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

January 16, 2002

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

SUBJECT: CALLAWAY--NRC INSPECTION REPORT 50-483/01-06

Dear Mr. Randolph:

On December 29, 2001, the NRC completed an inspection at your Callaway Plant. The enclosed report documents the inspection findings which were discussed with Mr. Warren Witt and other members of your staff on December 28, 2001.

This inspection examined 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 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 risk significance determination process as having very low safety significance (Green). The NRC has also determined that violations are associated with these issues. These violations are being treated as noncited violations (NCVs), consistent with Section VI.A of the Enforcement Policy. These NCVs are described in the subject inspection report. If you contest the violation or significance of these 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, 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.

Immediately following the terrorist attacks on the World Trade Center and the Pentagon, the NRC issued an advisory recommending that nuclear power plant licensees go to the highest level of security, and all promptly did so. With continued uncertainty about the possibility of additional terrorist activities, the Nation's nuclear power plants remain at the highest level of security and the NRC continues to monitor the situation. This advisory was followed by additional advisories and, although the specific actions are not releasable to the public, they generally include increased patrols, augmented security forces and capabilities, additional security posts, heightened coordination with law enforcement and military authorities, and more limited access of personnel and vehicles to the sites. The NRC has conducted various audits of

your responses to these advisories and your ability to respond to terrorist attacks with the capabilities of the current design basis threat. From these audits, the NRC has concluded that your security program is adequate at this time.

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

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: 50-483
License: NPF-30

Enclosure:
NRC Inspection Report
50-483/01-06

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ENCLOSURE

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

Docket:	50-483
License:	NPF-30
Report:	50-483/01-06
Licensee:	Union Electric Company
Facility:	Callaway Plant
Location:	Junction Highway CC and Highway O Fulton, Missouri
Dates:	September 30 through December 29, 2001
Inspectors:	V. G. Gaddy, Senior Resident Inspector J. D. Hanna, Resident Inspector R. V. Azua, Project Engineer J. B. Nicholas, Ph.D., Senior Health Physicist R. P. Mullikin, Senior Reactor Inspector M. E. Murphy, Senior Reactor Engineer T. F. Stetka, Senior Reactor Engineer P. A. Goldberg, Reactor Inspector W. A. Maier, Senior Emergency Preparedness Inspector P. J. Elkmann, Emergency Preparedness Inspector C. J. Paulk, Senior Reactor Inspector
Approved By:	W. D. Johnson, Chief, Project Branch B
ATTACHMENT:	SUPPLEMENTAL INFORMATION

SUMMARY OF FINDINGS

Callaway Plant
NRC Inspection Report 50-483/01-06

IR 05000483-01-06; on 09/30-12/29/2001; Union Electric Co; Callaway Plant. Integrated Resident & Regional Report; Postmaintenance Testing; Identification and Resolution of Problems

The inspection was conducted by resident inspectors, region based emergency preparedness inspectors, health physics inspectors, reactor inspectors, and reactor engineers. The inspection identified two Green findings, both of which were noncited violations. The significance of most findings is indicated by their color (Green, White, Yellow, Red) using Inspection Manual Chapter 0609, "Significance Determination Process." Findings for which the significance determination process does not apply are indicated by "No Color" or by the severity level of the applicable violation. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described at its Reactor Oversight Process website at http://www.nrc.gov/NRR/OVERSIGHT/index.html.

A. Inspector Identified Findings

Cornerstone: Mitigating Systems

- Green. A noncited violation of Technical Specification 5.4.1 occurred when inadequate maintenance instructions resulted in maintenance personnel not adding enough lubricating oil to the driving bearing of component cooling water Pump C. The instructions failed to include guidance on how much oil to add to the pump bearing following maintenance. Insufficient lubricating oil caused the pump bearing to fail.

  This finding is more than minor because it had a credible impact on safety in that, if the other component cooling water pump that supplied the train had failed, the train would not have been available to perform its safety function. This finding affects the mitigating system cornerstone. This finding was found to be of very low safety significance because no other risk significant equipment was rendered inoperable due to the inadequate maintenance instructions and the safety function was still maintained. Because this finding is of very low safety significance, and the finding was entered into the licensee's corrective action program as Callaway Action Request 200107296, it is being treated as a noncited violation consistent with Section VI.A of the NRC Enforcement Policy (Section 1R19.2).

- Green. A noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI, occurred when the licensee failed to take corrective action to ensure flood doors leading into the emergency core cooling system pump rooms were properly controlled. On October 7, 2001, the inspectors identified that the flood door leading to emergency core cooling system Train A equipment was open and unmonitored. With the door open a continuous flood watch was required. In June 2001 the inspectors identified that the flood door leading to emergency core cooling system Train B equipment was open and unmonitored. In response to the June 2001 incident, the licensee did not take corrective action to prevent the doors from being unmonitored while open. The corrective action for this incident had been closed with no immediate corrective action taken.

This finding is more than minor because it had a credible impact on safety in that, if a fire water pipe break had occurred while the flood door was open and unmonitored, fire water could affect the operation of emergency core cooling system equipment. This finding affects the mitigating system cornerstone. This finding was found to be of very low safety significance because of the low likelihood of a fire water pipe break while the door was open and unmonitored and because of the availability of Train B equipment. Because the finding is of very low safety significance, and the finding was entered into the licensee's corrective action program as Callaway Action Request 200106307, it is being treated as a noncited violation consistent with Section VI.A of the NRC Enforcement Policy (Section 40A2).

B. Licensee Identified Findings

Violations of very low safety significance which were identified by the licensee have been reviewed by the inspectors. Corrective actions taken or planned by the licensee appear reasonable. These violations are listed in Section 4OA7.

Report Details

Summary of Plant Status: The plant began the inspection period operating at full power. On December 3, the unit was shut down to repair a stator cooling water leak into the main generator. The unit was restarted on December 6 and reached full power on December 8. The unit remained at full power for the remainder of the inspection period.

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

1R01 Adverse Weather Protection (71111.01)

a. Inspection Scope

During October 2001 the inspectors reviewed the licensee's cold weather preparations to verify that design features and implementation of the cold weather procedure were adequate to protect from the effects of adverse weather. The inspectors walked down heat tracing and other cold weather preparations the licensee had implemented. The inspectors verified the licensee had completed Operating Procedure OTS-ZZ-0007, "Plant Cold Weather," Revision 6.

b. Findings

No findings of significance were identified.

1R02 Evaluations of Changes, Tests, or Experiments (71111.02)

a. Inspection Scope

The inspectors reviewed a selected sample of nine licensing impact reviews to verify that the licensee had appropriately considered the conditions under which the licensee may make changes to the facility or procedures or conduct tests or experiments without prior NRC approval.

The inspectors reviewed an additional 11 licensing impact evaluation screenings in which the licensee determined that evaluations were not required, to ensure that the licensee's exclusion of a full evaluation was consistent with the requirements of 10 CFR 50.59.

The inspectors evaluated the effectiveness of the licensee's corrective action process to identify and correct problems concerning their performance associated with 10 CFR 50.59 requirements. The inspectors reviewed four corrective action requests and the subsequent corrective actions pertaining to licensee identified problems and errors in the performance of licensing impact evaluations to ensure that problems and deficiencies were being identified and that appropriate corrective actions were being taken.

b. Findings

No findings of significance were identified.

1R04 Equipment Alignment (71111.04)

.1 Partial Walkdowns

a. Inspection Scope

On October 11, 2001, the inspectors performed a partial walkdown of essential service water Train A while Train B was out of service for maintenance. The inspectors compared the as-found condition of the essential service water system with the requirements of the Final Safety Analysis Report, Technical Specifications, and Drawing M22-EF01, "Piping and Instrumentation Diagram Essential Service Water," Revision 38.

b. Findings

No findings of significance were identified.

.2 Complete Walkdown

a. Inspection Scope

The inspectors performed a complete review of equipment alignment in the auxiliary feedwater system from November 19-30, 2001. This system was selected due to its importance in providing decay heat removal capability through the steam generators. The inspectors reviewed and evaluated the condition of the system using the criteria documented in Operations Procedure OTN-AL-00001, "Auxiliary Feedwater System," Revision 7; Drawing M-22AL01(Q), "Piping and Instrumentation Diagram Auxiliary Feedwater System," Revision 17; and Section 10.4.9 of the Final Safety Analysis Report. Specifically the inspectors verified that the system was aligned properly and that any outstanding maintenance work request or design issue did not challenge the ability of the system to function properly.

b. Findings

No findings of significance were identified.

1R05 Fire Protection (71111.05)

.1 Routine Fire Protection Walkdowns

a. Inspection Scope

The inspectors reviewed the following areas to determine if the licensee had implemented a fire protection program that adequately controlled combustibles and ignition sources within the plant, effectively maintained fire detection and suppression capabilities, and maintained passive fire protection features in good material condition. The following areas were reviewed:

- Fuel building air handling equipment room on October 19, 2001
- Emergency core cooling system Train B equipment on October 22, 2001
- Emergency Diesel Generator B on October 23, 2001
- North mechanical piping penetration room on November 1, 2001
- Essential service water pipe chase room (Auxiliary Building 1974' elevation) on November 1, 2001
- Alternate shutdown panels on November 26, 2001
- Component cooling water heat exchanger rooms on November 27, 2001

The inspectors assessed these areas and verified combustibles that were noted were being controlled in accordance with the following:

- Final Safety Analysis Report, Appendix 9.5B, Fire Hazards Analysis
- Administrative Procedure APA-ZZ-00741, “Control of Combustibles Material,” Revision 15
- Administrative Procedure APA-ZZ-00701, “Control of Fire Protection Impairments,” Revision 8
- Administrative Procedure APA-ZZ-00742, “Control of Ignition Sources,” Revision 14

b. Findings

No findings of significance were identified.

.2 Annual Fire Drill

a. Inspection Scope

On November 15, 2001, the inspectors observed an unannounced fire drill. The purpose of the drill was to evaluate the readiness and effectiveness of fire brigade personnel in responding to a fire inside the lower cable spreading room (Room 3501). The inspectors observed fire brigade members donning protective clothing and self-contained breathing apparatus, entering the fire area, and utilizing fire preplan strategies. Sufficient firefighting equipment was available to fight the fire. The inspectors also evaluated communications between the fire brigade and control room. The fire drill was conducted using fire drill Scenario 01U06. General drill objectives and acceptance criteria were outlined in the scenario.

b. Findings

No findings of significance were identified.

1R06 Flood Protection Measures (71111.06)

a. Inspection Scope

On November 14, 2001, the inspectors performed a periodic flood protection walkdown of the residual heat removal and containment spray pump rooms. The inspectors verified that water-tight doors designed to mitigate flooding were closed and door seals were in good condition. The inspectors also evaluated other flood protection features (e.g., holes or unsealed penetrations in floors and walls, sump pumps and level detection systems) designed to protect risk significant systems, structures, and components from flooding due to internal causes.

b. Findings

No findings of significance were identified.

1R07 Heat Sink Performance (71111.07)

.1 Performance of Testing, Maintenance, and Inspection Activities

a. Inspection Scope

The inspectors reviewed the licensee's test methodology for the component cooling water system, standby diesel generator jacket water heat exchangers, and safety injection pump room coolers. In addition, the inspectors reviewed test data for the heat exchangers and design and vendor-supplied information to ensure that the heat exchangers were performing within their design basis. The inspectors also reviewed the heat exchanger inspection and test results. Specifically, the inspectors verified proper extrapolation of test conditions to design conditions, appropriate use of test instrumentation, and appropriate accounting for instrument inaccuracies. Additionally, the inspectors verified that the licensee appropriately trended inspection and test results, assessed the causes of the trends, and took necessary action to address any significant changes in these trends.

b. Findings

No findings of significance were identified.

.2 Verification of Conditions and Operations Consistent with Design Bases

a. Inspection Scope

For the selected heat exchangers, the inspectors verified that the licensee established heat sink and heat exchanger condition, operation, and test criteria were consistent with

the design assumptions. Specifically, the inspectors reviewed the applicable calculations to ensure that the thermal performance test acceptance criteria for the heat exchangers were being applied consistently throughout the calculations. The inspectors also verified that the appropriate acceptance values for fouling and tube plugging for the component cooling water heat exchanger remained consistent with the values used in the design-bases calculations. Finally, the inspectors verified that the parameters measured during the thermal performance and flow balance tests for the essential service water and component cooling water systems were consistent with those assumed in the design bases.

b. Findings

No findings of significance were identified.

.3 Identification and Resolution of Problems

a. Inspection Scope

The inspectors examined the corrective action program for significant problems with the selected components over the past 3 years. The inspectors selected a sample of eight Callaway Action Request System items for review. The Callaway Action Request System Numbers reviewed are identified in the attachment to this report.

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification (71111.11)

a. Inspection Scope

The inspectors: (1) evaluated examination security measures and procedures for compliance with 10 CFR 55.49, "Integrity of Examinations and Tests"; (2) evaluated the licensee's sample plan for the written examinations for compliance with 10 CFR 55.59 "Requalification," and NUREG-1021, "Operator Licensing Examination Standards for Power Reactors," Revision 8, Supplement 1, as referenced in the facility requalification program procedures; and (3) evaluated maintenance of license conditions for compliance with 10 CFR 55.53, "Conditions of Licenses," by review of facility records, procedures, and tracking systems for licensed operator training, qualification, and watchstanding. The inspectors also reviewed remedial training and examinations for examination failures for compliance with facility procedures and responsiveness to address areas failed.

In addition, the inspectors: (1) interviewed seven personnel (two operators, two instructors/evaluators, and three managers) regarding the policies and practices for administering examinations; initiating and incorporating feedback from in-house and industry events; developing and administering remedial training and retake examinations; (2) observed the administration of two dynamic simulator scenarios to two

requalification crews by facility evaluators, including an operations department manager, who led the crew and individual evaluations, and (3) observed five facility evaluators administer six job performance measures. Each job performance measure was observed being performed by an average of two requalification candidates. The inspectors also reviewed the remediation process for this and the last training cycle.

The inspectors also reviewed the results of the annual and biennial requalification examinations to determine if these results reflected any findings.

b. Findings

No findings of significance were identified.

1R12 Maintenance Rule Implementation (71111.12)

.1 Routine Resident Inspection

a. Inspection Scope

During the inspection period, the inspectors reviewed licensee implementation of the maintenance rule. The inspectors verified structure and component scoping, characterization, safety significance, performance criteria, and the appropriateness of goals and corrective actions. The inspectors compared the licensee's implementation of the maintenance rule to the requirements outlined in 10 CFR 50.65; Administrative Procedure APA-ZZ-00303, "Classification of Systems," Revision 5; Engineering Procedure EDP-ZZ-01128, "Maintenance Rule and EPIX Programs," Revision 3; Regulatory Guide 1.160, "Monitoring the Effectiveness of Maintenance at Nuclear Power Plants," Revision 2; and meeting minutes from various expert technical panel meetings. The inspectors reviewed the following components:

- Ultimate heat sink cooling tower Fan B
- Nonsafety-related 125 Vdc system
- Turbine-driven auxiliary feedwater pump
- Reactor coolant system Loop 3 letdown to regenerative heat exchanger upstream level control Valve BGLCV0460
- Residual heat removal Pump A room cooler
- Safety injection Pump B

b. Findings

No findings of significance were identified.

.2 Periodic Evaluation Reviews

a. Inspection Scope

The inspectors reviewed the licensee's reports documenting the performance of the last two maintenance rule periodic effectiveness assessments. These periodic evaluations covered the period from May 1998 through May 2001.

The inspectors verified that the licensee's program had monitored risk-significant functions associated with structures, systems, and components using reliability and unavailability. Additionally, the performance of nonrisk-significant functions were monitored using plant level criteria.

The inspectors reviewed the conclusions reached by the licensee with regard to the balance of reliability and unavailability for specific maintenance rule functions. This review was conducted by examining the licensee's evaluation of all risk-significant functions that had exceeded performance criteria during the evaluation periods.

The inspectors also examined the licensee's evaluation of program activities associated with the placement of maintenance rule program risk-significant functions in Categories (a)(1) and/or (a)(2). Also, the inspectors reviewed the periodic evaluation conclusions reached by the licensee for the following systems: essential service water; component cooling water; control building heating, ventilation, and air conditioning; 480 Vac electrical distribution; atmospheric steam dump; auxiliary feedwater; 125 Vdc battery; emergency diesel generator building ventilation; and security system emergency diesel generator.

b. Findings

No findings of significance were identified.

.3 Identification and Resolution of Problems

a. Inspection Scope

The inspectors evaluated the use of the corrective action system within the maintenance rule program. This review was accomplished by the examination of the corrective action requests and a sample of control room logs. The purpose of this review was to establish that the corrective action program was entered at the appropriate threshold for the purposes of:

- Starting the evaluation and determination of corrective action process when performance criteria were exceeded;

- Correction of performance-related issues or conditions identified during the periodic evaluation; and

- Correction of generic issues or conditions identified during programmatic surveillances, audits, or assessments.

The inspectors verified that the identification and implementation of corrective action was acceptable.

b. Findings

No findings of significance were identified.

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

a. Inspection Scope

The inspectors reviewed the licensee's assessment and management of selected maintenance activities to assess the effectiveness of risk management for planned and emergent activities. The inspectors compared the licensee's risk assessment and risk management activities against the requirements of 10 CFR 50.65 (a)(4), the recommendations of NUMARC 93-01, "Industry Guideline for Monitoring the Effectiveness of Maintenance at Nuclear Power Plants," Revision 2, and Engineering Procedure EDP-ZZ-01129, "Callaway Plant Risk Assessment," Revision 1. The inspectors evaluated the following risk assessments:

October 12, 2001	Risk assessment prior to removing Bus PN02 from service for maintenance
November 12, 2001	Weekly risk assessment for scheduled maintenance and surveillance
November 19, 2001	Risk assessment subsequent to unplanned inoperability of switchyard Breaker MDV-41
December 17. 2001	Weekly risk assessment for scheduled maintenance and surveillance

b. Findings

No findings of significance were identified.

1R14 Personnel Performance During Nonroutine Plant Evolutions and Events (71111.14)

a. Inspection Scope

The inspectors reviewed the licensee's actions in response to a stator cooling water leak inside the main generator. The inspectors also followed up on the circumstances surrounding the gas binding of motor-driven auxiliary feedwater Pump A that occurred during the plant shutdown to repair the stator cooling water leak.

b. Findings

During a plant shut down to remove the main generator from service, the licensee noted that motor-driven auxiliary feedwater Pump A was gas bound. The gas binding prevented the pump from performing its safety function. At the conclusion of the inspection period, the licensee had not determined how gas had entered the auxiliary feedwater system and caused the pump to become inoperable. This issue will remain unresolved until a root cause is identified and the safety significance is determined.

During the night shift on December 2, 2001, the licensee received a high level alarm on the generator leakage detection system. System engineering and operations personnel evaluated the alarm and, on December 3, identified that there was a water leak inside the main generator. Based on the pressures in the main generator, the licensee suspected that the leak was from the generator bushing cooling system. The bushings were cooled by stator cooling water. At approximately 11a.m., the licensee decided to shut down to Mode 3 to remove the main generator from service and repair the leak.

At 1:15 p.m., the licensee began decreasing reactor power at approximately 10 percent an hour. At 10:39 p.m., with the main turbine at approximately 120 MWe (approximately 10 percent power) high vibrations were observed on Bearing 4. The vibrations reached 10.40 mils. Vibrations also increased on Bearings 3 and 8. The vibrations reached 10.04 mils and 8.55 mils, respectively. At 10:48 p.m., the turbine vibration trouble alarm was received.

The operators decided to break condenser vacuum and rapidly remove the main turbine from service to reduce turbine vibrations. Since breaking condenser vacuum would also cause a loss of the operating main feedwater pump and generate an auxiliary feedwater actuation signal, both motor-driven auxiliary feedwater pumps were manually started at 10:56 p.m., prior to breaking condenser vacuum. Following start, motor-driven auxiliary feedwater Pump B delivered rated flow to steam Generators A and D. However, operators noted that although motor-driven auxiliary feedwater Pump A started it was not supplying steam Generators B and C. The pump's discharge pressure was erratic and lower than expected. Condenser vacuum was broken at 10:57 p.m. During main turbine coastdown, vibrations peaked at 17 mils. Since no flow was being supplied to steam Generators B and C, operators manually started the turbine-driven auxiliary feedwater pump at 10:58 p.m., and supplied the steam generators. At 10:59 p.m., main turbine vibrations returned to normal.

Since a valid auxiliary feedwater actuation signal was generated following the breaking of condenser vacuum and the loss of the operating main feedwater pump, it was reported to the NRC in accordance with 10 CFR 50.72 (b)(3)(iv)(A).

Since no flow was being supplied by motor-driven auxiliary feedwater Pump A, an equipment operator and the field supervisor were dispatched to inspect the pump. The field supervisor noted the pump's outboard bearing was hot and that there was no leak-off flow. The pump was secured at 11:07 p.m. and declared inoperable. Operations personnel then vented the pump casing. Gas vented for approximately 15 seconds from the pump. Since gas was vented, the licensee concluded that the pump was gas

bound. Because the gas was not analyzed, the licensee could not determine what type of gas was inside the pump casing.

At the conclusion of the inspection period, the licensee had not determined how gas entered the auxiliary feedwater system and caused the pump to become inoperable. As a result, the safety significance of this incident could not be determined. This issue will remain unresolved until the licensee determines how gas entered the auxiliary feedwater system and how long the pump was inoperable (Unresolved Item 50-483/0106-01). This issue is in the licensee's corrective action program as Callaway Action Request 20017423.

Since no cause had been determined, the licensee was venting the casing and recirculation line on each auxiliary feedwater pump on a shiftly basis. Venting was planned to continue at least until the root cause was determined.

1R15 Operability Evaluations (71111.15)

a. Inspection Scope

The inspectors reviewed the technical adequacy of several evaluations to verify that they were sufficient to justify continued operation of a system or component. The inspectors verified that, although equipment was degraded, the operability evaluation provided adequate technical justification that the equipment could still meet its Technical Specification, Final Safety Analysis, and design bases requirements and that any potential risk increase attributed to the degraded equipment was thoroughly evaluated. Operability evaluations for the following components were reviewed:

October 15, 2001	Residual heat removal Pump A room cooler
November 28, 2001	Feeder breaker for component cooling water from reactor coolant pump thermal barriers bypass Valve EGHV0061
November 15, 2001	Emergency Diesel Generator B
November 26, 2001	Auxiliary feedwater pumps (Refer to Section 4OA7 for a licensee identified violation associated with this operability evaluation)

b. Findings

No findings of significance were identified.

1R17 Permanent Plant Modifications (71111.17)

a. Inspection Scope

The inspectors reviewed the fire protection aspects of Modification MP-1038, "Replacement of existing GE Engineered Safety Features Transformers with Load Tap Changers Transformers." Since the load tap changers transformers were much larger

and contained more oil, the inspectors evaluated the transformer deluge system to ensure it was adequate to mitigate any transformer fire. The inspectors also verified that the installed deluge system was consistent with the requirements of Final Safety Analysis Report Section 9.5.1.

b. Findings

No findings of significance were identified.

1R19 Postmaintenance Testing (71111.19)

.1 Routine Postmaintenance Test Inspections

a. Inspection Scope

The inspectors verified that postmaintenance tests were adequate to verify system operability and functional capabilities. The inspectors verified that testing met design and licensing basis requirements, Technical Specifications, the Updated Final Safety Analysis Report, Inservice Testing, and licensee administrative procedure. The inspectors verified testing results for the following components:

- October 10, 2001 Containment spray Pump B discharge valve
- December 5, 2001 Component cooling water Pump C
- December 8, 2001 Main feedwater Pump A thrust bearing
- December 12, 2001 Containment spray Pump A

b. Findings

No findings of significance were identified.

.2 Maintenance of Component Cooling Water Pump C

a. Inspection Scope

On November 27, 2001, during planned maintenance, component cooling water Pump C failed. The inspectors reviewed the previously performed postmaintenance tests and the associated maintenance procedures that specified the work to be performed for their adequacy to verify system operability.

b. Findings

The inspectors identified that the licensee failed to perform adequate maintenance on component cooling water Pump C leading to failure of the pump. This finding was of very low safety significance and was a noncited violation of Technical Specification 5.4.1.

At 1:26 a.m. on November 27, 2001, component cooling water Pump C was started to support planned maintenance on component cooling water Train B. Two component

cooling water pumps supply each train. At approximately 2:30 a.m. the driving bearing temperature for the pump exceeded the 90°C alarm setpoint. Within 3 minutes the bearing temperature peaked at 130°C. The licensee promptly started component cooling water Pump A and secured Pump C.

The licensee determined that the high bearing temperature and resultant bearing failure had been caused by a lack of lubricating oil. Preventative maintenance had been performed on this pump in accordance with Work Order P635486, "Oil Change Pump and Motor," on November 15, 2001. The inspectors determined that the maintenance instructions had not included any directions as to the quantity of oil to be added to the pump. The only guidance specified in the procedure stated, "Use caution to fill cavity middle of the sight glass and no more." The licensee determined that an oily sight glass had prevented maintenance personnel from adding the proper amount of oil.

This finding is more than minor due to having a credible impact on safety because, if the other component cooling water pump that supplied the train had failed, the train would not have been available to perform its safety function. This finding affects the mitigating system cornerstone. This finding was found to be only of very low safety significance (Green) using the reactor safety significance determination process because no other safety-related equipment was rendered inoperable due to the ineffective maintenance procedure and the safety function was still maintained.

Technical Specification 5.4.1 requires, 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, Section 9, requires, in part, that "Maintenance that can affect the performance of safety-related equipment should be properly preplanned and performed in accordance with written instructions appropriate to the circumstances." The licensee's inadequate preventive maintenance document for the addition of lubricating oil resulted in damage to component cooling water Pump C. This violation is being treated as a noncited violation consistent with Section VI.A of the NRC Enforcement Policy (50-483/0106-02). This violation was entered into the licensee's corrective action program as Callaway Action Request 200107296.

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 Specifications, ASME Section XI test requirements, the Final Safety Analysis Report, and licensee procedural requirements:

- October 22, 2001 Operations Procedure OSP-AL-P001A, "Motor Driven Auxiliary Feedwater Pump "A" Inservice Test," Revision 26

- November 27, 2001 Surveillance Procedure ISF-EG-0F107, "FCTNAL-FLOW;CMPNT COOLING WTR FLOW," Revision 7
- December 6, 2001 Operations Procedure OSP-EF-P001B, "ESW Train 'B' Inservice Test," Revision 36
- December 6, 2001 Operations Procedure OSP-NE-0001B, "Standby Diesel Generator 'B' Periodic Tests," Revision 10

b. Findings

No findings of significance were identified.

1R23 Temporary Plant Modifications (71111.23)

a. Inspection Scope

Since April 1, 2001, the licensee has not installed any risk significant temporary modifications. As a result, none were available for review.

b. Findings

No findings of significance were identified.

1EP1 Exercise Evaluation (71114.01)

a. Inspection Scope

The inspectors reviewed the objectives and scenario for the 2001 exercise to determine if the exercise would acceptably test major elements of the emergency plan. The scenario included equipment and electrical power failures, a loss of reactor coolant, core damage, and a radiological release to demonstrate the licensee's capabilities to implement the emergency plan.

The inspectors evaluated exercise performance by focusing on the risk-significant activities of classification, notification, protective action recommendations, and assessment of offsite dose consequences in the following emergency response facilities:

- Simulator Control Room
- Technical Support Center
- Operations Support Area
- Emergency Operations Facility

The inspectors also assessed personnel recognition of abnormal plant conditions, the transfer of emergency responsibilities between facilities, communications, protection of

emergency workers, emergency repair capabilities, and the overall implementation of the emergency plan to verify compliance with the requirements of 10 CFR 50.54(q) and 50.47(b), and 10 CFR Part 50, Appendix E.

The inspectors reviewed drill reports, drill critiques, and corrective action requests to identify trends in licensee performance and to identify areas for which the licensee had completed corrective actions. The inspectors observed exercise performance in these areas to determine whether corrective actions were complete and effective. The inspectors attended the postexercise critiques in each of the above facilities to evaluate the initial licensee self-assessment of exercise performance. The inspectors also attended a subsequent presentation of critique items to plant management.

b. Findings

No findings of significance were identified.

1EP6 Drill Evaluation (71114.06)

a. Inspection Scope

The inspectors observed the simulator exercise conducted on November 7, 2001. The purpose of these observations was to evaluate operator performance, licensee event classification, notification of state and local authorities, and adequacy of protective action recommendations. The inspectors also reviewed the licensee's critiques of the exercises to determine if they were self-critical in the identification of strengths and performance issues.

b. Findings

No findings of significance were identified.

2. Radiation Safety
Cornerstone: Public Radiation Safety

2PS2 Radioactive Material Processing and Transportation (71122.02)

a. Inspection Scope

The inspectors interviewed chemistry and radwaste personnel involved in radioactive material/waste processing and transportation activities, and walked down the liquid and solid radioactive waste processing systems to verify that the current system configuration and operation agreed with the descriptions contained in the Final Safety Analysis Report and the Process Control Program. No shipments of radioactive materials were conducted during the inspection. The following items were reviewed and compared with regulatory requirements:

- Radioactive material/waste processing and shipping procedures

- The status of radioactive waste processing systems that were not operational and/or abandoned in place

- Changes made to the radioactive waste processing systems since the previous inspection in March 2000

- Waste stream sampling procedures and radio-chemical sample analysis results for each of the licensee identified radioactive waste streams for the year 2000 and 2001

- Scaling factors and calculations used to account for difficult-to-measure radionuclides

- Changes in waste stream composition due to changing operational parameters and analysis updates

- Conduct of the licensee's quality assurance program per 10 CFR Part 20, Appendix G

- Documentation for 11 nonexcepted package shipments that demonstrated shipment packaging, surveying, labeling, marking, placarding, vehicle checks, emergency instructions, waste disposal manifest, shipping papers provided to the driver, and licensee verification of shipment readiness (Shipments 00-0002, 00-0022, 00-0027, 00-0029, 00-0038, 00-0041, 01-0004, 01-0027, 01-0034, 01-0039, and 01-0058)

- Applicable transport cask Certificates of Compliance and cask loading and closure procedures

- Selected transferee licenses and state Department of Transportation permits

- Training program and lesson plans for personnel responsible for the conduct of radioactive waste processing and radioactive material/waste shipment preparation activities

- Quality assurance Audit AP00-004, "Radiological and Non-Radiological Environmental Monitoring Plan and Process Control Program," May 29 through August 7, 2000, and Audit AP01-001, "Assessed Plant Activities and Programs," January 1 through May 31, 2001

- Radwaste Department Self-Assessment, "Conduct of Radwaste Operations," September 17-21, 2001

- Special Report Radioactive Waste submitted February 15, 2001

- Nineteen Callaway Action Request System numbers related to the radioactive material/waste processing and shipping program (20000810, 20001002, 20001688, 20001706, 20001707, 20001880, 20001881, 20010166, 20010168, 20010182, 20010243, 20010345, 20010902, 20011189, 20013018, 20013076, 20013976, 20016198, and 20016391)

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator Verification (71151)

.1 Mitigating Systems Cornerstones

a. Inspection Scope

The inspectors reviewed the licensee's third quarter 2001 performance indicator data submittal to verify its accuracy and completeness. The inspectors reviewed control room logs, maintenance documents, surveillance tests, and corrective action reports to verify that the data was properly collected and reported in accordance with NEI 99-02, "Regulatory Assessment Performance Indicator Guidelines," Revision 2. The following performance indicators were reviewed:

- High pressure injection system unavailability
- Heat removal system unavailability
- Residual heat removal system unavailability

b. Findings

No findings of significance were identified.

.2 Drill and Exercise Performance

a. Inspection Scope

The inspectors verified the licensee's reported results for the drill and exercise performance indicator by reviewing all licensee records for exercises, site-wide emergency drills, and rapid responder drills conducted during the fourth quarter of 2000 through the second quarter of 2001 to verify the accuracy of the reported performance indicator data for that period. The inspectors evaluated licensee performance indicator collection and reporting practices against the standards of NEI 99-02, "Regulatory Assessment Performance Indicator Guideline."

b. Findings

No findings of significance were identified.

.3 Emergency Response Organization Readiness Performance Indicator Verification

a. Inspection Scope

The inspectors verified the licensee's reported results for the emergency response organization drill participation performance indicator for the fourth quarter of 2000 through the second quarter of 2001 by reviewing drill participation attendance records for a sample of eight key emergency responders. The inspectors evaluated licensee performance indicator collection and reporting practices against the standards of NEI 99-02, "Regulatory Assessment Performance Indicator Guideline."

b. Findings

No findings of significance were identified.

.4 Alert and Notification System Reliability Performance Indicator Verification

a. Inspection Scope

The inspectors verified the licensee's reported results for the alert and notification system reliability performance indicator by reviewing test worksheets and data for all offsite siren test results performed during the fourth quarter of 2000 through the second quarter of 2001 to verify the accuracy of the reported performance indicator data for that period. The inspectors evaluated licensee performance indicator collection and reporting practices against the standards of NEI 99-02, "Regulatory Assessment Performance Indicator Guideline."

b. Findings

No findings of significance were identified.

4OA2 Identification and Resolution of Problems

a. Inspection Scope

The inspectors reviewed the circumstances that caused the flood door to Train A of the emergency core cooling system equipment to be open and unmonitored. The inspectors also evaluated a similar incident from June 2001 in which the flood door to Train B of the emergency core cooling system equipment was open and unmonitored to assess the effectiveness of prior corrective actions as required by 10 CFR Part 50, Appendix B, Criterion XVI.

b. Findings

The licensee failed to implement corrective action that could have prevented a significant condition adverse to quality. This finding was of very low safety significance and was a noncited violation of 10 CFR Part 50, Appendix B, Criterion XVI.

On October 7, 2001, the licensee removed residual heat removal Pump A from service to perform maintenance on its room cooler. The residual heat removal pump, safety injection pump, containment spray pump, centrifugal charging pump, and associated room coolers were located in a common area. To support maintenance on the residual heat removal room cooler, maintenance personnel blocked open flood Door 11131 (centrifugal charging and safety injection pump room Train A) and ran a hose through the doorway.

The flood door was blocked open and no one was in the area to close the door if a fire water pipe rupture occurred. A placard on the door stated that per Request for Resolution 16409A, a continuous flood watch was required if the door was blocked open. After maintenance personnel were located, they stated that a fire protection impairment permit had been activated for the flood door, an hourly fire watch had been implemented for the door, and the door was not required to be continuously monitored.

Request for Resolution 16409A allowed the flood door to be blocked open only if a continuous flood watch was established. Calculations in the request for resolution found that flooding from a fire water pipe break in the auxiliary building would begin to flow into the safety injection and centrifugal charging pump room in approximately 10 minutes, thus necessitating the continuous flood watch. The requirements for the continuous flood watch were outlined in Attachment 5 of Engineering Procedure EDP-ZZ-04107, "HVAC Pressure Boundary and Watertight Door Control," Revision 11.

In June 2001, the inspectors identified that flood Door 11081 (Train B of the emergency core cooling system equipment) was left open and unmonitored. This door also required a continuous flood watch if it was open. The licensee documented this incident in Callaway Action Request 200104044. Refer to NRC Inspection Report 50-483/01-03. The licensee assigned this corrective action document a significance of Level 2. Significance Level 2 documents were considered significant conditions adverse to quality and required a thorough cause analysis, corrective actions to prevent recurrence, and management oversight review and approval. Actions to prevent recurrence were not scheduled to be implemented until Fall 2005. Had the licensee implemented corrective actions following the June 2001 occurrence, the October 7 incident may have been prevented. Since no immediate corrective action was taken, the licensee missed an opportunity to correct and possibly prevent a significant condition adverse to quality. Failing to take corrective action to prevent a Significance Level 2 (significant condition adverse to quality) condition was a violation (50-483/0106-03).

This finding is more than minor because it had a credible impact on safety in that, if a fire water pipe break occurred while the flood door was left open and unmonitored, fire water could affect operation of Train A of the emergency core cooling system equipment. In June 2001 the inspectors identified an instance in which the flood door leading to Train B of the emergency core cooling equipment was left open and unmonitored. Although the licensee considered this incident a significant condition adverse to quality, no corrective action to prevent recurrence was taken. This finding affected the mitigating systems cornerstone. This finding was found to be of very low safety significance (Green) using the reactor safety significance determination process because of the low likelihood of a

fire water pipe break and because of the availability of Train B equipment. This finding included crosscutting aspects in the area of problem identification and resolution.

Appendix B or 10 CFR Part 50, Criterion XVI, required, in part, that significant conditions adverse to quality be promptly identified and corrected and that measures be taken to assure that the cause of the condition is determined and that corrective action is taken to prevent repetition. On October 7, 2001, the inspectors identified that the flood door leading into the emergency core cooling system Train A equipment was open and unmonitored. In June 2001, the inspectors identified that the flood door leading into emergency core cooling system Train B equipment was open and unmonitored. Although the licensee considered the June 2001 incident to be a significant condition adverse to quality, they failed to take corrective action to prevent recurrence. Had action been taken to prevent recurrence they could have possibly prevented the October 7 incident. This violation of 10 CFR Part 50, Appendix B, Criterion XVI, is being treated as a noncited violation consistent with Section VI.A of the NRC Enforcement Policy. This issue is documented in the licensee's corrective action program as Callaway Action Request 200106307.

4OA6 Management Meetings

Exit Meeting Summary

The emergency preparedness inspectors presented inspection results to Mr. Garry Randolph, Senior Vice President and Chief Nuclear Officer, and other members of licensee management at the conclusion of the inspection on October 5, 2001.

The reactor inspectors presented inspection results to Mr. Ron Affolter, Vice President, Nuclear, and other members of licensee management on October 5, 2001.

The reactor engineers presented inspection results of the licensed operator requalification inspection to Mr. Ron Affolter and other members of the licensee's management staff at an interim exit interview on August 31, 2001. The final exit was held by telephone with Mr. James Gloe, Superintendent, Training, on November 8, 2001, after receipt and review of the results of the annual and biennial requalification examinations.

The reactor inspectors presented inspection results to Mr. Garry Randolph and other members of the licensee staff on December 5, 2001.

The health physics inspector presented inspection results for the radioactive material processing and transportation inspection to Mr. Ronald Affolter and other members of licensee management at the conclusion of the inspection on November 30, 2001.

The resident inspectors presented inspection results to Mr. Warren Witt, Plant Manager, on December 28, 2001.

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

4OA7 Licensee Identified Violations

The following findings of very low safety significance were identified by the licensee and are violations of NRC requirements, which meet the criteria of Section VI of the NRC Enforcement Policy, NUREG-1600, for being dispositioned as noncited violations.

NCV Tracking Number	Requirement Licensee Failed to Meet
50-483/200106-04	10 CFR Part 50, Appendix B, Criterion XVI, requires that measures be established to assure that conditions adverse to quality are promptly identified and corrected. On November 26, 2001, the licensee recognized that a previously identified condition (associated with minimum discharge pressure and recirculation flow) had not been corrected on the auxiliary feedwater system. This event is described in the licensee's corrective action program as Callaway Action Request 200107295. This finding is being treated as a noncited violation.
50-483/200106-05	10 CFR 71.12(c)(2) requires that a licensee who delivers to a carrier for transport licensed material in a package for which a Certificate of Compliance has been issued by the NRC shall comply with the terms and conditions of the Certificate of Compliance as applicable. On December 10, 1999 (Shipment 99-0075), and again on April 25, 2000 (Shipment 00-0022), dewatered bead resin was shipped to the Barnwell Waste Management Facility for disposal using Package USA/9208/B( )[NuPac Cask Model Number 10-142]. In each case, the leak test required by Section 9.b of the Certificate of Compliance was not performed. These events are described in the licensee's corrective action program as Callaway Action Requests 200100166 and 200100168. This finding is being treated as a noncited violation.
50-483/200106-06	10 CFR 71.5(a) requires that each licensee who transports licensed material outside the site of usage, as specified in the NRC license, or where transport is on the public highways, or who delivers licensed material to a carrier for transport, shall comply with the applicable requirements of the Department of Transportation regulations in 49 CFR Parts 170 through 189 appropriate to the mode of transportation. 49 CFR 172.202(a)(1) and (a)(3) require that the shipping description of a hazardous material on the shipping papers must include the proper shipping name prescribed for the material in Column 2 of 49 CFR 172.101, "Hazardous Materials Table," and the identification number prescribed for the material as shown

in Column 4. On December 10, 1999, the proper shipping name for Shipment 99-0075 was incorrectly determined to be “Radioactive Material, LSA, n.o.s., 7 - Radioactive Material UN2912” instead of “Radioactive Material, n.o.s., 7 - Radioactive Material UN2982.” Therefore, the shipment’s hazardous material identification number was also incorrectly assigned as UN2912 instead of UN2982. This event is described in the licensee’s corrective action program, as Callaway Action Request 200100168. This finding is being treated as a noncited violation.

ATTACHMENT

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee

R. Affolter, Vice President Nuclear
T. Antweiler, Maintenance Rule Administrator
T. Arms, Supervisor, Radwaste Operations
R. Barton, Shift Supervisor, Operations Training
J. Blosser, Manager, Regulatory Affairs
G. Bradley, Training Instructor/Evaluator
D. Carstens, Systems Engineer
D. Catlett, Training
J. Cruickshank, Supervisor, Radwaste Operations
P. Davis, Nurse
M. Evans, Manager, Operations Support
J. Gloe, Superintendent, Training
L. Graessle, Superintendent, Protective Services
S. Halverson, General Supervisor, Simulator Systems Management
D. Heinlein, Supervisor, Engineering
E. Henson, Supervisor, Instrumentation and Controls
J. Hiller, Engineer, Regional Regulatory Affairs
R. Howeth, Superintendent, Instrumentation and Controls
M. Jennings, Training Instructor/Evaluator
R. Lamb, Superintendent, Work Control
J. Laux, Manager, Quality Assurance
R. Miller, Supervisor, Chemistry and Radwaste
W. Muskopf, Engineer, Licensing
R. Myatt, Supervisor, Engineering
R. Neil, Assistant Superintendent, Operations
E. Olson, Superintendent, Chemistry and Radwaste
S. Putthoff, Operating Supervisor
G. Randolph, Senior Vice President
M. Reidmeyer, Supervisor, Regional Regulatory Affairs
R. Roselius, Superintendent, Health Physics
S. Sandbothe, Superintendent, Operations
K. Schoolcraft, Engineer, Regional Regulatory Affairs
E. Stewart, Operating Supervisor
M. Taylor, Manager, Nuclear Engineering
R. Wink, Acting Supervisor, System Engineering
W. Witt, Plant Manager

Other

T. East, Superintendent, Emergency Preparedness, Wolf Creek Generating Station

NRC

A. Sanchez, Operations Engineer

ITEMS OPENED AND CLOSED

Opened

50-483/0106-01	URI	Gas binding of auxiliary feedwater pump (Section 1R14)
50-483/0106-02	NCV	Failure to perform adequate maintenance on component cooling water Pump C (Section 1R19.2)
50-483/0106-03	NCV	Failure to take action to ensure emergency core cooling system flood doors are properly controlled (Section 4OA2)
50-483/0106-04	NCV	Failure to correct potential degradation of motor-driven auxiliary feedwater pumps (Section 4OA7)
50-483/0106-05	NCV	Failure to perform shipping cask leak test requirement prior to shipment (Section 4OA7)
50-483/0106-06	NCV	Failure to provide the correct proper shipping name and shipment identification number (Section 4OA7)

Closed

50-483/0106-02	NCV	Failure to perform adequate maintenance on component cooling water Pump C (Section 1R19.2)
50-483/0106-03	NCV	Failure to take action to ensure emergency core cooling system flood doors are properly controlled (Section 4OA2)
50-483/0106-04	NCV	Failure to correct potential degradation of motor-driven auxiliary feedwater pumps (Section 4OA7)
50-483/0106-05	NCV	Failure to perform shipping cask leak test requirement prior to shipment (Section 4OA7)
50-483/0106-06	NCV	Failure to provide the correct proper shipping name and shipment identification number (Section 4OA7)

DOCUMENTS REVIEWED

The following documents were selected and reviewed by the inspectors to accomplish the objectives and scope of the inspection and to support any findings:

Callaway Action Requests:

199800191	199900856	199903468	200002546
199801666	199901284	199101821	200101272
199803022	199901549	200102332	200105027
199803574	199901897	200000456	200105765
199803967	200000113	200102209	200107144
199900615	199901822	200101957	

Procedures		Revisions
APA-ZZ-00101	Procedure Preparation, Review and Approval	33 and 34
APA-ZZ-00140	Environmental and Other Licensing Evaluations	28 and 29
TDP-ZZ-00010	Operational Evaluations	10
TDP-ZZ-00019	NRC License Examination Security and Integrity	3
TDP-ZZ-00021	Job Performance Measures	2
TDP-ZZ-00022	Licensed Operator Continuing Training Program	11
TDP-ZZ-00025	Emergency Operating Procedure Usage	4
TDP-IS-00002	Simulator Configuration Management	2
ODP-ZZ-00001	Operations Department - Code of Conduct	
N/A	Callaway Radiological Emergency Response Plan	24
EIP-ZZ-00101	Classification of Emergencies	28
EIP-ZZ-00201	Notifications	35
EIP-ZZ-00212	Protective Action Recommendations	19
EIP-ZZ-00240	Technical Support Center Operations	27
EIP-ZZ-01211	Management Action Guides for Nuclear Emergencies	22
EIP-ZZ-C0010	Emergency Operations Facility Operations	24
HDP-ZZ-01300	Internal Dosimetry Program	19
HDP-ZZ-01450	Authorization to Exceed Federal Occupational Dose Limits	7

HTP-ZZ-01201	Preparation and Maintenance of General and Specific Radiation Work Permits	30
HTP-ZZ-03300	Airborne Radioactivity Surveys	5
KDP-ZZ-2000	Performance Indicator Data Collection	0
ETP-KJ-00003	Diesel generator heat exchanger test	3
EDP-ZZ-01112	Heat exchanger predictive performance manual	7
ETP-ZZ-03001	GL89-13 heat exchanger inspection	4
EDP-ZZ-01121	Raw water systems predictive performance manual	5
ETP-EG-00001	Component cooling water heat exchanger test	2
ETP-GL-00001	Area room cooler coil test	3
ETP-EF-0002B	Essential service water train B flow verification	8

Written Examinations

Week one written exams
Week two written exams

Job Performance Measures

URO-AEO15PA044J(A)	Local Isolate a MSIV, dated 9/18/2001
URO-AEO15PA054J	Local Start NE02 [“B” Emergency Diesel Generator], dated 9/17/2001
URO-SAB05PBC57J	Perform MSIV Accumulator Precharge Checks, dated 9/17/2001
URO-SGG01PDC10J	Restoration of Fuel Handling Building after FBVIS, dated 9/17/2001
SRO-RER02PAC118J(TC)	Emergency Event Classification, dated 9/17/2001
URO-SSF02PDC31J	Perform Recovery of a Misaligned Control Rod-High, dated 9/17/2001
URO-AEO07PC024J	Emergency Boration Per FR-S.1, dated 7/24/2000
URO-SBB05PGC77J(F)	Perform BBHV8000A Stroke Test, dated 5/10/2000
URO-SEF02PCC03J	Manually Operate an ESW Train, dated 5/23/2000
EOE-SAP02PA043J	Emergency CST Fill From Firewater, dated 6/6/2000

SRO-RER02PAC122J(TC)	Emergency Event Classification, dated 5/23/2000
URO-SSE03PCC32J	Respond to a Failed Power Range Instrument, dated 12/15/1993
URO-SBG02PAC79J	Swap From the NCP to 'B' CCP, dated 9/26/2001
SRO-RER02PAC114J(TC)	Emergency Event Classification, dated 10/1/2001

Simulator Information Formal Tracking (SIFT)

1995-01-25	1999-05-15	2000-01-06	2000-03-13	2000-04-02
1998-07-12	1999-06-01	2000-02-12	2000-03-14	2000-04-06
1998-07-21	1999-10-02	2000-02-13	2000-03-15	2000-05-10
1998-10-12	2000-01-01	2000-02-15	2000-03-17	2000-05-11
1999-05-12	2000-01-03	2000-02-25	2000-03-21	2001-02-25
1999-05-13	2000-01-04	2000-03-10	2000-04-01	2001-05-10
1999-05-14				

Scenarios

DS-01	ATWAS [Anticipated Transient Without Scram] dated 6/30/2000
DS-22	SGTR with RCP Off-Normal (Seal Leak), dated 9/19/2001
DS-37	Station Blackout due to Seismic Event, dated 8/15/2000
DS-38	Loss of Heat Sink, dated 9/19/2001

Licensing Impact Reviews (Evaluations)

CMP 01-1013	CN 99-030	MP 98-1036
RFR 19717	RFR 20019	RFR 20207
RFR 20269	RFR 20473	RFR 21102

Licensing Impact Reviews (Screenings)

RFR 13440	RFR 15697	RFR 16311
RFR 20425	RFR 21119	RFR 21425
RFR 21507	RFR 21542	RFR 21582
RFR 21589	RFR 21643	

Calculations

EF-45, Add 2	Evaluation of as-found ESW flows for past operability	Revision 4
EF-45, Add 3	Determine ESW flow rates to be used in flow balance procedures ETP-EF-0002A/B	Revision 4
M-GF-01	Cooling load, motor-driven auxiliary feedwater pump room	Revision 0

EG-14	Component cooling water system calculation	Revision 0
M-YY-44, Add. 2	Addend calculation to reference Calculation M-EG-20, Addendum 1, which revises the maximum design basis operational temperatures in the CCW system	Revision 0
P-33	Component cooling heat exchanger	Revision 0

Requests for Resolution

19203
19513
7809

Suggestion Occurrence Solution

99-1822
99-3468
99-1821

Work Documents

W207895	P623115	P592239
P653134	P631061	P644211
P610949	P651727	P592312
P560226	P550998	P549427
P643872	P648556	P568019
P593939	P573817	P572557
A643872A	P629331	P627421
P610949	P596892	
P589317	P618126	
P621800	P636491	

Other Documents Reviewed

Maintenance Rule Periodic Assessment for Cycle 10 (5/5/98 thru 11/5/99)

Maintenance Rule Periodic Assessment for Cycle 11 (11/6/99 thru 5/21/01)

Sample Plan License Requal, April 1999 - April 2001

Callaway Plant Simulator 2000 Certification Annual Report, dated 11/30/2000

Callaway Plant Simulator Certification, dated 3/13/2000

Window 1B Priority Work List, 10/02/2001

Window 1P Open Software Items, 10/02/2001

Callaway Plant Simulator 2000 and 2001 Configuration Control Status Summary, 10/02/2001

Callaway Action Request (CAR) 200106174, TDP-ZZ-0022 Expired License Upgrade Enhancement, 10/3/01

Differences Between this “UNIT” and the “OTHER UNIT”, for LOCT [Licensed Operator Continuing Training] Cycles 2001-01 Week 8, 2001-03 Week 8, 2001-04 Week 5

Callaway Plant Training Department Pilot Program Guide, Simulator Scenario, 3/15/00

UEND-Training-01, Training Guide, Systematic Approach to Training, 6/6/01

Desk Top Instruction - 016, Enhancements, 7/2/01

Policy: UEND-Communications-01, Guidelines for Verbal Communications, 1/14/98

ULNRC-2146, Response to Generic Letter 89-13 service water system problems affecting safety-related equipment, January 29, 1990

ULNRC-2344, Response to Generic Letter 89-13 service water system problems affecting safety-related equipment, November 14, 1990

SAE01-NE-007, Final report for the peer assessment of Ameren UE’s Callaway program GL 89-13 (service water) site programmatic compliance, August 27, 2001