



Nebraska Public Power District

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NLS970123
June 14, 1997

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

Gentlemen:

Subject: Request for Enforcement Discretion
Cooper Nuclear Station, NRC Docket 50-298, DPR-46

Reference: Teleconference between P. D. Graham, et. al., (NPPD) and P. Gwynn, et. al., (NRC)
on June 14, 1997, Request for Enforcement Discretion

In accordance with discussions held with your staff (Reference), the Nebraska Public Power District (District) requests that the NRC exercise discretion in not enforcing the requirements of Cooper Nuclear Station (CNS) Technical Specification 3.7.A.5, "Oxygen Concentration," for a period not to exceed 24 hours. Following the recent restart from CNS Refueling Outage RE17, the District had been closely monitoring unidentified leakage into the drywell, which had been slowly trending upward. The District decided to de-inert and enter the primary containment to identify and terminate the leakage. District personnel entered and successfully terminated the leakage on June 14, 1997. The District requests that the NRC exercise enforcement discretion to allow sufficient time for re-inerting the Primary Containment. Granting this enforcement discretion would prevent inducing an additional thermal transient on the plant, and potentially challenging plant safety systems.

The attachment to this letter provides further description of the circumstances surrounding this issue, and assessment of the safety and environmental significance in accordance with the guidance contained in NRC Administrative Letter 95-05, "Revisions to Staff Guidance for Implementing NRC Policy on Notices of Enforcement Discretion." The District has evaluated this situation and believes that this request meets the criteria outlined in Administrative Letter 95-05, in that this request is temporary, non-recurring, and consistent with protecting the public health and safety.

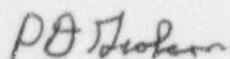
Accordingly, the District requests that the NRC grant this request to allow repair of the identified leakage while avoiding inducing a plant thermal transient and the potential challenge of plant safety systems.



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Should you have any questions concerning this matter, please contact me.

Sincerely,



P. D. Graham
Vice President - Nuclear

/mjb
Attachment

cc: Regional Administrator
USNRC - Region IV

Senior Project Manager
USNRC - NRR Project Directorate IV-1

Senior Resident Inspector
USNRC

NPG Distribution

REQUEST FOR ENFORCEMENT DISCRETION
FROM THE REQUIREMENTS OF
CNS TECHNICAL SPECIFICATION 3.7.A.5

I. INTRODUCTION

The District requests that the NRC exercise temporary enforcement discretion from the requirements of CNS Technical Specification 3.7.A.5 for a period of 24 hours from June 14, 1997, 2129 through June 15, 1997, 2129. The District is requesting the NRC exercise this discretion to enable sufficient time to re-inert the primary containment without inducing an additional plant thermal transient, and potentially challenging plant safety systems by proceeding to cold shutdown and subsequently restarting. The discussion below provides further details surrounding the situation, and assessment of the safety significance.

II. DISCUSSION

The following discussion provides the information identified in NRC Administrative Letter 95-05, "Revisions to Staff Guidance for Implementing NRC Policy On Notices of Enforcement Discretion," for NRC's use in assessing this request.

1. The Technical Specification or other license conditions that will be violated.

CNS Specification 3.7.A.5, "Oxygen Concentration," will be violated. Specification 3.7.A.5 states:

- "a. After completion of the startup test program and demonstration of plant electrical output, the primary containment atmosphere shall be reduced to less than 4% oxygen with nitrogen gas during reactor power operation with reactor coolant pressure above 100 psig, except as specified in 3.7.A.5.b.
- b. Within the 24-hour period subsequent to placing the reactor in the Run mode following a shutdown, the containment atmosphere oxygen concentration shall be reduced to less than 4% by volume and maintained in this condition. De-inerting may commence 24 hours prior to a shutdown.
- c. When the containment atmosphere oxygen concentration is required to be less than 4%, the minimum quantity of liquid nitrogen in the liquid nitrogen storage tank shall be 500 gallons.

- d. If the specifications of 3.7.A.5.a thru c cannot be met, an orderly shutdown shall be initiated and the reactor shall be in a cold shutdown condition within 24 hours.
 - e. The specifications of 3.7.A.5.a thru d are not applicable during a 48 hour continuous period between the dates of March 22, 1982 and March 25, 1982."
2. The circumstances surrounding the situation, including root causes, the need for prompt action and identification of any relevant historical events.

The District recently completed its RE17 Refueling Outage. On May 22, 1997, CNS synchronized to the grid, and on May 25, 1997, achieved full power operation. On June 5, 1997, the District began closely monitoring and trending leakage into the drywell, as the amount of unidentified leakage (leakage into the drywell floor drain sump) was over 0.2 gpm, and appeared to be slowly, but steadily increasing. On June 10, 1997, with the aid of video cameras recently installed in the drywell, the District determined that some of the leakage was traveling down the outside of an SRV tailpipe, bypassing the drywell sump, to the suppression pool. Assessment of this information resulted in an estimation that approximately 1/3 of the leakage was bypassing the drywell sumps.

On June 13, 1997, at 0800 the unidentified drywell leakage was measured to be 0.417 gpm, with the actual leakage estimated at approximately 50% greater or about 0.6 gpm, and increasing slowly.

CNS Technical Specification 3.6.C, "Coolant Leakage," Section 3.6.C.1 states:

"Any time irradiated fuel is in the reactor vessel and reactor coolant temperature is above 212°F, reactor coolant leakage into the primary containment shall not exceed a 5 gpm unidentified leak rate, 25 gpm identified leak rate, or a 2 gpm increase in unidentified leak rate within the previous 24 hour period. If these limits cannot be met, an orderly SHUTDOWN shall be initiated and the reactor shall be in a COLD SHUTDOWN CONDITION within 24 hours."

It was estimated, assuming a constant rate of leakage increase, that the total unidentified drywell leakage as measured by the drywell sump would approach 2 gpm in late July 1997, which the District recently set as its conservative criteria for initiating repair. However, the District decided to reduce plant power, de-inert the primary containment, and make a drywell entry on June 14, 1997, to identify and repair the leakage source. The District began de-inerting primary containment at 1950 on June 13, 1997, and entered Technical Specification 3.7.A.5 at 2129 on June 13, 1997. District personnel entered the drywell, and determined that the source of the leakage was from seat bypass on valves RF-V-740 and

RF-V-741, Reactor Feedwater Line A vent valves, configured in series. District personnel were able to install a plug, successfully terminating the leakage, and the District is in the process of re-inerting the primary containment.

The District's request that the NRC exercise discretion not to enforce the requirements of Specification 3.7.A.5 for a period of 24 hours from June 14, 1997, 2129 through June 15, 1997, 2129 would have the effect of extending the action statement completion time of Specification 3.7.A.5 from 24 hours to 48 hours. This would allow sufficient time to re-inert the primary containment to an oxygen concentration of less than 4 volume percent without requiring completion of the action statement to proceed to cold shutdown. As discussed in further detail below, by exercising this enforcement discretion, the NRC would enable CNS to avoid inducing additional thermal transients on the plant, and the potential challenge to plant safety systems.

As discussed above, the leakage into primary containment originated from one inch vent valves on the "A" Reactor Feedwater line. These valves are 2500 lb Dragon needle valves, which have a history of seat bypass leakage. To ensure against leakage on the "B" Reactor Feedwater vent line, a plug was installed on that side as well, although no leakage was identified from that location.

Amendment No. 79 to the CNS Technical Specifications¹ documented an emergency license amendment request to waive the requirements of 3.7.A.5 for a 48-hour period. While the temporary amendment was not the result of drywell leakage, the NRC concluded that the temporary amendment was acceptable based on the low probability of occurrence of an accident during this time frame, and operation at a reduced power level, which would decrease the severity of an accident.

Other relevant information includes the normal allowance provided with CNS Technical Specification 3.7.A.5.b which authorizes operation for 24 hours after entering the RUN mode following a plant shutdown with the oxygen concentration requirement not met. This allowance provides for a drywell entry to inspect for leakage, which has been previously determined by the NRC as an enhancement to plant safety.

1. Letter to J. M. Pilant (NPPD) from B. L. Siegel (NRC) dated May 10, 1982, "Amendment No. 79 to Facility Operating License No. DPR-467"

3. The safety basis for the request, including an evaluation of the safety significance and potential consequences of the proposed course of action. This evaluation should include at least a qualitative risk assessment derived from the licensee's PRA.

Granting this enforcement discretion would prevent inducing an additional thermal transient on the plant, and potentially challenging plant safety systems. As further discussed in Section 4 below, the safety significance of continued operation below 15% reactor thermal power with the Primary Containment oxygen concentration greater than 4 volume percent has been previously reviewed and approved by the NRC as documented in NUREG-1433, "Standard Technical Specifications, General Electric Plants, BWR/4."

Further, the District has determined that the comparative risk associated with remaining online below 15% power for an additional 24 hours is less than that associated with a plant shutdown. A plant shutdown, planned or automatic, induces response of plant standby systems for level control and decay heat removal functions normally provided by the condensate and feedwater systems. Additionally, any plant shutdown has the potential for challenging plant safety systems in response to the transient imposed during shutdown. Therefore, while the probability of occurrence of an accident for either case is quite low, the District has determined that granting the enforcement discretion provides a net safety benefit.

It should also be noted that for any planned shutdown and subsequent restart, CNS Technical Specification 3.7.A.5.b currently allow a total of 48 hours operation with the containment de-inerted; 24 hours prior to shutdown, and 24 hours after entry into the Run mode following startup. From this standpoint, the requested enforcement discretion would result a smaller total time allowance for operation with a de-inerted containment when compared to a normal shutdown/startup evolution, while enabling avoidance of the plant thermal transient.

Prior to performing the drywell entry and leak repair, the District evaluated the estimated dose consequences associated with the postulated repairs online versus going to cold shutdown to perform repairs, and determined that there would be a slight reduction in personnel exposure estimated with performing the repair online. This reduction is primarily due to the additional system manipulations and surveillances, and drywell inspections which would be required to proceed to cold shutdown, and subsequent restart of the plant. Total dose received for all workers involved with this effort is estimated to be 767 mR based on personal dosimetry readings, which was well under the dose projections for proceeding to shutdown and subsequent restart.

4. The basis for the licensee's conclusion that the noncompliance will not be of potential detriment to the public health and safety and that neither an unreviewed safety question nor a significant hazard consideration is involved.

To support the investigation and repair activities, reactor power was reduced to approximately 15%. While the enforcement discretion is in effect, or until the primary containment oxygen concentration is brought to less than 4%, the District will maintain reactor thermal power $\leq 15\%$. The significance of continued operation at this power level with the Primary Containment oxygen concentration at greater than 4 volume percent has been previously evaluated and bounded by both NUREG-1433, "Standard Technical Specifications, General Electric Plants, BWR/4," (Section 3.6.3.3) and the CNS Improved Technical Specifications submittal² (Section 3.6.3.1). Per these documents, once the Primary Containment oxygen concentration becomes equal to or exceeds 4 volume percent, the required action is to restore oxygen concentration to within the 4 volume percent limit within 24 hours, or reduce power to $\leq 15\%$ thermal power within the following eight hours. Operation at this reduced power level can continue indefinitely as the potential for an event that generates significant hydrogen levels is low under these conditions.

Accordingly, the District has concluded that noncompliance with the existing Technical Specifications requirements will not be of potential detriment to the public health and safety and that neither an unreviewed safety question nor a significant hazard consideration is involved since continued operation will be within the limitations established by and previously evaluated in the aforementioned documents.

5. The basis for the licensee's conclusion that the noncompliance will not involve adverse consequences to the environment.

Exercise of this enforcement discretion will not result in any planned increase in the release of any radioactive material or other substance to the environment. Plant effluents are expected to remain within the existing Technical Specification limits. Granting this enforcement discretion will impact only the allowed time frame allowed for operation with a de-inerted containment. Primary containment integrity, as defined in CNS Technical Specification 1.0.P will continue to be met. Therefore, in the unlikely event that an accident requiring primary containment integrity were to occur in this

2. Letter to USNRC from G. R. Horn (NPPD) dated March 27, 1997, "Proposed Change to CNS Technical Specifications, Conversion to Improved Standard Technical Specifications, Cooper Nuclear Station, NRC Docket No. 50-298, License No. DPR-46"

configuration, the environmental consequences would be bounded by that calculated in the CNS accident analyses.

As discussed in Section 4 above, the NRC has previously evaluated operation of BWR/4 reactors with de-inerted containments, and determined that accident initiation with reactor power below 15% is not likely to result in significant hydrogen generation. Therefore, operation with a de-inerted containment, even in the unlikely event of an accident, would not likely result in conditions requiring combustible gas control, and therefore not exceed the consequences resulting from the existing accident analyses.

6. Any proposed compensatory actions.

The District will maintain reactor power \leq 15% power until oxygen concentrations are restored to less than 4 volume percent.

7. The justification for the duration of the noncompliance.

The duration of the noncompliance is based on the estimated time to restore the Primary Containment oxygen concentration to below 4 volume percent.

8. A statement that the request has been approved by the facility organization that normally reviews safety issues (Plant Onsite Review Committee or its equivalent).

This request has been reviewed and approved by the CNS Station Operations Review Committee.

9. The request must specifically address how one of the NOEL criteria for appropriate plant conditions specified in section B is satisfied.

Granting this enforcement discretion will allow CNS to avoid inducing a thermal and pressure transient which would be introduced by proceeding to cold shutdown to complete repairs. As discussed further in Section 4 above, this enforcement discretion would also reduce overall risk by minimizing the potential for challenge of plant safety systems. These benefits meet the criteria outlined in Section B.1. (a) of NRC Administrative Letter 95-05.

10. If a follow-up license amendment is required, the NOED request must include marked-up TS pages showing the proposed TS changes. The actual license amendment request must follow within 48 hours.

This request is temporary, and expected to be non-recurring. As discussed further in Section 11 below, the District has submitted an amendment request to implement the improved Technical Specifications which would allow operation with a de-inerted containment at reduced power operations to enable similar repair activities when identified.

11. A statement that prior adoption of approved line-item improvements to the TS or the ITS would not have obviated the need for the NOED request.

The District is not aware of NRC-approved line item improvement identified addressing this containment inerting provision. However, the District has submitted for NRC review, an application for conversion to the Improved Technical Specifications, which as discussed above would obviate the need for this request.

III. CONCLUSION

The District believes that this request for enforcement discretion is in the best interest of the public health and safety. Such provisions have been previously reviewed and approved by the NRC in NUREG-1433, "Standard Technical Specifications, General Electric Plants, BWR/4." The District concludes that this extension of time to complete re-inerting primary containment reduces the risk to the general public compared to proceeding to cold shutdown, prevents initiation of a plant thermal transient, and would not increase the consequences of any accident or otherwise result in adverse environmental consequences. Therefore, the District requests that the NRC grant this temporary enforcement discretion.

Correspondence No: NLS970123

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
None.	