust steam drip leg drain to gland condenser (HPCI-SOV-SSV64) and HPCI turbine and exhaust steam drip leg drain to equipment drain isolation valve (HPCI-SOV-SSV87) have an active safety function in the closed position to maintain pressure boundary integrity of the HPCI turbine exhaust line. These valves serve as a Class 2 to Non-Code boundary barrier.

REQUIRED TEST: Full exercise and stroke time to the closed position at least once each quarter in accordance with the requirements of IWV-3411, IWV-3412, and IWV-3413.

When practicable, valves with fail-safe actuators shall be tested by observing the operation of the valves upon loss of actuator power in accordance with the requirements of IWV-3415.

BASIS FOR RELIEF: These valves are rapid acting encapsulated solenoid operated valves. Their control circuitry is provided with a remote manual switch for valve actuation to the Open position and an Auto function which allows the valves to actuate from signals received from the associated level switches HPCI-LS-98 and LS-680. Both valves receive a signal to change disc position during operability testing of drain pot level switches. However, remote position indication is not provided for positive verification of disc position. Additionally, their design prohibits the ability to visually verify the physical position of the operator, stem or internal components. Modification of the system to verify valve closure capability and stroke timing is not practicable nor cost beneficial since no commensurate increase in safety would be derived.

ALTERNATIVE TEST: These solenoid valves shall be disassembled and inspected each refueling outage.

RELIEF REQUEST RV-66

VALVE: HPCI-AOV-PCV50

CLASS: 2

FUNCTION: Air operated, pressure regulating valve in the cooling water supply line to the HPCI lube oil cooler. The valve performs an active safety function in the open/throttled position to allow cooling water flow to the lube oil cooler.

REQUIRED
TEST:

Category B valves shall be exercised and stroke timed at least once every three months in accordance with the requirements of IWV-3412, IWV-3413, and IWV-3415.

As a valve that responds to system conditions, this valve would normally be exempt from IST requirements as permitted by IWV-1200(a); however, the valve is required to be tested in accordance with the requirements of IWV-3400 because it has a fail-safe position. (GL 89-04, Attachment 1, Position 11)

BASIS FOR
RELIEF:

This valve functions to control pressure in the cooling water supply line to the HPCI turbine lube oil cooler. Cooling water is supplied from the HPCI booster pump discharge. The valve is normally maintained in the closed position as a result of the HPCI pump being idle and pressure maintenance, supplied by the auxiliary condensate system, maintaining the HPCI piping water solid.

A pressure controller provides a signal to close the valve, thereby limiting the lube oil cooler inlet cooling water pressure to ≤ 75 psia. The valve travels to a throttled position, when the HPCI pump starts, to automatically maintain pressure in the cooling water line at 50 psig. The valve's control circuitry prevents disk travel from the full-closed position to the full-open position. System design prevents overpressurization of the downstream piping and components in the event that the valve fails to the open position since a relief valve is installed to prevent this occurrence. As a further design enhancement, restricting orifices are installed both upstream and downstream of the valve to limit flow and reduce pressure.

The valve is designed to fail to the open position on a loss of instrument air or electrical control power to ensure continuity of cooling water flow to the lube oil cooler.

Stroke timing this control valve is impractical due to the design of the valve. Repeatable stroke times are not attainable because the valve is not equipped with remote position indicators or control switches and because the normal position of the valve varies based on system requirements. Full-stroke exercising is impractical because the valve is not designed to go from full-closed to the full-open position. Compliance with Code stroke timing and full-stroke exercising requirements would require system modification such as replacement of the control valve and control system redesign. These modifications necessary to achieve full valve closure, would be burdensome and not offer any commensurate increase in safety with cost benefit.

ALTERNATIVE
TEST:

Lube oil temperatures and bearing temperatures will be monitored during system operation for indications of pressure control valve degradation. Additionally, this control valve will be verified to travel from its normal throttled position to the open fail-safe position when the HPCI pump is returned to the standby condition, prior to closure of the HPCI test loop return isolation valves. Closure of these test loop isolation valves re-establishes pressure maintenance.

Correspondence No: NLS940145

The following table identifies those actions committed to by the District in this document. Any other actions discussed in the submittal represent intended or planned actions by the District. They are described to the NRC for the NRC's information and are not regulatory commitments. Please notify the Licensing Manager at Cooper Nuclear Station of any questions regarding this document or any associated regulatory commitments.

COMMITMENT	COMMITTED DATE OR OUTAGE
RV-63: Exercise Check Valves NBI-CV-49BCV, 50BCV, 51BCV, and 52BCV to the full open position.	During each refueling outage
RV-63: Full exercise Solenoid Operated Valves NBI-SOV-SSV738 and 739 with stroke timing to the open position.	During each refueling outage
RV-64: Exercise Check Valves NBI-CV-55CV and 56CV to the closed position. Exercise testing shall be accomplished by performing a Section XI seat leakage test.	During each refueling outage
RV-65: Disassemble and inspect Check Valves HPCI-SOV-SSV64 and HPCI-SOV-SSV87.	During each refueling outage
RV-66: Lube oil temperatures and bearing temperatures will be monitored for HPCI during system operation for indications of pressure control valve degradation. Additionally, Control Valve HPCI-AOV-PCV50 will be verified to travel from its normal throttled position to the open fail-safe position when the HPCI pump is returned to the standby condition, prior to closure of the HPCI test loop return isolation valves.	During system operations