

U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Report No. 50-483/84-31(DRS)

Docket No. 50-483

License No. NPF-25

Licensee: The Union Electric Company
Post Office Box 149
St. Louis, MO 63166

Facility Name: Callaway Site, Callaway County, MO

Inspection Conducted: June 11 through July 13, 1984

Inspectors:

L. A. Reyes for
M. J. Farber

7/28/84

M. L. McCormick-Barger
M. L. McCormick-Barger

7/30/84

L. A. Reyes for
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7/30/84

L. A. Reyes for
W. E. Milbrot

7/30/84

D. L. Williams
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7/27/84

Approved By:

L. A. Reyes
L. A. Reyes, Chief
Test Programs Section

7/28/84

Inspection Summary:

Inspections conducted on June 11 through July 13, 1984 Report No. 50-483/84-31 (DRS))

Areas Inspected: Routine unannounced inspection of licensee action on previous inspection findings; initial fuel load witnessing; verification of reactor core inventory; initial core load results reviews; approved startup test procedure reviews; and preoperational test results package reviews. The inspection involved a total of 109 inspector-hours onsite and 90 inspector-hours offsite by Five NRC inspectors, including 15 inspector-hours onsite during offshifts.

Results: Of the six areas inspected, no items of noncompliance or deviations were identified in five areas; one item of noncompliance was identified in the remaining area (failure to adhere to an approved preoperational test procedure and failure to adequately review preoperational test results - Paragraph 7.a).

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DETAILS

1. Persons Contacted

- *E. K. Dille, Executive Vice President
- *S. E. Miltenberger, Manager, Callaway Plant
- *R. L. Powers, Assistant Manager, Quality Assurance
- *G. L. Randolph, Assistant Plant Manager, Technical Services
- *A. P. Neuhalfen, Assistant Plant Manager, Operations and Maintenance
- *M. E. Taylor, Superintendent of Operations
- *D. C. Poole, Advisor to the Manager, Callaway Plant
- *#W. H. Sheppard, Superintendent of Engineering
- *J. C. Gearhart, Supervising Engineer, Operations Quality Assurance
- *J. E. Davis, Superintendent of Compliance
- *R. J. McCann, Engineer, Quality Assurance
- #D. T. Keating, Supervisor, Package Review Group
- #W. A. Norton, Engineer, Quality Assurance

*Denotes those attending the exit interview on June 15, 1984.

#Denotes those attending the exit interview on July 13, 1984.

Additional plant technical and administrative personnel were contacted by the inspectors during the course of the inspection.

2. Action on Previous Inspection Findings

- a. (Open) Noncompliance (483/84-19-01(DRS): Inadequate control of temporary modifications. During discussion of this item the licensee indicated that the response to this item was completed and was being forwarded to the regional office as required.
- b. (Open) Noncompliance (483/84-19-02(DRS): Inadequate programs to prevent inadvertent bypassing of required retesting. During discussion of this item the licensee indicated that the response to this item was completed and was being forwarded to the regional office as required.
- c. (Open) Noncompliance (483/84-19-03(DRS): Failure to use adequate measures to protect equipment during maintenance. During discussion of this item the licensee indicated that the response to this item was completed and was being forwarded to the regional office as required.

3. Initial Fuel Load Witnessing

The inspectors witnessed portions of the initial fuel loading activities including the removal of fuel from the fuel storage area, manipulation through the containment penetration, and the placement of assemblies in the reactor vessel. The adherence to applicable requirements in the Callaway Plant Technical Specifications was observed including the verification of proper shift manning, communications adequacy, and the availability of required instrumentation and other equipment. Refueling

status boards were observed being maintained both in the control room and containment. A reactor coolant system sample was witnessed being drawn and analyzed for boron concentration, and the inverse multiplication plots were reviewed for their proper development and use in preventing inadvertent criticality.

The inspectors verified that the licensee had implemented appropriate cleanliness controls during refueling operations. A few minor problems were noted and discussed with the licensee who indicated that corrective action would be taken. The inspectors also observed that coaming was not provided around the edges of the spent fuel pit, fuel transfer canal, or refueling pool. While not a design requirement, this would provide additional protection against debris falling into these areas. The licensee noted the inspector's comments on this item.

The inspectors noted a cautious and proper attitude for plant safety on the part of plant management and staff. Qualified personnel were evident in both the direction of activities and "hands on" involvement with moving the fuel.

Two problems were noted involving the proper use of plant operating procedures. One, involving use of the spent fuel pit bridge crane, was identified by the inspectors. The other, involving procedural requirements for verification of source range neutron monitor reliability, was identified by the licensee. Nuclear safety was not compromised in either case. Nevertheless, the problems raised a question about the licensee's emphasis and effectiveness in using, proving, correcting, and improving plant operating procedures which will be used throughout plant life. This point was discussed with members of licensee management who understood the concern and took immediate measures to improve the performance of the refueling crew in this area.

Overall, fuel loading activities witnessed by the inspectors appeared well handled by both management and staff.

No items of noncompliance or deviations were identified.

4. Verification of Reactor Core Inventory

The inspector reviewed video tapes of the core mapping following the completion of initial fuel load. The tapes facilitated verification of fuel assembly and insert numbers to assure that the fuel assemblies and inserts were loaded in the proper locations. The inspector compared the video tapes to a Reactor Core Inventory Record, Attachment 9 to EDP-ZZ-00001, Rev. 0, Special Nuclear Material Control and Accounting Procedure.

No items of noncompliance or deviations were identified.

5. Initial Core Load Preliminary Results Review

The inspector conducted a preliminary review of the results package for ETT-ZZ-07010, Rev. 3, Initial Core Load. Although the package had not

been reviewed and approved by the Onsite Review Committee (ORC), the inspector reviewed the package to evaluate test conduct and to provide a baseline for future evaluation of the effectiveness of the ORC review process.

The review revealed some administrative deficiencies which are listed below:

- a. Reverification of prerequisites prior to resumption of testing was not always properly completed.
- b. Resolutions to problems and unusual conditions were not always indicated in the test log.
- c. Temporary Changes Notices were not always complete and resulted in some steps not being deleted as required.
- d. Mixing of two different revisions resulted in some pages in the packages not having any initials or dates.

These problems were discussed with licensee management. The licensee was cautioned that errors of this type which occurred during the preoperational program would not be acceptable during the initial startup phase.

No items of noncompliance or deviations were identified.

6. Initial Startup Test Procedure Reviews

Below is a list of startup tests for which the inspectors have completed their review:

ETT-SF-07014, Rev. 1, Control Rod Drive Mechanism (CRDM) and Digital Rod Position Indication (DRPI) Test (Cold Shutdown)
ETP-ZZ-00008, Rev. 0, RTD/TC Cross Calibration
ETT-SF-07040, Rev. 0, Digital Rod Position Indication
ETT-ZZ-09240, Rev. 0, Natural Circulation Test

The procedures were reviewed against the Final Safety Analysis Report (FSAR), Safety Evaluation Report (SER), applicable Regulatory Guides and Standards, and portions of 10 CFR 50. The inspectors had the following comments with respect to the review of:

- a. ETP-ZZ-00008, Rev. 0, RTD/TC Cross Calibration
The review resulted in a list of questions addressing incompatibility of procedure step numbers, inconsistency between a Data Sheet and an Attachment involving RTD/Switch Position Lineup, and a procedure step dealing with RTD correction factors which needs clarification. Resolution of the inspector's questions is considered an open item (483/84-31-01(DRS)).

Except as noted above, the inspectors have no questions on these procedures.

Below is a list of startup tests for which the inspectors have begun their test procedure review. Comments pertaining to these procedures will be addressed in a future inspection report:

ETT-SR-07010, Rev. 1, Initial Startup Flux Mapping
ETP-SR-00200, Rev. 0, Flux and Thermocouple Mapping
ETT-SF-07092, Rev. 1, Pseudo Rod Drop at 50% Power
ETT-ZZ-07110, Rev. 0, Plant Trip from 100% Power

No items of noncompliance or deviations were identified.

7. Preoperational Test Results Package Reviews

The inspectors reviewed the following preoperational test results packages during this period:

CS-03NE01, Rev. 0, Diesel Generator Electrical Test
CS-03NF01, Rev. 1, Shutdown Sequencer
CS-03EJ02, Rev. 1, Residual Heat Removal System Hot Test
CS-03EN02, Rev. 2, Containment Spray
CS-U3EF1-01, Rev. 0, Essential Service Water Flow Balancing

The packages were reviewed to ensure that test results are being adequately evaluated, test data meets acceptance criteria, deviations are properly identified and resolved, review procedures are being followed, and administrative practices are adequate with respect to test execution and data evaluation. The inspectors had the following comments with respect to the review of:

- a. CS-03NE01, Rev. 0, Diesel Generator Electrical Test
For each of the thirty-five starts the procedure required a one hour run with a fifty percent load between entries on data sheet 8.3. This method satisfies the requirements of Regulatory Guide 1.108 for a valid test (successful start followed by a successful loading to at least 50% capacity and run for at least one hour). For diesel generator A this procedure was not followed on twenty-seven of the thirty-five accepted starts with shortfalls of from one to fifteen minutes per run. For diesel generator B the procedure was not followed on fourteen of the thirty-five accepted starts with shortfalls of from one to four minutes. Entries in the test log are not sufficient to ensure that the one hour minimum run time requirement was met for those starts with data sheet deficiencies.

Failure to follow the test procedure and failure of the Joint Test Group to recognize this deficiency and approval of the test results package without evaluating its impact on the acceptability of the test is an item of noncompliance (483/84-31-02(DRS)).

Evaluation by the licensee of the validity of the diesel tests with the recorded discrepancy is an open item (483/84-31-03(DRS)) pending review by the inspector of the dispositioned Request For Response (RFR).

b. CS-03NF03, Rev. 1, Shutdown Sequencer

The recorded final bus loads on data sheets 8.7 and 8.10 are significantly different than the expected value of 5847 KW. For bus NB01 on data sheet 8.7 the load was 4524.2 KW which is 77% of expected. For bus NB02 on data sheet 8.10 the load was 3756.2 KW which is 64% of expected. The package does not contain any explanation for this discrepancy. Resolution of this discrepancy is an open item. (483/84-32-04(DRS)).

No other items of noncompliance or deviations were identified.

8. Open Items

Open items are matters which have been discussed with the licensee, which will be reviewed further by the inspector, and which involve some action on the part of the NRC, the licensee, or both. Open items disclosed during the inspection are discussed in Paragraphs 6.a, 7.a, and 7.b.

9. Exit Interview

The inspectors met with licensee representatives (denoted in Paragraph 1) on June 15, 1984 and July 13, 1984 to discuss the scope and findings of the inspection. The licensee acknowledged the statements made by the inspectors with respect to items discussed in the report.