



Nebraska Public Power District
Nebraska's Energy Leader

NLS2002123
October 18, 2002

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

Subject: Reply to Supplemental Inspection Report
NRC Supplemental Inspection Report No. 50-298/02-07
Cooper Nuclear Station, NRC Docket 50-298, DPR-46

Reference: 1. Letter to David L. Wilson (Nebraska Public Power District) from Ellis W. Merschoff (Nuclear Regulatory Commission) dated September 20, 2002, "NRC Supplemental Inspection Report 50-298/02-07"

The purpose of this letter, including Attachment 1, is to respond to a request by the Nuclear Regulatory Commission (NRC) to address the issues from an inspection of Cooper Nuclear Station (CNS) conducted in accordance with Inspection Procedure (IP) 95003. The inspection was completed on August 22, 2002. The results of that inspection were documented in a letter dated September 20, 2002 (Reference 1). Attachment 1 to this letter focuses on NRC observations made in the Executive Summary of the September 20, 2002 letter. To assist CNS in addressing these observations, they have been grouped into four key areas: 1) Corrective Action Program, 2) Equipment Reliability, 3) Long-standing Problems, and 4) General Observations. In Attachment 1, the NRC observations are italicized for convenience, followed by a summary of relevant Nebraska Public Power District (NPPD) actions.

The IP 95003 inspection was conducted as a result of CNS entering the Multiple/Repetitive Degraded Cornerstone column of the NRC Action Matrix on April 1, 2002, primarily due to continuing issues with the implementation of the emergency preparedness program. Upon entry into this column of the Action Matrix, NPPD was required to develop an improvement plan with oversight by the NRC. Since CNS had already begun development of the Strategic Improvement Plan (TIP) in January 2002, it was determined that this document would be utilized to satisfy regulatory expectations. As discussed in TIP Revision 1, submitted to the NRC on June 10, 2002, TIP is a long-term, broad-based plan being utilized to improve performance at CNS.

Because of its breadth, TIP contains activities internal to NPPD and activities that are within the NRC's scope of responsibility. With the submittal of TIP Revision 2, CNS will provide the NRC with its perspectives on those areas in TIP which are within the NRC's regulatory scope and are appropriate for inclusion in a Confirmatory Action Letter (CAL). NPPD also will be developing

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key performance indicators that 1) measure the effectiveness of the various Action Plans in TIP to improving plant performance and 2) will be used to indicate when CAL objectives have been satisfied.

The NRC inspection report consisted of two parts. First, the NRC provided a narrative discussion of, among other things, TIP Revision 1 Action Plans, and assessed their general adequacy. Second, the NRC provided a detailed matrix that delineated NRC review criteria and associated NRC observations for each Action Plan. At the time of the inspection, the NRC and NPPD were aware that TIP was a work in progress and that there would be areas requiring further detail and improved focus. Consistent with that presumption, the NRC provided several general observations in the inspection report regarding performance problem areas not effectively addressed in TIP Revision 1. The NRC observations were useful and in many cases confirmed the appropriateness of TIP improvements already in progress. NPPD has reviewed the report and is evaluating the detailed observations for resolution and integration into TIP Revision 2 in either the programmatic or specific actions being implemented to improve performance.

NPPD is applying significant management attention to the development and implementation of a meaningful and effective improvement plan. Improvement at CNS is necessary not only to satisfy NRC expectations, but also to better ensure the viability of operating CNS to the end of, and possibly beyond, its current operating license. Therefore, TIP Revision 1 action items continue to be completed during the development of TIP Revision 2. As the TIP Revision 1 action items are being pursued, TIP Revision 2 is under development and management review. Integration and scheduling of that document are in their initial stages. TIP Revision 2 will be submitted to NRC on November 29, 2002.

Also, because of the volume and complexity of necessary actions, it is clear that consistent and persistent NPPD senior management attention is necessary to improve performance, to sustain those improvements, and to prevent or mitigate emergent issues from having safety significance. This attention is reinforced in the TIP Mission Statement, "Safe and reliable operation of CNS while implementing actions that lead to significant improvements to support long-term generation of electrical power." The highest priority of the station is the protection of the health and safety of the public (e.g., improving emergency preparedness), emphasizing safe operation of the plant at all times (e.g., focusing on operations and human performance), and continuous improvement (e.g., improving self-assessment, the corrective action program, use of operating experience and quality assurance). Senior management oversight of station performance is accomplished through 1) management reporting and periodic, formal reviews with the CNS Site Vice President and Vice President - Nuclear and 2) reporting of progress and station performance by the Vice President - Nuclear to the NPPD President and Chief Executive Officer, and to the NPPD Board Nuclear Committee on a monthly basis.

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Improvement has been noted in emergency preparedness. For example, a total of sixteen (16) staff augmentation drills have been held since July 2001 with an average response time of approximately forty-eight (48) minutes compared to the emergency plan criteria of "approximately one (1) hour." Training drill performance has demonstrated that the required notification of state and local governmental agencies has been consistently performed within the required time limits. As further demonstration of the effectiveness of emergency planning actions, the recent ingestion pathway exercise was successfully conducted during the week of August 26, 2002. To better ensure that lessons learned are communicated throughout the CNS organization, selected members of the CNS emergency response organization (ERO) team involved with that exercise will mentor the other ERO teams that will be conducting drills through the end of the year. CNS has provided the NRC with additional information regarding the open findings from past inspections and continues to communicate with NRC Region IV staff to expeditiously resolve and close those findings.

Management at CNS is continuing to emphasize improvements in the key functional areas of human performance and the corrective action program. Because of their broad impact, success in these two areas is necessary to significantly improve in other areas of station performance. Management will continue to establish, communicate, observe and monitor standards, establish goals and priorities and improve accountability and ownership.

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


Michael T. Coyle
Site Vice President

/jrs

cc: Regional Administrator (with attachment)
USNRC - Region IV

Senior Project Manager (with attachment)
USNRC - NRR Project Directorate IV-1

Senior Resident Inspector (with attachment)
USNRC

NPG Distribution (with attachment)

REPLY TO NRC OBSERVATIONS IN EXECUTIVE SUMMARY OF IR 02-07
COOPER NUCLEAR STATION
NRC DOCKET NO. 50-298, LICENSE DPR-46

As noted in the cover letter, the Strategic Improvement Plan (TIP) Revision 2 is currently in draft. Nebraska Public Power District (NPPD) will inform the Nuclear Regulatory Commission (NRC) in writing if any of the following responses materially change as a result of TIP Revision 2 being modified before or after its submittal to the NRC.

1. Corrective Action Program

General Response:

Several actions have been taken to make immediate improvements in performance in the Corrective Action Program (CAP). Industry recognized root cause analysis experts have been contracted to assist management in providing coaching and mentoring to root cause investigation teams. This action was undertaken to cause an immediate step increase in the performance of root cause analysis, corrective action identification and extent of condition reviews for significant conditions adverse to quality. Also, a pilot root cause analysis has been completed using a recent significant condition adverse to quality involving several unplanned power changes to identify the behaviors needed for successful teams. The lessons learned from that activity have been identified in a team critique. Tasks, skills, and knowledge resulting from that activity are being developed using a task analysis technique. The critique and task analysis information will be used to provide improved training, guidance, lessons learned and coaching to future root cause analysis teams.

The Condition Review Group (CRG) is the site management team charged with establishing the significance and ownership of problem reports. At the CRG meeting, which is held daily, an update is provided once a week on each open significant condition root cause analysis so as to provide direction on the scope, depth and approach to the problem and the cause analysis. The Corrective Action Review Board (CARB), which is the senior manager oversight body for the Corrective Action Program, has revised its charter to provide for more focus on review of overall CAP performance. These changes have included making the Site Vice President the CARB Chairman, performing reviews of trend analysis reports with department managers, and performing detailed back-end reviews of closed root cause analyses. Departmental trend evaluators have been established and the first round of quarterly CARB reviews of trend analysis reports for each department has been completed.

Site personnel are attending training designed to reinforce CAP standards and expectations. Site personnel are expected to complete the training by the end of December 2002. Completion of actions by assigned due dates and effectiveness assessments are being monitored via an

increased management focus on the already established department CAP health indicator to ensure timely evaluation and corrective action commensurate with safety significance.

NRC Observation:

In the development of the improvement plan, the team found that Cooper Nuclear Station used an informal and evolving process to develop the extent of condition reviews and action plans. Consequently, the development of the improvement plan lacked the requisite coordination between problem characterization and the corrective actions specified to correct the problem. The team found performance problem areas which were not effectively addressed by the improvement plan. The team identified one important performance problem area which was missed in its entirety, the management of spare and replacement parts. Also, the improvement plan actions were not prioritized and integrated.

NPPD Response:

The appropriate level of formality is being applied to TIP Revision 2. TIP Revision 2 is being developed in accordance with "The Strategic Improvement Plan (TIP) Revision 2 Development Guide." TIP Revision 2 is being integrated with clear linkages between causal factors and Action Plan steps and between related action plans and specific deliverables. TIP Revision 2 is being resource-loaded and activities scheduled and prioritized. Plans to improve the management of spare and replacement parts are being incorporated in TIP Revision 2 in an Action Plan that addresses materials management. Actions include validating bills of material, reducing the inventory of change evaluation documents and developing a critical spare parts program.

NRC Observation:

The improvement plan did not include corrective actions to ensure performance problem trend codes were effectively utilized. The ineffective use of work item trend information was identified during the licensee's extent of condition review. In addition, the team determined that maintenance personnel did not routinely enter the trend codes into the database and that site personnel did not utilize the trend information.

NPPD Response:

Actions to improve documentation and utilization of performance problem trends in order to improve performance are being incorporated in TIP Revision 2 in action plans that address work practices and improving CAP standards. Actions include establishing an equipment trending program for CAP and work items and establishing standards for trending frequency and depth of trended parameters.

NRC Observation:

The improvement plan did not contain actions to address issues which had been identified in the extent of condition review involving the departmental use and accountability of departmental performance indicators.

NPPD Response:

TIP Revision 2 will contain an Action Plan to require use of departmental performance indicators, including the accountability to both maintain the indicators and to establish and maintain performance at or above acceptable levels.

NRC Observation:

The improvement plan did not include corrective actions to address conflicting departmental and station priorities, policies, and goals.

NPPD Response:

This observation is being addressed in TIP Revision 2 in action plans that address management effectiveness. The ongoing management of the draft action plans has an integration step that is intended to utilize resource loading of the action plans and base load work to develop an integrated TIP. This will be a first step, beyond the action plans themselves, for minimizing conflicts, priorities, policies and goals.

NRC Observation:

The improvement plan did not contain steps to address issues which had been identified in the extent of condition reviews associated with a lack of organizational depth and the impact of this issue on the effective implementation of engineering programs.

NPPD Response:

Organizational depth has been a long-standing issue at CNS. NPPD believes that this factor had an adverse impact on the long-term effectiveness of improvements made through the previous engineering improvement plan embodied in the document entitled, "Strategy for Achieving Engineering Excellence." Actions to improve the lack of organizational depth and reduce its impact on effective implementation of engineering programs are being incorporated into an Action Plan in TIP Revision 2 that addresses programs. Improvement in personnel depth should result in improved and more consistent performance.

NRC Observation:

The improvement plan did not fully address problems with entering self-assessment findings and observations into the corrective action program to ensure that those items were assigned the correct priority and attention. This issue had been identified in the extent of condition review. While recent actions had been taken to address this issue, no measures to verify the effectiveness of the corrective actions had been specified.

NPPD Response:

CNS Procedure 0-CNS-25 is being revised to require entry of self-assessment recommendations into CAP. Further actions, including effectiveness reviews of the procedure change and performance indicators, are being incorporated into TIP Revision 2. Effectiveness of the use of CAP is being addressed in the action plans related to improvements in CAP.

NRC Observation:

The improvement plan did not fully address the problems identified in the licensee's extent of condition review associated with prescribing "accountability behaviors" (refer to Section 4.1.1.b) in procedures, guides, or instructions. In addition, the current revision of Procedure 0-CNS-24, "CNS Standards and Expectations," did not include "accountability behaviors."

NPPD Response:

This observation is being incorporated in TIP Revision 2 in action plans that address management effectiveness. Additionally, training for site personnel on a single, common accountability model, begun in late 2001, has been completed. Managers are now utilizing this accountability model in managing their organizations.

2. Equipment Reliability

NRC Observation:

The improvement plan did not contain actions to correct known equipment reliability problems. Numerous self-assessments and NRC inspections had identified equipment reliability problems, such as those in the service water system, which had been challenges to plant performance. These issues will require significant management attention and resources to address.

NPPD Response:

This observation will be incorporated in TIP Revision 2 in action plans that address system equipment performance and long-standing equipment issues.

Programmatic actions are currently being pursued in parallel with the development of TIP Revision 2 to address this issue. The station has initiated an activity to identify, prioritize, and resolve known equipment obsolescence issues. As an initial step, equipment troubleshooting training recently began for selected personnel. The focus of this training will be to ensure that future solutions to equipment problems are based on a clear understanding of the problem. This will better ensure that the issue is effectively resolved the first time with efficient use of resources. This will permit the station staff to then address and proactively resolve other known equipment issues.

NPPD is also implementing an equipment reliability improvement plan to establish an integrated station approach to equipment reliability based on Institute for Nuclear Power Operations (INPO) document AP-913. The assistant senior engineering manager position has been filled by a reverse loan employee from INPO who was the primary author of AP-913. This individual will aid CNS in implementing equipment reliability best practices from the industry.

Switchyard equipment reliability improvements are expected from a recent interface agreement that has been established between CNS and NPPD Transmission Services that addresses boundaries of responsibilities and protocol for communications and coordination between organizations. Critical switchyard equipment has been identified and appropriate preventive maintenance tasks have been assigned and scheduled.

NRC Observation:

The improvement plan did not contain actions to address ineffective management of component parts used in plant equipment. This performance problem area was identified in the extent of condition review as adversely affecting work planning and work implementation.

NPPD Response:

This issue is being incorporated in TIP Revision 2 in an Action Plan that addresses materials management. Actions include validating bills of material, reducing the inventory of change evaluation documents and developing a critical spare parts program.

3. Long-standing Problems

NRC Observation:

The improvement plan did not contain actions to address long-standing problems with the quality and adequacy of plant modification packages. Several self-assessments had identified problems in the quality and completeness of modifications. Although Cooper Nuclear Station had made significant changes to the modification process in May and June of 2002, the effectiveness of these changes had not been determined by the licensee.

NPPD Response:

A new Action Plan will be included in TIP Revision 2 to address the quality and completeness of plant modification packages including effectiveness measures. Plant procedures have been modified to ensure the engagement of maintenance and/or operations early in the modification process.

NRC Observation:

Performance weaknesses associated with the adequacy of operability determinations were not included as part of the improvement plan. This was a known performance problem area. The

licensee's extent of condition review, NRC inspection reports, and NRC assessment letters had documented inadequate implementation of the operability determination program. During this inspection, the team reviewed current operability determinations and found similar problems to those identified in previous assessments and inspection reports.

NPPD Response:

A new Action Plan will be included in TIP Revision 2 to improve the quality and completeness of operability determinations. This plan includes training, oversight, and procedure implementation improvements. Actions already completed include having condition reports reviewed for operability impact by the shift supervisor, by both the outgoing and oncoming shift supervisors, and by the Work Control Center senior reactor operator. Additionally, operability determinations are being reviewed by the shift supervisor and operations management.

4. General Observations

NRC Observation:

The improvement plan did not include actions to evaluate the scope of known performance problems associated with the use of industry operating experience information. The ineffective use of industry information had been identified during the licensee's extent of condition review. In addition, the team identified that two of five industry information documents reviewed during the inspection were not adequately assessed.

NPPD Response:

TIP Revision 2 will contain actions to ensure that improvements in the use of industry operating experience address the scope and adequacy of evaluations and the effectiveness of applying Operating Experience Reports. Standards and expectations on the use of operating experience have been provided to plant and engineering management. Observations of the use of operating experience in pre-job briefs for station departments to identify areas of good practice are continuing.

NRC Observation:

The improvement plan did not have actions to correct ineffective coordination and integration among site organizations.

NPPD Response:

This observation is being incorporated in TIP Revision 2 in action plans that address management effectiveness. The ongoing management review process of the draft action plans has an integration step to ensure resource loading of both the action plans and base load work to develop an integrated TIP. This will be a first step, beyond the action plans themselves, in coordinating and integrating work between site organizations.

NRC Observation:

The improvement plan did not address the lack of a formal process to prioritize, revise and track to completion procedure change requests. This issue had been identified in the extent of condition review.

NPPD Response:

An Action Plan is being added to TIP Revision 2 to address the control of procedure revisions. Actions include developing a procedure management process to establish a single method for tracking and prioritizing procedure revisions.

NRC Observation:

The level of detail included in action plans and supporting documentation was frequently not sufficient to assess the effectiveness of planned actions. The team found that over half of the action plans had steps that provided insufficient detail to assess whether they would be effective in resolving the problems.

NPPD Response:

“The Strategic Improvement Plan (TIP) Revision 2 Development Guideline” addresses this observation. Guidance is provided for what constitutes an appropriate level of detail including use of examples.

NRC Observation:

The team also found that the improvement plan, in general, did not include adequate performance measures to evaluate the effectiveness of the action plans in improving plant performance. In addition, the improvement plan had not been assessed for the resources needed for successful implementation of the planned actions; consequently, the time frames for completing the planned actions could not be reliably assessed.

NPPD Response:

“The Strategic Improvement Plan (TIP) Revision 2 Development Guideline” addresses this observation. Action Plan owner responsibilities are defined including those for assessing resources and developing performance indicators. Performance indicator attributes are also provided.

Correspondence No: NLS2002123

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COMMITMENT	COMMITTED DATE OR OUTAGE
CNS will provide the NRC with its perspectives on those areas in TIP which are within the NRC's regulatory scope and are appropriate for inclusion in a Confirmatory Action Letter (CAL).	11/29/02
NPPD will be developing key performance indicators that 1) measure the effectiveness of the various action plans in TIP to improving plant performance and 2) will be used to indicate when CAL objectives have been satisfied.	11/29/02
Observations made on specific TIP action plans will be evaluated for resolution and integration into TIP Revision 2.	11/29/02
NPPD will inform the NRC in writing if any of the responses in Attachment 1 materially change as a result of TIP Revision 2 being modified before or after its submittal to the NRC.	N/A
The critique and task information from a pilot root cause analysis will be used to develop tasks, skills and knowledge for future training and coaching.	12/31/02
TIP Revision 2 is being integrated with clear linkages between causal factors and Action Plan steps and between related action plans and specific deliverables. TIP Revision 2 is being resource-loaded and activities scheduled and prioritized.	11/29/02
Plans to improve the management of spare and replacement parts are being incorporated in TIP Revision 2 in an Action Plan that addresses materials management.	11/29/02
Actions to improve documentation and utilization of performance problem trends in order to improve performance are being incorporated in TIP Revision 2 in action plans that address work practices and improving CAP standards.	11/29/02
TIP Revision 2 will contain an Action Plan to require use of departmental performance indicators, including the accountability to both maintain the indicators and to establish and maintain performance at or above acceptable levels.	11/29/02

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Corrective actions to address conflicting departmental and station priorities, policies and goals are being integrated in TIP Revision 2 in actions plans that address management effectiveness.	11/29/02
Actions to improve the lack of organizational depth and reduce its impact on effective implementation of engineering programs are being incorporated into an Action Plan in TIP Revision 2.	11/29/02
CNS Procedure 0-CNS-25 is being revised to require entry of self-assessment recommendations into CAP. Further actions including effectiveness reviews of the procedure change and performance indicators are being incorporated into TIP Revision 2.	11/29/02
Effectiveness of the use of the CAP is being addressed in the action plans related to CAP.	11/29/02
TIP Revision 2 is currently being developed to address the problems associated with prescribing "accountability behaviors" in procedures, guides or instructions.	11/29/02
Actions to correct known equipment reliability problems will be addressed in TIP Revision 2 in action plans that address equipment performance and long-standing equipment issues.	11/29/02
CNS has initiated an activity to identify, prioritize, and resolve known equipment obsolescence issues.	03/31/03
NPPD is implementing an equipment reliability improvement plan to establish an integrated station approach to equipment reliability based on Institute for Nuclear Power Operations (INPO) document AP-913.	03/31/03
Actions to address ineffective management of component parts used in plant equipment are being developed in TIP Revision 2 in an Action Plan addressing materials management.	11/29/02
A new Action Plan, which will be included in TIP Revision 2, is being developed to address the quality and completeness of plant modification packages including effectiveness measures.	11/29/02
A new Action Plan, which will be included in TIP Revision 2, is being developed to improve the quality and completeness of operability determinations.	11/29/02

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TIP, Revision 2 will ensure that improvements in the use of industry operating experience address the scope and adequacy of evaluations and the effectiveness of applying Operating Experience Reports (OER).	11/29/02
Actions to correct ineffective coordination and integration among site organizations are being addressed in TIP Revision 2 in action plans that address management effectiveness.	11/29/02
An Action Plan will be added to TIP Revision 2 to address the control of procedure revisions.	11/29/02
TIP Revision 2 will be submitted to the NRC.	11/29/02