Mr. Guy R. Horn
Vice President - Nuclear
Nebraska Public Power District
P. O. Box 499
Columbus, NE 68602-0499

January 24, 1996

SUBJECT: CORRECTION TO AMENDMENT NOS. 173 AND 174 TO FACILITY OPERATING LICENSE NO. DPR-46 - COOPER NUCLEAR STATION (TAC NOS. M92807 AND M86983)

Dear Mr. Horn:

On November 8 and 28, 1995, the Commission issued Amendment Nos. 173 and 174, respectively, to Facility Operating License No. DPR-46 for the Cooper Nuclear Station. Amendment No. 173 changed the Technical Specifications (TSs) to: 1) increase the required reactor pressure vessel (RPV) boron concentration; 2) modify the surveillance frequency for standby liquid control (SLC) system pump operability testing to make it consistent with the guidelines of NRC Generic Letter 93-05, and 3) implement administrative changes to correct typographical and editorial errors. Amendment No. 174 revised the TSs to include wording consistent with the revised 10 CFR Part 20, and to remove TSs governing miscellaneous radioactive material sealed sources.

After issuance, it was discovered that TS pages 30, 107 and 109 of Amendment No. 173 and TS pages 216a21, 216a22, and 231 of Amendment No. 174 contained typographical errors. We are enclosing corrected TS pages eliminating these errors.

We regret any inconvenience this may have caused you.

Sincerely,

ORIGINAL SIGNED BY:
James R. Hall, Senior Project Manager
Project Directorate IV-1
Division of Reactor Projects III/IV
Office of Nuclear Reactor Regulation

Docket No. 50-298

Enclosure: TS pages 30, 107, 109, 216a21, 216a22, and 231

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

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NOTES FOR TABLE 3.1.1

1. There shall be two OPERABLE or tripped TRIP SYSTEMS for each function. If the minimum number of OPERABLE INSTRUMENT CHANNELS for a TRIP SYSTEM cannot be met, the affected TRIP SYSTEM shall be placed in the safe (tripped) condition, or the appropriate actions listed below shall be taken.

   A. Initiate insertion of OPERABLE rods and complete insertion of all OPERABLE rods within four hours.

   B. Reduce power to less than 30% of RATED POWER.

   C. Reduce power level to IRM range and place Reactor Mode Selector Switch in the STARTUP position within eight hours and depressurize to less than 1000 psig.

   D. Reduce turbine load and close Main Steam Isolation Valves within eight hours.

2. Permissible to bypass, with control rod block, for Reactor Protection System reset in REFUEL and SHUTDOWN positions of the Reactor Mode Selector Switch.

3. This note deleted.

4. Permissible to bypass when turbine first stage pressure is less than 30% of full load.

5. IRMs are bypassed when APRMs are onscale and the Reactor Mode Selector Switch is in the RUN position.

6. The design permits closure of any two lines without a full scram being initiated.

7. When the reactor is subcritical, fuel is in the vessel, and the reactor water temperature is less than 212°F, only the following trip functions need to be OPERABLE:

   A. Reactor Mode Selector Switch in SHUTDOWN.
   B. Manual scram.
   C. IRM high flux at 120/125 indicated scale.
   D. APRM (15%) high flux scram.

8. Not required to be OPERABLE when PRIMARY CONTAINMENT INTEGRITY is not required.

9. Not required to be OPERABLE while performing low power physics tests at atmospheric pressure during or after refueling at power levels not to exceed 5 MW(t).

10. Not required to be OPERABLE when the reactor pressure vessel head is not bolted to the vessel.

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LIMITING CONDITIONS FOR OPERATION	SURVEILLANCE REQUIREMENTS
3.4 STANDBY LIQUID CONTROL SYSTEM	4.4 STANDBY LIQUID CONTROL SYSTEM
Applicability:	Applicability:
Applies to the operating status of the Standby Liquid Control (SLC) System.	Applies to the surveillance requirements of the Standby Liquid Control (SLC) System.
Objective:	Objective:
To assure the OPERABILITY of a system with the capability to SHUTDOWN the reactor and maintain the SHUTDOWN condition without the use of control rods.	To verify the OPERABILITY of the SLC System.
Specification:	Specification:
A. Normal System Operation	A. Normal System Operation
1. During periods when fuel is in the reactor and prior to startup from a Cold Condition, the Standby Liquid Control System shall be operable, except as specified in 3.4.B below. This system need not be operable when the reactor is in the Cold Condition and all control rods are fully inserted and Specification 3.3.A is met.	The OPERABILITY of the SLC System shall be shown by the performance of the following tests: 1. At least once each 3 months each subsystem shall be tested for OPERABILITY by recirculating demineralized water to the test tank and verifying each pump develops a flow rate $\geq$ 38.2 gpm at a discharge pressure $\geq$ 1300 psig. 2. At least once during each OPERATING CYCLE: a. Check that the settings of the subsystem relief valves are 1450 < P < 1680 psig and the valves will reset at P $\geq$ 1300 psig. b. Manually initiate the system, except explosive valves, and pump boron solution from the SLC Storage Tank through the recirculation path. Verify each pump develops a flow rate $\geq$ 38.2 gpm at a discharge pressure $\geq$ 1300 psig. After pumping boron solution the system will be flushed with demineralized water.

LIMITING CONDITIONS FOR OPERATION	SURVEILLANCE REQUIREMENTS
3.4	4.4.C
C. Sodium Pentaborate Solution	C. Sodium Pentaborate Solution
At all times when the SLC System is required to be OPERABLE the following conditions shall be met:	The following tests shall be performed to verify the availability of the liquid control solution:
1. The net volume versus concentration of the liquid control solution in the SLC Storage Tank shall be maintained as required in Figure 3.4.1.	1. Volume: Check and record at least once per day.
2. The temperature of the liquid control solution shall be maintained above the curve shown in Figure 3.4.2.	2. Temperature: Check and record at least once per day.
	3. Concentration: Check and record at least once per month. Also check concentration anytime water or boron is added to the solution or solution temperature is below the temperature required in Figure 3.4.2.
D. If specification 3.4.A through C cannot be met, the reactor shall be placed in a Cold Shutdown Condition with all operable control rods fully inserted within 24 hours.	

3.21 & 4.21 BASES

3.21.A & 4.21.A INSTRUMENTATION

3.21.A.1 & 4.21.A.1 Liquid Effluent Monitoring

The radioactive liquid effluent instrumentation is provided to monitor and control, as applicable, the release of radioactive material in liquid effluents. The OPERABILITY and use of these instruments implements the requirements of 10 CFR Part 50, Appendix A, General Design Criteria 60, 63, and 64. The alarm and/or trip setpoints for these instruments are calculated in the manner described in the ODAM to assure that the alarm and/or trip will occur before the limit specified in 10 CFR Part 20.1302 is exceeded. Control of the normal liquid discharge pathway is assured by station procedures governing locked discharge valves and valve line-up verification.

3.21.A.2 & 4.21.A.2 Gaseous Effluent Monitoring

The radioactive gaseous effluent instrumentation is provided to monitor and control, as applicable, the releases of radioactive materials in gaseous effluents during actual or potential releases of gaseous effluents. The location of this instrumentation is indicated by a Figure in the ODAM, a simplified flow diagram showing gaseous effluent treatment and monitoring equipment. The alarm/trip setpoints for these instruments shall be calculated in accordance with methods in the ODAM, which have been reviewed by NRC, to ensure that the alarm will occur prior to exceeding the limits of 10 CFR Part 20. The process monitoring instrumentation includes provisions for monitoring the concentrations of potentially explosive gas mixtures in the augmented offgas treatment system. The OPERABILITY and use of this instrumentation is consistent with the requirements of General Design Criteria 60, 63, and 64 of Appendix A to 10 CFR Part 50.

In the event no flow rate measurement device is operable on a gaseous stream, alternative 24-hour estimates are adequate since the system design is constant flow and loss of flow is alarmed in the control room.

3.21.B & 4.21.B LIQUID EFFLUENTS

3.21.B.1 & 4.21.B.1 Concentration

This specification is provided to ensure that the concentration of radioactive materials released in liquid waste effluents from the site to unrestricted areas will be less than the concentration levels specified in 10 CFR Part 20.1302. This limitation provides additional assurance that the levels of radioactive materials in bodies of water outside the site will not result in exposures within (1) the Section IV.A guides on technical specifications in Appendix I, 10 CFR Part 50, for an individual and (2) the limits of 10 CFR Part 20.1301 and 20.1302(b)(2)(i) to the population. The concentration limit for noble gases is based upon the assumption that Xe-135 is the controlling radioisotope and its MPC in air (submersion) was converted to an equivalent concentration in water using the methods described in International Commission on Radiological Protection (ICRP) Publication 2.

Since Service Water is not a normal or expected source of significant radioactive release, routine sampling and monitoring for radioactivity is precautionary. An activity concentration of 3×10^{-8} μCi/ml in Service Water effluent is diluted in the discharge canal to about 1.5% of the 10 CFR 20 Appendix B Table 2 Column 2 concentration with only one circulating water pump operating. During normal Station operation the dilution would be even greater. By monitoring Service Water effluent continuously for radioactivity and by confirmatory sampling weekly, reasonable assurance that its activity concentration can be kept to a small fraction of the 10 CFR Part 20.1302 limit and within the Specification 3.21.B.2.a limit is provided.

By monitoring Service Water continuously and liquid radwaste continuously during discharge with the monitor set to alarm or trip before the limit specified in 10 CFR 20.1302 is exceeded, reasonable assurance of compliance with Specification 3.21.B.1.2 is provided. Verification that radioactivity in liquid effluent averaged only a small fraction of the concentration limit is provided by calculations demonstrating compliance with Specification 3.21.B.2.a.

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3.21 & 4.21 BASES (Cont'd)

3.21.B & 4.21.B LIQUID EFFLUENTS (Cont'd)

3.21.B.1 & 4.21.B.1 Concentration (Cont'd)

Compliance with 10CFR Part 20.1302(b)(2)(i) implies that the concentration limit represented by 10CFR Part 20, Appendix B, Table 2 will be met within a suitable and reasonable averaging time for assessing compliance. That averaging time is dependent upon the resolving time of the measurements or estimates which are used to evaluate compliance. Assessment of compliance is done by sampling and analysis according to Specification 4.21.B.1.2, by estimating or measuring the maximum release flow and the minimum dilution flow coincident during the period of release represented by the sample, and by computing the concentration as a fraction of the limit in the UNRESTRICTED area periodically on the basis of these data.

3.21.B.2 & 4.21.B.2 Liquid Dose

Specifications 3.21.B.2, 3.21.C.2 and 3.21.C.3 implement the requirements of 10 CFR Part 50.36a and of 10 CFR Part 50, Appendix I, Section IV. These specifications state LIMITING CONDITIONS FOR OPERATION (LCO) to keep levels of radioactive materials in LWR effluents as low as is reasonably achievable. Compliance with these specifications will also keep average releases of radioactive material in effluents at small percentages of the limits specified in 10 CFR Part 20.1301. Surveillance Requirements provide for the measurement of releases and calculation of doses to verify compliance with the Specifications. Action statements in these Specifications implement the requirements of 10 CFR Part 50.36(c)(2) and 10 CFR Part 50, Appendix I, Section IV.A in the event an LCO is not met. Annual dose limitations stated in Specifications 3.21.B.2, 3.21.C.2, and 3.21.C.3 are not strict limits as used elsewhere in the Technical Specifications (are not an immediate safety concern) but do obligate NPPD to take the applicable reporting action required in Specifications 3.21.B.2.b, 3.21.C.2.b, or 3.21.C.3.b.

10 CFR Part 50 contains two distinctly separate statements of requirements pertaining to effluents from nuclear power reactors. The first concerns a description of equipment to maintain control over radioactive materials in effluents, determination of design objectives, and means to be employed to keep radioactivity in effluents ALARA. This requirement is stated in Part 50, Section 34a and Appendix I, Section II. Appendix I, Section III stipulates that conformance with the guidance on design objectives be demonstrated by calculations (since demonstration is expected to be prospective). The other is a requirement for developing LIMITING CONDITIONS FOR OPERATION in technical specifications. It is stated in 10 CFR Part 50, Section 36a and Appendix I, Section IV. Both the intent of the Commission and the requirement are clearly stated in the Opinion of the Commission;[1] relevant paragraphs from that document follow:

> Section 50.36a(b) of 10 CFR Part 50 provides that licensees shall be guided by certain considerations in establishing and implementing operating procedures specified in technical specifications which take into account the need for operating flexibility and at the same time ensure that the licensee will exert his best efforts to keep levels of radioactive materials in effluents as low as practicable. The Appendix I that we adopt provides more specific guidance to licensees in this respect.

6.5.1.C (Cont'd)

1. A tabulation on an annual basis of the number of station, utility and other personnel (including contractors) receiving exposures greater than 100 mrem/yr and their associated man rem exposure according to work and job functions[1], e.g., reactor operations and surveillance, inservice inspection, routine maintenance, special maintenance (describe maintenance), waste processing, and refueling. The dose assignment to various duty functions may be estimates based on pocket dosimeter, TLD, or film badge measurements. Small exposures totaling less than 20% of the individual total dose need not be accounted for. In the aggregate, at least 80% of the total whole body dose received from external sources shall be assigned to specific major work functions.

2. A summary description of facility changes, tests or experiments in accordance with the requirements of 10CFR50.59(b). This report may be submitted annually or along with the Updated Safety Analysis Report (UFSAR) updates as required by 10CFR50.71(e).

3. Documentation of all challenges to relief valves or safety valves.

D. Monthly Operating Report

Routine reports of operating statistics, shutdown experience, and a narrative summary of operating experience relating to safe operation of the facility, shall be submitted on a monthly basis in the manner specified by 10CFR50.4 no later than the 15th of each month following the calendar month covered by the report.

E. Annual Radiological Environmental Report

1. Routine radiological environmental reports covering the surveillance activities related to the Station operation during the previous calendar year shall be submitted to the NRC before May 1 of each year.

2. The Annual Radiological Environmental Report shall include the following:

   a. A summary of doses to a MEMBER OF THE PUBLIC OFFSITE due to Cooper Nuclear Station aqueous and airborne radioactive effluents, calculated in accordance with methods compatible with the ODAM.

   b. A summary of the results of the land use census required in Specification 4.21.F.2.

[1] This tabulation supplements the requirements of §20.2206 of 10CFR Part 20.