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NLS2004065
June 8, 2004

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

Subject: Response to Request for Additional Information Regarding Loss-of-Coolant Accident (LOCA) Dose Calculation Methodology and Resolution of Remaining License Condition 2.C.(6) Issues
Cooper Nuclear Station, NRC Docket No. 50-298, DPR-46

Reference:
1. Letter to R. Edington (Nebraska Public Power District) from U.S. Nuclear Regulatory Commission dated May 4, 2004, "Request for Additional Information Re: Loss-of-Coolant Accident (LOCA) Dose Calculation Methodology and Resolution of Remaining License Condition 2.C.(6) Issues (TAC No. MC1572)."

2. Letter to U. S. Nuclear Regulatory Commission from R. Edington (Nebraska Public Power District) dated December 9, 2003, "License Amendment Request for LOCA Dose Calculation Methodology and Resolution of Remaining License Condition 2.C.(6) Issues" (NLS2003105).

The purpose of this letter is to respond to the Request for Additional Information provided in Reference 1 regarding the previously submitted License Amendment Request of Reference 2. These responses summarize information provided during a teleconference held on April 28, 2004 between Nebraska Public Power District (NPPD) personnel and members of the Nuclear Regulatory Commission staff.

Question 1- *Page 7 - Please describe how the operator will be able to access both Turbine Stop Valves that are located approximately 8.5 feet off the floor.*

Response: Both valves are in the same general vicinity. A movable ladder is provided so that access can be made to each Turbine Stop Valve without climbing directly on equipment. The ladder is maintained at a nearby ladder station.

Question 2- *Page 8 - Please describe how the walk down was performed. For example, how many individuals/crews participated in the walk down? What actions were actually demonstrated to be performed within the "estimated 30 minutes" to accomplish the task...e.g., did the time include ingress/egress to the valve locations, access to the tools that are 25-30 feet away from the valves, etc? The illustration provided in the December 9, 2003 submittal shows an operator at the valve location dressed in "anti-C's", it appears. Did the 30 minute time estimate include time to dress-out?*

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Response: The walkdown was performed by the design engineer responsible for the implementation of modifications to the Main Steam Isolation Valve (MSIV) Leakage Pathway. The post-LOCA shaft adjustment is performed by Maintenance personnel who will be deployable out of the Operations Support Center (OSC) after Emergency Response Organization (ERO) mobilization. The 30-minute time estimation includes the time for a single individual to reach the valves, obtain the pre-staged tools, setup the ladder, install the shaft adjustment tools, and apply the tools on the Turbine Stop Valves. The 30-minute estimation starts after the individual has entered the Turbine Building. It did not include pre-entry logistics times such as ERO staffing time, pre-job brief, etc. However, even including those expected times, the total time to perform this evolution is still well within the 30-hour time period for completion.

With regards to the anti-contamination clothing in the photo, the picture was taken during a refueling outage when the turbines were disassembled and the area was posted as a contaminated area. Full dress out would not be expected in this area during the postulated LOCA event.

Question 3: *Page 8 - "With the MSIV [main steam isolation valve] leakage assumed in the LOCA analysis and conservative assumptions, this evolution would be performed well before any radiological release to the Turbine Building could occur from Turbine Valve shaft clearance area leakage. The implementing emergency procedure directs completion within 30 hours." Please explain how the 30 hours time to take the required manual actions was derived. What is the minimum amount of time that an operator will have to perform the required actions before encountering a hostile environment?*

Response: The 30-hour time period was determined based on the time it would take for MSIV leakage to migrate along the pathway from the Reactor Building to the point in the Turbine Building where the source term could potentially become a radiological hazard to the individual performing the shaft adjustment.

Question 4: *Page 9 - Please explain what modifications were made after refueling outage 21 to improve the capability of the emergency lighting system. "Directly after a LOCA induced shutdown, the area surrounding the Turbine Stop Valves would be hot from residual heat in the piping and valves..." Though the "majority of equipment in the area is insulated," how hot is the area expected to become? Is there need for special personnel protection/equipment?*

Response: Sufficient emergency lighting was already in place for the valves on the 903'6"/909'6" levels of the Turbine Building. Three existing emergency lights on Elevation 932'6" of the Turbine Building required relocation/repositioning. A new emergency light was added on Turbine Building elevation 882'6" with two remote lamp heads.

The area where the Turbine Stop Valves are located have been accessed in the past during normal power operation, without the need for special personnel protective equipment. Unlike power operations, Main Steam is isolated under a design basis LOCA. Therefore, NPPD would not expect a harsh temperature environment when performing the Turbine Stop Valve shaft adjustment. Additionally, installation of the shaft adjustment tools does not require physical contact with the uninsulated part of the Turbine Stop Valves by the individual performing the shaft adjustment.

Question 5: *Page 15 (Table 1) - Please explain/clarify: Are all the manual actions in the table required to "configure the MSIV Leakage Pathway," as the table title (and Page 3) indicate? If so, please explain how the manual actions (other than the Turbine Stop Valve adjustments) are accomplished. For example, where are the locations of the other valves in relation to the Turbine Stop Valves? Does the same person who is manually adjusting the Turbine Stop Valves carry out the remaining valve closures? What steps are required to perform the remaining valve manipulations? How much time is required to complete the remaining valve manipulations? How has it been determined that the other valve manipulations can be successfully performed in the time allowable?*

Response: All of the manual actions contained on the Table for which NRC acceptance is requested, are required to configure the MSIV Leakage Pathway. The manual actions are controlled by an Emergency Procedure that directs their accomplishment. The valves are located in the Turbine Building and are accessed from Floor Elevations 882'6"[1], 903'6", 909'6", and 932'6". Several of the valves are elevated and will be manipulated via a chain operator. The others are repositioned via the handwheel. For two of these valves, access is afforded by a movable ladder maintained at a nearby ladder station. As discussed in Question 2, the Turbine Stop Valve shaft adjustment is performed by Maintenance personnel deployable from the OSC. A plant operator who is normally part of the on-shift operating crew performs the valve repositionings.

The procedure that performs the valve position changes designates a limiting time of 2 ½ hours to position 14 of the 16 valves[2]. This time period was determined based on the time it would take for MSIV leakage to migrate along the pathway within the Reactor Building to the point where the source term could potentially become a radiological hazard to the individual performing the evolution in the Turbine Building. Two walkdowns have been performed. The first walkdown was conducted during Refueling Outage (RFO) 20 by one operator and a design engineer, prior to the installation of the new boundary valves. Subsequent to this walkdown four additional valves were added to the configuration. Although no

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1. Floor Elevation 882'6" was inadvertently omitted on Page 3 of Attachment 1 to Reference 2.
2. Valves AS-V-682 and 683 are located on Floor Elevation 932'6" in the vicinity of the Turbine Stop Valves and are constrained by the longer 30-hour completion criteria described in Question 3.

valve manipulations were performed, the time to reposition the 14 valves was individually assessed, for a total estimated time of approximately 50 minutes (not including transit times). The second walkdown was performed following RFO-21 by another operator, and documented the transit times starting at the Control Room to the various areas where the valves are located to be approximately 4 minutes. As an operator aid, the valves were affixed with special labels to distinguish them as valves to be manipulated to configure the MSIV Leakage Pathway. As part of the procedure implementation process committed to in Reference 2, Operations personnel will receive training on the performance of the evolution. Based on these walkdown times and other activities as previously described, NPPD is confident that the entire evolution can be readily accomplished within the required time frame.

Should you have any questions concerning this matter, please contact Mr. Paul Fleming at (402) 825-2774.

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

Executed on 06/08/2004

Randall K. Edington
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/wrv

cc: Regional Administrator
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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 & Regulatory Affairs Manager at Cooper Nuclear Station of any questions regarding this document or any associated regulatory commitments.

COMMITMENT	COMMITTED DATE OR OUTAGE
As part of the procedure implementation process, Operations personnel will receive training on the performance of the [MSIV Leakage Pathway configuration] evolution.	60 days after receipt of the License Amendment