



**UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
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June 24, 2004

Randall K. Edington, Vice
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P.O. Box 98
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**SUBJECT: COOPER NUCLEAR STATION - QUARTERLY CONFIRMATORY ACTION
LETTER (INSPECTION REPORT 05000298/2004006)**

Dear Mr. Edington:

On March 26, 2004, the NRC completed an inspection at your Cooper Nuclear Station. The enclosed inspection report documents the inspection findings, which were discussed on May 12, 2004, with Mr. S. Minahan and other members of your staff during a public exit meeting.

This inspection examined activities related to the NRC Confirmatory Action Letter, dated January 30, 2003, and the Strategic Improvement Plan, Revision 2. Within these areas, the inspection involved examination of selected procedures and representative records, observations of activities, and interviews with personnel.

Based on the results of this inspection no findings of significance were identified.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC web-site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

/RA/

Arthur T. Howell III, Director
Division of Reactor Projects

Docket: 50-298
License: DPR-46

Enclosure:
NRC Inspection Report
05000298/2004006

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U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

Docket.: 50-298
License: DPR 46
Report No.: 05000298/2004006
Licensee: Nebraska Public Power District
Facility: Cooper Nuclear Station
Location: P.O. Box 98
Brownville, Nebraska
Dates: March 22 through May 12, 2004
Team Leader W. Walker, Senior Project Engineer, Project Branch C, Division of
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Inspectors: V. Gaddy, Senior Project Engineer, Project Branch E, DRP
M. Sitek, Resident Inspector, Project Branch C, DRP
Approved By: Arthur T. Howell III, Director
Division of Reactor Projects

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SUMMARY OF FINDINGS

IR 05000298/2004006; 04/22-26/2004; Cooper Nuclear Station; special inspection to verify provisions of the NRC Confirmatory Action Letter and the licensee's Strategic Improvement Plan.

The inspection was conducted by two Region-based inspectors and one resident inspector. The significance of most findings is indicated by their color (Green, White, Yellow, Red) using IMC 0609, "Significance Determination Process." Findings for which the significance determination process does not apply may be "Green" or be assigned a Severity Level after NRC management review. The NRC program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 3, dated July 2000.

This inspection was the fifth of a series of inspections performed by the NRC to assess Nebraska Public Power District's progress with respect to the implementation of their improvement plan and to verify the provisions outlined in the NRC Confirmatory Action Letter, dated January 30, 2003. The inspection primarily focused on the areas specified in the Confirmatory Action Letter, which includes: (1) emergency preparedness; (2) human performance; (3) material condition and equipment reliability; (4) plant modifications and configuration control; (5) corrective action program, utilization of industry operating experience, and self-assessments; and (6) engineering programs. In addition, the inspection reviewed and assessed the progress of baseline inspection reports, NRC performance indicators, and licensee performance measures.

In the area of emergency preparedness, the licensee's performance indicators, NRC performance indicators, and baseline inspection results indicated a satisfactory level of performance. Also, in the area of engineering programs improvements are in place and an improving trend has been noted in licensee performance indicators and no significant findings have been identified during NRC baseline inspections. Engineering programs have been effectively developed and the implementation process is ongoing. In the area of human performance, TIP action steps implemented and ongoing have provided continued improvement as evidenced by an improving trend in human performance data over the last 6 months. Despite these improvements, baseline inspection findings continue to be identified in which personnel errors have contributed to plant performance issues. In the three remaining Confirmatory Action Letter areas, the team concluded, by reviewing licensee performance indicators, NRC performance indicators, licensee self-assessments, and baseline inspection results, that actions implemented have not resulted in sustained improved performance. Specifically, in the area of material condition and equipment reliability, actions completed to date have provided the necessary processes for improvement, and numerous equipment improvements have been recently completed. However, a number of the licensee's performance indicators did not meet their performance goals. Implementation issues have continued to be identified in the areas of operability determinations, problem evaluation, and effectiveness of corrective actions. While the NRC acknowledges that some implementation issues are not unexpected, the types of recent problems within these areas, some of which have been repetitive, should have been prevented.

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REPORT DETAILS

The following documents are available to the public in the NRC Agency-wide Document Access and Management System (ADAMS) using the appropriate accession number. ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

The Strategic Improvement Plan (TIP), Revision 1; dated June 10, 2002; ADAMS Accession Number ML023010136

TIP, Revision 2; dated November 25, 2002; ADAMS Accession Number ML030340146

The Confirmatory Action Letter (CAL) dated January 30, 2003; ADAMS Accession Number ML030310263

The TIP consists of a series of individual steps, each with an assigned scheduled completion date. As each step is completed, the licensee staff creates a closure package containing all associated documents, drawings, procedures, etc., that support the closure of that step. An independent reviewer checklist is completed for each step to ensure package completeness and is included in the closure package. The team reviewed the completed closure packages for the steps indicated in this report.

To assess the licensee's progress in implementing the improvement plan, the team reviewed documents and interviewed personnel responsible for the completed action plan steps to verify that the steps were completed on schedule as defined in the CAL and that the actions taken met the intent of the action plan step. In addition, the team assessed the effectiveness of the improvement plan by reviewing the results of NRC baseline inspections, NRC performance indicators, and licensee performance measures and indicators.

1. CAL Item 1 - Emergency Preparedness

a. Scope

The licensee had previously completed all emergency preparedness action plan steps addressed in the CAL. The NRC's review of these steps is documented in NRC Inspection Report 05000298/2003009. The team performed a review of licensee performance indicators and NRC baseline inspection results to determine the effectiveness of TIP actions associated with Emergency Preparedness.

b. Implementation of Action Plan Steps

All actions had been previously completed and reviewed by the NRC.

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c. Performance Assessment

The team reviewed the following licensee performance indicators (these performance indicators are similar to the NRC performance indicators in the Emergency Preparedness Cornerstone):

| <u>Indicator</u> | <u>Performance</u> | <u>Trend</u> |
|---|-------------------------------|--------------|
| Alert and Notification System Reliability (number of successful siren tests in previous 4 quarters divided by total number of siren tests in previous 4 quarters) | Green - Excellent Performance | Stable |
| Emergency Preparedness Emergency Response Organization (ERO) Staffing (tracks ERO staffing vacancies to assure adequate personnel to manage the responsibilities of the ERO) | White - Meets Goal | Stable |
| ERO Drill Participation (measures percentage of key ERO members who have participated recently in proficiency enhancing drills, exercises, training opportunities, or in an actual event) | Green - Excellent Performance | Stable |
| ERO Performance (number of successful emergency opportunities divided by total opportunities in previous 12 months) | White - Meets Goal | Stable |

The team determined that TIP emergency preparedness performance indicators were meeting licensee goals.

The team also reviewed NRC performance indicators and baseline inspection results and determined there were no significant findings.

d. Conclusions

The team reviewed the licensee's performance indicators, NRC performance indicators, and baseline inspection results for emergency preparedness and concluded that the licensee staff continues to demonstrate an acceptable level of performance.

2. **CAL Item 2 - Human Performance**

a. Scope

The team reviewed the following completed TIP, Revision 2, action plan steps associated with CAL Item 2, Human Performance:

| <u>Action Plan</u> | <u>Title</u> | <u>Step</u> |
|--------------------|-------------------|-------------|
| 5.1.4.1 | Human Performance | 5b,15 |

The team reviewed the closure packages and supporting documentation and conducted interviews with various licensee personnel knowledgeable of the specific steps. The team also reviewed the baseline inspection reports and licensee performance measures and performed a review of site performance indicators to evaluate the effectiveness of TIP actions associated with human performance.

b. Implementation of Action Plan Steps

The licensee staff completed the CAL-related improvement plan steps as scheduled, and the actions taken met the intent of the associated steps.

c. Performance Assessment

The team performed a review of four licensee performance indicators associated with Human Performance:

| <u>Indicator</u> | <u>Performance</u> | <u>Trend</u> |
|--------------------------------------|----------------------------------|--------------|
| Human Performance Event Free Days | White - Meets Goal | Positive |
| Configuration Control Events | White - Meets Goal | Stable |
| Human Performance Error Rate | Red - Unsatisfactory Performance | Positive |

OSHA Recordable Injury
Rate

White - Meets Goal

Stable

One of the four indicators demonstrated unsatisfactory performance (Red). Three indicators demonstrated acceptable performance (White). All of the indicators demonstrated stable or positive trends.

The team determined that TIP action steps implemented and ongoing have provided some improvement in human performance as evidenced by an improving trend in human performance data over the last 6 months. Specific actions that have had a positive impact included: increased use of management observations in the field, maintenance department implementation of job-site specific reviews of human performance tools, and a monthly Management Performance Review Meeting which focused site upper management on progress in improving site-wide human performance and site wide training using a recently developed human performance simulator. Despite these improvements, baseline inspection findings continue to be identified. During the past several months, NRC baseline inspection findings discussed below were documented in NRC inspection reports and indicated continued problems in the area of human performance. In addition, NPPD's performance indicator for Human Performance Error Rate was Red, but with an improving trend, indicating a need for further effort in this area.

The team reviewed baseline NRC inspection reports from January through March 2004 and determined that the following examples of failure to follow procedures by maintenance technicians and operators resulted in errors:

- The failure to follow station procedures during recovery from a November 2003 reactor scram resulted in operators improperly securing high pressure coolant injection.
- The failure to correctly implement the operability determination procedure when control room operators noted anomalous indications on the A and C narrow-range reactor vessel level instruments in January 2004.

In addition, the team reviewed the following notifications that documented human performance errors:

- The failure to properly restore the service water gland system, which rendered Service Water Division 2 inoperable for greater than the Technical Specification allowed outage time in February 2004, as documented in Notification 10295021.
- Emergency diesel generator fuel oil storage tank cross-connect valve mispositioning, as documented in Notification 10304115, resulted in EDG #2 being declared inoperable, in March 2004.

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A licensee assessment, completed in January 2004, identified a number of challenges relative to human performance involving poor work practices, work package/procedure quality, and latent conditions. For example, management observation program information from September through November 2003 indicated that, of 68 observations to monitor procedure adherence during the performance of activities, 45 were classified as needing improvement.

Based on the results of a self-assessment completed in this area in January 2004, the licensee was implementing additional actions to improve human performance. These activities included: an initiative implemented site-wide in March 2004 to address concerns with procedure use and adherence expectations; implementation of a site level "Good Catch" recognition tool; continued use of the human performance mock-up trainer to standardize and enforce tools for improving human performance; establishing a more consistent method of communicating error information; and evaluating methods to provide supervisors more time in the field.

d. Conclusions

The team reviewed the baseline inspection findings, licensee performance measures, NRC performance indicators, and licensee self-assessments to determine whether the licensee's actions have been effective in improving human performance. The team concluded that some improvements have been observed as reflected in three of the licensee's four performance indicators. However, human performance errors continue to occur. These errors have resulted in the improper operation of safety-related equipment, inadequate evaluation of equipment operability, and two instances of incorrect system configuration involving risk significant accident mitigation systems, resulting in the inoperability of safety-related equipment. The licensee has implemented additional actions to improve human performance at CNS, including improvements in the management observation program, and a recent initiative to improve procedure use and adherence.

3. **CAL Item 3 - Material Condition and Equipment Reliability**

a. Scope

The team reviewed the following completed TIP, Revision 2, action plan steps associated with CAL Item 3, Material Condition and Equipment Reliability:

| <u>Action Plan</u> | <u>Title</u> | <u>Steps</u> |
|--------------------|---|--------------|
| 5.3.1.2a | Service Water (Long Standing Equipment Issue) | 5c, 11b |
| 5.3.1.2b | Feed Water Check Valves | 4 |
| 5.3.1.2.c | Offsite Power/Switchyard Reliability | 13, 14, 20 |

| | | |
|-----------|--|----------------------|
| 5.3.1.2.e | Water Sulfates | 3, 9, 11, 14, 15, 20 |
| 5.3.1.2.f | Heating, Ventilation, and Air Conditioning | 4a, 5b |
| 5.3.1.2.g | Primary Containment Vacuum Breakers | 2 |
| 5.3.1.2.h | Control Room Recorder Obsolescence | 3a |
| 5.3.1.2.j | Kaman Radiation Monitors | 2a, 2b |
| 5.3.1.2.k | Optimum Water Chemistry | 4cb, 4ca |

The team reviewed the licensee's closure packages and supporting documentation. In addition, interviews with knowledgeable licensee personnel and equipment walkdowns were conducted. The team also reviewed NRC baseline inspection reports and reviewed 18 licensee site performance indicators that were used to assess the effectiveness of TIP actions associated with material condition and equipment reliability.

b. Implementation of Action Plan Steps

The licensee completed the CAL-related improvement plan steps as scheduled. The actions taken generally satisfied the intent of the associated steps.

In Action Plan 5.3.1.2b, "Feedwater Check Valves," step 4, the licensee was to develop a change evaluation document (CED) to replace existing feedwater check valves with swing check valves during Refueling Outage 22 (January 2005). The deliverable specified that the CED ensure development of swing check valve refurbishment procedures and establishment of required preventive maintenance activities (including technical basis and frequency of performance).

The team reviewed the work orders that authorized installation of the new check valves. The team verified that engineering hold points had been added to the work orders to ensure development of the maintenance and preventive maintenance procedures. The team concluded that these hold points did not specifically require that maintenance and preventive maintenance procedures be developed. The licensee agreed with the team's conclusion and initiated Notification 10303535 to document this issue.

In Action Plan 5.3.1.2.f, "Heating, Ventilation, and Air Conditioning (HVAC)," step 4a, the licensee was to install an additional air conditioning unit to improve cooling of the Technical Support Center (TSC). In addition, an air flow balance of the TSC HVAC system was necessary. In the process of performing the flow balance, the licensee identified additional necessary corrective actions and was subsequently unable to perform the flow balancing of the system. The team questioned what measures were in place to ensure that the flow balance would be performed. The licensee referenced Procedure 7.0.5, "Post-Maintenance Testing," Revision 22, and identified an enhancement to include air flow testing following maintenance on fans. The licensee

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initiated Notification 10303372 to correct the procedure and to add steps to the CED for the planned upgrade to the TSC HVAC to ensure that an air flow balance of the system would be performed.

c. Performance Assessment

The team reviewed the following 18 licensee performance indicators to aid in the assessment of the performance in the area of material condition and equipment reliability.

| <u>Indicator</u> | <u>Performance</u> | <u>Trend</u> |
|--|---------------------------|---------------------|
| Components in Accelerated Testing | Green - Excellent | Stable |
| Control Room Deficiencies | Green - Excellent | Negative |
| Forced Loss Rate (18-Month) | Red - Unsatisfactory | Stable |
| Long-Term Caution Orders | White - Meets Goal | Positive |
| Long-Term Clearance Orders | White - Meets Goal | Stable |
| Maintenance Rework | Yellow - Action Required | Negative |
| On-Line Corrective Maintenance Backlog | Green - Excellent | Positive |
| On-Line Plant Leaks | Green - Excellent | Stable |
| Overdue Preventative Maintenance | Green - Excellent | Stable |
| Risk Significant Functional Failures | Yellow - Action Required | Stable |
| Safety System Functional Failures | White - Meets Goal | Stable |

Safety System Unavailability

| | | |
|--------------------------------|--------------------------|----------|
| Emergency A/C Power | Green - Excellent | Stable |
| HPCI | White - Meets Goal | Stable |
| RCIC | White - Meets Goal | Negative |
| RHR | White - Meets Goal | Stable |
| System Health | Yellow - Action Required | Stable |
| Unplanned Entries Into LCOs | White - Meets Goal | Positive |
| Chemistry Performance | Red - Unsatisfactory | Positive |

The team observed that there has been marked improvement in the indicators tracking the performance of long-term caution orders, long-term clearance orders, overdue preventive maintenance items, and unplanned entries into LCOs due to equipment problems. Specifically, recent performance improvements have been noted in the areas of offsite power/switchyard reliability, radiation monitors, and water sulfate chemistry. However, the team also observed that 5 of the 18 indicators that were reviewed were demonstrating either unsatisfactory performance (Red) or action required (Yellow). Of those 5, only the maintenance rework indicator was trending in a negative direction. The licensee attributed the negative trend to the expansion of the scope of items that were included in the indicator to better conform to industry standards (e.g., design deficiencies and material quality). Improvement in this indicator was being challenged by program weaknesses in the identification and trending of rework issues that the licensee discovered in a recent QA audit of the rework program. Notifications 10295981 and 10296423 were generated to address the deficiencies identified by the audit. The audit identified that 24 of 25 rework notifications were not coded as rework due to work package deficiencies not being identified as rework. The team also verified that the licensee was tracking the system health performance indicator and actions were being implemented to improve the performance of systems that were demonstrating unsatisfactory performance (Red).

A review of baseline inspection results indicated the licensee continued to experience problems with clogging of the emergency diesel generator fuel oil strainers, as documented in NRC Inspection Report 50-298/03-07. Also, one baseline inspection finding discussed an issue that negatively contributed to the maintenance rework performance indicator. Station Air Compressor B failed to start on December 15, 2003, due to the improper restoration of its associated breaker following maintenance conducted on November 10, 2003 (NRC Inspection Report 50-298/03-07).

d. Conclusions

The team determined that the licensee completed the CAL-related TIP items as scheduled. However, the team identified an instance where engineering hold points

intended to ensure development of refurbishment and preventive maintenance procedures were not appropriately established. The licensee revised the engineering hold points to more clearly state the requirement.

In addition, the team reviewed 18 performance indicators associated with equipment reliability and material condition and noted an improving trend in this area. The team found that in the areas of offsite power/switchyard reliability, radiation monitors, and water sulfate chemistry, there has been marked improvement since the fourth quarter of 2003. Despite the improvements in the above areas, the licensee continues to experience problems with clogging of the emergency diesel generator fuel oil strainers.

4. **CAL Item 4 - Resolve Long-Standing Problems With Plant Modifications and Configuration Control**

a. Scope

The team reviewed the following completed TIP, Revision 2, action plan steps associated with CAL Item 4, Resolve Long-Standing Problems With Plant Modifications and Configuration Control:

| <u>Action Plan</u> | <u>Title</u> | <u>Steps</u> |
|--------------------|--|---------------------------|
| 5.3.3.1 | Design Basis Information/Licensing Basis Information (DBI/LBI) Translation Project | 9a, 9b, 9c, 10 10a, 11 |
| 5.3.3.3 | Unauthorized Modifications Follow-up Project Completion | 4, 6 |

The team reviewed the closure packages and supporting documentation and conducted interviews with various licensee personnel knowledgeable of the specific steps. The team also reviewed baseline inspection reports and licensee performance measures and performed a review of six licensee performance indicators used to track effectiveness of the TIP actions associated with plant modifications and configuration controls.

b. Implementation of Action Plan Steps

The team identified that additional actions were required to complete the CAL-related improvement plan steps. The licensee initiated notifications to ensure completion of the steps.

In Action Plan 5.3.3.1, "Design Basis Information/Licensing Basis Information," step 10a, the licensee was to develop/modify existing site procedures/processes to require DBI/LBI database utilization. These procedures/processes were to be approved by the Station Operations Review Committee. The closure package documented that one of

the objectives of this action plan step was to improve the quality of plant modifications and operability determinations through improved understanding and accessibility of design basis information. In response, the licensee revised the step to require use of the database while performing modification and operability determinations. The licensee identified the procedure (Procedure EDP-06, "Design Inputs," Revision 11) that provided guidance to engineering personnel for performing station modifications. The team verified the procedure had been modified to require database utilization during modifications. The licensee also identified that the closure package for the Operations Department Deskguide 5.1, "Operability Determination - Technical Considerations to Address When Operations Review of A Notification is Required," Revision 1, had been revised. However, the team determined that the procedural revision did not require the utilization of the DBI/LBI database. The procedure revision simply described the database, but did not require its use. In response, the licensee initiated Notification 10303394 to address this issue.

Also, the team reviewed step 11 of Action Plan 5.3.3.1, which stated the licensee was to provide DBI/LBI database training, as identified by CNS Nuclear Training Procedure 1.12, "Document Event Review Committee," to targeted personnel. The deliverable was to develop lesson plans and classroom training on the information retrieval capability of the DBI/LBI database. To complete this action, the licensee identified the targeted population to receive the training. The targeted population consisted of individuals that could be tasked with supporting an operability determination. One hundred eight personnel from engineering and operations were identified to receive the training. Eighty-seven of the targeted population successfully completed the training. However, the closure package indicated that 21 individuals failed to attend the training session. Three of the targeted personnel did not receive the training because they were in operations requalification training. The closure package stated that their attendance would be tracked by the requalification program. During the inspection, the team asked for verification that all remaining personnel were being tracked for training completion. The 18 remaining individuals within the targeted population that missed the required training session were being tracked by Notification 10285695 to ensure they completed the required training. However, based on questions from the team, the licensee determined that the three individuals from operations were not being tracked by the requalification program as documented in the closure package. The licensee initiated Notification 10303395 to document this discrepancy. The team learned that one of the individuals was a shift technical engineer that had returned to shift without the required training. However, the individual had not independently made any operability determinations.

c. Performance Assessment

The team performed a review of the six licensee performance indicators associated with Plant Modifications and Configuration Control.

| <u>Indicator</u> | <u>Performance</u> | <u>Trend</u> |
|--|-------------------------------|--------------|
| Drawing and Vendor Change Backlog (Number of vendor drawings and drawing change notices greater than 60 days old) | Green - Excellent Performance | Stable |
| Drawing Change Notice (DCN) On-Time Completion (DCNs that as-built and approved divided by total DCNs that can be as built and approved) | White - Meets Goal | Negative |
| Temporary Modification (Number of installed temporary modifications and the number that can be removed on line) | Green - Excellent Performance | Stable |
| Operator Workarounds (Number of open workarounds in months) | Green - Excellent Performance | Positive |
| Operator Challenges (An OWA or control room deficiency that presents a challenge to safe operations) | Green - Excellent Performance | Negative |
| Modification Closeout (Number of modifications implemented and not closed out within 60 days) | Green - Excellent Performance | Positive |

The team noted that 5 of the 6 performance indicators were Green. The remaining indicator was White. The White indicator had a negative trend due to a decrease in the number of DCNs that were completed. The team also noted that the operator workaround performance indicator improved from White to Green during January 2004. The team determined that this improvement was not due to any performance improvement, but resulted from a reclassification of operator workarounds. Items that were historically double-counted as workarounds and operator challenges were now being redefined to eliminate double counting.

The team also determined that the licensee actions to date have not been fully effective in addressing a long-standing problem with the quality of operability determinations as evidenced by continued findings during baseline inspections despite TIP actions to address this area. The following is a recent example:

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- The failure to document a reasonable assurance of operability in a time frame commensurate with safety as required by procedures for the indicated reactor vessel level oscillations on Division 1 instrumentation in January 2004 (NRC Inspection Report 50-298/04-02).

The licensee recently initiated new procedures and assigned specific engineers and operations personnel who will be tasked with performing operability determinations. The effectiveness of this corrective action will be assessed in future NRC inspections.

d. Conclusions

The licensee demonstrated acceptable performance in this area. While licensee performance measures indicated acceptable performance, licensee actions to date have not been fully effective in addressing a long-standing problem with the quality of operability determinations. The licensee has initiated new procedures and tasked specific engineers and operations personnel with performing operability determinations. The effectiveness of this corrective action will be assessed in future NRC inspections.

In addition, the team identified two instances in which the action plan steps were not fully completed. For example, the operations deskguide was not revised to require that the DBI/LBI database be used as one of many sources of information to consider during operability determinations, and operations personnel that did not receive required training on the DBI/LBI database were not being tracked as expected. The licensee initiated notifications to ensure completion of these action plan steps.

5. **CAL Item 5 - Resolve Long-Standing Problems With The Corrective Action Program (CAP), Utilization of Industry Operating Experience, and Self-Assessments at CNS**

a. Scope

The team reviewed the following TIP, Revision 2, action plan steps associated with CAL Item 5, Resolve Long-Standing Problems with the Corrective Action Program, Utilization of Industry Operating Experience, and Self-Assessments at CNS:

| <u>Action Plan</u> | <u>Title</u> | <u>Steps</u> |
|--------------------|--|--------------|
| 5.2.7.1 | Improve use of CAP to Effectively Resolve Station Problems | 10 |
| 5.2.7.3 | Improve Utilization of Operational Experience Reviews | 4b |

The team reviewed the closure package and supporting documentation and conducted interviews with various licensee personnel knowledgeable of the specific step. The team also reviewed baseline inspection reports and licensee performance measures

and performed a review of six licensee performance indicators used to track effectiveness of the TIP actions associated with the CAP, utilization of industry operating experience, and self-assessments.

b. Implementation of Action Plan Steps

The licensee staff completed the CAL-related improvement plan steps as scheduled, and the actions taken met the intent of the associated step.

c. Performance Assessment

The team performed a review of the six site performance indicators used to track effectiveness of the TIP actions associated with the CAP, utilization of industry operating experience, and self-assessments. Specifically, the team reviewed the following indicators:

| <u>Indicator</u> | <u>Performance</u> | <u>Trend</u> |
|---|-------------------------------|--------------|
| Significant Condition Report On-Time Completion (determines the stations ability to complete root cause actions within their originally scheduled due date) | Green - Excellent Performance | Stable |
| Significant Operating Experience Report Implementation (monitors timeliness in implementing SOER recommendations) | Red - Unsatisfactory | Negative |
| Timeliness of Cooper Nuclear Station Response to Industry Issues (tracks resolution of root cause fixes assigned for operating experience applicability) | White - Meets Goal | Stable |
| On Schedule Completion of Quality Assurance Findings (monitor the line organization's completion of quality assurance finding actions completed during the month, per the schedule) | Green - Excellent Performance | Stable |

| | | |
|--|-------------------------------|----------|
| Corrective Action Program (CAP) Self-Identification (monitor the percentage of problems identified in the CAP system, that are identified by the CNS organization) | Yellow - Action Required | Negative |
| Corrective Action Program (CAP) Performance Index (Composite index of overall CAP performance) | Green - Excellent Performance | Stable |

The team noted that one of the six performance indicators continues to demonstrate performance that is unsatisfactory with a negative trend. Also the CAP Self-Identification performance indicator had degraded from Green to Yellow. The team learned that this was due to an equipment qualification audit that identified several findings. Since the findings were not self-identified, the indicator degraded.

The team noted problems persisted with the evaluation of issues and the effectiveness of corrective actions. NRC baseline inspections provided the following examples to support this conclusion: the high pressure coolant injection system was secured using incorrect procedure steps in May of 2003 and corrective actions were not implemented in a timely manner to prevent recurrence of the condition in November of 2003 (NRC Inspection Report 50-298/04-02); in May 2003 following a reactor scram, stratification of reactor coolant in the reactor pressure vessel occurred, which resulted in exceeding Technical Specification heatup and cooldown rates for the reactor vessel and corrective actions for that event failed to prevent recurrence of the condition in November 2003 (NRC Inspection Report 50-298/04-02); and the March 23, 2004, inoperability of an emergency diesel generator because of strainer clogging, which had occurred on two previous occasions (NRC Inspection Report 50-298/03-07).

d. Conclusions

In the area of effectiveness of problem identification, the team noted that the licensee performance indicator for self-identification was not meeting goals. The team concluded that problems persisted with the effectiveness of corrective actions as evidenced by repeat occurrences of securing of the high pressure coolant injection system using incorrect procedure steps, exceeding Technical Specification heatup and cooldown rates for the reactor vessel and clogging of the emergency diesel generator fuel oil strainer.

6. CAL Item 6 - Engineering Programs

a. Scope

The team reviewed the following completed TIP, Revision 2, action plan steps associated with CAL Item 6, Engineering Programs:

| <u>Action Plan</u> | <u>Title</u> | <u>Steps</u> |
|--------------------|----------------------|--------------|
| 5.3.2.1 | Engineering Programs | 11, 14a |

The team reviewed the closure packages and supporting documentation and conducted interviews with various licensee personnel knowledgeable of the specific steps. The team also reviewed baseline inspection reports and licensee performance measures and performed a review of three licensee site performance indicators that are used to assess the effectiveness of TIP actions associated with engineering programs.

b. Implementation of Action Plan Steps

The licensee's staff completed the CAL-related improvement plan steps as scheduled, and actions taken met the intent of the associated steps.

c. Performance Assessment

The team reviewed the following performance indicators:

| <u>Indicator</u> | <u>Performance</u> | <u>Trend</u> |
|---------------------------------------|--------------------|--------------|
| Overdue Preventive Maintenance | White - Meets Goal | Stable |
| Cooper Nuclear Station Program Health | White - Meets Goal | Stable |
| Engineering Inventory | White - Meets Goal | Positive |

The team noted that all of the performance indicators were meeting licensee goals and have remained stable or continued to improve from the last quarterly inspection. In addition, all the performance indicators were stable or trending in the positive direction. Also, the team's review of baseline inspections indicated no adverse trends in this area.

d. Conclusions

The team reviewed the performance indicators and baseline inspections for engineering programs and noted improved performance in this area.

4AO6 Exit Meeting

On May 12, 2004, a public meeting was held to present the results of the CAL inspection to Mr. Minahan and other members of the licensee staff. The licensee staff acknowledged the inspection results.

The team asked the licensee staff whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee

M. Boyce, Performance Improvement Manager
D. Buman, Manager, Design Engineering
J. Christensen, Plant Manager
D. Cook, Manager, Strategic Improvement Plan and Acting Vice President Site Support
R. Edington, Vice President - Nuclear Energy and Chief Nuclear Officer
R. Estrada, Performance Assessment Department Manager
P. Flemming, Manager, Risk and Regulatory Affairs
T. Hottavy, Manager of Equipment Reliability Department
G. Kline, General Manager, Engineering
D. Knox, Manager, Maintenance
D. Meyers, General Manager Site Support
S. Minahan, Acting Site Vice President
D. Montgomery, Human Performance Coordinator
J. Sumpter, Senior Engineer, Licensing
B. Toline, Manager, Root Cause Analysis
W. Victor, Senior Licensing Engineer
A. Williams, Manager, Engineering Programs

NRC

S. Cochrum, Resident Inspector, Cooper Nuclear Station
S. Schwind, Senior Resident Inspector, Cooper Nuclear Station

Plant Procedures

| <u>Document</u> | <u>Title</u> | <u>Revision</u> |
|-----------------|---|-----------------|
| 0-CNS-25 | Self-Assessment | 12 |
| 0-HP-POLICY | Human Performance Policy | 2 |
| 0-HP-IMPLEMENT | Human Performance Policy Implementing Procedure | 1 |
| 0.5.TRND | Trending of Problem Identification Report Results | 2 |
| 0-CNS-63 | TIP Progress Monitoring and Action Plan Closure | 12 |
| 0-PI-01 | Performance Indicator Program | 10 |
| Enn-OD-102 | Operability Determinations | 2 |

| <u>Document</u> | <u>Title</u> | <u>Revision</u> |
|-----------------|---|-----------------|
| 0.5.OPS | Operations Review of Notifications/Operability Determinations | 20 |
| 0.4A | Procedure Change Process Supplement | 10 |
| Chem. 8.7.1.8 | Biomonitoring | 2 |
| Eng. 3.30 | Mascroscopic Biological Organism Sampling | 3 |
| Eng. 3.10 | Erosion/Corrosion Program | 2 |
| Ops. 2.012 | Operations Challenges | 4 |
| Training 1.15 | Performance Analysis | 4 |
| 0.5.NAIT | Corrective Action Implementation and Nuclear Action Item Tracking | 18 |
| 0-CNS-07 | Management Field Observations | 6 |
| 0-HP-Implement | Human Performance Policy Implementing Procedure | 1 |
| 0-HP-Policy | Human Performance Policy | 1 |
| 0-HP-PJ Brief | Pre-Job Brief/Post-Job Critique | 1 |
| 0.5 | Conduct of the Problem Identification and Resolution Process | 44 |
| 0.5 Root-Cause | Root Cause Analysis Procedure | 2 |
| 0.10 | Operating Experience Program | 12 |
| 7.0.5 | Post-Maintenance Testing | 22 |

Notifications

| | | | | |
|----------|----------|----------|----------|----------|
| 10303372 | 10221669 | 10229049 | 10219726 | 10269621 |
| 10285695 | 10200558 | 10222768 | | |

Resolve Condition Reports

| | | | |
|-----------|-----------|-----------|-----------|
| 2002-2410 | 2004-0122 | 2002-2448 | 20022429 |
| 2002-2437 | 2002-2449 | 2002-2436 | 2002-2447 |
| 2002-2436 | | | |

Audits and Assessments

Self-Assessments SS-04048, Quality Assurance Surveillance Report #S100-0401, Quality Assurance Quarterly Oversight Report QAD 20040007, Quality Assurance Oversight Plan for TIP July 2003, Quality Assurance Surveillance Report QAD 20030060 and QAD 20030049, Quality Assurance Audit Report #S302-0401.

Change Evaluation Document

CED 6011141
CED 6011400
CED 6005412