UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
611 RYAN PLAZA DRIVE, SUITE 400
ARLINGTON, TEXAS 76011-4005

October 1, 2002

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

SUBJECT: ERRATA FOR CALLAWAY PLANT - NRC SUPPLEMENTAL INSPECTION REPORT 50-483/02-09

Dear Mr. Randolph:

Please replace the SUMMARY OF FINDINGS page in NRC Inspection Report 50-483/02-09, dated September 20, 2002, with the attached revised page. This page is being reissued as the summary of the findings was not included in the original issue of the inspection report.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at http://www.nrc.gov/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/ Kriss M. Kennedy acting for

Ken E. Brockman, Director
Division of Reactor Projects

Docket: 50-483
License: NPF-30

Enclosure:
Summary of Findings for
NRC Inspection Report
50-483/02-09

cc:
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Scott Morris **(SAM1)**
CWY Site Secretary **(DVY)**

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RIV:C:DRP/TSS	C:DRP/B	D:DRP		
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/RA/	***RAKopriva for***	***KMKennedy for***		
10/1/02	10/1/02	10/1/02		

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SUMMARY OF FINDINGS

Callaway Plant
NRC Inspection Report 50-483/02-09

IR 05000483-02-009; on 08/12/2002-08/16/2002; Union Electric Co; Callaway Plant Supplemental Inspection Report

This inspection was conducted by the Chief, Technical Support Staff, a Project Engineer, and an Engineering Associate. The inspection was performed to independently verify that adequate corrective actions had been taken for the White finding identified in NRC Inspection Report 50-483/02-07. The White finding involved the corrective actions taken to address the on-demand failure of an auxiliary feedwater pump to start. The inspection did not identify any safety significant findings. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described at its Reactor Oversight Process web site at http://www.nrc.gov/NRR/OVERSIGHT/index.html.

Cornerstone: Mitigating Systems

The NRC performed this supplemental inspection to assess the licensee's corrective actions associated with the inoperability of a motor-driven auxiliary feedwater pump. This performance issue was previously characterized as having low to moderate risk significance in NRC Inspection Report 50-483/02-07. During this inspection, the NRC concluded that the licensee had effectively identified and implemented corrective actions for the root and contributing causes for the inoperability of the auxiliary feedwater pump. Based on effective implementation of the corrective actions, it appeared that the inoperability of the pump as a result of foam being entrained in the suction of the pump was adequately addressed.

The effectiveness of the overall corrective action program changes documented in NRC Inspection Report 50-483/02-09, and the licensee's letter to NRC, dated May 8, 2002, will be reviewed during the Problem Identification and Resolution inspection, currently scheduled for December 2002. The performance issue associated with the White inspection finding will remain open until that review is completed.

UNITED STATES
NUCLEAR REGULATORY COMMISSION
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611 RYAN PLAZA DRIVE, SUITE 400
ARLINGTON, TEXAS 76011-4005

September 20, 2002

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

SUBJECT: CALLAWAY PLANT - NRC SUPPLEMENTAL INSPECTION REPORT 50-483/02-09

Dear Mr. Randolph:

On August 23, 2002, the NRC completed a supplemental inspection at your Callaway Plant. The enclosed report documents the inspection findings that were discussed with Mr. W. Witt and other members of your staff.

An Augmented Team Inspection, conducted in January-February 2002, was performed in response to the failure of a motor-driven auxiliary feedwater pump to perform its intended safety function. A degraded condensate storage tank floating cover resulted in foam becoming entrained in the auxiliary feedwater system suction piping. The presence of the foam caused an on-demand failure of an auxiliary feedwater pump, while plant operators reduced reactor power on December 3, 2001.

The Augmented Team Inspection report, NRC Inspection Report 50-483/02-07, discussed a finding related to the degradation of the tank seal that involved the failure, on multiple occasions, of the licensee to identify and correct a risk significant condition adverse to quality. The finding was assessed using the Significance Determination Process and was determined to be White. The finding had a low to moderate safety significance under the Significance Determination Process because it involved an increase in the core damage frequency of between 1E-6/year and 1E-5/year.

This supplemental inspection was conducted to provide assurance that the root and contributing causes of the White finding had been identified and fully implemented, as stated in your letter dated May 8, 2002.

The NRC concluded that your staff had effectively identified and implemented the root and contributing causes for the inoperability of the auxiliary feedwater pump. Based on effective implementation of the corrective actions, it appeared that the inoperability of the pump, as a result of foam being entrained in the suction of the pump, were adequately addressed. The White finding will be reviewed to verify all corrective actions have been satisfactorily addressed during the problem identification and resolution inspection currently scheduled for December 2002.

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 (PARS) 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).

Sincerely,

/RA/

Ken E. Brockman, Director
Division of Reactor Projects

Docket: 50-483
License: NPF-30

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NRC Inspection Report
50-483/02-09

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CWY Site Secretary **(DVY)**

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ELCrowe	PHHarrell	DNGraves	KEBrockman
T - PHHarrell	***/RA/***	***RAKopriva for***	***/RA/***
9/17/02	9/17/02	9/19/02	9/20/02

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ENCLOSURE

U.S. NUCLEAR REGULATORY COMMISSION

REGION IV

Docket:	50-483
License:	NPF-30
Licensee:	Union Electric Company
Facility:	Callaway Plant
Report:	50-483/02-09
Location:	Junction Highway CC and Highway O Fulton, Missouri
Date:	August 19-23, 2002
Inspectors:	P. Harrell, Chief, Technical Support Staff E. Crowe, Project Engineer, DRP
Accompanying Personnel:	C. Neill, Engineering Associate, DRP
Approved by:	K. Brockman, Director, Division of Reactor Projects

SUMMARY OF FINDINGS

Callaway Plant
NRC Inspection Report 50-483/02-09

IR 05000483-02-09; on 08/12/2002-08/16/2002; Union Electric Co; Callaway Plant Supplemental Inspection Report

This inspection was conducted by the Chief, Technical Support Staff, a Project Engineer, and an Engineering Associate. The inspection did not identify any safety significant findings. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described at its Reactor Oversight Process web site at http://www.nrc.gov/NRR/OVERSIGHT/index.html.

Report Details

01 Inspection Scope

This supplemental inspection was performed by the NRC in accordance with Inspection Procedure 95002, "Inspection for One Degraded Cornerstone or Any Three White Inputs in a Strategic Performance Area." This inspection assessed the implementation of the corrective actions taken by the licensee to address an on-demand failure of an auxiliary feedwater pump (AFW) to start. A review was conducted to ensure that the licensee had implemented the identified corrective actions in an effective manner and to ensure that all possible contributing causes had been identified and addressed. In addition, an independent verification was conducted of the licensee's net positive suction head (NPSH) calculations for the AFW pumps.

NRC Inspection Report 50-483/02-07 reviewed and documented many of the inspection attributes provided in Inspection Procedure 95002. This inspection reviewed the remaining attributes.

02 Review of the Licensee's Corrective Actions (95002)

02.01 Commitments Made by Licensee to Address White Finding

In a letter dated May 8, 2002, the licensee committed to complete the following corrective actions:

- The old floating cover was removed from the condensate storage tank (CST). Plans were to install a new seal during the next refueling outage in the fall of 2002.

- Procedure APA-ZZ-0500, "Corrective Action Program," was revised to: (1) require operability determinations to be completed within 24 hours; (2) require the Manager, Callaway Plant, or his designee, to identify the root cause team composition, scope, and due date within 2 working days of the designation of a Significant Level 1 corrective action report (CAR); (3) require completion of Significant Level 1 and 2 CAR evaluations within 45 days or sooner, commensurate with significance and plant needs; and (4) embrace the Generic Letter 91-18 philosophy.

- Performance indicators were enhanced to ensure effective monitoring of the corrective action program.

- Followup training for the corrective action program changes was provided using an outside consultant.

02.02 Review of Licensee's Corrective Actions

a. The old floating cover was removed from the CST. Plans were to install a new seal during the next refueling outage in the fall of 2002.

The inspectors reviewed the current status of the floating cover for the CST and determined that the old cover had been removed. In context with this effort, the inspectors also reviewed the calculations to independently verify that the required NPSH was available for the AFW feedwater pumps.

The inspectors noted that the floating cover would not be replaced until the upcoming refueling outage. Review of the replacement of the cover will be conducted during performance of the problem identification and resolution inspection currently scheduled for December 2002.

The inspectors reviewed the NPSH calculations for the AFW pumps. No problems were noted that affected the overall conclusions of the calculations that determined sufficient NPSH was available for the current configuration of the CST and the AFW systems.

b. Procedure APA-ZZ-0500, "Corrective Action Program," was revised to: (1) require operability determinations to be completed within 24 hours; (2) require the Manager, Callaway Plant, or his designee, to identify the root cause team composition, scope, and due date within 2 working days of the designation of a Significant Level 1 corrective action report (CAR); (3) require completion of Significant Level 1 and 2 CAR evaluations within 45 days or sooner, commensurate with significance and plant needs; and (4) embrace the Generic Letter 91-18 philosophy.

   The inspectors reviewed Procedure APA-ZZ-0500 to verify that the commitments made by the licensee had been included in the procedure. In addition, the inspectors performed random reviews of CARs, operability determinations, and other documents to verify that the licensee was appropriately implementing these new commitments.

   Based on these reviews and discussions with plant personnel, it appeared that the licensee had revised Procedure APA-ZZ-0500 to include the commitments made to the NRC. A review of a sampling of various documents indicated that the licensee was implementing these new requirements as was directed by Procedure APA-ZZ-0500.

c. Performance indicators were enhanced to ensure effective monitoring of the corrective action program.

   The inspectors reviewed the enhancements made to the performance indicators to verify that the changes would provide the effective monitoring of the corrective action program. Based on this review, no issues were identified.

d. Followup training for the corrective action program changes was provided using an outside consultant.

   The inspectors verified that the followup training provided to the licensee's staff included the appropriate information and that the appropriate staff were provided the training. During this review, no issues were identified by the inspectors.

4. OTHER ACTIVITIES

4OA3 Event Followup (71153)

(Closed) Licensee Event Report 50-483/2002-01-00 and -01: Manual Auxiliary Feedwater Actuation and Subsequent Gas Binding of Motor-Driven Auxiliary Feedwater Pump A

Based on the reviews conducted during this inspection, this licensee event report is closed.

4OA6 Management Meetings

Exit Meeting Summary

The inspectors presented the inspection results to Mr. W. Witt, Plant Manager, and other members of licensee management at the conclusion of the inspection on August 23, 2002. The licensee acknowledged the findings presented.

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

ATTACHMENT

PARTIAL LIST OF PERSONS CONTACTED

Licensee

R. Affolter, Vice President, Nuclear
S. Bond, Superintendent, Nuclear Engineering Systems
M. Evans, Manager, Operational Support
G. Harris, Design Engineer, Nuclear Engineering Design Mechanical
J. Hiller, Engineer, Regional Regulatory Affairs
V. McGaffic, Superintendent, Performance Improvement
R. Myatt, Supervisor, Reliability Group
P. Myer, Design Engineer, Nuclear Engineering Design Electrical
M. Reidmeyer, Supervisor, Regional Regulatory Affairs
E. Smith, Engineer, Inservice Testing
R. Wink, System Engineer and Administrative Supervisor

NRC

V. Gaddy, Senior Resident Inspector

ITEMS OPENED, CLOSED, AND DISCUSSED

Opened During this Inspection

None

Closed During this Inspection

None

DOCUMENTS REVIEWED

PROCEDURE	TITLE	REVISION
ODP-ZZ-00003	Shift Relief and Turnover	09
APA-ZZ-00542	Event Review	05
APA-ZZ-00500	Corrective Action Program	32
OSP-BL-00001	RX M/U WTR ISO VLVS W/O RCS LOOPS IN OPERATION/MODE 6 ALIGNMENT	08 & 09

CAR	TITLE
200204566	ESOL#9725 “Operability Determination”
200202540	ESOL#9524 “Operability Determination”
2002002822	Operability Determination - Pipe Wall Measured Below Manufacturers Minimum Wall Downstream of EAV0309
200200627	Operability Determination Improvements to APA-ZZ-00500
200200485	Evaluate the Potential Effects of Dissolved Nitrogen on the Aux Feedwater
200200609	Bechtel Calculation M-AL-16 Rev. 0 Contains a Non-Conservative Value for Motor Driven Aux Feed Pump Flow Rate
200202726	During Second Dive Inspection of the CST, An Unexpected Item Was Recovered
200200694	Effectiveness of Incident Investigations
200200926	Low Pump DP Was Measured on “A” MDAFW Run
200205067	Operability Determination - Pin Hole Leak in EFV0058
200201889	Operability Determination - Control Room Halon Bank Depressurized
200203973	Partial SAT Surveillance on OSP-AC-0007
200203882	EFHV066 Failed to Stroke During OSP-EF-V001B
200202540	Inadvertent RCS Dilution Events from BTRS
200107423	High Main Turbine Vibration, AFAS and No Flow On “A” - AFW Pump

REQUEST FOR RESOLUTION	TITLE	REVISION
21816	Determine Impact on M-AL-16 for N2 and Low AL Flow	
21751	Evaluate Permanent Throttling of AFW Mini Iso Vlvs	A

18621	IST TDAFW Speed Reference Acceptance Range	B

CALCULATION	TITLE	REVISION
M-AL-24	Determine the Effect of Dissolved Nitrogen on the NPSHa AL Pumps	0, ADD 1, & ADD 2
M-AL-16	AFW Flow Model Using Pipe2000, Modeling of the “A” and “B” MDAFP	2 & 3
M-AL-30	AFW Flow Model Using Pipe2000, Modeling of the “A” MDAFW Pump Curve Based on Performance Data	1

MISCELLANEOUS	TITLE	REVISION
SLNRC 84-0089	SNUPPS Technical Specifications Reactor Systems Branch Issues	May 31, 1984
CN Number 02-006	Final Safety Analysis Report Change Notice - “Changes to Table 10.4-12 Related to RFR 21816A. Regarding Clarification of the Table with Respect to Revised NPSH Available and Pump Capacity.”	
M-021-00061	Instruction Manual For Centrifugal Pumps	27

ACRONYMS

AFW	auxiliary feedwater
CST	condensate storage tank
CAR	Callaway action request
CFR	Code of Federal Regulations
RCS	reactor coolant system
NPSH	net positive suction head
NRC	U.S. Nuclear Regulatory Commission
BTRS	Boron Thermal Regeneration System