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Nebraska Public Power District

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NLS2010008
February 2, 2010

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

Subject: Nine-Month Supplemental (Post-Outage) Response to NRC Generic Letter 2008-01, "Managing Gas Accumulation in Emergency Core Cooling, Decay Heat Removal, and Containment Spray Systems"
Cooper Nuclear Station, Docket No. 50-298, DPR-46

Dear Sir or Madam:

The purpose of this letter is to provide Nebraska Public Power District's (NPPD) Nine-Month supplemental (post-outage) response to Nuclear Regulatory Commission (NRC) Generic Letter (GL) 2008-01 for Cooper Nuclear Station (CNS). The attached post-outage response is being submitted within 90 days of startup from the outage in which the deferred actions were completed. The attachment to this letter provides an update on evaluation results and corrective actions taken since NPPD's submittal of the Nine-Month response to GL 2008-01 on October 10, 2008.

In summary, NPPD has concluded that the systems subject to GL 2008-01 at CNS are operable. CNS is currently in compliance with the licensing basis documentation and applicable regulations, including 10 CFR 50 Appendix B, Criteria III, V, XI, XVI, and XVII, with respect to the concerns outlined in GL 2008-01.

This letter does not contain any new NRC commitments.

I declare under penalty of perjury that the foregoing is true and correct.

Executed On 2 Feb 2010
(Date)

Sincerely,

Stewart B. Minahan
Vice President - Nuclear and
Chief Nuclear Officer

/dm

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NRR

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cc: Regional Administrator w/ attachment
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Senior Resident Inspector w/ attachment
USNRC - CNS

Nebraska Health and Human Services w/ attachment
Department of Regulation and Licensure

CNS Records w/ attachment

NPG Distribution w/ attachment

Nine-Month Supplemental (Post-Outage) Response to NRC Generic Letter 2008-01

This attachment provides the Nine-Month Supplemental (Post-Outage) Response to Generic Letter (GL) 2008-01 (Reference 1) as requested by the Nuclear Regulatory Commission (NRC) in Reference 4. This post-outage response is being submitted within 90 days from Refueling Outage 25 (RE25) in which the deferred actions were completed.

The following information is provided in this attachment:

A description of the results of evaluations that were performed pursuant to GL 2008-01 on the previously incomplete activities, such as system piping walkdowns, at Cooper Nuclear Station (CNS) (see section A of this attachment).

A description of any additional corrective actions determined necessary to assure system operability and compliance with the quality assurance criteria in Criteria III, V, XI, XVI, and XVII of Appendix B to 10 CFR Part 50, and a commitment status update (see Section B of this attachment).

The original conclusions documented in the Nine-Month response (Reference 3) with respect to the licensing basis evaluation, testing evaluations, and corrective action evaluations have not changed. This post-outage response discusses the results of design evaluation reviews conducted during the recent refueling outage associated with previously uncompleted activities.

There are no new commitments in this post-outage response.

A. EVALUATION RESULTS

1. Design Basis Documents

Nebraska Public Power District (NPPD) is using the industry accepted interim methodology regarding suction and discharge void size acceptance criteria in support of operability evaluations. This interim methodology has been adopted via Engineering Evaluation.

A modification has been performed which added vent valves in various locations to facilitate system fill-and-vent and monthly verifications. An Updated Safety Analysis Report (USAR) change has been processed to revise USAR Table V-2-2 to show the applicable configuration changes. The affected system flow diagrams were updated to reflect the new vent valves.

2. Confirmatory Walkdowns

Walkdowns of piping subject to GL 2008-01 and located in primary containment have been completed for inaccessible Core Spray (CS) piping. The walkdowns confirmed that as-found piping configuration was in agreement with the piping isometrics drawings and system flow diagrams. No new unvented high points were identified where gas could accumulate and challenge system safety/design functions.

Subsequent to the submittal of References 2 and 3, walkdowns were determined as not necessary for Residual Heat Removal (RHR) inaccessible piping in containment due to the availability of laser scan images. The detailed laser scan images provided adequate information to validate the existing piping configuration is in agreement with the piping isometric drawings and the system flow diagrams. No new unvented high points were identified where gas could accumulate and challenge system safety/design functions.

As stated in Reference 2, walkdowns of High Pressure Coolant Injection (HPCI) piping were completed during the as-building process for installation of high point vents on HPCI piping within the steam tunnel.

Ultrasonic testing (UT) was utilized to identify air voids at the CS train B suction supply line from the condensate storage tank (CST), and under RHR loop B steam condensing mode piping relief valve (RV). The CS B supply valve is normally closed and is located a few feet above the regular horizontal suction supply pipe from the suppression pool. The CS fill-and-vent procedure was revised to add a step to vent air trapped under the valve disc which could be entrained in the CS pump suction flow path. The RHR steam condensing mode RVs were removed and replaced with an elbow and high point vent valve assembly as part of the modification to install new vent valves. Air voids were also found in shut down cooling (SDC) piping of RHR, but were dispositioned as no concern since SDC subsystem is manually operated and is filled and vented by a specific system procedure before being used.

3. Vent Valves

Vent valves were added to CS A upstream of the flow element (FE), and to emergency condensate storage tank (ECST) outlet pipe diameter enlargement to HPCI suction and upstream of the HPCI FE. CS B does not have a similar configuration, and a vent valve was not needed.

For RHR trains A and B steam condensing mode piping, the RV was removed and replaced with an elbow and vent valve assembly. A vent valve was added to the RHR Train A Service Water (SW) injection connection.

As an enhancement for HPCI restoration after maintenance, vent valves were added to the lube oil cooler and two other unvented high points in the auxiliary cooling subsystem.

4. Procedures

The appropriate fill-and-vent and surveillance procedures were revised to add the use of the new vent valves. As described in NPPD's response to Question 3 of the NRC Request for Additional Information (Reference 6), NPPD also revised the appropriate fill-and-vent and surveillance procedures for UT at specific locations. The procedures were also revised to provide specific instructions for documenting in the Corrective Action Program (CAP) gas voids or gas entrained water identified during venting.

B. DESCRIPTION OF NECESSARY ADDITIONAL CORRECTIVE ACTIONS

1. Additional Corrective Actions

During RE25, several instances of air accumulation were identified during surveillances performed after fill-and-vent had been completed as part of system restoration. These issues were placed in CAP and NPPD is evaluating the fill-and-vent and surveillance sequences to determine the source of air and assure its removal prior to performing future system surveillances.

2. Corrective Action Updates

The previously identified corrective actions (Reference 3) having due dates prior to startup from RE25 have been completed. The individual corrective actions consisted of performing UTs on unvented high points, where practical, and performing Operability Evaluations for those locations where gas or void spaces were found.

Unvented high points were individually evaluated and new high point vent valve assemblies were added, where practical, independent of whether gas was found at the time of the UT.

A summary of results for HPCI, CS, and RHR are provided below. The results were entered in CAP. The table identifies the system designation, location of the potential gas, and the final disposition provided to close the condition, e.g., performing UT to determine if gas was present, adding a vent valve (VV), using engineering judgment (EJ) to accept a small void space determined not to affect system operability, or the revision of procedures to facilitate future venting.

System	Suction or Discharge Line	General Location of Potential Void Space	UT	VV	EJ	Revised Procedure
CS-A	Suction	CST fill line, below CS valve (V) 66	X			X
CS-A	Discharge	Upstream FE-39A	X	X		X
CS-A	Discharge	Under CS-V-26, check valve (CV) 10 bypass	X		X	X
CS-A	Discharge	Vertical line to Pressure Transmitter (PT) 38A and relief valve (RV) 11	X		X	
CS-B	Suction	CST fill line, below CS-V-67	X			X
CS-B	Discharge	Vertical line to PT38B and RV13	X		X	
RHR-A	Discharge	Low Pressure Coolant Injection (LPCI) Line RHR27A	X		X	X
RHR-A	Discharge	Heat exchanger (Hx) Steam Condenser mode	X	X		X
RHR-A	Discharge	RHR motor operator (MO) 38A suppression pool (SP) spray	X			X
RHR-A	Suction	SDC under RHR-V-98	X			X

System	Suction or Discharge Line	General Location of Potential Void Space	UT	VV	EJ	Revised Procedure
RHR-A	Suction	Suction from SP	X			X
RHR-A	Suction	RV10 / RV12	X		X	
RHR-A	Discharge	Downstream RHRCV20 SW injection	X	X		X
RHR-B	Discharge	LPCI Line RHR27B	X		X	X
RHR-B	Discharge	Hx B Steam Condenser mode	X	X		X
RHR-B	Discharge	RHRMO38B SP spray	X			X
RHR-B	Suction	SDC under RHR-MO-15B/D	X			X
RHR-B	Suction	RV-11 / RV-13	X		X	
RHR-B	Discharge	RHR-V-82	X			X
RHR-B	Suction	Suction from SP	X		X	X
HPCI	Suction	ECST suction supply	X	X		X
HPCI	Suction	Condensate return to HPCI suction	X	X		X
HPCI	Suction	Gland seal condenser	X	X		X
HPCI	Suction	RV-10, RV-11, RV-12	X		X	
HPCI	Discharge	Upstream FE80	X	X		X
HPCI	Suction	Downstream restricting orifice 134	X	X		X

3. Commitment Status

The list of commitments provided in Reference 3, as updated by References 2 and 5, have been completed with the exception of commitment NLS2008081-01. This commitment states the following: "NPPD will evaluate the TSTF Traveler for making changes to individual licensee's TS related to the potential for unacceptable gas accumulation, its applicability to CNS, and evaluate adopting the Traveler to either supplement or replace the current TS requirements." This commitment is dependent on industry resolution. The committed date is unchanged from the date provided in Reference 3.

Conclusion

NPPD has completed the evaluation of the previously inaccessible portions of the applicable systems/functions at CNS that perform the functions described in the GL and has concluded that these systems are Operable, as defined in the CNS TS, and are in conformance with the CNS licensing basis and compliance with all applicable regulations, including 10 CFR 50 Appendix B, Criteria III, V, XI, XVI, and XVII.

References

1) NRC Generic Letter 2008-01, "Managing Gas Accumulation in Emergency Core Cooling, Decay Heat Removal, and Containment Spray Systems" dated January 11, 2008

2) Letter from Stewart B. Minahan (NPPD) to USNRC Document Control Desk, dated September 11, 2008, "Request for Extension to Generic Letter 2008-01"

3) Letter from Stewart B. Minahan (NPPD) to USNRC Document Control Desk, dated October 10, 2008, "Nine-Month Response to NRC Generic Letter 2008-01, Managing Gas Accumulation in Emergency Core Cooling, Decay Heat Removal, and Containment Spray Systems"

4) Letter from Carl F. Lyon (USNRC) to Stewart B. Minahan (NPPD), dated October 3, 2008, "RE: Generic Letter 2008-01, "Managing Gas Accumulation in Emergency Core Cooling, Decay Heat Removal, and Containment Spray Systems," Proposed Alternative Course of Action (TAC No. MD7815)"

5) Letter from Brian J. O'Grady (NPPD) to USNRC Document Control Desk, dated May 7, 2009, "Revision to Commitment Made in Nine-Month Response to NRC Generic Letter 2008-01"

6) Letter from Brian J. O'Grady (NPPD) to USNRC Document Control Desk, dated December 17, 2009, "Response to Request for Additional Information Regarding Nebraska Public Power District's Nine-Month Response to NRC Generic Letter 2008-01"

ATTACHMENT 3 LIST OF REGULATORY COMMITMENTS©[4]

Correspondence Number: NLS2010008

The following table identifies those actions committed to by Nebraska Public Power District (NPPD) in this document. Any other actions discussed in the submittal represent intended or planned actions by NPPD. They are described for information only 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	COMMITMENT NUMBER	COMMITTED DATE OR OUTAGE
None	N/A	N/A