

U.S. NUCLEAR REGULATORY COMMISSION

REGION III

Report No. 50-483/85005(DRP)

Docket No. 50-483

License No. NPF-30

Licensee: Union Electric Company
Post Office Box 149 - Mail Code 400
St. Louis, MO 63166

Facility Name: Callaway Plant, Unit 1

Inspection At: Callaway Site, Steedman, MO

Inspection Conducted: March 10 through June 24, 1985

Inspector: B. H. Little

Approved By: *John F. Swenson*
G. C. Wright, Chief
Reactor Projects Section 2A

July 24, 1985
Date

Inspection Summary

Inspection on March 10 through June 24, 1985 (Report No. 50-483/85005(DRP))

Areas Inspected: Routine, unannounced safety inspection by the resident inspector of previous inspection findings, radiological waste shipment, QC inspector recertification, regional requests, licensee events, Technical Specification, and plant tours. The inspection involved a total of 172 inspector-hours by one NRC inspector including 45 inspector-hours onsite during off-shifts.

Results: Of the seven areas inspected, no violations or deviations were identified in six areas. One violation was identified in one area (Technical Specification Violation - paragraph 5.e), when it was determined that the licensee had failed to establish a continuous fire watch for the load center.

DETAILS

1. Persons Contacted

D. F. Schnell, Vice President - Nuclear
*S. E. Miltenberger, Manager, Callaway Plant
*R. L. Powers, Assistant Manager - Quality Assurance
*P. T. Appleby, Assistant Manager (SS)
*J. E. Davis, Compliance Superintendent
J. C. Gearhart, Supervisory Engineer - QA
J. R. Veatch, Supervisor Engineering (QA)
J. V. Laux, Supervisor QA
*W. A. Norton, QA Engineer
F. D. Field, Manager, Quality Assurance
*D. C. Poole, Assistant Manager, Operations and Maintenance
*M. E. Taylor, Operations Superintendent

*Denotes those present at one or more management interviews. In addition, a number of QA, Engineering, QC and operations personnel were contacted.

2. Followup on Previous Inspection Findings

(Closed) Open Item 483/84-42-01(DRP): Lack of well defined boundary for reporting of plant deficiencies. This matter relates to instructions for the use of Nonconforming Material Reports (NMRs) or Work Requests (WRs) for documenting minor plant deficiencies. During a previous inspection the inspector determined that existing plant procedures did not well define deficiencies which could be dispositioned by WRs or those which required NMRs. This matter was identified as having the potential for oversight of evaluation, reporting and trending of deficiencies.

Administrative Procedure APA-ZZ-00510 (Nonconformance Control and Reporting) has been revised and provides the following clarification.

Note This procedure provides the requirements for reporting of nonconforming items. APA-ZZ-00320, Initiating and Processing Work Requests, should be used to identify and correct nonconforming condition.

APA-ZZ-00320, Initiating and Processing Work Requests, has been revised and specifies that completed WRs be reviewed to ensure that significant malfunctions are determined, evaluated and recorded per APA-ZZ-00510.

In addition, the licensee has implemented computer sorting of completed Work Request which is included in the equipment failure trending analysis program.

The inspector determined that the licensee has implemented an adequate program for reporting, evaluating, and trending of plant deficiencies. This item is considered to be closed.

3. Radiological Waste Shipment

On June 13, 1985, the licensee made a Low Specific Activity (LSA) shipment of 60 drums containing low level solidified radioactive waste (rad-waste demineralizer resin and waste evaporator sludge). The inspector examined the licensee's procedures and practices to assess compliance with 49 CFR 173.441 (Radiation Level Limitations), 49 CFR 173.443 (Contamination Control), and 49 CFR 173.444 (Labeling Requirements). The inspector also performed a sample radiation survey and interviewed licensee personnel involved in the shipping activity, reviewed Health Physics survey records, and shipping documents.

The inspector determined the personnel involved in the shipping activity were knowledgeable of and adhered to related procedures and regulatory requirements. The inspector noted that surveillance and inspection coverage was provided by the licensee's Quality Assurance and Quality Control personnel.

No violations or deviations were identified.

4. QC Inspector Recertification

An examination of licensee's recertification of QC inspectors was performed to ascertain licensee's compliance with applicable regulatory and procedural requirements. Examination in this matter included the following: review of revised plant procedures QCP-ZZ-01001 and QCP-ZZ-01002 (QC Certification and Qualification Procedure), review of "Letters of Certification", and experience records, and Quality Assurance surveillance in the area of Certification/Recertification of QC inspectors. The inspector reviewed the recertification of two inspectors, a level II Civil limited and a level III Electrical. The inspector had interviewed both inspectors and performed an in-plant inspection of fire seal penetrations with the level II Civil inspector. The inspector also interviewed the certified level III Electrical inspector who approved the recertification of the level III Electrical candidate.

Based on this review, the inspector determined that the recertification of the QC inspectors was accomplished in accordance with applicable procedures and requirements.

No violations or deviations were identified.

5. Followup on Regional Requests

a. Seismic Qualification of Battery Racks

This matter relates to incorrect spacing between Class 1E batteries and the battery racks which was originally identified by Commonwealth Edison Company.

On April 4, 1985, Union Electric was notified of a potential problem concerning the spacing between the Class 1E batteries and the battery racks.

The notification was a followup effort on an event at the LaSalle Plant. The letter, describing the potential problem, gave a recommended spacing of a maximum of 1/4 inch gap between the battery end cells and the battery rack end stringers. This recommendation was based on spacing used during seismic testing conducted by GNB Batteries Inc.

Subsequent field measurements by the licensee determined that the 3/8 inch spacing between cells and side stringers was maintained. However, the measurement between the battery end cells and the battery rack end stringer ranged from 0 to 3/4 inch above the recommended 1/4 inch. Immediate action was taken to install fire retardant plywood spacers between battery end cells and battery rack end stringers as recommended by GNB.

The licensee has reported this matter in Licensee Event Report (LER) No. 85-021. The inspector reviewed the LER and through in plant inspection determined that the licensee has completed the action recommended by GNB.

b. Station Battery Operation and Maintenance

This matter relates to NRC identified deficiencies with regard to operation and maintenance of station batteries. In review of this matter, the inspector performed an in plant walkdown and observed the following:

- . the specified electrolyte level was maintained for each battery cell
- . no visible gassing
- . no sediment collection on cell bottom
- . no visible corrosion at either terminals or connectors.

The inspector reviewed: Technical Specification 3.8.2.1 (D.C. Sources) and associated Surveillance Requirements; Station Battery Maintenance Procedures (MSE-NK-QB001 and 002); and, completed Surveillance Task Sheets for weekly and quarterly and eighteen month surveillances. During the review the inspector noted a procedure error in MSE-NK-QB002 in that the procedure specified the specific gravity be not more than 0.050 below the average of all connected cells. The Technical Specification specifies this value to be not more than 0.020. The inspector's review of the surveillance data sheets determined that the specific gravity has been within the values specified in the Technical Specifications. The licensee has issued a temporary change notice to correct the procedure.

The inspector determined that the licensee has implemented an adequate battery maintenance program.

c. Selected Safety Issues

(1) Steam Binding of Auxiliary Feedwater Pump

Faulty pump operation due to back leakage of the feedwater (vapor binding) has been experienced at several nuclear plants. An inspection was performed to determine the existence or potential for similar problems at the Callaway Plant, and to review the licensee's program for operator training and detection methods employed to detect back leakage.

During plant walkdowns the inspector determined by touching pump suction piping that the piping was at ambient (room) temperature. Plant Procedure ODP-ZZ-00016 (Watchstanding Logs and Practices), attachment 2, provides operator instructions and checklists for the detection of hot suction piping and pump venting requirements. These actions are specified and logged once per shift. Operator training and procedural guidance (Auxiliary Feedwater Pump Inoperable) has been performed at the plant's simulator and is included in the scheduled operator requalification training program.

The inspector determined that auxiliary feedwater system back leakage does not currently exist at the Callaway Plant and that the licensee has implemented an acceptable leak detection program.

(2) Mispositioned Control Rod

This matter concerns the significant number of control rod mispositioning events principally due to personnel and procedural errors which have been experienced at several nuclear plants. An inspection in this area was performed to assess licensee's procedural controls for the identification, notification and recovery of mispositioned control rod(s) and operator training in this area.

Plant off-normal operating procedure number OTO-SF-00004 (Misalignment of Control Rods) has incorporated INPO SOER 84-2 recommendations; specifically the requirements for prompt notification of nuclear engineering personnel, evaluation of how long the rod has been misaligned, power level at which realignment will be performed, the rate of control rod movement and movement of other control rods to support recovery. With regard to rod indication, the procedure specifies that rod misalignment is to be assumed until indicator failure is established. Operator training (Control Board Certifications) has been completed which included the subject of IE Information Notice 83-75 and misalignment of control rods.

The inspector determined that the licensee has adequately responded in this matter.

d. Control Room Operator Requirements

An inspection in this area was performed to assess the licensee's administrative controls relating to control room staffing, specifically procedural requirements for an operator to be present at reactor controls during operation. In review of this matter, the inspector performed frequent control room observations, discussed procedural requirements with operators and operator supervisory personnel. The licensee's administrative requirements were compared with regulatory requirements, 10 CFR 50.54(k) and Technical Specifications, and applicable regulatory guides.

The inspector determined that control room staffing met or exceeded minimum staffing requirements, for both shift crew composition and operators "at the controls". Operation Department Procedures ODP-ZZ-00001, Code of Conduct, provides areas of confinement which includes the requirement for at least one licensed unit reactor operator to be "at the controls" when fuel is in the reactor. Attachment 1 to the above procedure provides a sketch which defines the specific areas within the control room designated as "at the controls".

e. Licensee Event Reports (LERs)

An inspection in this area was performed to assess the licensee's overall performance and threshold of documenting and reporting LERs, and to ascertain licensee compliance with NRC requirements (10 CFR 50.72 and 50.73) regarding notifications to the NRC Operations Center and reporting to events in LERs. The inspection included a review of 34 Incident Reports (IRs) selected from IR Nos. 84-0622 through 85-0171, a review of operating logs and LERs, and interviews with operations and compliance department personnel.

In review of this matter, the inspector found that 10 of the 34 IRs resulted in LER's or were declared potential LERs by the licensee.

Twenty-three IRs documented minor procedure and/or hardware deficiencies. "Multiple failures" were not identified during this review; however, the inspector found that the nature of deficiencies documented on IRs indicate a low threshold of deficiency reporting and that reports to the NRC Operations Center included safety system response/performance.

In review of IR No. 85-0070, the inspector found that on February 8, 1985, fire door 14031 was opened to allow extra cooling for the Rod Drive Motor Generator Sets Room (1403). Technical Specification 3.7.11, Action Statement "a." was satisfied for an inoperable fire barrier; e.g., verify the operability of fire detectors on at least one side of the inoperable fire barrier and establish an hourly fire watch patrol. The load center and MG sets room (1403) is provided Halon System fire protection and is identified in Technical Specification 3.7.10.3 as an area "containing redundant systems or

components which could be damaged". On February 10, 1985, the operating crew questioned the operability of the Halon System for room 1403 due to the fire door being open. The licensee then entered Technical Specification 3.7.10.3, Action Statement "a." and established a continuous fire watch with backup fire suppression and issued the subject IR. The licensee dispositioned the IR, provided a safety evaluation and a review by the Onsite Review Committee (ORC). The licensee's review determined that Technical Specification 3.7.10.3 (Halon System) was not violated and therefore an LER was not issued. The licensee's determination was based on the licensee's ORC approved Technical Specification Interpretation No. 11, which basically stated that Technical Specifications are not "cascaded" unless cascading; e.g., directed to comply with another Technical Specification is specified in the Action Statement.

SNUPPS' Final Safety Analysis Report (FSAR), Section 9.5 states, in part, "Halon 1301 Systems are designed to maintain a minimum 5-percent concentration in the room for 10 minutes." System testing to achieve the specified environment required that ventilation fire dampers and doors be closed.

The opening of fire door 14031 rendered the Halon System, for the load center and MG sets room, inoperable, (not capable of performing its specified functions).

Technical Specification 3.7.10.3, Action Statement "a." states, in part, "With one or more of the above required Halon Systems inoperable, within one hour establish a continuous fire watch with backup fire suppression equipment for those areas in which redundant systems or components could be damaged"

On February 8, 1985, the opened fire door rendered the Halon System inoperable. The continuous fire watch with backup fire suppression was not established until February 10, 1985. Failure to meet the Action requirements within the specified time interval is a violation (483/85-005-01).

The inspector's findings in this matter was discussed with the licensee on April 4, 1985.

The licensee has withdrawn Technical Specification Interpretation No. 11 and has issued LER No. 85-020. The inspector has completed review of the LER and licensee's corrective action and has no further questions regarding this matter.

No other violations or deviations were identified.

6. Licensee Event Report Followup

Through direct observations, discussions with licensee personnel, and review of records, the following event reports were reviewed to determine that reportability requirements were fulfilled, immediate corrective

action was accomplished, and corrective action to prevent recurrence had been accomplished.

(Closed) LER 84-025-01, 84-063 and 85-003: Inadvertent ESF Actuation (Spurious Control Room Ventilation Isolation Signals). These events identified recurring spurious radiation monitor signals which resulted in Control Room Ventilation Isolation Signals (CRVIS). Through licensee evaluation and discussions with the vendor, General Atomics Technologies Inc., it was determined that the signals resulted from software/hardware interface problems. The licensee has completed a Callaway Modification Package (CMP) 85-0040A which temporarily provides compatible interface. The licensee is developing a CMP to permanently replace the incompatible software.

(Closed) LER 84-029: Technical Specification Violation. On August 14, 1984, while in Mode 4, during a licensee review of Workman's Protection Assurance (WPA) the licensee determined that the containment spray manual isolation valves were in the locked closed position. Technical Specification 3.6.2.1 requires this system to be operable (valves open) in Mode 4. The licensee took prompt extensive corrective action including appropriate notification and documentation. There has been no recurrence of this nature at Callaway.

(Closed) LER 85-20: Technical Specification Violation: This matter involved an open fire door No. 14031 which rendered the Halon System for the Motor Generator Sets Room inoperable. The Technical Specification 3.7.10.3 requirement of establishing a continuous fire watch within one hour was not performed. This matter is documented in paragraph 5.e of this report.

No violations or deviations were identified other than discussed in paragraph 5.e.

7. Compliance with Callaway Plant Technical Specifications

Through in plant inspections of system line-ups, control room valve and breaker indications, the review of chemistry logs, calibration data and plant records, the inspector verified compliance with the following Technical Specifications.

Technical Specifications:

- 3.2.1 Axial Flux Difference
- 3.3.3.5 Remote Shutdown Instrumentation
- 3.4.7 Reactor Coolant System Chemistry
- 3.5.1 ECCS Accumulators
- 3.5.2 ECCS Subsystems Average Temperature
- 3.6.1.4 Containment Systems - Internal Pressure
- *3.6.3 Containment Isolation Valves
- 3.7.3 Component Cooling Water System
- 3.7.5 Ultimate Heat Sink
- *3.7.10 Fire Suppression Systems
- 3.8.1.1 AC Sources

*Sample inspection performed.

No violations or deviations were identified.

8. Plant Tours

The inspector toured site and plant areas frequently during this inspection period to observe housekeeping conditions and practices, plant operations, control room activities, and maintenance and surveillance testing activities. The inspector reviewed control room logs and observed shift turnovers.

Plant tours were also performed by the Region III project inspector and regional inspectors. Housekeeping in general was determined to be very good to excellent. I&C surveillance and ongoing maintenance activities were adequately scheduled, supervised and procedures were adhered to. Control room behavior continues to be excellent. Control room activities are performed in a business like and disciplined manner.

No violations or deviations were identified.

9. Exit Interview

The inspector met with licensee representatives (denoted under Persons Contacted) at intervals during the inspection period. The inspector summarized the scope and findings of the inspection. The licensee representatives acknowledged the findings as reported herein. The inspector also discussed the likely informational content of the inspection report with regard to documents or processes reviewed by the inspector during the inspection. The licensee did not identify any such documents/processes as proprietary.