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

August 3, 2000

EA-00-174

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

SUBJECT: CALLAWAY PLANT -- NRC INSPECTION REPORT NO. 50-483/00-11

Dear Mr. Randolph:

This refers to the inspection conducted on May 21 through July 8, 2000, at the Callaway Plant. The enclosed report presents the results of this inspection which were discussed with you and other members of your staff on May 25, June 9, and July 7, 2000.

This inspection was an examination of activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. Within these areas, the inspection consisted of a 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 two issues that were evaluated under the significance determination process as having very low safety significance (Green) and which were violations. In addition, the NRC has determined that one Severity Level IV violation occurred (EA-00-174). These violations are being treated as noncited violations (NCVs), consistent with Section VI.A of the Enforcement Policy. The NCVs are described in the subject inspection report. If you contest the violations or significance of the NCVs, 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, Region IV; the Director, Office of Enforcement, U.S, Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Resident Inspector at the Callaway Plant.

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).

Should you have any questions concerning this inspection, we will be pleased to discuss them with you.

Sincerely,

***/RA/***

William D. Johnson, Chief
Project Branch B
Division of Reactor Projects

Docket No.: 50-483
License No.: NPF-30

Enclosure:
NRC Inspection Report No.
50-483/00-11

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**ENCLOSURE**

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

| | |
|---|---|
| Docket No.: | 50-483 |
| License No.: | NPF-30 |
| Report No.: | 50-483/00-11 |
| Licensee: | Union Electric Company |
| Facility: | Callaway Plant |
| Location: | Junction Highway CC and Highway O<br>Fulton, Missouri |
| Dates: | May 21 through July 8, 2000 |
| Inspectors: | V. G. Gaddy, Senior Resident Inspector<br>J. D. Hanna, Resident Inspector<br>P. J. Elkmann, Emergency Preparedness Inspector<br>J. B. Nicholas, Ph.D., Senior Health Physicist |
| Approved By: | W. D. Johnson, Chief, Project Branch B<br>Division of Reactor Projects |

ATTACHMENTS: Attachment 1: Supplemental Information
Attachment 2: NRC's Revised Reactor Oversight Process

SUMMARY OF FINDINGS

Callaway Nuclear Plant
NRC Inspection Report 50-483/00-11

The report covers a 7-week period of resident inspection, a region based health physics inspection, and the resolution of an unresolved item opened during an emergency preparedness inspection conducted January 10-14, 2000. The significance of issues is indicated by their color (green, white, yellow, or red) and was determined by the significance determination process in Inspection Manual Chapter 0609.

**Cornerstone: Miscellaneous**

- No color. Certain cognizant licensee personnel were not aware that a condenser air radiation gas detector was within the scope of the maintenance rule. The detector was identified in the emergency operating procedure to provide an indication of a steam generator tube rupture. Since licensee personnel were not aware the detector was within the scope of the maintenance rule, functional failure determinations had not been performed on detector failures. Without functional failure determinations, the licensee could not demonstrate that the detector was being effectively controlled through preventive maintenance, as required by the maintenance rule. This was a Severity Level IV violation of 10 CFR 50.65(a)(1) and (2). This violation (EA-00-174) is being treated as a noncited violation consistent with Section VI.A of the NRC Enforcement Policy. This item was entered into the licensee's correction action program as Suggestion-Occurrence-Solution Report 00-1548. The licensee could still manually sample steam generator blowdown or use other indications of a steam generator tube rupture (Section 1R12.2).

**Cornerstone: Barrier Integrity**

- Green. An error in a modification package that addressed fire-induced hot short concerns resulted in an outer containment isolation valve (component cooling water return from reactor coolant pump thermal barrier heat exchanger) being inoperable for almost 2 months. The valve would not have automatically closed on a Phase B (high containment pressure) containment isolation signal. During the time the outer containment isolation valve was inoperable, the inner containment isolation valve for the same penetration was inoperable for 90 minutes. Technical Specification 3.6.3.B requires that with both containment isolation valves inoperable the penetration will be isolated within 1 hour. The licensee failed to isolate the penetration as required by Technical Specification 3.6.3.B. This violation of Technical Specification 3.6.3.B is being treated as a noncited violation consistent with Section VI.A of the NRC Enforcement Policy. This item was entered in the licensee's corrective action program as Suggestion-Occurrence-Solution Report 00-0314.

  The actual safety significance of the issue was determined to be very low (Green) because the inner containment isolation valve was inoperable for only 90 minutes. The outer valve could have been remotely closed by a reactor operator from the main control board and the inner valve was not subject to common cause failure because the hot shorts modification had not been performed on it (Section 1R17).

**Cornerstone: Emergency Preparedness**

- Green. Inspectors determined that an emergency action level had not been corrected 22 months after licensee staff identified errors in its bases. In March 1998, the licensee determined that there were errors in the calculation of effluent monitor indicators used in determining site area and general emergency classifications. This issue was tracked as Unresolved Item 50-483/00004-02. Subsequently, it was determined to be a violation of 10 CFR 50.54(q) in that the licensee failed to revise an emergency action level associated with plant instrumentation, to its most accurate known value, to ensure that corresponding protective action recommendations were appropriate for the indicated conditions. This violation is being treated as a noncited violation consistent with Section VI.A of the NRC Enforcement Policy and is in the licensee's corrective action program as Suggestion-Occurrence-Solution Report 00-0108.

  This issue was of very low safety significance because it did not represent a failure to meet risk significant planning standard 10 CFR 50.47(b)(4) regarding emergency action levels (Section 1EP4).

Report Details

Summary of Plant Status: The plant operated at essentially 100 percent power for the entire report period.

## 1. REACTOR SAFETY
**Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity**

### 1R04 Equipment Alignments (71111.04)

a. Inspection Scope

The inspectors performed a partial walkdown of essential service water Train B while Train A was out of service for maintenance. This was done to verify equipment alignment and identify any discrepancies that could impact the function of the system and therefore increase risk. The inspection included a review of component alignment designated in Normal Operating Procedure OTN-EF-00001, "Essential Service Water System," Revision 22. The inspectors also performed a partial walkdown of the control building ventilation Train B while Train A was out of service for maintenance. The inspection included a review of component alignment designated in Normal Operating Procedure OTN-GK-00001, "Control Building HVAC System," Revision 9.

b. Findings

There were no findings identified.

### 1R06 Flood Protection (71111.06)

a. Inspection Scope

The inspectors reviewed the licensee's external flood protection measures to verify that the licensee's flooding mitigation plans and equipment were consistent with design requirements and the risk analysis assumptions. Specifically, the inspectors evaluated the licensee's contingencies and susceptibilities of underground structures and the intake structure to external flooding. Since the Callaway plant is located on a plateau approximately 840 feet above mean sea level, approximately 300 feet above the maximum flood height of the Missouri River, the inspectors foclused on the intake structure and underground structures.

The inspectors reviewed the following:

- Applicable portions of the Safety Analysis Report,
- Topographical maps for the site and surrounding area, and
- Suggestion-Occurrence-Solution reports for applicable systems (e.g., intake and water treatment).

The inspectors also discussed flood protection with licensee personnel.

b. Findings

There were no findings identified.

1R07 Annual Heat Sink Performance Observation (71111.07)

a. Inspection Scope

The inspectors reviewed the results of the heat exchanger performance test of the Emergency Diesel Generator A lube oil cooler, performed on June 6, 2000. The review was performed to identify deficiencies which could mask degraded performance. Specifically, the inspectors reviewed the test data, the test acceptance criteria, and the periodicity of testing.

b. Findings

There were no findings identified.

1R12 Maintenance Rule Implementation (71111.12)

.1 Miscellaneous Components

a. Inspection Scope

The inspectors verified proper implementation of the maintenance rule to assess the effectiveness of maintenance efforts. Specifically, the inspectors verified structure and component scoping, characterization, safety significance, performance criteria, and the appropriateness of goals and corrective actions. These aspects of the maintenance rule were reviewed for the following components:

- 125 Vdc Vital Battery Charger Number 4,
- Emergency Diesel Generator A starting air Tank B supply check valve, and
- Closed Cooling Water Pump A.

b. Findings

There were no findings identified.

.2 Condenser Air Radiation Gas Detector

a. Inspection Scope

The inspectors performed followup inspection to determine why the condenser air radiation gas detector had not been adequately monitored.

b. Findings

On June 2, 2000, the inspectors reviewed Suggestion-Occurrence-Solution Reports 00-617, 00-0644, and 00-0817. These reports were dated March 21 and 23, and April 19, 2000, respectively. Each report documented either a failure or a discrepancy with condenser air radiation gas Detector GERE0092. The inspectors asked maintenance rule personnel how these failures had been classified by the maintenance rule. Maintenance rule personnel stated that the detector failures had not been classified as functional failures or maintenance preventable functional failures because the detector was not within the scope of the maintenance rule. Engineering and maintenance rule personnel believed that if the detector was within the scope of the maintenance rule it would have been included as part of the turbine building heating, ventilation, and air conditioning system.

When asked why the detector was not within the scope, maintenance rule personnel stated that during the initial scoping the detector did not meet the criteria for inclusion in the maintenance rule.

The inspectors performed an evaluation and determined that the detector was listed in Emergency Operating Procedure E-1, “Loss of Reactor or Secondary Coolant,” Revision 1B2, and Emergency Operating Procedure E-0, “Reactor Trip or Safety Injection,” Revision 1B3. Each procedure directed operators to use Detector GERE0092 represented by computer Point GEG925 on plant Computer RM-11 to check the secondary plant radiation levels. Since the detector was used by operators to determine secondary plant radiation levels (i.e., provide indication of a steam generator tube rupture) the inspectors concluded that the detector should have been within the scope of the maintenance rule.

On June 5, the inspectors reviewed Administrative Procedure APA-ZZ-00303, “Classification of Systems,” Revision 3. This procedure established the requirements and methods to be used to determine system classification and to document if a system was required to be included in the scope of the maintenance rule. The inspectors reviewed the condenser air removal system and noted that the detector was listed within the scope of the maintenance rule, and plant level performance criteria had been established. The system was within the scope because the vacuum pumps were required to operate during an accident, in accordance with the emergency operating procedures, to allow use of the steam dumps and radiation monitor on the discharge of the vacuum pump. Detector GERE0092 was located on the discharge of the vacuum pump. On June 27, the licensee concluded that the detector was also in the process radiation monitoring system and reliability performance criteria has been established. This performance criteria was less than two maintenance preventable functional failures per cycle.

The detector was included within the scope of the maintenance rule by two plant systems. However, since certain cognizant licensee personnel were not aware that Detector GERE0092 was within the scope of the rule, the licensee had not adequately monitored the detector to determine if functional failures had occurred. Sixteen

Suggestion-Occurrence-Solution reports had been written on the detector since 1997. Some of these reports documented failures of the detector. Since the licensee had not effectively monitored the detector, Suggestion-Occurrence-Solution Report 00-1548 was initiated and the detector was placed in category (a)(1) of the maintenance rule.

10 CFR 50.65(a)(2) states that monitoring as specified in 10 CFR 50.65 (a)(1) is not required where it has been demonstrated that the performance or condition of a system, structure, or component is being effectively controlled through the performance of appropriate preventive maintenance, such that the system, structure, or component remains capable of performing its intended function. The licensee failed to demonstrate that condenser air radiation gas Detector GERE0092 was being effectively controlled through the performance of appropriate preventive maintenance. Several failures had occurred that were not evaluated to determine whether additional maintenance was required to ensure the detector remained capable of performing its function. This was a violation of 10 CFR 50.65(a)(1) and (2) (50-483/00011-01). This Severity Level IV violation is being treated as a noncited violation consistent with Section VI.A of the NRC Enforcement Policy (EA-00-174). This item was entered into the licensee' corrective action program as Suggestion-Occurrence-Solution Report 00-1548.

The emergency operating procedures listed three diverse methods for determining a steam generator tube rupture. Each method required using one of the four radiation detectors listed above. However, these detectors may not have been adequately monitored by the maintenance rule program. The actual safety sigificance of this issue was very low because the licensee could still manually sample steam generator blowdown for indication of a steam generator tube rupture.

1R13 Maintenance Risk Assessments and Emergent Work Evaluation (71111.13)

a. Inspection Scope

Throughout the inspection period, the inspectors reviewed the daily and weekly schedules to determine when risk significant activities were scheduled and to verify how the licensee managed plant risk. The inspectors discussed selected activities with operations and work control personnel regarding risk evaluations and overall plant configuration control. The inspectors evaluated the effectiveness of risk assessments performed by the licensee for the weeks beginning June 5, 12, 19, and 26, 2000. Evaluations of emergent work activities performed using the probabilistic risk assessment matrix were included in these reviews.

b. Findings

There were no findings identified.

1R15 Operability Evaluations (71111.15)

a. Inspection Scope

The inspectors reviewed the licensee's operability evaluation associated with output fluctuations during routine testing of Emergency Diesel Generator A on June 7, 2000 (Suggestion-Occurrence Solution Report 00-1356). Specifically, the inspectors reviewed the technical adequacy of the evaluation to ensure that operability was properly justified and the system remained available, such that no unrecognized increase in risk occurred.

b. Findings

There were no findings identified.

1R17 Permanent Plant Modifications (71111.17)

a. Inspection Scope

The inspectors performed an evaluation to determine why Valve EGHV0061 (component cooling water supply to the reactor coolant pump thermal barrier heat exchanger) would not close on a containment isolation signal. The valve was made inoperable during a plant modification. The inspectors reviewed the Suggestion-Occurrence-Solution report that documented the valve failure and performed a review of the applicable portions of the modification package. During these reviews, the inspector evaluated the design bases, licensing bases, and performance capability of the valve to determine why they were degraded and the actions taken by licensee personnel to return the valve to an operable status.

b. Findings

At 4:15 a.m., on June 2, 2000, maintenance personnel attempted to perform Surveillance Procedure ISF-SB-0A30A, "Fctnal-Anal; SGTC Train A Fctnal Test," Revision 16, to test the Train A Phase A slave Relay K624, Phase B slave Relay K626, and safety injection slave Relays K743, K711, and K604. An initial condition of the test was that solid state protection system Light 26 be illuminated. Light 26 was not illuminated.

Engineering personnel were contacted at approximately 5:30 a.m. and they performed an evaluation to determine why Light 26 was not illuminated. Engineering personnel determined that, with the light not illuminated, Valve EGHV0061 was not operable and informed the control room. Valve EGHV0061 was also the outer containment isolation valve for containment Penetration 76.

At 8 a.m., as required by Technical Specification 3.6.3.A, the shift supervisor declared Valve EGHV0061 inoperable as of 4:15 a.m., closed the valve, and removed power to the valve.

The licensee determined that Valve EGHV0061 was modified using Callaway Modification Package 98-1020 on April 6, 2000. The licensee reviewed the modification package and found that a connection between a terminal block at the motor control center for the valve and solid state protection system Cabinet SB030A was not made and was not addressed by the modification package. This prevented solid state protection system Light 26 from being illuminated. Failure to make the connection rendered Valve EGHV0061 inoperable because it would not have closed on a Phase B containment isolation signal. Since the valve had been inoperable from April 6 to June 2, 2000, the licensee made a 1-hour report to the NRC in accordance with 10 CFR 50.72 (b)(1)(ii) at 10:57 a.m., on June 2, 2000. On June 30, 2000, the licensee reported this issue to the NRC in Licensee Event Report 2000-004-00.

Callaway Modification Package 98-1020 implemented the hot shorts modification to 73 plant valves. The modification had been performed on 32 valves. The licensee reviewed the remaining 31 valves and did not identify any other discrepancies. Testing for Valve EGHV0061 was different than testing for the other valves because it required a termination point change for valve verification, whereas, a termination point change was not required for the other valves.

The licensee determined that on April 28, 2000, the inner containment isolation valve (EGHV0062) had been inoperable for 90 minutes during functional testing. Technical Specification 3.6.3.B required that, with both containment isolation valves inoperable, the penetration be isolated within 1 hour. The licensee failed to isolate the penetration within the specified time requirement. Failing to isolate the penetration was a violation of Technical Specification 3.6.3.B (50-483/00011-02). This violation is being treated as a noncited violation consistent with Section VI.A of the NRC Enforcement Policy. This item is in the licensee's corrective action program as Suggestion-Occurrence-Report 00-0314.

As corrective action, the licensee initiated work orders to correct the circuitry wiring and performed an adequate postmaintenance test. Following the retest, the valve was declared operable.

The inspectors discussed this issue with a senior reactor analyst who evaluated the valve inoperability using a Phase 3 analysis in accordance with the significance determination process. The actual safety significance of the issue was determined to be very low (Green) because the inner containment isolation valve (Valve EGHV0062) remained operable, except for a 90-minute period of testing. Valve EGHV0062 was not subject to common-cause failure because the hot shorts modification had not been performed on it. Valve EGHV0061 could have been closed by an operator in the control room if necessary.

1R19 Postmaintenance Testing (71111.19)

a. Inspection Scope

The inspectors observed or evaluated the following postmaintenance tests to determine whether they were adequate to verify system operability and functional capabilities:

- Work Documents R657017A and R657017B, operability verification for Valve EGHV0061,
- Capacitor bank modification testing,
- Surveillance Procedures ETP-EF-0002A, “ESW Train ‘A’ Flow Verification,” Revision 3, and OSP-NE-0001A, “Standby Diesel Generator ‘A’ Periodic Tests,” Revision 6, and
- Work Document R208626B, partial MOVATS testing of Valve EFHV0025 (service water to essential service water Train A downstream).

b. Findings

There were no findings identified.

1R22 Surveillance Testing (71111.22)

a. Inspection Scope

The inspectors observed or reviewed the following surveillance tests to ensure the systems tested were capable of performing their safety function and to assess their operational readiness. Specifically, the inspectors verified that the following surveillance tests met Technical Specification, Final Safety Analysis Report, and licensee procedural requirements:

- Surveillance Procedure OSP-EM-P001A, “Section XI Safety Injection Train A Operability,” Revision 23,
- Surveillance Procedure OSP-NE-0001B, “Standby Diesel Generator B Periodic Tests,” Revision 7, and
- Surveillance Procedure ETP-EF-0002A, “ESW Train ‘A’ Flow Verification,” Revision 3.

b. Findings

There were no findings identified.

1R23 Temporary Plant Modifications (71111.23)

a. Inspection Scope

The inspectors reviewed Temporary Modification 00-0008 to verify it did not affect the function of the main turbine generator. The temporary modification was installed to allow venting of the service water side of main turbine generator Hydrogen Cooler A. The licensee installed a vent valve on the inlet side of the hydrogen cooler and tubing to the vent piping.

b. Findings

There were no findings identified.

**Cornerstone: Emergency Preparedness**

1EP4 Emergency Action Level and Emergency Plan Changes (71114.04)

a. Inspection Scope

Unresolved Item 50-483/00004-02 regarding the maintenance of licensee emergency action levels was opened following an inspection of the operational status of the licensee's emergency preparedness program conducted January 10-14, 2000 (see NRC Inspection Report 50-483/00-04).

b. Findings

The licensee's emergency preparedness staff identified errors in a calculation of site area and general emergency classification indicators for Effluent Monitor RE-21B. Calculational Index EPCI 98-01, approved March 1998, corrected the calculation. The correction would have raised the indicator value so that an emergency classification would occur at a somewhat higher monitor value than was previously required. The licensee's plant operations review committee did not approve this correction and the emergency action level was not revised. During the emergency preparedness program inspection, the plant manager stated that the operations review committee did not approve the change to the response indicator for Effluent Monitor RE-21B because raising the monitor indicator would constitute a decrease in effectiveness of the emergency plan.

Title 10 CFR 50.54(q) requires, in part, that licensees follow and maintain in effect emergency plans that meet the standards in 10 CFR 50.47(b) and the requirements of 10 CFR Part 50, Appendix E. Appendix E, Sections IV.B and IV.C, require, in part, that licensees describe the emergency action levels that will be used to determine the need for the notification and participation of local and state agencies. These sections also require that emergency action levels be based in part on plant conditions and instrumentation. The NRC completed its review of this issue and determined that a violation of 10 CFR 50.54(q) occurred when the licensee failed to revise an emergency

action level associated with plant instrumentation to its most accurate known value to ensure that corresponding protective action recommendations were appropriate for the indicated conditions.

This violation is being treated as a noncited violation (50-483/00011-03), consistent with Section VI.A.1 of the NRC Enforcement Policy. This noncited violation was determined to have very low safety significance (Green) because, although it was a failure to meet a regulatory requirement, it did not represent a failure to continue to meet risk-significant planning standard 10 CFR Part 50.47(b)(4) regarding emergency action levels. The licensee entered the issue into its corrective action program as Suggestion-Occurrence-Solution Report 00-0108.

## 2. RADIATION SAFETY
## Cornerstone: Occupational Radiation Safety

2OS3 Radiological Monitoring Instrumentation (71121.03)

a. Inspection Scope

The inspectors interviewed licensee personnel and reviewed the following items:

- Calibration and source response check documentation, operability, and alarm setpoints, when applicable, of portable radiation detection instrumentation, temporary area radiation monitors, continuous air monitors, whole-body counting instrumentation, personnel contamination monitors, and radiation monitor instrumentation not included in the maintenance rule program

- Radiation protection technician instrument selection and self-verification of instrument operability prior to use

- The status and surveillance records of self-contained breathing apparatus staged and ready for use in the plant

- The licensee's capability for refilling and transporting self-contained breathing apparatus air bottles to and from the control room and operations support center during emergency conditions

- Control room operator and emergency response personnel training and qualifications for use of self-contained breathing apparatus

- Licensee self-assessments and audits, focusing on radiological incidents that involved personnel internal exposures

- Selected exposure significant radiological incidents that involved radiation monitoring instrument deficiencies since the last inspection in this area

b. Findings

There were no findings identified.

## 4. OTHER ACTIVITIES

4OA3 Other

(Closed) Licensee Event Report 483/00-004-00: Design Error Resulted in Containment Isolation Valve Inoperability in Excess of Technical Specification Limitations. This event involved the noncited violation (483/00011-02) which was addressed in Section 1R17 of this report. No new issues were revealed by the licensee event report.

4OA6 Management Meetings

Exit Meeting Summary

The emergency preparedness inspector presented the inspection results to Mr. Michael Evans, Superintendent, Protective Services, and other members of licensee management during a telephone exit interview on May 25, 2000. The licensee acknowledged the findings presented.

The health physics inspector presented the inspection results to Mr. Garry Randolph, Vice President and Chief Nuclear Officer, and other members of licensee management at an exit meeting on June 9, 2000. The licensee acknowledged the findings presented.

The resident inspectors presented the inspection results to Mr. Garry Randolph, Vice President and Chief Nuclear Officer, and other members of licensee management at an exit meeting on July 7, 2000. The licensee acknowledged the findings presented.

No proprietary information was identified.

ATTACHMENT 1

SUPPLEMENTAL INFORMATION

PARTIAL LIST OF PERSONS CONTACTED

Licensee

T. Antweiler, Construction Supervisor, Nuclear Engineering
R. Affolter, Plant Manager
M. Evans, Superintendent, Protective Services
R. Farnam, Supervisor, Health Physics Operations
C. Graham, Supervisor, Health Physics Technical Support
P. Heiberger, Superintendent, Instrument and Controls
D. Heinlein, Supervisor, Nuclear Engineering
J. Hiller, Engineer, Quality Assurance Regulatory Support
J. Hogg, Supervisor, Maintenance Rule/Valve Program
L. Kanuckel, Supervisor, Nuclear Engineering Systems, Balance of Plant
J. Kerrigan, Senior Health Physicist, Health Physics Technical Support
A. King, Supervisor, Health Physics Technical Support
J. Kovar, Engineer, Quality Assurance
J. Laux, Manager, Quality Assurance
T. Moser, Superintendent, Systems Engineering
G. Randolph, Vice President and Chief Nuclear Officer
M. Reidmeyer, Supervisor, Regional Regulatory Affairs
R. Roselius, Superintendent, Radiation Protection and Chemistry
K. Schoolcraft, Sr. Engineer, Quality Assurance Regulatory Support
B. Sprock, Engineer, Nuclear Engineering Systems Balance of Plant
M. Taylor, Manager, Nuclear Engineering
D. Thompson, Supervisor, Health Physics Operations

ITEMS OPENED AND CLOSED

Opened

| | | |
|---|---|---|
| NCV | 50-483/00011-01 | Failure to adequately monitor the performance of the condenser air radiation gas detector (Section 1R12.2) |
| NCV | 50-483/00011-02 | Failure to comply with the Technical Specification required action for an inoperable containment penetration (Section 1R17) |
| NCV | 50-483/00011-03 | An emergency action level had not been corrected 22 months after licensee staff identified inadequacies associated with instrument indicators for site area emergency and general emergency classifications (Section 1EP4) |

Closed

| | | |
|---|---|---|
| NCV | 50-483/00011-01 | Failure to adequately monitor the performance of the condenser air radiation gas detector (Section 1R12.2) |
| NCV | 50-483/00011-02 | Failure to comply with the Technical Specification required action for an inoperable containment penetration (Section 1R17) |
| NCV | 50-483/00011-03 | An emergency action level had not been corrected 22 months after licensee staff identified inadequacies associated with instrument indicators for site area emergency and general emergency classifications (Section 1EP4) |
| URI | 50-483/00004-02 | Emergency action levels were not maintained (Section 1EP4). |
| LER | 50-483/00-004-00 | Inadequate modification package resulted in an inoperable containment isolation valve (Section 4OA4) |

## LIST OF DOCUMENTS REVIEWED

Maintenance Rule

Suggestion-Occurrence-Solution Report 98-3098
Expert Technical Panel Meeting Minutes for April 19, 2000
Functional Failure Expert Panel Determination for EPM 4/19/00
Suggestion-Occurrence-Solution Report 00-0380

Maintenance Risk Assessments and Emergent Work Control

Operations Procedure ODP-ZZ-0002, “Equipment Status Control,” Revision 17

Planning and Scheduling Procedure PDP-ZZ-0006, “Preparation of the Daily and Weekly Schedule,“ Revision 9

Postmaintenance Test Documents

Work Document C644770, “Wire operator, breaker and main control board for Valve EGHV0061"

Work Document A644770A, B and C, “Wiring and postmaintenance testing for Valve EGHV0061"

Work Document C657017, “Rewiring for Valve EGHV0061"

Work Document R657017A and B, “Retests for Valve EGHV0061"

Technical Procedure ETP-NB-ST001, “Capacitor Bank NB03 Energization and Testing,” Revision 0

Technical Procedure ETP-NB-ST002, “Capacitor Bank NB04 Energization and Testing,” Revision 0

Electrotek Project Number 2196, “Data Collection Report on the Callaway Capacitor Bank Energization,” June 21, 2000

Work Document P630139, “Inspect and Clean Heat Exchanger”

QUALITY ASSURANCE DOCUMENTS

Audits

Quality Assurance Audit Report AP98-005, “Quality Assurance Audit of Instrumentation and Controls,” performed July 13-24, 1998

Quality Assurance Audit Report AP99-002, “Quality Assurance Audit of Radiation Protection and Radwaste,” performed January 4-15, 1999.

Quality Assurance Audit Report AP00-002, “Quality Assurance Audit of Radiation Protection,” performed January 15-27, 2000.

Surveillances

Quality Assurance Surveillance Report SP99-035, “Year 2000 (Y2K) Readiness Follow-up Surveillance,” performed June 10-15, 1999.

Quality Assurance Surveillance Report SP99-065, “Implementation of the Health Physics Program during Refuel Outage 10,” performed November 25 through December 6, 1999.

PROCEDURES

Health Physics Procedures

HDP-ZZ-01301, “Whole-Body Counting Quality Control Program,” Revision 3

HDP-ZZ-04000, “Health Physics Instrumentation Program,” Revision 16

HDP-ZZ-04526, “Whole-Body Counting Routine Operations,” Revision 7

HDP-ZZ-04527, “Initial Setup of Whole Body Chair Detectors,” Revision 3

HTP-ZZ-08300, “Respirator, Supplied Air Hood, and SCBA Inspection and Storage,” Revision 22

Instrument and Controls Procedures

ISL-SD-00R35, “Loop-NUC; New Fuel Storage Area Radiation Monitor,” Revision 4
ISF-SD-00R35, “FCTNAL-NUC; New Fuel Storage Area Radiation Monitor,” Revision 7
ISL-SD-00R36, “Loop-NUC; New Fuel Storage Area Radiation Monitor,” Revision 4
ISF-SD-00R36, “FCTNAL-NUC; New Fuel Storage Area Radiation Monitor,” Revision 5
ISL-SD-00R37, “Loop-NUC; Spent Fuel Pool Area Radiation Monitor,” Revision 7
ISF-SD-00R37, “FCTNAL-NUC; Spent Fuel Pool Area Radiation Monitor,” Revision 7
ISL-SD-00R38, “Loop-NUC; Spent Fuel Pool Area Radiation Monitor,” Revision 9
ISF-SD-00R38, “FCTNAL-NUC; Spent Fuel Pool Area Radiation Monitor,” Revision 7

Training Lesson Plans

Introduction to Respiratory Protection
Respiratory Protection Devices
Self Contained Breathing Apparatus
Respirator Donning & Removal
Respiratory Protection Retraining

MISCELLANEOUS DOCUMENTATION

Listing of fixed area and postaccident monitors not included in the maintenance rule program

Selected contamination monitor, portal monitor, portable survey instruments, and area radiation monitor calibration and response test documentation

Calibration data packages, confirmation/verification documentation, and quality control records for the Nuclear Data Model WBC-6000-HP whole-body counters

Self Contained Breathing Apparatus Personnel Qualification Records for 2000

Selected Suggestion-Occurrence-Solution reports involving radiation monitoring instruments (1/1/99 - 5/31/2000)

Selected Suggestion-Occurrence-Solution reports involving intake structure, emergency diesel generator fuel oil, and refueling water storage tanks (1/1/99 - 6/15/00)

Administrative Procedure APA-ZZ-00303, “Classification of Systems,” Revision 5

Callaway Plant Final Safety Analysis Report (Site Addendum), Section 2.4.2 - Floods

United States Department of the Interior Geological Survey maps for areas surrounding Morrison, Readsville, Mokane East and Reform, Missouri

ATTACHMENT 2

## NRC's REVISED REACTOR OVERSIGHT PROCESS

The federal Nuclear Regulatory Commission (NRC) recently revamped its inspection, assessment, and enforcement programs for commercial nuclear power plants. The new process takes into account improvements in the performance of the nuclear industry over the past 25 years and improved approaches of inspecting and assessing safety performance at NRC licensed plants.

The new process monitors licensee performance in three broad areas (called strategic performance areas): reactor safety (avoiding accidents and reducing the consequences of accidents if they occur), radiation safety (protecting plant employees and the public during routine operations), and safeguards (protecting the plant against sabotage or other security threats). The process focuses on licensee performance within each of seven cornerstones of safety in the three areas:

| Reactor Safety | Radiation Safety | Safeguards |
|---|---|---|
| ● Initiating Events | ● Occupational | ● Physical Protection |
| ● Mitigating Systems | ● Public | |
| ● Barrier Integrity | | |
| ● Emergency Preparedness | | |

To monitor these seven cornerstones of safety, the NRC uses two processes that generate information about the safety significance of plant operations: inspections and performance indicators. Inspection findings will be evaluated according to their potential significance for safety, using the significance determination process, and assigned colors of GREEN, WHITE, YELLOW or RED. GREEN findings are indicative of issues that, while they may not be desirable, represent very low safety significance. WHITE findings indicate issues that are of low to moderate safety significance. YELLOW findings are issues that are of substantial safety significance. RED findings represent issues that are of high safety significance with a significant reduction in safety margin.

Performance indicator data will be compared to established criteria for measuring licensee performance in terms of potential safety. Based on prescribed thresholds, the indicators will be classified by color representing varying levels of performance and incremental degradation in safety: GREEN, WHITE, YELLOW, or RED. GREEN indicators represent performance at a level requiring no additional NRC oversight beyond the baseline inspections. WHITE corresponds to performance that may result in increased NRC oversight. YELLOW represents performance that minimally reduces safety margin and requires even more NRC oversight. And RED indicates performance that represents a significant reduction in safety margin but still provides adequate protection to public health and safety.

The assessment process integrates performance indicators and inspection so the agency can reach objective conclusions regarding overall plant performance. The agency will use an action matrix to determine in a systematic, predictable manner which regulatory actions should be taken based on a licensee's performance. The NRC's actions in response to the significance (as represented by the color) of issues will be the same for performance indicators as for inspection findings. As a licensee's safety performance degrades, the NRC will take more and increasingly significant action, which can include shutting down a plant, as described in the action matrix.

More information can be found at: http://www.nrc.gov/NRR/OVERSIGHT/index.html.