



**UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
611 RYAN PLAZA DRIVE, SUITE 400
ARLINGTON, TEXAS 76011-8064**

April 25, 2001

EA-01-093

Garry L. Randolph, Senior Vice
President and Chief Nuclear Officer
Union Electric Company
P.O. Box 620
Fulton, Missouri 65251

**SUBJECT: CALLAWAY PLANT - NRC INSPECTION REPORT 50-483/01-04 AND EXERCISE
OF ENFORCEMENT DISCRETION**

Dear Mr. Randolph:

On March 16, 2001, the NRC completed an inspection at your Callaway Plant. The enclosed report documents the inspection findings which were discussed on March 16, 2001, with Mike Taylor and other members of your staff. The team leader discussed subsequent changes with Mr. Schoolcraft on April 11, 2001.

This inspection examined activities conducted under your license as they relate to the identification and resolution of problems, compliance with the Commission's rules and regulations and with the conditions of your license. Within these areas, the inspection consisted of selected examination of procedures and representative records, observations of activities, and interviews with personnel.

Based on the results of this inspection, the NRC has identified an issue that was evaluated under the risk significance determination process as having very low safety significance (green). The NRC has also determined that a violation is associated with this issue. The violation is being treated as a noncited violation, consistent with Section VI.A of the Enforcement Policy. The noncited violation is described in the subject inspection report. If you contest the violation or significance of the noncited violation, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001, with copies to the Regional Administrator, U.S. Nuclear Regulatory Commission, Region IV, 611 Ryan Plaza Drive, Suite 400, Arlington, Texas 76011; the Director, Office of Enforcement, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Resident Inspector at the Callaway Plant facility.

The NRC also identified a violation of 10 CFR 50.59, as discussed in Section 1R02, "Evaluation of Changes." However, the NRC determined that while this was a violation of the 10 CFR 50.59 rule in effect at the time the change to the facility was made, it would not have violated the current 10 CFR 50.59 rule. Thus, discretion is being exercised after consultation with the Office of Enforcement pursuant to Section VII.B.6 of the Enforcement Policy, and this violation is not subject to enforcement action.

Union Electric Company

-2-

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/NRC/ADAMS/index.html> (the Public Electronic Reading Room).

Sincerely,

/RA/

Anthony T. Gody, Chief
Operations Branch
Division of Reactor Safety

Docket: 50-483
License: NPF-30

Enclosure:
NRC Inspection Report
50-483/01-04
w/Attachment - Supplemental Information

cc w/enclosure:
Professional Nuclear Consulting, Inc.
19041 Raines Drive
Derwood, Maryland 20855

John O' Neill, Esq.
Shaw, Pittman, Potts & Trowbridge
2300 N. Street, N.W.
Washington, D.C. 20037

Mark A. Reidmeyer, Regional
Regulatory Affairs Supervisor
Quality Assurance
Union Electric Company
P.O. Box 620
Fulton, Missouri 65251

Manager - Electric Department
Missouri Public Service Commission
301 W. High
P.O. Box 360
Jefferson City, Missouri 65102

Union Electric Company

-3-

Ronald A. Kucera, Director
of Intergovernmental Cooperation
P.O. Box 176
Jefferson City, Missouri 65102

Otto L. Maynard, President and
Chief Executive Officer
Wolf Creek Nuclear Operating Corporation
P.O. Box 411
Burlington, Kansas 66839

Dan I. Bolef, President
Kay Drey, Representative
Board of Directors Coalition
for the Environment
6267 Delmar Boulevard
University City, Missouri 63130

Lee Fritz, Presiding Commissioner
Callaway County Courthouse
10 East Fifth Street
Fulton, Missouri 65251

Alan C. Passwater, Manager
Licensing and Fuels
AmerenUE
One Ameren Plaza
1901 Chouteau Avenue
P.O. Box 66149
St. Louis, Missouri 63166-6149

J. V. Laux, Manager
Quality Assurance
Union Electric Company
P.O. Box 620
Fulton, Missouri 65251

Jerry Uhlmann, Director
State Emergency Management Agency
P.O. Box 116
Jefferson City, Missouri 65101

Electronic distribution from ADAMS by RIV:

Regional Administrator **(EWM)**

DRP Director **(KEB)**

DRS Director **(ATH)**

Senior Resident Inspector **(VGG)**

Branch Chief, DRP/B **(WDJ)**

Senior Project Engineer, DRP/B **(RAK1)**

Branch Chief, DRP/TSS **(PHH)**

RITS Coordinator **(NBH)**

Scott Morris **(SAM1)**

NRR Event Tracking System **(IPAS)**

CWY Site Secretary **(DVY)**

Fcongell, OE ()

OE:EA file **(OEMAIL)**

Gsanborn-EA file **(GFS)**

MVasquez **(GMV)**

SOE	PE	RI	RE	C:OB
HBundy	RAzua	JHanna	MPeck	AGody
/RA/	/RA/	/RA/	/RA/ E-mail	/RA/
04/20/01	04/24/01	04/25/01	04/12/01	04/23/01
SOE	ACES	C:PBB	C:OB	
TStetka	GSanborn	WJohnson	AGody	
/RA/	/RA/	/RA/	/RA/	
04/24/01	04/23/01	04/24/01	04/25/01	

ENCLOSURE

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

Docket: 50-483
License: NPF-30
Report No.: 50-483/01-04
Licensee: Union Electric Company
Facility: Callaway Plant
Location: Junction Highway CC and Highway O
Fulton, Missouri
Dates: February 26 to March 16, 2001
Inspectors: H. Bundy, Senior Operations Engineer, Operations Branch
R. Azua, Project Engineer, Project Branch B
J. Hanna, Resident Inspector, Project Branch B
M. Peck, Reactor Engineer, Technical Support Staff
T. Stetka, Senior Operations Engineer, Operations Branch
Approved By: Anthony T. Gody, Chief
Operations Branch
Division of Reactor Safety

SUMMARY OF FINDINGS

IR 05000483-01-04, on 2/26-3/2/2001, Union Electric Company; Callaway Plant. Identification and Resolution of Problems.

The inspection was conducted by two regional senior operations engineers, one regional project engineer, one reactor engineer, and one resident inspector. The inspection identified one issue having very low safety significance (green). The significance of the issues is indicated by its color (green, white, yellow, red) and was determined by the Significance Determination Process in Inspection Manual Chapter 0609.

The team identified a violation of 10 CFR 50.59, as discussed in Section 1R02, "Evaluation of Changes." However, the NRC determined that while this was a violation of the 10 CFR 50.59 rule in effect at the time the change to the facility was made, it would not have violated the current 10 CFR 50.59 rule. Thus, discretion is being exercised after consultation with the Office of Enforcement pursuant to Section VII.B.6 of the Enforcement Policy, and this violation is not subject to enforcement action.

Identification and Resolution of Problems

The licensee adequately identified problems and put them into the corrective action program. The licensee adequately used risk in prioritizing the extent to which individual problems would be evaluated and in establishing schedules for implementation of corrective actions. Licensee audits and assessments were effective in identifying problems. Based on the interviews conducted during this inspection, workers at the site felt free to input safety issues into the problem identification and resolution program. Corrective actions, when specified, were generally implemented in a timely manner. With a few exceptions identified by the licensee, corrective actions to prevent recurrence of conditions adverse to quality were effective. However, one example of untimely and ineffective corrective action, involving testing of emergency diesel generator relays, is discussed as a noncited violation (Section 40A2).

Cornerstone: Mitigating Systems

Green. The licensee repeatedly failed to enter Technical Specification 3.8.1, Action B.1, while performing Technical Specifications Surveillance Requirement 3.8.1.16. Performance of Technical Specifications Surveillance Requirement 3.8.1.16 involved removal of synchronizing check relays for calibration, which rendered the emergency diesel generators incapable of being synchronized with offsite power sources as required by Technical Specifications Surveillance Requirement 3.8.1.16. The failure to enter Technical Specification 3.8.1, Action B.1, which involved verifying correct breaker alignment and indicated power availability for each required offsite circuit, was first identified by the licensee on August 8, 2000. On December 13, 2000, the licensee identified that this surveillance had been performed six times since August 2000 without performing the required actions. These subsequent events were a result of ineffective corrective action to prevent recurrence and failure to complete a timely root cause analysis for the August 2000 event. This violation of

Criterion XVI of 10 CFR Part 50, Appendix B, is being treated as a noncited violation consistent with Section VI.A.1 of the NRC Enforcement Policy and was entered into the licensee ' s corrective action program as Callaway Action Request 00-3135.

This noncited violation was characterized as having very low safety significance through the use of the significance determination process. This was because that although the capability to synchronize the emergency diesel generators with offsite power was defeated by removal of the synchronization check relays, they would have properly started and provided power to safety-related electrical loads during a loss-of-offsite power event. Also, the licensee determined that none of the times for which the emergency diesel generators were inoperable exceeded the completion time of 1 hour allowed by Technical Specification 3.8.1, Action B.1 (Section 4OA2.3).

Report Details

1R02 Evaluation of Changes

a. Inspection Scope

In following up on a flow induced vibration issue related to the essential service water system, the team reviewed an evaluation performed pursuant to 10 CFR 50.59 for reducing essential service water flow to the containment coolers.

b. Issues and Findings

The team noted that licensee personnel reduced essential service water flow to the containment coolers from 4,000 to 2,000 gpm in September 2000. The licensee reduced containment cooler flow as part of planned corrective actions to mitigate essential service water system flow induced vibration in the coolers.

Technical specification surveillance requirements originally established the 4,000 gpm minimum containment cooler flow requirement. However, when the improved technical specifications were implemented in April 2000, this 4,000 gpm value was changed from a technical specification surveillance requirement to a technical specification basis value. Subsequent to the issuance of the improved technical specifications, the licensee changed the containment cooler flow value specified in the bases to Technical Specification 3.6.6, from 4,000 to 2,000 gpm, without prior NRC approval. The licensee cited 10 CFR 50.59 as the regulation that allowed this change to be accomplished without prior NRC approval.

The supporting safety evaluation for this flow reduction change addressed the reduction in the margin of safety associated with the change. The licensee performed the post accident main steam line break accident containment pressure and temperature response calculation using the reduced containment cooler flow and the resultant corresponding reduction in containment cooler heat removal capacity. The licensee concluded that the effect of the reduced containment cooler flow did not result in an increase in containment pressure. However, the team noted that the licensee's new main steam line break containment response analyses changed the time for auxiliary feedwater isolation to the faulted steam generator by the operators from the 1,800 seconds specified in Section 6.2.1.4.3.3 of the Final Safety Analysis Report to 600 seconds.

The team noted that the NRC acceptance of the original main steam line break containment response analysis was based on the assumption that auxiliary feedwater flow to the faulted steam generator continued for 1,800 seconds. The licensee's analysis for the reduced containment cooler flow indicated that if 1,800 seconds had been used for auxiliary feedwater isolation, the predicted peak containment pressure would increase 1.3 psi from the 48.1 psi value, previously specified in the bases to Technical Specification 3.6.6, to 49.4 psi. Based on a containment design pressure of 60 psi, this change reduced the margin of safety from 11.9 to 10.6 psi. The licensee stated that it was not necessary to consider the additional 1.3 psi increase in containment pressure because the original Final Safety Analysis Report specified that actual termination of auxiliary feedwater flow to the affected steam generator due to

operator action is expected to occur prior to 600 seconds. Further, the licensee explained that although it had not been able to locate the documentation, the 600-second isolation time had been validated in the plant simulator. The team concluded that under the 10 CFR 50.59 rule that was in effect at the time the change was made, the reduced time for auxiliary feedwater isolation required review by the NRC prior to implementing the design change.

In the 10 CFR 50.59 rule that existed prior to March 13, 2001, it was documented that an unreviewed safety question existed if the margin of safety as defined in the basis for a technical specification was reduced. The margin of safety was the difference between the predicted peak containment pressure (48.1 psi) and the design containment pressure (60 psi). Technical Specification 3.6.6 bases stated that the main steam line break analysis showed that the highest peak containment pressure was 48.1 psi. Since the licensee's analysis of the reduction in containment cooler flow resulted in a peak containment pressure of 48.1 psi, both before and after the change, it concluded that it was in compliance with this guidance.

However, if previous NRC-approved assumptions associated with 1800-second isolation time were used, the licensee's reduction in containment cooler flow would have resulted in an increase in containment pressure of 1.3 psi, which was a reduction in the margin of safety specified in the bases. Therefore, the licensee's actions were contrary to the requirements of 10 CFR 50.59 (a)(2)(iii).

Under the recently approved 10 CFR 50.59 rule and NEI 96-07, Revision 1, "Guidelines for 10 CFR 50.59 Implementation," prior NRC approval is required for changes that result in a departure from the method of evaluation described in the Final Safety Analysis Report that was used in the safety analysis. However, the guidance states in Section 3.4 that the licensee may change one or more elements of a method's evaluation provided the results are about the same.

Furthermore, Section 4.3.2 of the NEI guidance addresses those changes that are considered to be a minimal increase in the likelihood of a malfunction of a structure, system or component important to safety. Example 4 of this section states that the increase is considered to be minimal if the action is reflected in plant procedures and operator training programs, and if the licensee has demonstrated that actions can be completed in the time required. The licensee stated in the Final Safety Analysis Report that actual termination of auxiliary feedwater flow to the affected steam generator due to operator action was documented in the Final Safety Analysis Report and was expected to occur prior to 600 seconds. The licensee also stated that this 600-second response had been validated in the plant simulator and was compatible with plant procedures and operator training programs. Therefore, the licensee considered the 600-second response time to be a valid input for calculating the peak containment pressure and that prior NRC approval was not required. The team concluded that the 1.3 psi increase in containment pressure was a minimal change that is consistent with Example 4 of the NEI guidance.

The team also noted that Section 4.3.8.2 of NEI 96-07 also has provisions for a licensee to use prior NRC approval of a design change if that design change is limited to a

specific plant design. The Wolf Creek Generating Station containment coolers are of a like design to the containment coolers at the Callaway Plant. Amendment 50 to the Wolf Creek Final Safety Analysis Report approved a design change that also reduced the technical specification containment cooler flow to 2,000 gpm. Even though the supporting Wolf Creek Generating Station analysis maintained the 1,800 second auxiliary feedwater isolation time, the team concluded that the Wolf Creek Generating Station design change approval was applicable to the Callaway Plant design change.

While the licensee planned to implement the recently approved revised 10 CFR 50.59 rule on July 31, 2001, the team noted that this containment cooler flow change was performed under the 10 CFR 50.59 rule that was in effect at the time. Based on these reviews, the team concluded that the licensee's design change was contrary to the requirements of the original 10 CFR 50.59 rule. However, the team also concluded that the licensee's actions were in compliance with the revised 10 CFR 50.59 rule.

Section 8.1.3 of the NRC enforcement manual specifies that for situations that violate the previous rule requirements, but would not be violations had the evaluation been performed under the revised rule, the NRC may exercise discretion pursuant to Section VII.B.6 of the Enforcement Policy and not issue citations or document noncited violations against the previous rule. Therefore, enforcement discretion is being applied in this finding consistent with the NRC Enforcement Policy.

40A2 Problem Identification and Resolution

.1 Effectiveness of Problem Identification

a. Inspection Scope

The team reviewed items selected across the seven cornerstones of safety to determine if problems were being properly identified, characterized, and entered into the corrective action program for evaluation and resolution. Specifically, the team's review included a selection of 134 suggestion-occurrence-solution (SOS) reports that had been opened or that related to issues of regulatory noncompliance since February 1, 2000. The team also reviewed 6 licensee audit reports, 5 self-assessment reports, 1 trend report, 1 predictive performance program summary, control room logs over a 2-week period, and selected system health reports. The team compared the audit and assessment results with self-revealing and NRC-identified issues to determine the effectiveness of the audits and self-assessments.

The team evaluated the SOS reports and control room logs to determine the licensee's threshold for identifying problems and entering them into the corrective action program. Also, the licensee's efforts in establishing the scope of problems were evaluated by reviewing pertinent work requests, engineering modification packages, self-assessment results, and action plans.

The team also conducted plant walkdowns and interviewed plant personnel to identify other processes by which problems and issues could be identified.

b. Issues and Findings

The team determined that the licensee was effective at identifying problems and entering them into the corrective action program. This was evidenced by the relatively few deficiencies identified by external organizations (including the NRC) that had not been previously identified by the licensee during the review period. Licensee audits and assessments were of good depth and identified issues similar to those that were self-revealing or raised during previous NRC inspections. Also, during this inspection there were no instances identified where conditions adverse to quality were being handled outside the corrective action program.

.2 Prioritization and Evaluation of Issues

a. Inspection Scope

The team reviewed approximately 134 SOSs and supporting documentation, including an appropriate analysis of the cause of the problem, to ascertain whether the licensee's evaluation of the problems identified and considered the full extent of conditions, generic implications, common causes, and previous occurrences. In addition, the team reviewed the licensee's evaluation of selected industry experience information, including operating event reports and NRC and vendor generic notices, to assess if issues applicable to the Callaway Plant were appropriately addressed. In addition, the team also reviewed a list of 227 SOSs issued prior to February 1, to ascertain if the provisions of NRC Generic Letter 91-18, "Resolution of Degraded and Non-Conforming Conditions," and 10 CFR Part 50, Appendix B, were satisfied regarding timeliness of corrective action for those SOSs applying to degraded or nonconforming structures systems and components. The team also interviewed the supervising engineer of the corrective action group concerning the actions for 12 SOSs in this list. Specific items reviewed are listed in the Attachment to this report.

b. Issues and Findings

Based on a review of the licensee's records, the team concluded that the licensee effectively prioritized and evaluated issues. The licensee appropriately characterized and evaluated issues that were significant conditions adverse to quality. The team identified no findings related to prioritization and evaluation of issues.

.3 Effectiveness of Corrective Actions

a. Inspection Scope

The team reviewed SOSs, audits, and self-assessments to verify that corrective actions, related to the issues, were identified and implemented in a timely manner commensurate with safety, including corrective actions to address common cause or generic concerns. The team also conducted plant walkdowns and interviewed plant personnel to independently verify and assess the effectiveness of corrective actions implemented by the licensee. A listing of specific documents reviewed during the inspection is included in the Attachment to this report.

b. Issues and Findings

The team concluded that, in general, the licensee's corrective actions were effective. However, the team identified one instance in which corrective actions taken in response to an event were not sufficient to preclude occurrence of similar events.

On August 8, 2000, during periodic surveillance testing, the licensee calibrated the emergency diesel generator (EDG) synchronization check relays without declaring any affected components inoperable. These synchronizing check relays compare the Class 1E bus voltage to the source voltage during paralleling operations. During the testing, the synchronizing check relay fuses were removed, which makes the relays inoperable. Therefore, the associated offsite source breakers and the EDGs are rendered inoperable because the emergency busses cannot be paralleled with offsite power. However, as discussed below, the EDGs were still capable of starting and loading on a de-energized emergency bus. On December 13, 2000, the licensee found that these surveillances had been performed six more times since the August occurrence without declaring the affected components inoperable. The team reviewed the licensee's corrective actions for these occurrences.

Technical Specification 3.8.1, Action B.1 requires performance of Technical Specifications Surveillance Requirement 3.8.1.1 within 1 hour and once per 8 hours thereafter with 1 EDG inoperable. Technical Specification Surveillance Requirement 3.8.1.1 involves verifying correct breaker alignment and indicated power availability for each required offsite circuit. The licensee did not perform Technical Specifications Surveillance Requirement 3.8.1.1 on several occasions and determined that in the preceding 3-year time frame, the longest amount of time these components were inoperable during surveillance testing was 42 minutes. Because the licensee had 1 hour to perform surveillances of the offsite circuits in each instance, these occurrences did not result in a condition prohibited by technical specifications. Further, the EDGs under accident conditions would have started and successfully carried the required electrical loads with the relays out-of-service. However, Technical Specification Action Statement 3.8.1 should still have been entered for the inoperability of the synchronization check relays. This is because with the relays inoperable, control room operators would not have been able to synchronize the EDG with the offsite source while the EDG was loaded with emergency loads and transfer the electrical loads back to the offsite source. This function is verified by Technical Specification Surveillance Requirement 3.8.1.16.

The team reviewed the action requests associated with these events (SOSs 00-1964 and 00-3135). The team determined that the licensee's response to the August 2000 event (corrective action and formal root cause analysis) had failed to prevent recurrence. This was confirmed by the licensee root cause determination for the December 2000 event.

Criterion XVI of 10 CFR Part 50, Appendix B, requires, in part, that in the case of significant conditions adverse to quality, measures taken shall assure corrective action taken will preclude repetition. The ineffective corrective action to prevent recurrence and untimely root cause analysis resulted in the synchronizing check relays being removed from service on several occasions without declaring associated equipment inoperable. This violation is being treated as a noncited violation consistent with Section VI.A.1 of the NRC Enforcement Policy (50-483/0104-01). This violation was entered into the licensee's corrective action program as Callaway Action Request 00-3135.

This noncited violation had a credible impact on safety due to its effect on mitigating systems and, if left uncorrected, would become a more significant concern. However, it was characterized as having very low safety significance through the use of the significance determination process. This was because although associated equipment was rendered inoperable for some functions by the surveillances, the EDGs would have properly started and provided power to emergency loads during a loss-of-offsite power event. Also, the licensee determined that none of the times for which the emergency diesel generators were inoperable exceeded the completion time of 1 hour allowed by Technical Specification 3.8.1, Action B.1.

.4 Assessment of Safety Conscious Work Environment

a. Inspection Scope

The team interviewed approximately 35 individuals from the licensee's staff, which represented a cross-section of functional organizations and supervisory and non-supervisory personnel. These interviews assessed whether conditions existed that would challenge the establishment of a safety conscious work environment.

b. Issues and Findings

Based on interviews, the team identified no findings related to the safety conscious work environment. The team concluded, based on information collected from these interviews, that employees were willing to identify issues and accepted the responsibility to proactively identify and enter safety issues into the corrective action program.

4OA3 Event Follow-up

(Closed) Licensee Event Report 50-483/00-05: Inadequate Technical Specification Bases Results In Technical Specification Surveillance Not Being Performed on BNHV8812A/B Since Plant Start-Up. This event was discussed in NRC Inspection Report 50-483/00-14 and the subject of Unresolved Item 50-483/0014-03. No new issues were revealed by the licensee event report and review. Enforcement considerations will be addressed during followup on the unresolved item.

(Closed) Licensee Event Report 483/99-05-00, 01, 02: Operating Conditions Exceeding Previously Analyzed Values Results in Inoperability of Both Offsite Sources. This event was documented in NRC Special Inspection Report 50-483/99-15. During this

inspection, the team reviewed Attachment 2 to the Division Action Plan the licensee developed to document the corrective actions and found actions completed or in the process of being accomplished. The team found the plan to be a living document and the licensee continued to add information to the plan for tracking, e.g., they planned to add transformers with automatic tap changers the next outage and this issue was on the action plan as an open item. The team reviewed the procedures used to monitor the switchyard voltages, e.g., the new annunciator procedures and operating procedures, and found them to be appropriate. A "Category 8" computer alarm used by the Energy Services Operation (ESO) [the licensee's dispatcher] can predict grid voltage changes when the Callaway Plant is offline. Though this alarm is not new (it existed before the August event), it has been placed in a special alarm grouping so that it is not masked by other alarms. Actions for the ESO to take because of this alarm were placed in a procedure. Since the Category 8 alarm only is annunciated at the ESO location (in St. Louis), by procedure the ESO is required to contact Callaway if the alarm annunciates to warn the plant that a degraded grid voltage may occur if the Callaway plant was to go offline. The licensee also modified the control room annunciators to provide earlier notification to the operators if grid voltage problems occur, and installed capacitor banks on the 4160 volt lines to the Class 1E safety busses to improve the voltage control on these busses. In addition, Procedures OSP-NB-00001 and OSP-NE-00003 were revised to assure proper grid voltages are verified on a periodic frequency. Through discussions with the licensee, the team determined that training for ESO personnel was conducted, however, no formal documentation of this training existed. This event was caused by a fault in a line owned by another utility that was not under the licensee's control. Attachment 2 to the Division Action Plan listed the corrective actions that were to be taken by this utility (SHO-ME Cooperative). The team reviewed the progress of the SHO-ME Cooperative activities. The team found that SHO-ME Cooperative and Associated Electric Cooperative Incorporated (AECI) have installed backup protective relaying and implemented a policy to perform protective relay trip checks twice annually on all breaker line protection. However, since the utility is not under the licensee's control, no documentation of these actions was available. As the result of this event, a noncited violation of Technical Specification 6.8.1 was identified. This violation was documented in NRC Inspection Report 50-483/99-15. No further violations were identified. This licensee event report is closed.

4OA6 Meetings

a. Exit Meeting

The team debriefed Mr. R. Affolter, Vice President, Nuclear, and other members of the licensee's staff, on the preliminary inspection findings at the conclusion of the onsite inspection on March 2, 2001.

The team leader asked the licensee's management whether any materials examined during the inspection should be considered proprietary. The proprietary information identified was returned and the contents are not described in this report.

A telephonic exit meeting was held on March 16, 2001, with Mr. M. Taylor, Manager, Nuclear Engineering, and other licensee staff members during which the team leader characterized the results of the inspection and the in-office review following the team's departure from the site. The licensee's management acknowledged the findings presented and articulated its understanding of the facts.

The team leader further updated Mr. K. Schoolcraft, Senior Engineer, on the characterization of certain issues on April 11, 2001.

ATTACHMENT

PARTIAL LIST OF PERSONS CONTACTED

Licensee

R. Affolter, Vice President Nuclear
T. Antweiler, Maintenance Rule Administrator
R. Ballinger, Electrician
S. Crawford, Radiation/Chemistry Supervisor, Emergency Preparedness Department
J. Cunningham, Human Performance Supervisor
J. Davis, Senior Engineer
J. Dowling, Acting Superintendent, Electrical Work Control
M. Evans, Superintendent, Protective Services
D. Fuller, System Engineer
D. Griffith, Shift Engineer
M. Haag, Senior Engineer
D. Heinlein, Supervising Engineer, System Engineering
E. Henson, Quality Assurance/Instrumentation and Control Supervisor
J. Hiller, Engineer, Quality Assurance Regulatory Support
D. Hollabaugh, Superintendent Design Engineering
T. Hooper, System Engineer, Electrical Portion of Diesel Generator Controls
M. Hudson, Quality Assurance Engineer, Corrective Action Group
W. Hughes, Supervising engineer, System Protection Group, AMEREN Services
G. Hughes, Supervising Engineer, Nuclear Safety
L. Kanuckel, Supervising Engineer, Nuclear Systems
J. Laux, Manager, Quality Assurance
W. McKenzie, General Supervisor, Work Control Scheduling
K. Mills, Nuclear Accident Analysis Enginee
J. Moore, Mechanic
T. Moser, Superintendent Nuclear Engineering Systems
R. Myatt, Supervisor
P. Neiberger, SIC
G. Nevels, Rad/Chem Supervisor Training Department
B. Reed, Nuclear Engineer Mechanical Systems
G. Roesner, Senior Nuclear Engineer Mechanical Systems
R. Roselius, Superintendent, Radiation Protection and Chemistry
J. Schnack, Supervising Engineer, Quality Assurance Corrective Action
K. Schoolcraft, Senior Engineer, Quality Assurance Regulatory Support
P. Shannon, Operating Supervisor
C. Slizewski, Supervising Engineer, Quality Assurance
F. Stuckey, Training Supervisor, Health Physics
M. Taylor, Manager, Nuclear Engineering
E. Thornton, Engineering Evaluator, Quality Assurance
D. Weller, Supervising Engineer, Electrical Design
M. West, Supervisor

ITEMS CLOSED

Closed

50-483/2000-005-00	LER	Technical Specification Bases Inadequate Results In Technical Specificatio Surveillance Not Being Performed on BNHV8812A/B Since Plant Start-Up (Section 4OA3a)
483/1999-05-00,01,02	LER	Operating Conditions Exceeding Previously Analyzed Values Results in Inoperability of Both Offsite Sources (Section 4OAb)

DOCUMENTS REVIEWED

Suggestion-Occurrence-Solution (SOS) Reports

00-0052	00-0636	00-1426	00-01710	00-2050	00-2396	00-3185
00-0061	00-0679	00-1473	00-1761	00-2050	00-2440	01-0095
00-0108	00-0705	00-1490	00-1781	00-2050	00-2462	01-0364
00-0133	00-0725	00-1545	00-1783	00-2050	00-2506	01-0489
00-0241	00-0779	00-1545	00-1788	00-2052	00-2546	2000-06
00-0243	00-0779	00-1548	00-1796	00-2054	00-2551	99-0087
00-0255	00-0786	00-1548	00-1801	00-2058	00-2555	99-0089
00-0286	00-0805	00-1548	00-1802	00-2066	00-2564	99-1392
00-0292	00-0833	00-1548	00-1813	00-2070	00-2566	99-1988
00-0320	00-0833	00-1551	00-1817	00-2107	00-2637	99-2042
00-0342	00-0839	00-1597	00-1846	00-2121	00-2675	99-2042
00-0441	00-0873	00-1599	00-1868	00-2121	00-2681	99-2953
00-0450	00-0878	00-1601	00-1892	00-2162	00-2821	99-2953
00-0462	00-1186	00-1602	00-1964	00-2222	00-3021	99-3305
00-0474	00-1214	00-1603	00-1964	00-2236	00-3106	99-3305
00-0501	00-1314	00-1603	00-1971	00-2253	00-3135	99-3521
00-0502	00-1411	00-1619	00-2006	00-2303	00-3135	99-3563
00-0517	00-1416	00-1621	00-2029	00-2365	00-3140	99-3683
00-0517	00-1420	00-1688	00-2031	00-2365	00-3145	
00-0529	00-1425					

Work Requests/Work Action Documents

A619277B	R619277A	W207427	W207441
C653590	R653590A	W207432	

Licensee Event Reports

50-483/00-007-00 50-483/01-001-00

Procedures

Procedure	Title	Revision
GDP-ZZ-01690	Administration of Suggestion, Occurrence, Solution (SOS) Corrective Action Program	0
APA-ZZ-0050	Corrective Action Program	030
OSP-NE-00003	Technical Specifications - A.C. Resources	006
OSP-NB-00001	Class 1E Electrical Source Verification	017
OTA-RL-RK134	Windows 134A Through 134F	010
OTA-RL-RK019	Windows 19A Through 19F	007
OTA-RL-RK022	Windows 22A Through 22F	008
OTN-NB-0001A	4.16 KV Vital (Class 1E) Electrical System - A Train	004
OTN-NB-0001B	4.16 KV Vital (Class 1E) Electrical System - B Train	004
APA-ZZ-00500	Corrective Action Program	031
EDP-ZZ-01128	Maintenance Rule and EPIX Programs	002
EDP-ZZ-01131	System Health Program	001
APA-ZZ-0010	Conduct of Operations	016
ETP-EF-002A	Essential Service Water Train Flow Verification	004
APA-ZZ-00303	Classification of Systems	005

Audit Reports

AP00-02, "Quality Assurance of Radiation Protection," February 18, 2000
AP00-03, "Quality Assurance Audit of Fire Protection," May 18, 2000
AP00-005, "Quality Assurance Audit of Corrective Action," July 17, 2000
AP00-008, "Fourth Quarter 2000 Quality Assurance Executive Summary," January 11, 2001
AP00-009, "Quality Assurance Audit of Improbed Technical Specifications," January, 17, 2001
AP00-002, "Assess the Effectiveness of Corrective Actions Planned or Taken for Radiation Protection Program Deficiencies Identified as SOS Occurrences in the 1999 Audit"

Self-Assessment Reports

SA00-AA-006, "Self-Assessment of the Unescorted Access Denial Program," December 8, 2000

SA00-EP-001, "Self-Assessment of Accountability Process," May 12, 2000

SA00-HP-001, "ALARA Work Planning/Support and Radiation Worker Knowledge Self-Assessment," June 16, 2000

SA00-IC-001, "I&C Department Self-Assessment," August 4, 2000

SA00-NE-002, "Callaway & Wolf Creek Self-Assessment of Control Room Habitability May 1-5, 2000"

Miscellaneous

"Quality Assurance Department Semiannual Trend Analysis Report January-June 2000," October 10, 2000

NET 00-145, "Callaway Plant 3rd Quarter 2000 Predictive Performance Program Summary," October 9, 2000

Raw Water Steering Committee Meeting Minutes, March 6, 2000

Review of ECCS Pump Miniflow Design Response to EAI 87-C62

Division Action Plan 99-106, "Improved ESQ," January 4, 2001

Response to Generic Letter 89-13, Service Water Problems, January 29, 1990

UOTCR 00-055, Cycle 10 Raw Water Report, August 25, 2000

"Strategic Corrective Action Committee Meeting Minutes," December 7, 2000

"ERAD Meeting Material for Meeting Held on February 23, 2001," February 21, 2001

E6, "Nuclear Division Strategy: Corrective Action Program Initiatives," February 27, 2001

M-22AL01(Q), "Piping & Instrumentation Diagram Auxiliary Feedwater System," Revision 17

Part 21 Report for Eaton Cutler-Hammer DS-206 Circuit Breakers

"Control Rom Logs," February 4-17, 2001

“Energy Supply Operations (ESO) ‘Green Book’ ESO Callaway Switchyard Voltage Requirements,” which included the following documents:

- “Support of Callaway Switchyard Voltage,” June 14, 2000
- PJN991217, Callaway Switchyard Voltage Action Plan
- Transmission Provider Agreement, June 19, 2000

W205187, Replace switch on Diesel Generator “B” governor control, completed February 29, 2000

Condition Tag 811838, Calibrate relay NE106125DG per MPE-ZZ-QY008

Condition Tag 811852, Calibrate relay NE107125DG oer NOE-ZZ-QY008

Root Cause Analyses

- OQC 00-040, “Root Cause Analyses SOS 99-2042 - Adverse Trend of Recurring Problems,” June 9, 2000
- OQC 00-099, “Infestation of Asiatic Clams Causes Blockage in RHR Room Cooler Degrading Flow to Inoperable Limits”
- OQC 00-036, “Root Cause Analysis for SOS 00-0322 (Reactor trip initiated by reactor coolant pump trip resulting from phase imbalance condition created by transmission system distrubance),” May 23, 2000
- OQC 00-028, “Root Cause Analysis for SOS 2000-0636 - ‘A’ Service Water Pump Trip,” April 25, 2000
- OQC 00-077, “Root Cause Analysis for SOS 2000-0705 - Potential Adverse Trend of Work Not Being Completed Prior to Releasing WPA,” February 8, 2001
- OQC 01-006, “Root Cause Analysis for SOS 2000-1964 - Synch Check Relay Maintenance Performed Without Impacted Equipment Declared Operable,” January 29, 2001
- OQC 01-014, “Root Cause Analysis for SOS 2000-3135 - EDG Synch Check Relays,” February 22, 2001

INITIAL MATERIAL REQUESTED

INFORMATION REQUEST 1 - CALLAWAY PIR INSPECTION 2/2001

NOTE: It is requested that the following materials be provided to Howard Bundy in the Region IV office by January 22, 2001.

- Current revisions of the following procedures: APA-ZZ-00310; APA-ZZ-00320; APA-ZZ-00500; APA-ZZ-00604; EDO-ZZ-01128; GDP-ZZ-00220; GDP-ZZ-01630; GDP-ZZ-

01690; GDP-ZZ-01810; WDP-ZZ-00022' OPD-ZZ-00008; APA-ZZ-00010' ODP-ZZ-00001; APA-ZZ-00925

- Any new procedures issued since January 1, 2000, which directly relate to the corrective action program, deficiency reporting and resolution, root cause evaluation/determination, operator work-arounds, work requests, engineering requests, temporary modifications, procedure change requests, training needs request/evaluation
- A listing and index of all corrective action documents issued since February 1, 2000, sorted by department and chronologically
- A listing of all corrective actions initiated prior to February 1, 2000, which remain open
- Copies of all SOSs relating to significant conditions adverse to quality
- A list of all root cause analyses completed or in progress since February 1, 2000
- Copies of all audit and assessment reports issued since February 1, 2000
- Copies of all trend reports and other metrics related to corrective action issued since February 1, 2000
- Predictive Performance Program Summaries issued since February 1, 2000
- Raw Water Steering Committee minutes and reports issued since February 1, 2000
- Action plans and items associated with the degraded switchyard voltage event of August 1999
- System health reports for safety related systems issued since February 1, 2000
- A listing of plant safety issues identified through the employee concerns program since February 1, 2000
- Listings of action items generated by the safety review committees since 2/1/00

INFORMATION REQUEST 2 - CALLAWAY PIR INSPECTION 2/2001

NOTE: It is requested that the following materials be provided to Howard Bundy in the Region IV office by February 12, 2001.

- Root Cause Analyses 00-2222, 00-2450, 00-705, 00-1314, 99-2042, 00-0322, 00-0636
- SOSs 99-1636, 00-0107, 99-2704, 99-2953, 00-0462, 00-1548, 00-0108, 00-0385, 00-0906, 00-1130, 00-2050, 00-0779, 00-0874, 00-3155

- Copies of any documents you may have initiated in response to Part 21 Report 00-19-0, regarding Eaton Cutler-Hammer notification relating to inadvertent trip of Westinghouse circuit breakers
- Copies of any documents you may have initiated with regard to NRC Information Notices 00-08, 00-10, 00-13, 00-14, 00-15, 00-17, 00-20, and 95-03, Supplement 2

INFORMATION REQUEST 3 - CALLAWAY PIR INSPECTION 2/2001

NOTE: It is requested that the following materials be provided to Howard Bundy in the Region IV office by February 26, 2001.

Howard Bundy

- SOSs 00-1602, 00-1601, 00-1619, 00-1545, 00-1603, 00-2121, 00-2365
- EDP-ZZ-01131

Ray Azua

<u>Work Documents</u>	<u>SOS Documents</u>
W207441	00-2031
W207432	00-2006
W207427	00-1548
W208096	00-0833
A619277B	00-1802
R619277A	99-3305
C653590	00-1964
R653590A	00-2050
	00-0878
	99-1392

Performance Indicators

List of SSCs
PI data on Safety System Unavailability

Maintenance Rule

List of Systems, Trains, and components that are in (a)(1)
Functional Basis for Containment Spray, AFW System and Emergency Diesel Generators

Specific SOS Related Documentation

SOS 00-2058: Need to review QACP results which were due on 2/9/01.
SOS 00-2054: Need appendix I to APA-ZZ-00303
SOS 00-3185: Troubleshooting Results

Michael Peck

- 1) Last ESW Flow Balance Surveillance
- 2) Need copy of SOS 98-3967, (Used to track clouser of SOS 00-1548, High ESW flow vibration
- 3) Response to GL 89-13 (& Supplements)
- 4) CCW/ESW Hx monitoring program. Last CCW Hx thermal performance test data.
- 5) SOS 99-3563
- 6) SOS 00-0779
- 7) SOS 00-0805
- 8) Response/evaluation to IN 00-10, IN 00-17, & IN 00-20

John Hanna

- SOS 00-0108 associated with **Error in emergency action levels not corrected for 22 months**
- Associated SOS or other documentation addressing the issue regarding **Safe plant operation & minimizing NOED requests during severe weather** (see RIS-15)
- SOS 99-3683 and 00-0052 associated with **Emergency response personnel not notified timely that his qualification was expiring**; also the formal root cause analysis associated with SOS 00-2396