UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
612 EAST LAMAR BLVD, SUITE 400
ARLINGTON, TEXAS 76011-4125

May 22, 2009

Stewart B. Minahan, Vice
President-Nuclear and CNO
Nebraska Public Power District
72676 648A Avenue
Brownville, NE 68321

SUBJECT: COOPER NUCLEAR STATION – NRC PROBLEM IDENTIFICATION AND RELOLUTION INSPECTION REPORT 05000298/2009007

Dear Mr. Minahan,

On April 10, 2009, the U. S. Nuclear Regulatory Commission (NRC) completed a team inspection at Cooper Nuclear Station. The enclosed report documents the inspection findings, which were discussed on April 10, 2009, with Mr. Brian O'Grady, Site Vice President, and other members of your staff.

The inspection examined activities conducted under your license as they relate to identification and resolution of problems, safety and compliance with the Commission's rules and regulations and with the conditions of your operating license. The team reviewed selected procedures and records, observed activities, and interviewed personnel. The team also interviewed a representative sample of personnel regarding the condition of your safety-conscious work environment.

This report documents one NRC-identified finding of very low safety significance (Green). The finding was determined to involve a violation of NRC requirements. Additionally, one licensee-identified violation, which was determined to be of very low safety significance, is listed in this report. However, because of the very low safety significance of the violations and because they were entered into your corrective action program, the NRC is treating these violations as noncited violations consistent with Section VI.A.1 of the NRC Enforcement Policy. If you contest these noncited violations, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington DC 20555-0001; with copies to the Regional Administrator, U.S. Nuclear Regulatory Commission, Region IV, 612 E. Lamar Blvd., Suite 400, Arlington, Texas, 76011-4125; the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington DC 20555-0001; and the NRC Resident Inspector at Cooper Nuclear Station. In addition, if you disagree with the characterization of any finding in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your disagreement, to the Regional Administrator, Region IV, and the NRC Resident Inspector at Cooper Nuclear Station. The information you provide will be considered in accordance with Inspection Manual Chapter 0305.

In accordance with 10 CFR 2.390 of the NRC''s "Rules of Practice," a copy of this letter, its enclosure, and your response (if any) 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 www.nrc.gov/reading-rm/adams.html (the Public Electronic Reading Room).

Sincerely,

/RA/

Gregory E. Werner, Chief
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Division of Reactor Safety

Dockets: 50-298
Licenses: DPR-46

Enclosure: Inspection Report 05000298/2009007 w/Attachments: Supplemental Information Initial Information Request

cc: w/Enclosure

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U.S. NUCLEAR REGULATORY COMMISSION

REGION IV

Docket:	50-298
License:	DPR-46
Report:	05000298/2009007
Licensee:	Nebraska Public Power District
Facility:	Cooper Nuclear Station
Location:	72676 648A Avenue Brownville, Nebraska 68321
Dates:	March 23 through April 10, 2009
Team Leader:	Clyde Osterholtz, Senior Operations Engineer
Inspectors:	Michael Chambers, Resident Inspector James Drake, Senior Reactor Inspector Harry Freeman, Senior Reactor Inspector
Approved By:	Gregory E. Werner, Chief Plant Support Branch 2 Division of Reactor Safety

SUMMARY OF FINDINGS

IR 05000298/2009007; March 23 through April 10, 2009; Cooper Nuclear Station: "Biennial Baseline Inspection of the Identification and Resolution of Problems"

The team inspection was performed by three regional inspectors and one resident inspector. Two Green noncited violations were identified during this inspection. The significance of most findings is indicated by their color (Green, White, Yellow, Red) using Inspection Manual Chapter 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''s program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG 1649, "Reactor Oversight Process," Revision 4, dated December 2006.

Identification and Resolution of Problems

The team reviewed approximately 450 condition reports, work orders, engineering evaluations, root and apparent cause evaluations, and other supporting documentation to determine if problems were being properly identified, characterized, and entered into the corrective action program for evaluation and resolution. The team reviewed a sample of system health reports, self-assessments, trending reports and metrics, and various other documents related to the corrective action program.

The licensee appropriately evaluated industry operating experience for relevance to the facility and entered applicable items in the corrective action program. The licensee used industry operating experience when performing root cause and apparent cause evaluations. However, a majority of personnel interviewed during the safety-conscious work focus group interviews stated that they felt on occasion that licensee management had preconceived notions of root cause evaluation outcomes, and that sometimes the independent objectiveness of the root cause evaluations have been hindered. The licensee performed effective quality assurance audits and self-assessments, as demonstrated by self-identification of poor corrective action program performance and identification of ineffective corrective actions.

A. NRC-Identified and Self-Revealing Findings

Cornerstone: Mitigating Systems

- Green. The team identified a noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the licensee's failure to follow the requirements of Procedure ENN OP 104, "Operability Determinations." Specifically, between 2005 and 2009 operations personnel failed to perform adequate operability determinations of degraded and potentially degraded conditions associated with essential Agastat time delay relays with internal foreign material contamination that either needed an immediate operability determination or needed more information to reasonable assurance of operability. This included a potential degraded condition of the installed essential Relay 27X15-1G that the inspection team noted had a trend similar to relays that had previously failed with internal foreign material contamination. The licensee documented this condition with CR-CNS-2009-02844 and replaced the potentially degraded relay ten days later.

This finding is more than minor because it affected the reliability objective of the equipment performance attribute of the Mitigating Systems Cornerstone to ensure the availability, reliability, and capability of systems that respond to initiating events to prevent undesirable consequences (i.e., core damage). The finding was determined to have a very low safety significance because the finding did not result in a loss of system safety function, an actual loss of safety function of a single train for greater than its Technical Specification allowed outage time, or screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. The cause of this finding is related to the problem identification and resolution crosscutting aspect associated with the corrective action program because licensee personnel failed to thoroughly evaluate conditions adverse to quality and perform meaningful operability determinations [P.1(c)] (Section 4OA2.5).

B. Licensee-Identified Violations

A violation of very low safety significance, which was identified by the licensee, has been reviewed by the inspectors. Corrective actions taken or planned by the licensee have been entered into the licensee's corrective action program. This violation and corrective action tracking number (condition report number) is listed in Section 4OA7.

REPORT DETAILS

4. OTHER ACTIVITIES (OA)

4OA2 Problem Identification and Resolution

The team based the following conclusions on a sample of corrective action documents that were initiated in the assessment period, which ranged from September 1, 2007, to the end of the on-site portion of this inspection on April 10, 2009.

.1 Assessment of the Corrective Action Program Effectiveness

a. Inspection Scope

The team reviewed approximately 450 condition reports (CRs), work orders, engineering evaluations, associated root and apparent cause evaluations, and other supporting documentation to determine if problems were being properly identified, characterized, and entered into the corrective action program for evaluation and resolution. The team reviewed a sample of system health reports, self-assessments, trending reports and metrics, and other documents related to the corrective action program.

The team evaluated the licensee's efforts in establishing the scope of problems by reviewing selected logs, work requests, self-assessments results, audits, system health reports, action plans, and results from surveillance tests and preventive maintenance tasks. The team reviewed work requests and attended the licensee's daily action review committee meeting to assess the reporting threshold, prioritization efforts, and significance determination process, as well as observing the interfaces with the operability assessment and work control processes when applicable. The team's review included verifying the licensee considered the full extent of cause and extent of condition for problems, as well as how the licensee assessed generic implications and previous occurrences. The team assessed the timeliness and effectiveness of corrective actions, completed or planned, and looked for additional examples of similar problems. The team conducted interviews with plant personnel to identify other processes that may exist where problems may be identified and addressed outside the corrective action program.

The team also reviewed corrective action documents that addressed past NRC-identified violations to ensure that the corrective actions addressed the issues as described in the inspection reports. The team considered risk insights from both the NRC's and Cooper Nuclear Station's risk assessments to focus the sample selection and plant tours on risk significant systems and components. The team selected the vital alternating current distribution system. The samples reviewed by the team focused on, but were not limited to, this system. The team also expanded their review to include five years of evaluations involving the vital alternating current distribution system to determine whether problems were being effectively addressed. The team conducted a walkdown of this system to assess whether problems were identified and entered into the corrective action program.

b. Assessments

1. Assessment - Effectiveness of Problem Identification

The team concluded that the licensee effectively identified, evaluated, and prioritized corrective actions for conditions adverse to quality. The team concluded that the licensee implemented timely, effective corrective actions, although some examples, including three violations, indicate some continuing weakness in this area.

2. Assessment - Effectiveness of Prioritization and Evaluation of Issues

The team performed a five year review of problems associated with the vital alternating current distribution system. This review of condition reports back to 2005 found that the majority of vital alternating current distribution system issues were being appropriately screened and challenged. The majority of issues were of low level and were either closed to trend or at a level appropriate for a condition evaluation. Many of these issues were closed to a work order, but the team noted that both the parent and daughter documents had the necessary links to document the relationship. The team identified five examples of operability determinations that were either not performed or did not fully evaluate the basis for operability of potentially degraded, degraded and non-confirming conditions.

Example 1:

The team identified a history of multiple Agastat pneumatic timer relays with degraded and potentially degraded conditions due to internal foreign material contamination from 2005 to 2009. Many essential equipment protection applications use Agastat relays including the vital alternating current power distribution system. The identified examples included transformer undervoltage protection, as well as reactor vessel level blowdown applications. Most recently, on April 7, 2009, the licensee initiated CR-CNS-2009-2844 when the team identified that there was an emergency diesel generator Agastat relay installed in the plant, with trends similar to Agastat relays that had previously failed due to foreign material. The licensee concluded that the Agastat relay was potentially degraded and it was replaced with a solid-state relay ten days later. This was considered a Green noncited violation (see Section 4OA2.5).

The following four examples of green noncited violations for inadequate operability determinations were documented in Inspection Report 05000298/2008005.

Example 2:

Condition Report CR-CNS-2008-08538 was initiated to document that a piece of the service water Pump B suction bell had been discovered missing during an overhaul of the pump. The inspectors challenged the control room staff on the first two versions of the operability determination after which Version 3 provided a more rigorous engineering analysis. The inspectors determined that Version 3 of the operability determination correctly determined that service water Pump B was operable.

Example 3:

The inspectors identified a small oil leak on the reactor core isolation cooling pump outboard bearing oiler during reactor core isolation cooling operation. The first operability determination incorrectly evaluated the condition as a small oil leak from the larger turbine reservoir instead of the much smaller oiler reservoir. The control room staff then correctly evaluated the condition and documented the deficient operability

determination in CR-CNS-2008-08889. The inspectors determined that Version 2 of the operability determination correctly determined that reactor core isolation cooling operability was not affected by the condition.

Example 4:

Condition Report CR-CNS-2008-09017 was initiated to recommend an extent of condition inspection of a division one service water pump to check for another suction bell failure, as had been seen in service water Pump B and described in CR-CNS-2008-08538 (discussed above). The missing suction bell piece discovered on Pump B had been discovered during the investigation into an air binding event of Pump B due to a failure of the gland seal package on the pump. However, the extent of condition operability determination was incorrectly based on the other operating pumps not having any air binding indications, not on the missing piece of the Pump B suction bowl that was not readily apparent and was only discovered during disassembly of the pump. The inspectors challenged the control room staff with this issue, after which Version 2 of the operability determination was written, which properly justified the continued operability of the division one service water pumps.

Example 5:

The inspectors identified that leaks from the 250 VDC Battery 1A were corroding the battery racks and associated fasteners on December 12, 2008. Condition Report CR-CNS-2008-09094 initial operability determination described the rack corrosion as a "cosmetic issue and does not threaten the structural strength of the battery rack." The inspectors challenged the justification for this statement, in that it provided no technical basis for the acceptability of the corrosion of the seismic structure supporting the battery, nor did it provide a basis for the assumption that the corrosion was only cosmetic in nature. After repeated conversations between the inspectors and the civil engineering staff, Version 2 of the operability determination evaluated the ability of the battery racks to survive a seismic event without the corroded fasteners. This analysis properly evaluated the condition as not affecting the operability of the 1A batteries. The licensee documented the inadequacy in the original operability determination in CR-CN-2008-09205.

The team also reviewed the sites top ten unit reliability improvement list and found that it included replacing the essential Agastat pneumatic relays with solid state relays. The inspection team noted that despite the licensee's history of Agastat pneumatic time delay relay problems, this design change was not tracked within the licensee's corrective action program. The licensee considered "top ten list tracking" sufficient based upon general good performance of the relay population, lack of significant safety impact on the station, and priority with respect to other plant equipment issues. The lower level symptoms of Agastat relays that were degraded but not failed were not considered when the Agastat timer problems were ranked in priority by the licensee. Therefore, the inspection team concluded that Agastat relays with erratic trends to be degraded equipment issues and should be tracked by the corrective action program. The licensee captured this observation by adding corrective Action 4 to CR-CNS-2008-01352 to track implementation of the solid state relay design change, "for the replacement of twenty-two (22) Agastat time delay relays installed in time critical applications," and revising the apparent cause evaluation to document this corrective action.

The team also reviewed corrective action implementation for CR's of the vital alternating current distribution system. The team noted overall that corrective actions were implemented to assure correction of conditions adverse to quality and to prevent

repetition of significant conditions adverse to quality. There was one example the inspection team found of an inadequate corrective action to prevent recurrence of a loose switch that prevented a vital alternating current breaker from operating. The action was to add a step to check for loose switches in the breaker maintenance procedure. However, the action did not capture all lessons learned when the licensee performed extent of condition checks of loose interlock switches in 20 other risk significant breakers essential breakers. During the interlock switches tightness checks numerous problems with stripped screws and determining the correct torque value for the switch mounting screws had to be resolved by the licensee maintenance and engineering staff. None of these lessons learned were included in the breaker maintenance procedure change, which lowered the effectiveness of a corrective action designed to prevent recurrence. This observation was documented in CR-CNS-2009-2884.

The team found that the root cause analyses reviewed were thorough and appropriately considered extent of condition, generic issues, and previous occurrences. Condition Review Oversight Group reviews were detailed and ensured that corrective actions addressed the identified causes. For significant conditions adverse to quality, the station identified corrective actions to prevent recurrence. The team reviewed 22 of 30 root cause evaluations that were completed during the assessment period. The team felt the root cause determinations could have been more thorough in four of these analyses. For example, root cause Analysis CR-CNS-2008-00968, Revision 1, which was associated with the failure of the emergency diesel Generator 2 lube oil pump discharge piping, did not identify the root cause as a fatigue failure even though the licensee had two independent sources of data that identified this as the failure mechanism. Subsequent to this failure, on January 27, 2009, the same discharge piping failed on emergency diesel Generator 1. This most recent failure was reviewed as part of a special inspection that will be documented in Inspection Report 05000298/2009008.

3. Assessment – Effectiveness of Corrective Action Program

Overall, the team concluded that Cooper Nuclear Generating Station effectively identified and corrected problems through their corrective action program. However, the team noted that work orders related to troubleshooting activities (initiated by a condition report to identify the cause of the failure) did not always adequately document the conclusions reached nor thoroughly document the purpose of the work order. In addition, the actions developed for one of the work orders appeared to have been developed based upon a pre-conceived notion of the cause of the failure rather that an attempt to determine the cause of the failure. Several of the work orders contained mistakes, which indicated a lack of attention to detail.

Example 1: The licensee developed maintenance work Order 4623424 to determine the source of unexpected voltage identified while performing test jack installation in Panel 9-42. The troubleshooting steps directed technicians to measure voltages at 14 different locations and provide expected readings. Of these readings, five were outside their expected range; however, the work order failed to document one of the readings (Step 18) being out of range. The licensee also indicated that the expected value listed in Step 19 should have been zero vice ~90V. The licensee's assessment did not justify these unexpected readings or why these readings indicated that the voltages were induced. Through discussions with the engineering staff, the inspection team determined that the conclusion was reasonable.

Example 2: The licensee developed maintenance work Order 4669945 to troubleshoot why motor operated Valve RCIC-MOV-MO18, failed to operate when the control switch

was taken to close in the control room. The troubleshooting plan was revised twice and the licensee did not make a determination as to the cause of the failure to close but suspects that it was due to a failed starter.

This work order was based upon preventative maintenance work Order 4597707 to replace RCIC-MOV-MO18. While establishing the initial conditions for this work order in December 2008, the licensee discovered that the valve would not operate. When requested by the inspection team, the licensee could not find the official copy of this work order and noted that the official copy had not been archived. The licensee initiated CR-CNS-2009-02832 to document this missing work order.

Example 3: The licensee developed maintenance work Order 4631427 to troubleshoot a trip of reactor recirculation motor Generator A that occurred in May 2008 during post maintenance testing. Attachment 2 of Procedure 7.0.1.7, "Troubleshooting Plant Equipment," was written to perform Procedure 14.1RR.303 (Division 1) to change the characterizer values in Controller RRFC-SIC-16A and to verify that the scoop tube position was correct for each speed input. However, the completed troubleshooting activities indicated that the applicable steps of 14.2RR.303 (Division 2) were completed. Step 11 of the Attachment 2 directs that the new Y values obtained be provided to the design engineering department for DCN #08-0561 to Drawing 730E197BB, Sheet 6C. The inspector noted that the new values listed in confirmation Steps 2 and 3 for Y3 and Y10 were not correctly translated into the appropriate design change notification or drawing in that the values listed for Y3 and Y10 in the confirmation steps were 20.000 and 102.000 respectively, while the values listed in the design change notification and drawing were 20.500 and 102.500 respectively.

The licensee determined that Procedure 14.1RR.303 was performed on May 7, 2008, under work Order 4549322 following maintenance and replacement of the controller and was also performed on May 8, 2008, under work Order 4631427 as part of the troubleshooting activities. The inspector also noted that the "as left" values listed on the procedure were the values that were translated into the appropriate design documents.

Example 4: The licensee developed maintenance work Order 4656469 to troubleshoot the transfer circuits for cooling water Pump A. The problem description states in part, "investigate cause of . . . COOLING WATER PUMP A tripping, and the reason why . . . COOLING WATER PUMP B, did not auto start." The troubleshooting steps appear to be aimed at determining why Pump B did not auto start and did not address why Pump A tripped off line. In addition, the readings taken were essentially what was expected and the comments entered by the technician state, "continue trouble shooting on power relays to determine cause for ''A'' [sic] Pump not to start." The work order was closed without determining the cause of either failure.

The team also noted that the qualification of spare parts for safety-related applications was somewhat hindered in that the licensee was not referencing equipment vendor manuals for appropriate spare parts specifications when qualifying the parts for safety-related applications. The licensee indicated that qualification procedures would be revised to reference the vendor manuals.

The team noted that there were 22 CRs in the corrective action program open for greater than two years. The licensee indicated that the tracking system for flagging older issues in the corrective action program would be evaluated for enhancement, as well as the periodicity of review of older items to expedite their closure.

.2 Assessment of the Use of Operating Experience

a. Inspection Scope

The team examined the licensee's program for reviewing industry operating experience, including reviewing the governing procedure and self assessments. A sample size of 75 out of 146 operating experience notifications that had been issued during the assessment period were reviewed to assess whether the licensee had appropriately evaluated the notification for relevance to the facility. The team then examined whether the licensee had entered those items into their corrective action program and assigned actions to address the issues. The team reviewed a sample of root cause evaluations and corrective action documents to verify if the licensee had appropriately included industry-operating experience.

b. Assessment

Overall, the licensee appropriately evaluated industry operating experience for relevance to the facility and entered applicable items in the corrective action program. The licensee appropriately used industry operating experience when performing root cause and apparent cause evaluations. The licensee performed effective quality assurance audits and self-assessments, as demonstrated by self-identification of corrective action program deficiencies.

.3 Assessment of Self-Assessments and Audits

a. Inspection Scope

The team reviewed a sample size of three of five licensee corrective action program self-assessments, surveillances, and audits to assess whether the licensee was regularly identifying performance trends and effectively addressing them. The team reviewed audit reports to assess the effectiveness of assessments in specific areas. The team evaluated the use of self- and third party assessments, the role of the quality assurance department, and the role of the performance improvement group related to licensee performance. The specific self-assessment documents reviewed are listed in the Attachment.

b. Assessment

The team concluded that Cooper Nuclear Station effectively utilized self- assessments and audits to identify and correct problems associated with their corrective action program.

.4 Assessment of Safety-Conscious Work Environment

a. Inspection Scope

The inspection team conducted six focus group interviews with 51 participating individuals. The interviewees represented various functional organizations and ranged across contractor, staff, and supervisor levels. The team conducted these focus group interviews to assess whether conditions existed that would challenge the establishment of a safety-conscious work environment at Cooper Nuclear Station.

b. Assessment

The team concluded that the licensee maintained a safety-conscious work environment. All personnel interviewed indicated that they would not hesitate to raise safety concerns or to approach their management if they felt a safety concern had been left unresolved. However, approximately half of the personnel interviewed indicated that they would not use the employee concerns program to raise concerns. The majority of these individuals indicated that they would probably contact the NRC directly if a safety concern could not be resolved using their management chain. These individuals indicated that the employee concerns program was controlled by management, and therefore would probably not be effective if management itself was not properly addressing a safety issue. Additionally, approximately 20 percent of the personnel interviewed indicated they believed the employee concerns program only existed for administrative issues and not for resolution of nuclear safety concerns. Also, a majority of personnel interviewed indicated that they felt on occasion that licensee management had preconceived notions of root cause evaluation outcomes, and that sometimes the independent objectiveness of the root cause evaluations have been hindered. The licensee was evaluating appropriate actions to address these issues at the end of the inspection.

.5 Specific Issues Identified During This Inspection

(1) Failure to Follow Procedure Results in Inadequate Operability Determinations of Degraded Agastat Timer Relays.

Introduction: The team identified a Green noncited violation of 10 CFR Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," for the licensee's failure to follow the requirements of Procedure ENN OP 104, "Operability Determinations." Specifically, between 2005 and 2009 operations personnel failed to perform adequate operability determinations of degraded and potentially degraded conditions associated with essential Agastat time delay relays with internal foreign material contamination that either needed an immediate operability determination or needed more information to provide reasonable assurance for operability. This included a potential degraded condition of the installed essential Relay 27X15-1G that the inspection team noted had a trend similar to relays that had previously failed with internal foreign material contamination.

Description: In 2004, root cause Report CR-CNS-2004-0009 investigated a problem with Relay 27X16-1G with an as-found time greater than the operability limit. This resulted in an unplanned entry into a Technical Specification Action Statement due to declaring emergency diesel Generator 2 inoperable. Relay 27X16-1G provides a time delay when the emergency diesel Generator 2 is tied to the Vital 4160 Volt G bus following a loss of coolant accident and loss of offsite power signal. This relay prevents the Division 2 Vital 4160 V G bus from de-energizing due to loss or degraded voltage during sequential loading of the emergency diesel generator.

Relay 27X16-1G had a history of performance problems related to setpoint drift, which was significantly greater than its divisional counterpart relay for the Division 1 emergency diesel generator. The effects of vibration, temperature and mechanical transients were all tested and found not to be the cause of Relay 27X16-1G performance problems. The 2004 solution was to increase the nominal setpoints to provide a greater margin for setpoint drift. While this increased margin addressed the symptoms, the underlying cause was not identified by the 2004 investigation.

On May 25, 2005, the licensee initiated CR-CNS-2005-03971 for Agastat Relay K5B as-found setpoint high outside the Technical Specification allowable value. Relay K5B functions to delay reactor pressure vessel blow down on low level in order to allow the high pressure coolant injection system to restore level following a loss of coolant accident. Like Relay 27X16-1G, Relay K5B calibration trend history exhibited significantly more setpoint drift than its divisional counterpart Relay K5A. Relay K5B was replaced and foreign material was found obstructing the relay internal time delay restricting orifice. From the trend history and evaluation of the foreign material, the licensee determined the foreign material was introduced during the manufacturer's assembly process. During the extent of condition evaluation for Relay K5B, the licensee identified that Relay 27X16-1G was potentially degraded based on the erratic trend history; however, the licensee did not perform an operability determination.

On June 11, 2005, the licensee originated Work Order 4445800 and CR-CNS-2005-04292 as a "proactive opportunity" to replace Relay 27X16-1G due to an erratic trend history similar to Relay K5B erratic trends due to foreign material. The operability determination stated that based on the Relay 27X16-1G past trends the maximum setpoint drift between the monthly surveillances was small enough that future setpoint drift between monthly surveillances would not exceed operability limits and therefore, Relay 27X16-1G was considered operable.

The operability determination did not evaluate foreign material acting as a random factor in delay timing. The Agastat relay time delay is provided by a small bleed orifice that controls the bleed of air from the relay diaphragm. Foreign material moving in the relay's small bleed orifices could provide a random element into the bleed down times. Therefore, predicting future performance on past results without determining probability of failure did not provide a reasonable assurance of future operability if foreign material was present in the relay.

On December 19, 2005, during monthly testing, Relay 27X16-1G timed high outside the calibration limit though inside the operability limit. When the relay was adjusted to lower the setpoint to within the calibration limit, subsequent testing to verify the adjustment resulted in the relay timing high outside the operability limit. Emergency diesel Generator 2 was declared inoperable as a result. Further adjustments were made to the relay until the relay timer results were acceptable, allowing the emergency diesel generator to be declared operable. Though CR-CNS-2005-09334 was initiated on this event, the licensee did not evaluate the degraded condition of the relay contrary to the requirements of Procedure ENN-OP-104, "Operability Determinations." Work Order 4445800 replaced Relay 27X16-1G in November 2006; however, the licensee did not perform any evaluation or examination of the relay to determine the cause of the erratic operation.

The licensee initiated CR-CNS-2008-01352 on March 3, 2008, when they found Agastat Relay 27X15-1F out of calibration and repeated calibration adjustments were unsuccessful, due to erratic timer results. The operations shift manager declared the relay inoperable and emergency diesel Generator 1 inoperable. Agastat Relay 27X15-1F provides a 7.5 second delay prior to a system trip signal to the vital emergency Transformer 4160 Volt critical bus feeder Breaker 1FS, on indications of degraded (low) voltage. Emergency diesel generator Breaker EG1, auto-closure is prevented if Breaker 1FS does not trip when required.

The inspection team noted that despite a step change increase in the variance of Relay 27X15-1F trends back in January 2005 there was not an operability determination to assess this indication of a potentially degraded relay. The licensee apparent cause evaluation, Version 2, determined that foreign material obstruction of Agastat relay restricting orifice from original manufacturer assembly caused the failure. The licensee reviewed past performance of Relay 27X15-1F and its divisional counterpart, Relay 27X15-1G with conclusions that the, "trend of setpoint performance of these relays does not indicate that the failure of Relay 27X15-1F was predictable." This conclusion only considered performance problems for setpoints found outside calibration limits, and failures for as-found setpoints outside operability limits. The licensee evaluation also concluded that the divisional counterpart Relay 27X15-1G timer trends, "exhibited, in general more stable performance since installation, but does exhibit more erratic operation following January 2005."

The inspection team reviewed the Agastat relays historical trends setpoint variance and noted the increased variance (more erratic timer performance) did precede relay failures. The licensee engineering team pointed out that there has been only two actual failures of approximately 240 Agastat time delay relays over the last several years. They failed to consider that only approximately 22 relays have time critical functions, that the 2004 relay problems were probably foreign material related, and that other relays exhibited degraded performance that did not rise to the level considered a "failure" by the licensee's program. The inspection team noted that failed Relay 27X15-1F trend's statistical variance had exhibited a step change increase in January 2005, indicating degraded relay timing behavior. The licensee did not consider this step change an adverse condition, and it was not documented in the corrective action program and therefore, it did not receive an operability determination.

The inspection team noted that the divisional counterpoint to Relay 27X15-1F, essential Relay 27X15-1G, had a similar erratic trend associated with internal foreign material contamination of previously failed relays. The licensee initiated CR-CNS-2009-02844 for the potentially degraded condition Relay 27X15-1G. The inspection team then reviewed the initial operability determination on Relay 27X15-1G and noted it did not address the potential failure mode of foreign material and that the trend of past setpoint data did not necessarily support a prediction of future failure free operation. The licensee subsequently determined the probability of the potentially degraded relay failing due to foreign material was not significant but did decide to replace the relay within the next ten days. Based on the small probability of failure and the relay was scheduled to be replaced in the next ten days, the inspection team concurred that was little safety significance with the potentially degraded relay. The licensee documented the inspection team's operability determination questions in Condition Report CR-CNS-2009-2885.

Analysis: The performance deficiency associated with this finding involved the licensee's failure to follow the requirements of Procedure ENN-OP-104, "Operability Determinations." Specifically, the team identified examples from 2005 through 2009 in which the shift manager failed to document the basis for operability when a potentially degraded or nonconforming condition had been identified with essential Agastat delay timer relays. This finding is more than minor because it affected the reliability objective of the equipment performance attribute of the Mitigating Systems Cornerstone to ensure the availability, reliability, and capability of systems that respond to initiating events to

prevent undesirable consequences (i.e., core damage). Using Manual Chapter 0609.04, "Phase 1 – Initial Screening and Characterization of Findings," the finding was determined to have a very low safety significance because the finding did not result in a loss of system safety function, an actual loss of safety function of a single train for greater than its Technical Specification allowed outage time, or screen as potentially risk significant due to a seismic, flooding, or severe weather initiating event. The cause of this finding is related to the problem identification and resolution crosscutting aspect associated with the corrective action program because licensee personnel failed to thoroughly evaluate conditions adverse to quality and perform meaningful operability determinations [P.1(c)].

Enforcement. Title 10 of the Code of Federal Regulations Part 50, Appendix B, Criterion V, "Instructions, Procedures, and Drawings," requires, in part, that activities affecting quality shall be prescribed by documented instructions, of a type appropriate to the circumstances and shall be accomplished in accordance with these instructions. The assessment of operability of safety-related equipment was an activity affecting quality and was implemented by Procedure ENN-OP-104, "Operability Determinations," Revision 2. Step 4.2.1 requires that the shift manager document the basis for operability when a degraded or nonconforming condition exists. Step 1.1 requires that reasonable assurance exist that equipment will perform its design function until corrective action or further investigation can be completed. Contrary to these requirements, the shift manager did not document the bases for operability or did not provide a reasonable assurance of operability for degraded and potentially degraded Agastat Relays, 27X16 1G, 27X15-1G and 27X15-1F from 2005 to 2009. Because the finding is of very low safety significance and has been entered into the licensee's corrective action program as Condition Report CR-CNS-2009-02885, this violation is being treated as a noncited violation consistent with Section VI.A of the Enforcement Policy: NCV 05000298/2009007-01, "Failure to Follow Procedure Results in Inadequate Operability Determinations of Degraded Agastat Timer Relays."

4OA6 Meetings

Exit Meeting Summary

On April 10, 2009, the team presented the inspection results to Mr. Brian O'Grady and other members of the licensee staff. The licensee acknowledged the issues presented. The inspector asked the licensee whether any materials examined during the inspection should be considered proprietary. No proprietary information was identified.

4OA7 Licensee-Identified Violations

The following violation of very low safety significance (Green) was identified by the licensee and is a violation of NRC requirements which meet the criteria of Section VI of the NRC Enforcement Policy, NUREG-1600, for being dispositioned as a noncited violation (NCV):

Title 10 CFR 20.1501 requires the licensee to adequately survey and evaluate the magnitude and extent of radiation levels. Contrary to the above, on December 30, 2008, a radiation protection technician discovered radiation dose rates of 500 millirem per hour at one foot near the spent fuel storage pool gates. This constituted a high radiation area as defined by licensee Technical Specification 5.7.1. The high radiation area was not

originally identified during initial surveys taken on December 10, 2008. The high radiation area was caused by control rod blades on hangers on the northwest wall of the spent fuel pool in close proximity to the gates for the fuel transfer channel. The issue was more than minor because it was associated with the Program/Process attribute of the Occupational Radiation Safety Cornerstone and affected the cornerstone objective to ensure adequate protection of worker health and safety from exposure to radiation. The issue represents a finding of very low safety significance because it did not involve as low as is reasonably achievable planning or work controls, there was no overexposure, nor did a substantial potential for an overexposure exist given the radiological conditions in the area and the workers response to the electronic dosimeter alarm. The licensee's ability to assess worker dose was not compromised.

SUPPLEMENTAL INFORMATION
KEY POINTS OF CONTACT

Licensee Personnel
J. Austin, Manager, Emergency Preparedness
B. Beilke, Manager, Chemistry
M. Boruch, Site Human Resources Manager
M. Boyce, Manager, Projects
T. Carson, Manager, Maintenance
W. Chapin, Outage Manager
D. Clark, Assistant Operations Supervisor
R. Estrada, Manager, Corrective Action and Assessments
J. Flaherty. Senior Licensing Engineer
J. Furr, Manager, Quality Assurance
W. Green, Procurement Engineering Supervisor
A. Johnson, Training Instructor
A. Kleckinger, Construction Superintendent, Nuclear Projects
G. Kline, Director, Engineering
K. Kreifels, Maintenance Support Supervisor
J. Kulins, Security Shift Supervisor
G. Mace, Nuclear Asset Manager
A. Martinez, Stores Supervisor
E. McCutchen, Senior Licensing Engineer
B. O'Grady, Site Vice President
D. Oshlo, Manager, Radiation Protection
D. Parker, Assistant Maintenance Manager
R. Penfield, Manager, Operations
S. Rezub, Staff Health Physicist
D. Sealock, Manager, Training
K. Tanner, Radiological Shift Supervisor
J. Teten, Chemistry Supervisor
D. VanDerKamp, Manager, Licensing
D. Willis, Manager, Plant Operations
A. Zaremba, Director, Nuclear Safety Assurance

NRC personnel
N. Taylor, Senior Resident Inspector
G. Werner, Chief, Plant Support Branch 2, Division of Reactor Safety

LIST OF ITEMS OPENED, CLOSED AND DISCUSSED

Opened
None

Opened and Closed

05000298/2009007-01	NCV	Failure to Follow Procedure Results in Inadequate Operability Determinations of Degraded Agastat Timer Relays (Section 4OA2.e)

Closed
None

Discussed
None

LIST OF DOCUMENTS REVIEWED

PROCEDURES

Number	Description or Title	Revision
0.24	Working over or in Reactor Vessel or Fuel Pool Requirements	19, 25
0.36	Industrial Safety	28, 29, 31
0.36.8	Electrical Safety Rule Book	6,7,8
0.45	Foreign Material Exclusion Program	23, 26, 27
0.5	Conduct Of The Condition Report Process	63
0.5.CR	Condition Report Initiation, Review, and Classification	12
0.5.Eval	Preparation Of Condition Reports	18
0.5.Root Cause	Root Cause Analysis Procedure	9
0.HU.Tools	Human Performance Tools	5, 6
10.27	Control Rod, Fuel Support Piece, and Blade Guide Removal and Installation	22, 23
7.0.1.7	Troubleshooting Plant Equipment	12
9.ENN-RP-106	Radiological Survey Documentation	2
9.ENN-RP-106-1	Radiation and Contamination Surveys	7
Administrative Procedure 0.27	Maintenance Rule Program	18
Administrative Procedure 0.26	Surveillance Program	56
Administrative Procedure 0.5.OPS	Operations Review of Condition Reports/Operability Determination	26
ENN-OP-104	Operability Determinations	2
Administrative Procedure 0.26	Surveillance Program	56
Maintenance Procedure, 7.3.17	4160V Breaker Maintenance	27
Maintenance Procedure, 7.3.17.1	4160V Breaker Examination	21

CORRECTIVE ACTION PROGRAM DOCUMENTS REVIEWED

Number

CR-CNS-2001-05490	CR-CNS-2001-05490	CR-CNS-2002-00059
CR-CNS-2004-00043	CR-CNS-2004-01565	CR-CNS-2004-03608
CR-CNS-2004-04863	CR-CNS-2005-04292	CR-CNS-2005-08818
CR-CNS-2005-08818	CR-CNS-2005-09334	CR-CNS-2005-3971
CR-CNS-2006-03451	CR-CNS-2006-03451	CR-CNS-2006-07829
CR-CNS-2006-07829	CR-CNS-2006-08441	CR-CNS-2006-08990
CR-CNS-2006-09166	CR-CNS-2007-00905	CR-CNS-2007-00929
CR-CNS-2007-00954	CR-CNS-2007-01361	CR-CNS-2007-01470
CR-CNS-2007-01529	CR-CNS-2007-01559	CR-CNS-2007-01563
CR-CNS-2007-01619	CR-CNS-2007-01666	CR-CNS-2007-01675
CR-CNS-2007-01697	CR-CNS-2007-01746	CR-CNS-2007-01750
CR-CNS-2007-01752	CR-CNS-2007-01779	CR-CNS-2007-01845
CR-CNS-2007-01980	CR-CNS-2007-02039	CR-CNS-2007-02045
CR-CNS-2007-02142	CR-CNS-2007-02183	CR-CNS-2007-02194
CR-CNS-2007-02306	CR-CNS-2007-02335	CR-CNS-2007-02336
CR-CNS-2007-02338	CR-CNS-2007-02339	CR-CNS-2007-02356
CR-CNS-2007-02450	CR-CNS-2007-02456	CR-CNS-2007-02586
CR-CNS-2007-02775	CR-CNS-2007-02818	CR-CNS-2007-02844
CR-CNS-2007-02857	CR-CNS-2007-02980	CR-CNS-2007-02989
CR-CNS-2007-02990	CR-CNS-2007-03028	CR-CNS-2007-03089
CR-CNS-2007-03131	CR-CNS-2007-03164	CR-CNS-2007-03209
CR-CNS-2007-03336	CR-CNS-2007-03337	CR-CNS-2007-03476
CR-CNS-2007-03485	CR-CNS-2007-03489	CR-CNS-2007-03504
CR-CNS-2007-03528	CR-CNS-2007-03535	CR-CNS-2007-03552
CR-CNS-2007-03559	CR-CNS-2007-03596	CR-CNS-2007-03597
CR-CNS-2007-03676	CR-CNS-2007-03797	CR-CNS-2007-03820
CR-CNS-2007-03828	CR-CNS-2007-04144	CR-CNS-2007-04155
CR-CNS-2007-04155	CR-CNS-2007-04183	CR-CNS-2007-04299
CR-CNS-2007-04309	CR-CNS-2007-04319	CR-CNS-2007-04340
CR-CNS-2007-04346	CR-CNS-2007-04387	CR-CNS-2007-04486
CR-CNS-2007-04549	CR-CNS-2007-04579	CR-CNS-2007-04894
CR-CNS-2007-04933	CR-CNS-2007-04940	CR-CNS-2007-05086
CR-CNS-2007-05113	CR-CNS-2007-05118	CR-CNS-2007-05119
CR-CNS-2007-05120	CR-CNS-2007-05156	CR-CNS-2007-05172
CR-CNS-2007-05200	CR-CNS-2007-05201	CR-CNS-2007-05221
CR-CNS-2007-05223	CR-CNS-2007-05224	CR-CNS-2007-05297
CR-CNS-2007-05384	CR-CNS-2007-05385	CR-CNS-2007-05497
CR-CNS-2007-05504	CR-CNS-2007-05656	CR-CNS-2007-05715
CR-CNS-2007-05727	CR-CNS-2007-05728	CR-CNS-2007-05738
CR-CNS-2007-05748	CR-CNS-2007-05762	CR-CNS-2007-05815
CR-CNS-2007-05935	CR-CNS-2007-05977	CR-CNS-2007-06024
CR-CNS-2007-06032	CR-CNS-2007-06236	CR-CNS-2007-06412
CR-CNS-2007-06440	CR-CNS-2007-06643	CR-CNS-2007-06693

CORRECTIVE ACTION PROGRAM DOCUMENTS REVIEWED

Number

CR-CNS-2007-06712	CR-CNS-2007-06713	CR-CNS-2007-06715
CR-CNS-2007-06716	CR-CNS-2007-06717	CR-CNS-2007-06718
CR-CNS-2007-06719	CR-CNS-2007-06720	CR-CNS-2007-06721
CR-CNS-2007-06722	CR-CNS-2007-06723	CR-CNS-2007-06724
CR-CNS-2007-06725	CR-CNS-2007-06745	CR-CNS-2007-06873
CR-CNS-2007-07007	CR-CNS-2007-07043	CR-CNS-2007-07058
CR-CNS-2007-07092	CR-CNS-2007-07167	CR-CNS-2007-07215
CR-CNS-2007-07471	CR-CNS-2007-07509	CR-CNS-2007-07619
CR-CNS-2007-07620	CR-CNS-2007-07621	CR-CNS-2007-07642
CR-CNS-2007-07655	CR-CNS-2007-07718	CR-CNS-2007-07913
CR-CNS-2007-07938	CR-CNS-2007-07939	CR-CNS-2007-07986
CR-CNS-2007-08043	CR-CNS-2007-08132	CR-CNS-2007-08133
CR-CNS-2007-08219	CR-CNS-2007-08237	CR-CNS-2007-08740
CR-CNS-2007-08774	CR-CNS-2008-00019	CR-CNS-2008-00028
CR-CNS-2008-00068	CR-CNS-2008-00100	CR-CNS-2008-00160
CR-CNS-2008-00206	CR-CNS-2008-00262	CR-CNS-2008-00264
CR-CNS-2008-00304	CR-CNS-2008-00443	CR-CNS-2008-00493
CR-CNS-2008-00624	CR-CNS-2008-00628	CR-CNS-2008-00676
CR-CNS-2008-00775	CR-CNS-2008-00832	CR-CNS-2008-00842
CR-CNS-2008-00843	CR-CNS-2008-00968	CR-CNS-2008-01149
CR-CNS-2008-01151	CR-CNS-2008-01153	CR-CNS-2008-01154
CR-CNS-2008-01155	CR-CNS-2008-01156	CR-CNS-2008-01188
CR-CNS-2008-01231	CR-CNS-2008-01293	CR-CNS-2008-01295
CR-CNS-2008-01297	CR-CNS-2008-01298	CR-CNS-2008-01352
CR-CNS-2008-01361	CR-CNS-2008-01455	CR-CNS-2008-01497
CR-CNS-2008-01502	CR-CNS-2008-01609	CR-CNS-2008-01651
CR-CNS-2008-01730	CR-CNS-2008-01741	CR-CNS-2008-01750
CR-CNS-2008-01755	CR-CNS-2008-01760	CR-CNS-2008-01849
CR-CNS-2008-01874	CR-CNS-2008-01915	CR-CNS-2008-01958
CR-CNS-2008-01989	CR-CNS-2008-02041	CR-CNS-2008-02100
CR-CNS-2008-02150	CR-CNS-2008-02229	CR-CNS-2008-02259
CR-CNS-2008-02298	CR-CNS-2008-02350	CR-CNS-2008-02360
CR-CNS-2008-02386	CR-CNS-2008-02418	CR-CNS-2008-02438
CR-CNS-2008-02453	CR-CNS-2008-02462	CR-CNS-2008-02471
CR-CNS-2008-02472	CR-CNS-2008-02473	CR-CNS-2008-02476
CR-CNS-2008-02482	CR-CNS-2008-02485	CR-CNS-2008-02500
CR-CNS-2008-02520	CR-CNS-2008-02542	CR-CNS-2008-02558
CR-CNS-2008-02574	CR-CNS-2008-02606	CR-CNS-2008-02635
CR-CNS-2008-02639	CR-CNS-2008-02642	CR-CNS-2008-02651
CR-CNS-2008-02657	CR-CNS-2008-02664	CR-CNS-2008-02682
CR-CNS-2008-02687	CR-CNS-2008-02692	CR-CNS-2008-02699
CR-CNS-2008-02721	CR-CNS-2008-02731	CR-CNS-2008-02738
CR-CNS-2008-02739	CR-CNS-2008-02755	CR-CNS-2008-02759
CR-CNS-2008-02771	CR-CNS-2008-02775	CR-CNS-2008-02795
CR-CNS-2008-02816	CR-CNS-2008-02836	CR-CNS-2008-02860
CR-CNS-2008-02865	CR-CNS-2008-02920	CR-CNS-2008-02926

CORRECTIVE ACTION PROGRAM DOCUMENTS REVIEWED

Number

CR-CNS-2008-02987	CR-CNS-2008-02996	CR-CNS-2008-02997
CR-CNS-2008-02998	CR-CNS-2008-03090	CR-CNS-2008-03094
CR-CNS-2008-03100	CR-CNS-2008-03106	CR-CNS-2008-03107
CR-CNS-2008-03147	CR-CNS-2008-03156	CR-CNS-2008-03163
CR-CNS-2008-03198	CR-CNS-2008-03206	CR-CNS-2008-03226
CR-CNS-2008-03227	CR-CNS-2008-03306	CR-CNS-2008-03310
CR-CNS-2008-03337	CR-CNS-2008-03341	CR-CNS-2008-03364
CR-CNS-2008-03384	CR-CNS-2008-03440	CR-CNS-2008-03453
CR-CNS-2008-03461	CR-CNS-2008-03463	CR-CNS-2008-03465
CR-CNS-2008-03475	CR-CNS-2008-03527	CR-CNS-2008-03531
CR-CNS-2008-03583	CR-CNS-2008-03585	CR-CNS-2008-03827
CR-CNS-2008-03861	CR-CNS-2008-03863	CR-CNS-2008-03938
CR-CNS-2008-04110	CR-CNS-2008-04282	CR-CNS-2008-04615
CR-CNS-2008-04694	CR-CNS-2008-04775	CR-CNS-2008-04777
CR-CNS-2008-04899	CR-CNS-2008-05336	CR-CNS-2008-05351
CR-CNS-2008-05389	CR-CNS-2008-05397	CR-CNS-2008-05436
CR-CNS-2008-05438	CR-CNS-2008-05439	CR-CNS-2008-05444
CR-CNS-2008-05451	CR-CNS-2008-05475	CR-CNS-2008-05500
CR-CNS-2008-05513	CR-CNS-2008-05530	CR-CNS-2008-05536
CR-CNS-2008-05543	CR-CNS-2008-05549	CR-CNS-2008-05622
CR-CNS-2008-05626	CR-CNS-2008-05698	CR-CNS-2008-05767
CR-CNS-2008-05769	CR-CNS-2008-05775	CR-CNS-2008-05850
CR-CNS-2008-05878	CR-CNS-2008-05981	CR-CNS-2008-05997
CR-CNS-2008-06036	CR-CNS-2008-06037	CR-CNS-2008-06038
CR-CNS-2008-06040	CR-CNS-2008-06041	CR-CNS-2008-06082
CR-CNS-2008-06166	CR-CNS-2008-06277	CR-CNS-2008-06289
CR-CNS-2008-06315	CR-CNS-2008-06324	CR-CNS-2008-06420
CR-CNS-2008-06446	CR-CNS-2008-06456	CR-CNS-2008-06480
CR-CNS-2008-06524	CR-CNS-2008-06568	CR-CNS-2008-06578
CR-CNS-2008-06758	CR-CNS-2008-06759	CR-CNS-2008-06855
CR-CNS-2008-06925	CR-CNS-2008-06938	CR-CNS-2008-06940
CR-CNS-2008-06941	CR-CNS-2008-06950	CR-CNS-2008-07071
CR-CNS-2008-07075	CR-CNS-2008-07159	CR-CNS-2008-07212
CR-CNS-2008-07373	CR-CNS-2008-07374	CR-CNS-2008-07375
CR-CNS-2008-07486	CR-CNS-2008-07507	CR-CNS-2008-07540
CR-CNS-2008-07567	CR-CNS-2008-07598	CR-CNS-2008-07602
CR-CNS-2008-07642	CR-CNS-2008-07801	CR-CNS-2008-07824
CR-CNS-2008-07852	CR-CNS-2008-07910	CR-CNS-2008-07915
CR-CNS-2008-07932	CR-CNS-2008-07933	CR-CNS-2008-08017
CR-CNS-2008-08091	CR-CNS-2008-08095	CR-CNS-2008-08097
CR-CNS-2008-08099	CR-CNS-2008-08108	CR-CNS-2008-08147
CR-CNS-2008-08238	CR-CNS-2008-08248	CR-CNS-2008-08457
CR-CNS-2008-08473	CR-CNS-2008-08474	CR-CNS-2008-08486
CR-CNS-2008-08493	CR-CNS-2008-08562	CR-CNS-2008-08658
CR-CNS-2008-08670	CR-CNS-2008-08695	CR-CNS-2008-08715
CR-CNS-2008-08732	CR-CNS-2008-08907	CR-CNS-2008-08946

CORRECTIVE ACTION PROGRAM DOCUMENTS REVIEWED

Number		
CR-CNS-2008-08961	CR-CNS-2008-09009	CR-CNS-2008-09016
CR-CNS-2008-09272	CR-CNS-2008-09294	CR-CNS-2008-09415
CR-CNS-2008-09443	CR-CNS-2008-09586	CR-CNS-2008-09619
CR-CNS-2009- 2885	CR-CNS-2009-00054	CR-CNS-2009-00108
CR-CNS-2009-00153	CR-CNS-2009-00168	CR-CNS-2009-00188
CR-CNS-2009-00202	CR-CNS-2009-00208	CR-CNS-2009-00264
CR-CNS-2009-00289	CR-CNS-2009-00393	CR-CNS-2009-00447
CR-CNS-2009-00592	CR-CNS-2009-00607	CR-CNS-2009-00613
CR-CNS-2009-00738	CR-CNS-2009-00778	CR-CNS-2009-00954
CR-CNS-2009-00958	CR-CNS-2009-01005	CR-CNS-2009-01008
CR-CNS-2009-01017	CR-CNS-2009-01019	CR-CNS-2009-01022
CR-CNS-2009-01049	CR-CNS-2009-01070	CR-CNS-2009-01110
CR-CNS-2009-01129	CR-CNS-2009-01163	CR-CNS-2009-01216
CR-CNS-2009-01291	CR-CNS-2009-01296	CR-CNS-2009-01448
CR-CNS-2009-01574	CR-CNS-2009-01618	CR-CNS-2009-01664
CR-CNS-2009-01671	CR-CNS-2009-01696	CR-CNS-2009-01747
CR-CNS-2009-01823	CR-CNS-2009-01851	CR-CNS-2009-02008
CR-CNS-2009-02012	CR-CNS-2009-02053	CR-CNS-2009-02138
CR-CNS-2009-02158	CR-CNS-2009-02454	CR-CNS-2009-02844
CR-CNS-2009-02884	CR-CNS-2009-02884	CR-CNS-2009-03703.
RCR-2004-0009	RCR-2004-0356	RCR-2004-0479

DRAWINGS

Number	Description or Title	Revision
298-00-307	Contronatics-Socket weld full port ball valve for sch. 80 pipe	A
EE150, Sheet 16	Cooper Nuclear Station Timer Settings For 4160V SWGR 1E, 1F, 1G and Miscellaneous Timers	N22

CALCULATIONS

Number	Description or Title	Date or Revision
ER10324007	Replace Agastat pneumatic timer relays with solid state timer relays	6/28/2004

MODIFICATIONS

Number	Description or Title	Date or Revision

MODIFICATIONS

Number	Description or Title	Date or Revision
DCN No. 03-1889	Setpoint Change to 27X16-1F/1G	12/11/2003
CED No. 6013880	Setpoint Change to 27X16-1F/1G	12/23/2003

COMPLETED SURVEILLANCES/WORK ORDERS

Number	Description or Title	Date
Surveillance 6.1EE.302	4160V Bus 1F Undervoltage Relay and Relay Timer Functional Test (DIV 1)	05/08/2006
Surveillance 6.2ADS.303	ADS Logic System Functional Test	05/25/2005
WO 4416692	Examine 4160V Non-Segregated Buswork	05/23/2005
WO 4418818	Replace Breaker EE-CB-4160F (SWP1A)	12/29/2004
WO 4418819	Troubleshoot Removed Failed Breaker	01/06/2005
WO 4442409	Perform Testing and Evaluation of Emergency Transformer Buses	05/26/2005
WO 4442424	Replace MS-REL-K5B	05/26/2005
WO 4618242	Replace Relay CNS-1-EE-REL-27X15-F	03/04/2008
WO 4623424	Troubleshoot [CNS-9-LRP-PNL-9-41] to Determine Voltage Source	04/16/2008
WO 4631427	Troubleshoot RRMG-A Trip	05/08/2008
WO 4656469	Troubleshoot Transfer CKT Per 7.0.1.7	12/03/2008
WO 4665391	Examine SWB-C Interlock SW (CR 08-07910)	12/5/2008
WO 4665782	Examine 1FS Interlock Switch (CR 08-07910)	11/13/2008
WO 4665783	Examine 1GS Interlock SW (CR 08-07910)	11/13/2008
WO 4666054	Examine SWP-B Interlock SW (CR 08-07910)	01/27/2009
WO 4666564	Examine EG2 Interlock SW (CR 08-07910)	01/29/2009
WO 4666565	Examine SWB-D Interlock SW (CR 08-07910)	11/26/2008
WO 4666566	Examine SWBP-A Interlock SW (CR 08-07910)	01/12/2009
WO 4666568	Examine SWBP-B Interlock SW (CR 08-07910)	01/20/2009
WO 4666569	Examine SWBP-D Interlock SW (CR 08-07910)	02/05/2009
WO 4666574	Examine CSP-A Interlock SW (CR 08-07910)	02/09/2009
WO 4666576	Examine SWBP-C Interlock SW (CR 08-07910)	01/20/2009
WO 4668645	Troubleshoot H2 System for On-Line Work	11/28/2008
WO 4669945	Troubleshoot RCIC-MOV-MO18 per 7.0.1.7	12/01/2008
WO 4677567	Troubleshoot HPCI-AO40 Per 7.0.1.7	01/07/2009
Notification 10288705, WO4355915	Agastat relay CNS-2-EE-REL-27X16-1G found out of tolerance.	1/5/2004

COMPLETED SURVEILLANCES/WORK ORDERS

Number	Description or Title	Date
Notification 10298290	Agastat relay CNS-2-EE-REL-27X16-1G found out of tolerance	3/1/2004

VENDOR DOCUMENTS

Number	Description or Title	Date or Revision
GE SIL 196	Summary of Recommendations for Target Rock Main Steam Safety/Relief Valves	9/30/1976
GE SIL 196 Supplement 14	Target Rock 2-Stage SRV Set-Point Drift	4/23/1984

Miscellaneous

Number	Description or Title	Date or Revision
	Cooper Nuclear Station Monthly CAP Trend Report	October 2008
	Cooper Nuclear Station Monthly CAP Trend Report	November 2008
	Cooper Nuclear Station Monthly CAP Trend Report	December 2008
	Cooper Nuclear Station Monthly CAP Trend Report	January 2009
	Nebraska Public Power District Cooper Nuclear Station Nuclear Safety Culture Assessment	April 2007
	Nebraska Public Power District Cooper Nuclear Station Nuclear Safety Culture Assessment	January 2009
IN 2008-20	Failures of Motor Operated Valve Actuators with Magnesium Alloy Rotors	12/08/2008
N/A	Corrective Action Review Board Notes	12/1-30/2008
Notification 10288705	EE-PF03B Functional Failure Evaluation for CR-CNS-2004-00043 Discovery Date: January 05, 2004	1/07/2004
Notification 10298290	EE-PF03B Functional Failure Evaluation for CR-CNS-2004-01565 Discovery Date: March 1, 2004	3/17/2004
Notification 10314351	EE-PF03B Functional Failure Evaluation for CR-CNS-2004-3608 Discovery Date: May 12, 2004	6/8/2004

Miscellaneous

Number	Description or Title	Date or Revision
Notification 10314351	SW-F01B Functional Failure Evaluation for CR-CNS-2004-3608 Discovery Date: May 12, 2004	6/8/2004
Notification 10314351	SW-SD1 Functional Failure Evaluation for CR-CNS-2004-3608 Discovery Date: May 12, 2004	6/8/2004
Notification 10314351	SW-SD2 Functional Failure Evaluation for CR-CNS-2004-3608 Discovery Date: May 12, 2004	6/8/2004
Notification 10314351	SW-SD3 Functional Failure Evaluation for CR-CNS-2004-3608 Discovery Date: May 12, 2004	6/8/2004
Notification 10314351	SW-SD4 Functional Failure Evaluation for CR-CNS-2004-3608 Discovery Date: May 12, 2004	6/8/2004
Notification 10314351	SW-SD5 Functional Failure Evaluation for CR-CNS-2004-3608 Discovery Date: May 12, 2004	6/8/2004
Notification 10314351	SW-SD6 Functional Failure Evaluation for CR-CNS-2004-3608 Discovery Date: May 12, 2004	6/8/2004
Notification 10314351	SW-SD7 Functional Failure Evaluation for CR-CNS-2004-3608 Discovery Date: May 12, 2004	6/8/2004
Notification 10235337	EE-PF03B Functional Failure Evaluation Discovery Date: March 22, 2003	4/07/2003
Notification 10389051	ADS-PF01 Functional Failure Evaluation for CR-CNS-2005-3971 Discovery Date: May 25, 2005	6/16/2005
Notification 10389051	NBI-PF01A Functional Failure Evaluation for CR-CNS-2005-3971 Discovery Date: May 25, 2005	6/16/2005
Notification 10389051	NBI-PF01B Functional Failure Evaluation for CR-CNS-2005-3971 Discovery Date: May 25, 2005	6/16/2005
Notification 10428889	EE-PF03B Functional Failure Evaluation for CR-CNS-2005-9334 Discovery Date: 12/19/2005	1/11/2006
Notification 10576142	EE-PF03A Functional Failure Evaluation for CR-CNS-2008-01352	3/26/2009

Miscellaneous

Number	Description or Title	Date or Revision
	(Where is original FF eval?)	
	Discovery Date: 3/3/2008	
Notification 10595374	ROP-MSPI-CWS2 Functional Failure Evaluation for CR-CNS-2008-04694	7/9/2008
	Discovery Date: 6/15/2008	
Notification 10595374	SW-F01A Functional Failure Evaluation for CR-CNS-2008-04694	1/6/2009
	Ref CR-CNS-2008-07910 CA4(a)(1) eval	
	Discovery Date: 6/15/2008	
	Re-Evaluated from 11/4/2008	
Notification 10595374	SW-F12 Functional Failure Evaluation for Discovery Date: 6/15/2008	7/9/2008
Notification 10595374	SW-P-A Functional Failure Evaluation for CR-CNS-2008-07910	7/9/2008
	Discovery Date: 6/15/2008	
Notification 10595374	SW-SD1 Functional Failure Evaluation for CR-CNS-2008-07910	7/9/2008
	Discovery Date: 6/15/2008	
Notification 10595374	SW-SD3 Functional Failure Evaluation for CR-CNS-2008-07910	7/9/2008
	Discovery Date: 6/15/2008	
Notification 10595374	SW-SD4 Functional Failure Evaluation for CR-CNS-2008-07910	7/9/2008
	Discovery Date: 6/15/2008	
Notification 10595374	SW-SD5 Functional Failure Evaluation for CR-CNS-2008-07910	7/9/2008
	Discovery Date: 6/15/2008	
Notification 10595374	SW-SD6 Functional Failure Evaluation for CR-CNS-2008-07910	7/9/2008
	Discovery Date: 6/15/2008	
Notification 10595374	SW-SD7 Functional Failure Evaluation for CR-CNS-2008-07910	7/9/2008
	Discovery Date: 6/15/2008	
Notification 10624616	EE-PF03A Functional Failure Evaluation for CR-CNS-2008-7910	11/10/2008
	Discovery Date: October 27, 2008	
Notification 10624616	SW-F01A Functional Failure Evaluation for CR-CNS-2008-7910	11/10/2008
	Discovery Date: October 27, 2008	
Notification	SW-F12 Functional Failure Evaluation	11/10/2008

Miscellaneous

Number	Description or Title	Date or Revision
10624616	for CR-CNS-2008-7910	
	Discovery Date: October 27, 2008	
Notification 10624616	SW-SD1 Functional Failure Evaluation for CR-CNS-2008-7910	11/10/2008
	Discovery Date: October 27, 2008	
Notification 10624616	SW-SD3 Functional Failure Evaluation for CR-CNS-2008-7910	11/10/2008
	Discovery Date: October 27, 2008	
Notification 10624616	SW-SD4 Functional Failure Evaluation for CR-CNS-2008-7910	11/10/2008
	Discovery Date: October 27, 2008	
Notification 10624616	SW-SD5 Functional Failure Evaluation for CR-CNS-2008-7910	11/10/2008
	Discovery Date: October 27, 2008	
Notification 10624616	SW-SD6 Functional Failure Evaluation for CR-CNS-2008-7910	11/10/2008
	Discovery Date: October 27, 2008	
Notification 10624616	SW-SD7 Functional Failure Evaluation for CR-CNS-2008-7910	11/10/2008
	Discovery Date: October 27, 2008	
RAD2010800	Continuing Training Lesson Plan	3
RAD3001300	Continuing Training Lesson Plan	6
RAD9070202	Continuing Training Lesson Plan	0

Initial Information Request – February 19, 2009
Cooper Nuclear Station Identification and Resolution Biennial Inspection

(IP 71152B; Inspection Report 05000298/2009007)

The inspection will cover the period of March 2007 to March 2009. All requested information should be limited to this period unless otherwise specified. We would like the information provided on a CD prior to our preparation week of March 16, 2009. We will break down the request by required dates to allow for effective preparation. Information provided in electronic media may also be in the form of e-mail attachment(s), CDs, or thumb drives.

Please have the information sent us by March 9, 2009, if possible.

1. All condition reports (CRs) of significant conditions adverse to quality opened or closed from March 1, 2007 to the present.
2. Summary list of all CRs which were generated since March 1, 2007
3. A list of all corrective action documents that aggregate or "roll-up" one or more smaller issues for the period
4. Summary list of all action requests which were down-graded or up-graded in significance since March 1, 2007
5. List of all root cause analyses completed since. March 1, 2007. Include in this listing those root causes considered as upper tier cause evaluations.
6. List of root cause analyses planned, but not complete at end of the period, include in this list the upper tier cause evaluations.
7. List of all apparent cause analyses completed since March 1, 2007.
8. List of plant safety issues raised or addressed by the employee concerns program since March 1, 2007.
9. List of action items generated or addressed by the plant safety review committees since March 1, 2007.
10. All quality assurance audits and surveillances of corrective action activities completed since March 1, 2007
11. A list of all quality assurance audits and surveillances scheduled for completion since March 1, 2007, but which were not completed
12. All corrective action activity reports, functional area self-assessments, and non-NRC third party assessments completed since March 1, 2007.
13. Corrective action performance trending/tracking information generated since March 1, 2007, and broken down by functional organization. Quarterly reports are sufficient for this area if they are broken down by organization and issue.
14. rent revisions of corrective action program procedures for: Condition Reporting, Corrective Action Program, Root Cause Evaluation/Determination, Operator Work Arounds, Work Requests, Requests for Engineering Resolution (RFR), Temporary Modifications, Procedure Change Requests, Deficiency Reporting and Resolution, Operating Experience Evaluation.
15. Listing of all external events (OE) evaluated for applicability at Cooper since March 1, 2007.
16. Action requests or other actions generated since March 1, 2007 for each of the items below:

    Part 21 Reports:
    [Applicable] NRC Information Notices:
    All LERs issued by AmerenUE
    NCVs and Violations issued to AmerenUE (including licensee-identified violations)
17. Safeguard Event Logs
18. Current system health reports

19. Current predictive performance summary reports
20. Corrective action effectiveness review reports generated since March 1, 2007
21. List of risk significant components and systems
22. Corrective action effectiveness review reports generated since March1, 2007
23. List of actions done and/or in the Human Performance Improvement Plan since the last PI&R inspection
24. Outage maintenance that was not performed for whatever reason
25. Any rework of maintenance performed from last outage