



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 172 TO FACILITY OPERATING LICENSE NO. DPR-40

OMAHA PUBLIC POWER DISTRICT
FORT CALHOUN STATION, UNIT NO. 1

DOCKET NO. 50-285

1.0 INTRODUCTION

By application dated June 27, 1995, Omaha Public Power District (OPPD) requested changes to the Technical Specifications (Appendix A to Facility Operating License No. DPR-40) for the Fort Calhoun Station, Unit No. 1. The requested changes would revise Technical Specification (TS) 2.2 on the chemical and volume control system (CVCS) to reformat and clarify the requirements and make them more consistent with the requirements of the Combustion Engineering Standard Technical Specifications (STS), as presented in NUREG-0212, Revision 2.

2.0 EVALUATION

2.1 Specification 2.2(1)

TS 2.2(1) currently specifies the requirements for borated water sources and flow paths when the reactor is subcritical and fuel is in the reactor. In order for a flow path to be operable, a charging or high-pressure safety injection (HPSI) pump is required to be operable to inject the boric acid solution into the reactor coolant system (RCS). Currently, this specification does not state any operability requirements for boric acid transfer pumps, charging pumps, or HPSI pumps. In addition, this specification does not state any required actions to be taken if the borated water source or flow path is not operable.

The licensee proposed that the requirements for the CVCS during Modes 4 and 5 be incorporated into separate Limiting Conditions for Operation (LCOs) 2.2.1, 2.2.3, 2.2.5, and 2.2.7 that will address the requirements for boric acid flow paths, charging or HPSI pumps, boric acid transfer pumps, and borated water sources similar to CE STS 3.1.2.1, 3.1.2.3, 3.1.2.5, and 3.1.2.7. The licensee proposed that these specifications be reworded from when the reactor is subcritical and fuel is in the reactor, to state that these requirements are applicable in Modes 4 and 5 when fuel is in the reactor. Currently, the modification of minimum requirements stated in TS 2.2(3) only addresses allowed outage times during power operations, and not Modes 4 or 5. The licensee proposed that required actions be added to be consistent with NUREG-0212, Revision 2, to state that core alterations and positive reactivity changes are to be suspended if there are no borated water sources, flow paths,

or pumps operable that are required to inject boric acid solution into the reactor coolant system.

Based on its review of the licensee's submittal, the staff concluded that the proposed TS changes will not impact the safe operation of the plant and are acceptable.

2.2 TS 2.2(2)

TS 2.2(2) currently specifies the minimum requirements for borated water sources, charging pumps, boric acid flow paths, boric acid transfer pumps, and level instrumentation on the boric acid storage tanks when the reactor is critical. The specification has conflicting information in that the storage tank is defined in TS 2.2(2)c as the tank, gravity feed, and boric acid transfer pump and that the requirements for the boric acid transfer pump are also addressed in TS 2.2(2)b. The licensee has proposed that the requirements for CVCS, whenever the reactor coolant temperature (T_{cold}) is greater than or equal to 210°F, be incorporated into separate LCOs 2.2.2, 2.2.4, 2.2.6, and 2.2.8, which will address the requirements for borated water sources, boric acid flow paths, charging pumps, and boric acid transfer pumps, similar to CE STS 3.1.2.2, 3.1.2.4, 3.1.2.6, and 3.1.2.8.

The licensee proposed to change the current TS's applicability, which says "the reactor shall not be made critical," to state "whenever the reactor coolant temperature (T_{cold}) is greater than or equal to 210°F." The separate LCOs will each have an allowed outage time of 72 hours, which is consistent with NUREG-0212, Revision 2. The licensee also proposed that the safety injection and refueling water (SIRW) tank contain at least 25,000 useable gallons of borated water. This volume is more than sufficient to reach cold shutdown at any expected refueling boron concentration. In CEN-391(0), which was reviewed by the NRC prior to the issuance of Amendment 131, it was documented that a volume of 21,788 gallons is required if the boron concentration is 1900 ppm.

TS 2.2(2)d specifies a requirement for level instrumentation on the boric acid storage tank (BAST), which the licensee proposes to delete. Level instrumentation by itself does not fulfill a safety function. The level instrumentation does not actuate any safety functions and the BASTs are readily accessible to determine levels locally. The STS does not include operability requirements for boric acid level instrumentation as part of the reactivity control system LCO. The STS does not include operability requirements for BAST level instrumentation as part of the accident monitoring instrumentation. The licensee does not include BAST level instrumentation as part of the accident monitoring instrumentation. The licensee instead has operability requirements for the volume control tank level instrumentation as part of the alternate shutdown panel requirements contained in TS 2.15. The level instrumentation on the BAST does not meet any of the four criteria for inclusion into TS as presented in the Final Policy Statement on technical specifications improvements. This instrumentation is not installed instrumentation used to detect a significant degradation of the RCS boundary, a design feature or operating restriction that is an initial condition of a

design basis accident (DBA), or a component that is part of the primary success path or actuates to mitigate a DBA, nor is it a component that has been shown to be significant to public health and safety. The licensee proposes not to abandon the use of the level instrumentation; however, its testing and maintenance will be controlled outside of the TS.

Based on its review of the licensee's submittal, the staff concluded that the proposed TS changes will not impact the safe operation of the plant and are acceptable.

2.3 TS 2.2(3)

TS 2.2(3) currently specifies the modifications of minimum requirements which are allowed during power operation. This is inconsistent with TS 2.2(2), which states the minimum requirements for the system to be operable. According to the TS, the system piping and valves shall be operable such that one of four conditions is satisfied, and lists the four flow paths allowed to meet the minimum requirement. If this requirement is met, then no LCO is entered. TS 2.2(3) states that two of the four flow paths allowed are limited to a 72-hour outage time. In addition, this specification does not address components during Modes 3, 4, and 5. The licensee proposed that the requirements for CVCS be incorporated into separate LCOs and that these requirements be added as required actions to these individual LCOs.

Based on its review of the licensee's submittal, the staff concluded that the proposed TS changes will not impact the safe operation of the plant and are acceptable.

2.4 Surveillance Requirements

2.4.1 Borated Water Sources

The Fort Calhoun TS requirements to verify boron concentration, volume of borated water, and temperature of the boric acid tanks are similar to those contained in STS 4.1.2.7.a and 4.1.2.8.a.

Currently, TS 3.2, Table 3-4, items 2 and 3 address surveillance of the boron concentration in the SIRW tank and boric acid storage tanks, respectively. The licensee proposed to revise the frequency from monthly to weekly for the BAST to be consistent with NUREG-0212. There was no change proposed for the frequency of sampling the SIRW tank, because of the extended period of recirculation that is required.

Boric acid storage tank level surveillance is addressed in TS 3.1, Table 3-2, item 15.a. The licensee proposes to reword the requirement to state that the level will be verified and to change the frequency from daily to weekly to be consistent with NUREG-0212. Additionally, the licensee proposes to delete the requirements to functionally test and calibrate the level instrumentation based on deletion of the operability requirements contained in items 15.b and 15.c.

The current TS 3.1, Table 3-2, item 13.a, addresses the surveillance of the SIRW tank level. The frequency will be maintained at once per shift since this requirement also fulfills the requirement for TS 2.3 on the emergency core cooling system. Technical Specification 3.1, Table 3-2, item 16.a, addressed the surveillance frequency of the BAST temperature, which is proposed to be revised from daily to weekly, and to reword the requirements to verify the temperature.

The current TS 3.1, Table 3-2, item 18.a, verifies the borated water temperature of the SIRW tank is similar to STS 4.1.2.7.b and 4.1.2.8.b for the refueling water tank. Both frequencies are daily, however, the licensee proposes to revise the requirement to state that the temperature will be verified when the outside air temperature is less than 50°F or greater than 105°F. These temperatures are based on the limit of 50°F stated in TS 2.3(1)a and the 105°F assumption stated in Section 14.16 (Table 14.16-2) of the Updated Safety Analysis Report (USAR). The licensee proposes to revise the frequency to measure the temperature with standard lab instrumentation from quarterly to a refueling frequency. The STS contains SIRW tank level instrumentation as part of the accident monitoring specifications and requires a channel check and calibration on a refueling frequency, however there is no surveillance in the STS regarding SIRW tank level instrumentation as part of the reactivity control or ECCS specification.

2.4.2 Boric Acid Flow Paths

The requirements of STS 4.1.2.1.a and 4.1.2.2.a to verify the temperature of the heat traced portions of the boric acid flow paths is not applicable to Fort Calhoun since there is no heat tracing. The requirements of STS 4.1.2.2.c to verify that each automatic valve actuates to its correct position once per 18 months on a safety injection actuation system (SIAS) signal are addressed by TS 3.1, Table 3-2, item 3. Fort Calhoun TS do not require periodic verification for system line-ups with the exception of containment isolation valves. Therefore, the requirements of STS 4.1.2.2.b to verify that each valve in the flow path that is not locked, sealed, or otherwise secured in position, is in its correct position once per 31 days is unnecessary and inconsistent with the Fort Calhoun TS. The requirements of STS 4.1.2.2.d to verify that each boric acid flow path can deliver sufficient flow at least once per 18 months is unnecessary as active components are addressed in TS 3.3 which controls ASME surveillance requirements. There are no TS changes proposed.

2.4.3 Pumps

Fort Calhoun TS 3.3, which controls ASME requirements, is similar to the surveillance requirements for charging pumps and boric acid transfer pumps contained in STS 4.1.2.3, 4.1.2.4, 4.1.2.5, and 4.1.2.6, respectively, therefore no changes are proposed by the licensee.

2.4.4 Summary

Based on its review of the licensee's submittal, the staff concludes that the proposed TS changes will not impact the safe operation of the plant and are acceptable.

2.5 Bases

The Bases of Technical Specification Section 2.2 has been revised to reflect the proposed changes as described above. These are consistent with the revisions made to TS 2.2 and are acceptable to the staff.

3.0 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.

4.0 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 (60 FR 39447). 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.

5.0 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.

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