UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
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ARLINGTON, TEXAS 76011-8064

June 7, 2000

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. 50-483/00-10

Dear Mr. Randolph:

This refers to the inspection conducted on April 2 through May 20, 2000, at the Callaway Plant facility. The enclosed report presents the results of this inspection.

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) and which was a violation. The violation is being treated as a noncited violation (NCV), consistent with Section VI.A of the Enforcement Policy. The NCV is described in the subject inspection report. If you contest the violation or significance of the NCV, 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, Region IV; the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Resident Inspector at the Callaway Plant.

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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.
50-483/00-10

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ENCLOSURE

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

Docket No.:	50-483
License No.:	NPF-30
Report No.:	50-483/00-10
Licensee:	Union Electric Company
Facility:	Callaway Plant
Location:	Junction Highway CC and Highway O Fulton, Missouri
Dates:	April 2 through May 20, 2000
Inspectors:	V. G. Gaddy, Senior Resident Inspector J. D. Hanna, Resident Inspector D. W. Schaefer, Senior Physical Security Inspector
Approved By:	William D. Johnson, Chief, Project Branch B Division of Reactor Projects
ATTACHMENTS:	Attachment 1: Supplemental Information Attachment 2: NRC's Revised Reactor Oversight Process

SUMMARY OF FINDINGS

Callaway Plant
NRC Inspection Report 50-483/00-10

The report covers a 7-week period of resident inspection and an announced inspection by a regional safeguards specialist. 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: Mitigating Systems

- Green. The inspectors identified that the plant was in a more risk significant condition than that which was calculated by the risk monitor (quantitative risk assessment) when a diesel generator was made inoperable during maintenance. This placed the plant in the second highest of three risk conditions. The licensee's initial risk assessment did not assume that the diesel generator would be inoperable during maintenance and calculated plant risk as being in the lowest risk condition. Although a qualitative risk assessment performed by operations personnel allowed the diesel generator to be removed from service, it did not indicate that the plant was in a more risk significant configuration and no formal contingency actions were developed. Additionally, the inspectors learned that the licensee's configuration risk monitor program had not defined any contingency actions in response to calculated risk conditions.

  Failure to account for the diesel generator inoperability in the quantitative risk assessment resulted in the plant being in a more risk-significant condition than most of the plant staff realized. This condition could potentially result in undesirable risk configurations of mitigating systems under certain emergent work situations. However, in this case, other risk-significant equipment was not concurrently removed from service and the error did not result in actual plant risk impact. Therefore, the significance determination process found this issue to be of very low risk significance (Green) (Section 1R13).

- Green. The licensee did not comply with the initial condition of a surveillance test procedure requiring that both diesel generators be operable prior to testing the turbine-driven auxiliary feedwater pump. This violation of Technical Specification 6.8.1 is being treated as a noncited violation in accordance with Section VI.A.1 of the NRC Enforcement Policy. This item was entered in the licensee's corrective action program as Suggestion-Occurrence-Solution Report 99-3305.

  The actual risk significance of this issue was very low (Green) because the other diesel generator and its associated 100 percent capacity motor-driven auxiliary feedwater pump were operable and the turbine-driven auxiliary feedwater pump tested satisfactorily (Section 1R22).

Report Details

Summary of Plant Status: The plant was operated at essentially 100 percent power for the entire report period with the following exceptions. On May 3, 9, and 19, 2000, power was reduced to approximately 95 percent to perform postmaintenance testing on the steam generator power-operated relief valves. Following each reduction, power was returned to 100 percent the following day.

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

1R01 Adverse Weather Protection

a. Inspection Scope

The inspectors performed a walkdown of the auxiliary building, the fuel building, and the diesel generator building. The inspectors discussed severe weather preparations with operations personnel. The inspectors reviewed Procedure EIP-ZZ-00231, "Response to Severe Thunderstorm/ High Winds/ Tornado Watches and Warnings," Revision 8. The inspectors also reviewed applicable portions of the Final Safety Analysis Report.

b. Issues and Findings

There were no findings during this inspection.

1R04 Equipment Alignment

a. Inspection Scope

The inspectors performed a partial walkdown of Diesel Generator A while Diesel Generator B was out of service for maintenance. The inspection included a review of component alignment designated in Normal Operating Procedure OTN-NE-0001A, "Standby Diesel Generator System - Train A," Revision 4. The inspectors also performed a partial walkdown of residual heat removal system Train B while Train A was out of service for maintenance.

b. Issues and Findings

There were no findings during this inspection.

1R05 Fire Protection

a. Inspection Scope

The inspectors performed fire protection inspections to assess the condition of plant fire protection equipment and verify proper control of transient combustibles. Specific risk significant areas inspected included the diesel generator rooms, the cable spreading rooms, the electrical penetration rooms, the emergency core cooling pump rooms, and the control room.

b. Issues and Findings

There were no findings during this inspection.

1R06 Flood Protection Measures

a. Inspection Scope

The inspectors reviewed the internal and external flood protection measures for parts of the control and auxiliary buildings. The inspectors reviewed the following:

- Applicable portions of the Final Safety Analysis Report
- Applicable portions of the Individual Plant Examination
- Flooding calculations

The inspectors also discussed flood protection with licensee personnel.

b. Issues and Findings

There were no findings during this inspection.

1R11 Licensed Operator Requalification

a. Inspection Scope

On April 13, 2000, the inspectors attended a simulator exercise for operations personnel. The inspectors reviewed the scenario, which involved a fire in the control room followed by a main feedwater line break. The inspectors evaluated crew communication and performance, command and control, use of procedures, emergency plan usage, and fidelity of the simulator to the actual control room. The inspectors also reviewed evaluators' critiques of the training session.

b. Issues and Findings

There were no findings during this inspection.

1R12 Maintenance Rule Implementation

a. Inspection Scope

The inspectors verified proper implementation of the maintenance rule. Specifically, the inspectors verified system, structure and component scoping, characterization, safety

significance, performance criteria, and the appropriateness of goals and corrective action. These aspects of the maintenance rule were reviewed for the following components:

- Component cooling water Pump PEG01C
- Hydrogen Recombiner SGS01A
- Steam generator blowdown lower sample isolation Valve BMHV36

b. Issues and Findings

There were no findings during this inspection.

1R13 Maintenance Risk Assessments and Emergent Work Evaluation

a. Inspection Scope

Throughout the inspection period, the inspectors reviewed the daily and weekly schedule to determine when risk significant activities were scheduled. 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 the risk assessments performed by the licensee for the weeks beginning on April 10, 17, and 24 and May 1, 2000.

b. Issues and Findings

On April 24, 2000, the inspectors were provided the weekly risk assessments associated with planned maintenance activities. The weekly risk profile was calculated using the safety monitor computer program. The safety monitor was the licensee's configuration risk management program that assessed the risk impact of equipment being out of service. It was used in conjunction with the probabilistic risk assessment matrix. No increased risk activities were planned. This resulted in the plant risk profile for the week being in the lowest of three risk categories.

On April 26, 2000, the licensee performed planned maintenance which rendered Diesel Generator B inoperable. The diesel generator was out of service for approximately 2 hours. On April 27, the inspectors asked whether the plant risk profile should have been in the lowest category with the diesel generator inoperable. The licensee indicated that, with the diesel generator inoperable, the associated risk should have been in the second of three risk categories. The licensee indicated that, when the weekly risk assessment was calculated, they did not realize that the maintenance would make the diesel generator inoperable. Although a quantitative assessment of the risk with an inoperable diesel generator was not considered, operations personnel assumed the diesel generator would be inoperable and performed a qualitative risk assessment using the equipment train out-of-service probabilistic risk assessment matrix. This matrix allowed the diesel generator to be removed from service based on plant configuration. The matrix did not indicate that the plant was placed in a more risk significant condition and no formal contingency actions were developed.

The inspectors asked risk assessment personnel if any contingency actions should have been specified since the plant was in a higher risk significant condition than assumed by the safety monitor program. Risk personnel indicated that the safety monitor procedure, Operator Aid OOA-ZZ-SM001, "Safety Monitor," which was not approved but was being used as guidance for performing risk calculations, had not yet defined any contingency actions in response to risk conditions calculated by the safety monitor. However, if the shift supervisor determined by using the equipment train out-of-service probabilistic risk assessment matrix (qualitative risk assessment) that the plant was in an undesired risk configuration, he was required to take action to return the undesired configuration to normal as soon as possible. However, these actions were not required to be defined prior to implementation.

Failure to account for the diesel generator inoperability in the quantitative risk assessment resulted in the plant being in a more risk-significant condition than most of the plant staff realized. This condition could potentially result in undesirable risk configurations of mitigating systems under certain emergent work situations. However, in this case, other risk-significant equipment was not concurrently removed from service and the error did not result in actual plant risk impact. Therefore, the significance determination process found this issue to be of very low risk significance (Green).

1R17 Permanent Plant Modifications

a. Inspection Scope

The inspectors reviewed Callaway Modification Package 00-1003, "Install Manual Valve in the Safety Injection Test Line," Revision A. The inspectors reviewed the licensee's screening review made in accordance with 10 CFR 50.59.

b. Issues and Findings

There were no findings during this inspection.

1R19 Postmaintenance Testing

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:

- Surveillance Task 651009, residual heat removal Pump A inservice test, and
- Surveillance Procedure OSP-AB-V002A, "Steam Generator Atmospheric Power Operation Relief Valve Inservice Test," Revision 22.

b. Issues and Findings

There were no findings during this inspection.

1R22 Surveillance Testing

.1 Routine Surveillance Tests

a. Inspection Scope

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

- Surveillance Procedure OSP-EG-P01AC, "Component Cooling Water Train A Pump and Valve Inservice Test," Revision 17,
- Surveillance Procedure OSP-AL-P0002, "Turbine Driven Auxiliary Feedwater Pump Operability Inservice Test," Revision 27,
- Surveillance Procedure OSP-KA-V0003, "Nitrogen Accumulators Leak Rate Tests," Revision 10, and
- Surveillance Procedure OSP-EG-V0001B, "CCW Train B Valve Inservice Test," Revision 16.

b. Issues and Findings

There were no findings during this inspection.

.2 Turbine-Driven Auxiliary Feedwater Pump and Emergency Diesel Generator B Out of Service During the Same Time Period

a. Inspection Scope

On November 3, 1999, with the plant in Mode 3, one diesel generator was inoperable due to control circuitry problems. The licensee was raising plant temperature to normal operating conditions and had not verified the operability of the turbine-driven auxiliary feedwater pump. The inspectors reviewed the circumstances surrounding this issue.

b. Issues and Findings

On November 3, the licensee was raising reactor coolant temperature and pressure to normal operating conditions. The licensee had started to perform minor maintenance (e.g., tighten an electrical connection, repair a fuel leak, etc.) on Emergency Diesel Generator B. The licensee entered Technical Specification Action Statement 3.8.1.1 at 5:47 a.m. After the repairs, the licensee commenced a 1-hour load test of the diesel generator to verify operability. During two attempts to test the diesel generator, control circuitry problems caused the diesel generator to trip. The licensee remained in the action statement while troubleshooting and repairs were performed. During this time period, the licensee considered the turbine-driven auxiliary feedwater pump to be

operable, although it had been overhauled during the refueling outage and had not yet been tested in accordance with the surveillance requirement.

On November 4, at 4:07 a.m., the licensee commenced surveillance testing of the auxiliary feedwater pump in order to verify operability in accordance with Procedure OSP-FC-V0001, "Section XI Auxiliary Feedwater Pump Turbine Valve Operability," Revision 16. Initial Condition 4.2 of the procedure states "Ensure T/S LCO 3.8.1.1 (IMPROVED T/S LCO 3.8.1) is satisfied prior to performing this surveillance in Modes 1, 2, or 3." This specification required both emergency diesel generators to be operable. This specification could not be met due to the work being performed on Emergency Diesel Generator B.

The licensee concluded that it was permissible to perform the testing because the intent of the initial condition was to prevent inadvertent entry into the action statement. The licensee did not perform a change to the auxiliary feedwater surveillance procedure, as allowed by the document control program. Instead, the involved licensee personnel deviated from the procedure by adding the following sentence to the work document: "The initial condition of two D/Gs being operable does not apply in this instance due to being in the Tech Spec shutdown action statement 3.8.1.1.d." The involved licensee personnel believed this exception was allowed by Procedure APA-ZZ-00100, "Procedure Adherence," Revision 12.

Technical Specification 6.8.1.a required, in part, that written procedures shall be established, implemented, and maintained covering the applicable procedures recommended in Appendix A of Regulatory Guide 1.33, Revision 2, February 1978. Regulatory Guide 1.33 included procedures for the auxiliary feedwater system. The failure to properly implement Procedure OSP-FC-V0001, "Section XI Auxiliary Feedwater Pump Turbine Valve Operability," Revision 16, by not complying with the initial conditions of the test procedure was a violation (50-483/0010-01). This violation of Technical Specification 6.8.1 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-Solution Report 99-3305.

The actual risk significance of this issue was very low (Green) because the other emergency diesel generator and its associated 100 percent capacity motor-driven auxiliary feedwater pump were operable and the turbine-driven auxiliary feedwater pump tested satisfactorily.

The licensee should have considered motor-driven auxiliary feedwater Pump B to be inoperable when Emergency Diesel Generator B was inoperable. Technical Specification 3.7.1.2.a requires "Two motor driven auxiliary feedwater pumps, each capable of being powered from separate emergency buses . . ." The bases for Technical Specification 3.7.1.2 state that the operability of the auxiliary feedwater system ensures the reactor coolant system can be cooled down to less than 350°F from normal operating conditions in the event of a total loss of off-site power. Consequently, the inoperability of Emergency Diesel Generator B rendered motor-driven auxiliary feedwater Pump B inoperable. The most limiting action statement (3.7.1.2.e for the inoperability of two auxiliary feedwater pumps) should have been entered when the

turbine-driven pump was made inoperable for surveillance testing. This action statement required that the plant be in Hot Shutdown condition within 6 hours. This action statement was not exceeded in that the two auxiliary feedwater pumps were inoperable for one hour and 44 minutes. This was not a violation of Technical Specifications but was an example of poor operator understanding of the operability relationship between an emergency diesel generator and its associated motor-driven auxiliary feedwater pump.

The entry into Action Statement 3.8.1.1.d in order to perform surveillance testing did not violate Technical Specifications, but it was not a good practice since it was a result of the licensee's violation of the initial conditions for surveillance testing of the turbine-driven auxiliary feedwater pump. Having the turbine-driven auxiliary feedwater pump out of service for testing concurrent with an emergency diesel generator outage placed the unit in an increased risk configuration.

Cornerstone: Emergency Preparedness

1EP1 Drill, Exercise, and Actual Events

a. Inspection Scope

The inspectors observed portions of a radiological emergency preparedness team drill conducted on May 4, 2000. The primary focus of the inspection was to evaluate the licensee's classification, notification and protective action recommendation requirements, and development activities. The inspectors observed the licensee's critique of the emergency drill and determined it was self-critical in the identification of strengths and performance issues.

b. Issues and Findings

There were no findings during this inspection.

3. SAFEGUARDS

Cornerstone: Physical Protection

3PP1 Access Authorization (IP 71130.01)

a. Inspection Scope

The inspector completed the following inspection elements:

- Reviewed licensee event reports and safeguards event logs to identify problems in the access authorization program.
- Reviewed procedures, audits, and self-assessments of the following programs/areas: behavior observation, access authorization, fitness-for-duty, supervisor and escort training, and requalification training.

- Interviewed six supervisors/managers and six individuals who had escorted visitors into the protected and/or vital areas to determine their knowledge and understanding of their responsibilities in the behavior observation program.

- Reviewed condition reports, licensee event reports, safeguards event logs, audits, selected security event reports, and self-assessments for the licensee's access authorization program.

b. Issues and Findings

There were no findings during this inspection.

3PP2 Access Control (IP 71130.02)

a. Inspection Scope

The inspector completed the following inspection elements:

- Reviewed licensee event reports and safeguards event logs to identify problems with access control equipment.

- Reviewed procedures and audits for testing and maintenance of access control equipment and for granting and revoking unescorted access to protected and vital areas.

- Interviewed security personnel concerning the proper operation of the explosive and metal detectors, X-ray devices, and key card readers.

- Observed licensee testing of access control equipment and the ability of security personnel to control personnel, packages, and vehicles entering the protected area.

- Reviewed procedures to verify that a program was in place for controlling and accounting for hard keys to vital areas.

- Reviewed the licensee's process for granting access to vital equipment and vital areas to authorized personnel having an identified need for that access.

- Reviewed condition reports, licensee event reports, safeguards event logs, audits, selected security event reports, and self-assessments for the licensee's access control program.

- Interviewed key security department and plant support personnel to determine their knowledge and use of the corrective action reports and resolution of problems regarding repair of security equipment.

b. Issues and Findings

There were no findings during this inspection.

4. OTHER ACTIVITIES

4OA1 Performance Indicator Verification

a. Inspection Scope

The inspectors verified the accuracy and completeness of data used to calculate and report:

- Unplanned scrams per 7,000 critical hours,
- Unplanned power changes per 7,000 critical hours, and
- Reactor coolant system specific activity.

b. Issues and Findings

There were no findings during this inspection.

4OA4 Other

(Closed) Inspection Followup Item 483/9718-01: Revise Emergency Operating Procedure

During a previous security inspection, it was noted that the licensee's emergency operating procedures did not include provisions to manually restore (transfer) emergency power from the plant diesel generators to the battery chargers servicing the battery system for the on-site security radio repeater.

During this inspection, the inspector confirmed that Section 6.7 of Procedure OTO-SA-00001, "Engineered Safety Feature Actuation Verification and Restoration," Revision 9, included the above provisions. This item is closed.

4OA6 Management Meetings

Exit Meeting Summary

The safeguards inspector presented the inspection results to Mr. Garry Randolph, Vice President and Chief Nuclear Officer, and other members of licensee management at the conclusion of the inspection on May 5, 2000. The licensee acknowledged the findings presented.

The resident inspectors presented the inspection results to Mr. Ron Affolter, Manager, Callaway Plant, and other members of licensee management at the conclusion of the inspection on May 19, 2000. The licensee acknowledged the findings presented.

No proprietary information was identified.

ATTACHMENT 1

PARTIAL LIST OF PERSONS CONTACTED

Licensee

R. D. Affolter, Manager, Callaway Plant
G. N. Belchik, Supervising Engineer, Operations
J. D. Blosser, Manager, Operations Support
P. J. Davis, Nurse, Fitness-for-Duty
J. W. Dowling, Supervisor, Work Control Electrical
M. S. Evans, Superintendent, Protective Services
R. E. Farnam, Supervisor, Health Physics, Operations
M. R. Faulkner, Assistant Superintendent, Security
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J. W. Hiller, Engineer, Quality Assurance Regulatory Support
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G. L. Randolph, Vice President and Chief Nuclear Officer
M. A. Reidmeyer, Regional Regulatory Affairs Supervisor
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K. C. Schoolcraft, Senior Engineer, Quality Assurance Regulatory Support
T. P. Sharkey, Supervising Engineer, Safety Related Mechanical Systems
C. E. Slizewski, Supervising Engineer, Quality Assurance
M. E. Taylor, Manager, Nuclear Engineering
M. L. West, Supervisor, Work Control Mechanical

Contractors

J. L. Coash, Supervisor, Security Training, Wackenhut
J. M. Dunbar, Project Manager, Wackenhut

ITEMS OPENED AND CLOSED

Opened

50-483/0010-01	NCV	Failure to properly implement a procedure by not complying with the initial conditions of the test procedure (Section 1R22).

Closed

50-483/0010-01	NCV	Failure to properly implement a procedure by not complying with the initial conditions of the test procedure (Section 1R22).
50-483/9718-01	IFI	Revise emergency operating procedure (Section 4OA4).

LIST OF DOCUMENTS REVIEWED

Maintenance Rule

Suggestion-Occurrence-Solution Report 99-3374, “Failure of Steam Generator Blowdown Lower Sample Isolation Valve”

Suggestion-Occurrence-Solution Report 00-0292, “Failure of Hydrogen Recombiner SGS01A

Suggestion-Occurrence-Solution Report 00-0068, “Failure of Component Cooling Water Pump PEG-1C”

Maintenance Rule failure reports for the steam generator blowdown lower sample isolation valve, hydrogen recombiner, and component cooling water pump.

Maintenance Risk Assessments and Emergent Work Control

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

Planning and Scheduling Procedure PDP-ZZ-00006, “Preparation of the Daily and Weekly Schedule,” Revision 9

Licensed Operator Requalification

Expanded Rapid Responder Proficiency Drill Cycle 00-2

Expanded Rapid Responder Drill - Control Room

Expanded Rapid Responder Drill - Emergency Operations Facility

Expanded Rapid Responder Drill - Operations Support Center

Security Related Documents

Safeguards Event Logs from October 1, 1999, through April 27, 2000

Fitness-for-Duty 6-Month Reports dated February 17 and August 12, 1999, and February 24, 2000

AMEREN/UE Suggestion Occurrence Solution System (Condition Report) No. 00-0984, dated May 3, 2000

AMEREN/UE Suggestion Occurrence Solution System (Condition Report) No. 00-1001, dated May 4, 2000

AMEREN/UE Suggestion Occurrence Solution System (Condition Report) for 10 events reported in safeguards event log

Quality Assurance Surveillance Report SP99-004, “Badge Issuance at MAF,” dated January 21, 1999

Quality Assurance Audit Report APP99-010, “Quality Assurance Audit of Fitness for Duty and Access Authorization Programs,” dated July 27, 1999

Quality Assurance Surveillance Report SP99-048, “Security Maintenance Surveillance,” dated September 17, 1999

Quality Assurance Surveillance Report SP99-078, “Annual Review of the Security Program,” dated December 17, 1999

Twelve examination questions for Continued Employee Observation portion of Callaway Orientation

General Employee Training I, “Callaway Orientation,” File No. T68.0030.6 (partial)

Callaway Plant Procedures

APA-ZZ-00902, "Employee Personnel Changes, Termination, and/or Access Withdrawal,” Revision 07

APA-ZZ-00906, "Continued Employee Observation Program,” Revision 08

APA-ZZ-00907, "Personnel Processing Requirements for Unescorted Access to the Callaway Plant and Maintenance of Associated Personnel Date,” Revision 07

APA-ZZ-00925, "Systematic Approach to Training,” Revision 08

APA-ZZ-01104, "Access Authorization Program for Union Electric-Callaway Plant,” Revision 12

APA-ZZ-01105, "Protected and Vital area Entry/Exit,” Revision 18

APA-ZZ-01106, "Lock and Key Control,” Revision 12

SDP-SF-00002, "Operational Tests of Security Equipment," Revision 04

SDP-SF-00022, "Reporting of Safeguards Events," Revision 09

SOA-MD-00002, "Sentre Metal Detector Operator Aid," Revision 03

TDP-ZZ-00050, "General Employee Training Program," Revision 13

OTO-SA-00001, "Engineered Safety Feature Actuation Verification and Restoration," Revision 09

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.