

U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Report No. 50-483/84-42(DRP)

Docket No. 40-483

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: September 16 through November 24, 1984

Inspectors: J. Foster, P. Hartman, J. Heller, L. McGregor, J. Neisler,  
B. Little, K. Ridgway, D. Williams, P. Pelke, R. Leemon

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Projects Section 1A

12-17-84  
Date

Inspection Summary

Inspection on September 16 through November 24, 1984 (Report  
No. 50-483/84-42(DRP))

Areas Inspected: Routine, unannounced inspection by resident inspectors and NRC Region III inspectors of licensee event reports, allegations, bulletins, license conditions, safety evaluation report items, augmented inspection program, plant Technical Specifications, power ascension test witnessing, NRC site tour and plant tours. The inspection involved a total of 682 inspector-hours by ten NRC inspectors including 246 inspector-hours onsite during off-shifts.

Results: Of the eleven areas inspected, no items of noncompliance or deviations were identified in nine areas. One item of noncompliance with three examples was identified in two areas (failure to adhere to procedures - paragraphs 3 and 7).

## DETAILS

### 1. Persons Contacted

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

\*Denotes those present at one or more exit interviews.

In addition, a number of equipment operators, NRC-licensed Reactor Operators and Senior Reactor Operators, and other members of the QC, Operations and Maintenance staffs were contacted.

### 2. 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 in accordance with Technical Specifications.

(Closed) LER 84-03: ESF Actuation - Containment Purge and Control Room Ventilation Isolation. On June 15, 1984, Containment Purge Isolation and Control Room Ventilation Isolation Signals (CPIS and CRVIS) were actuated by a containment radiation high alarm from radiation element GT-RE-22. The licensee determined that the 480 volt breaker NG03CAF4 was in the tripped position. This breaker supplies the transformer to the distribution panel which feeds GT-RT-2 (the transmitter for GT-RE-22). It is believed that construction personnel cleaning the NG03C motor control center cabinet inadvertently caused the breaker to trip. Work Request No. 27016 was initiated to troubleshoot the breaker as a precautionary measure.

On July 12, 1984, while implementing workmen's protection for the Work Request No. 27016, the breaker was opened without placing the channel in bypass resulting in another CPIS and CRVIS. The operator used procedure ODP-ZZ-00005, "Electrical Circuit Index," to determine which

equipment was powered from the breaker being tagged out. This procedure is an index of electrical circuits in the plant. A design change had moved GT-RT-22 to the distribution panel fed by NG03CAF4 on May 14, 1984. ODP-ZZ-00005 had not been updated with this change because the design document change notice was held pending resolution of legibility problems. ODP-ZZ-00005 has been cancelled. The licensee now uses controlled drawings which are normally updated within 24 hours of a change.

(Closed) LER 84-14: Manual Reactor Protection System Actuation: On July 14, 1984, a high flux at shutdown alarm was received from source range monitor SE-NI-31B. The plant was in Mode 5 and ETT-SF-0714, "Control Rod Drive Mechanism Timing and DRPI System test," was in progress. No control or shutdown rods were being moved at the time of the event. Testing was immediately suspended and the reactor trip breakers were manually opened as a precautionary measure. No abnormal readings were received from source range channel SE-NI-32, containment radiation surveillances showed no activity above background, and the RCS boron concentration of 2089 ppm and shutdown margin of 16% excess  $\Delta k/k$  were determined to be within Technical Specifications.

The licensee determined that dirt and/or moisture on the cable connectors of the source range monitor caused the spurious spike. Work Requests 024544 and 024584 were written to inspect, clean and dry all source range cable connectors and then seal the connectors with Raychem heat shrink tubing.

(Closed) LER 84-15: Manual Reactor Protection System Actuation. On July 16, 1984, the plant was in Mode 5, RCS pressure was being maintained between 350 and 375 psig, RCS temperature was 140° F, and Reactor Coolant Pump D was in operation. The "A" train of instrument air was being removed from service to inspect and/or replace the desiccant in the air dryer. The "B" train dryer appeared to be operating properly so the "A" train was isolated. At this time instrument air was lost because air flow could not be established through the "B" train air dryer. This resulted in a loss of letdown flow from the Chemical and Volume Control System due to the letdown valves failing closed and caused the Positive Displacement Pump (PDP) to fail to full speed.

To reduce the increasing RCS pressure, the reactor operator manually cycled the PORV and secured the PDP and RCP D. The operator opened the Reactor Trip Breakers to terminate CRDM Timing and DRPI System Testing. The manual opening of the Reactor Trip Breakers was a voluntary and precautionary measure and is the reason for the reportability of this event pursuant to 10 CFR 50.73(a)(2)(iv).

(Closed) LER 84-16: Depressurization of the Reactor Coolant System. On July 17, 1984, the Reactor Coolant System (RCS) depressurized to 0 psig and the primary seal on Reactor Coolant Pump 'C' (RCP 'C') was damaged. The plant was in Mode 5 and water solid with the RCS at 380 psig and 180°F prior to the event.

The cause of the transient was determined to be an improper valve sequence in the 'A' RHR pump surveillance procedure restoration, OSP-EJ-P001A, "Section XI RHR Train 'A' Operability." The restoration checklist in the procedure required the opening of valve EJ-HV-8716B prior to closing valve BN-8717 which allowed the RCS to immediately depressurize through RHR 'B' discharge to the RWST. Also coincident with this event was a sudden loss of RHR 'B' flow to the RCS, a 1% increase in RWST level, and a sharp drop in seal return flow from the RCPs. Upon loss of RHR 'B' flow, RHR pump 'B' was immediately tripped. Upon observation of low RCS pressure, RCP 'C' was tripped. When RCP 'C' was tested, it was suspected that the primary seal had been damaged. The seal was replaced and RCP 'C' was returned to service on August 6, 1984.

The inspector reviewed the following items:

- a. LER 84-16 dated August 16, 1984, and IR 84-528 dated July 17, 1984. IR 84-528 was reviewed by the On-site Review Committee on August 16, 1984.
- b. Written statements from seven Operations personnel who were present in the Control Room when the event occurred. Strip charts from various processes during the transient.
- c. The plant computer listed the following sequence of events:

13:09:51	RHR Loop Low Flow
13:09:52, 53	RCP, C, B, A, D Seal Flow Low
13:09:54	Loop 3 RTD Byp Flow Low
13:09:57	RCP C Vibration Alert
13:09:59	RCP C Vibration Danger
13:10:29	RCP C Low Amps
13:10:35	RHR B Stop

- d. TCN 84-788 was appropriately incorporated into Procedures OSP-EJ-P001A and OSP-EJ-P001B to correct the restoration valve line-ups. The RWST Return Line Manual Isolation Valve is required to be locked closed prior to opening the RHR Train SIS Hot Leg Recirculation Isolation Valve.

(Closed) LER 84-27: Inadvertent Loss of Power to Radiation Monitors. This LER involves two incidents of personnel inadvertently removing power from radiation monitors resulting in Engineered Safety Feature actuations.

The first incident occurred on August 13, 1984, while I&C Technicians were in the process of performing a functional check on radiation monitor GT-RT-31. This required that GT-RT-31 be bypassed at the ESF cabinets prior to removing power from the radiation monitor skid. The I&C Technicians placed the channel for GT-RT-31 in bypass as required; however, they inadvertently removed power from GT-RT-33 instead. This resulted in a Control Room Ventilation Isolation Signal and a Containment Purge Isolation Signal.

The second incident occurred on August 17, 1984. Maintenance support personnel were upgrading wiring in the 480 VAC NG01B bus. While the personnel were reinstalling the panel cover to NG01B they inadvertently hit and opened the breaker providing power to radiation monitor GG-RT-27 which resulted in a Fuel Building Isolation Signal and Control Room Ventilation Isolation Signal.

The inspector reviewed IR 84-640, IR 84-651, and training records. I&C and Maintenance supervisors have reviewed these incidents with departmental personnel.

(Closed) LER 84-30: Primary Containment Average Air Temperature. On August 16, 1984, while in Mode 4, it was discovered that the operators had been taking the average of only three instead of four Containment Air Cooler Inlet temperatures. Technical Specification 3.6.1.5 states that the primary containment average air temperature shall be the arithmetical average of the four cooler inlets while in Modes 1, 2, 3, and 4. The temperature element (Loop GN-00T63) on Containment Air Cooler 'D' failed high before entry into Mode 4. Upon discovery, a calibrated thermometer was used to remotely obtain the temperature of cooler inlet 'D'.

The inspector reviewed Control Room log readings which indicate that the operators are averaging the four inlet temperatures every 24 hours and that the temperature is below the Technical Specification value of 120°F. The inspector verified that there is a Night Order Log Sheet dated September 5, 1984, in the Night Order Log written to reinforce the requirement that all four cooler inlet temperatures are to be used.

Work Request No. 019431 dated May 10, 1984, had been issued to calibrate Loop GN-00T63 per Procedure ITL-GN-00T63. The inspector witnessed (1) the new temperature element being functionally tested in accordance with Procedure ITG-ZZ-TRTD1, "Generic Procedure for the Calibration of Removable Thermocouples and RTD's," (the digital thermometer and multimeter used during testing were calibrated), and (2) loop GN-00T63 calibration per Procedure ITL-GN-00T63.

(Closed) LER 84-32: Inadvertent Engineered Safety Features Actuation. On August 20, 1984, a Control Room Ventilation Isolation Signal and Fuel Building Ventilation Isolation Signal were received due to the failure of a 15V DC power supply in the Engineered Safety Features Actuation System cabinet SA-036D. The inspector reviewed Work Request No. 31272 which documented the replacement of the power supply on August 20, 1984.

(Closed) LER 84-34: Inadvertent Auxiliary Feedwater Actuation. On August 22, 1984, an inadvertent Auxiliary Feedwater Actuation occurred while the plant was in Mode 4. The operator attempted to clear an ESFAS Train 'B' Loss of Main Feed Pump-AFAS Block alarm by placing the AFAS Block Switch to the PERMIT position. The operator did not know that the ESFAS Train 'A' Loss of Main Feed Pump-AFAS Block alarm annunciator lamp had failed. Additionally, no Main Feed Pump trip alarms were annunciated since the DC power supply to the Main Feed Pump control circuitry had been tagged out for maintenance. Thus, the operator

saw no indications of valid inputs to the ESF panels and failed to thoroughly investigate the cause of the Single Loss of MFP-AFAS Block alarm prior to placing the block switch to PERMIT.

Operators were briefed on this incident and the Operating Supervisor on-duty at the time of the event was counseled. Operators were also instructed to verify inputs to ESF panels prior to switch manipulations. Work Request No. 32234 was written to relamp the failed annunciator and was completed on August 28, 1984.

### 3. Followup on Allegations

(Closed) Allegation RIII-84-A-0170: Inadequate Quality Control (QC) procedures for QC acceptance tagging of parts removed from components or assemblies. On November 13, 1984, the resident inspector was contacted by phone and advised of a QC receiving inspector's concern regarding a disagreement between the QC inspector and QC supervisor on procedural requirements for acceptance "green" tagging of components. The QC inspector expressed additional QC concerns regarding nonconforming reports and the bypassing of QC witness points. On November 14, 1984, the resident inspector met with QC inspector and obtained specific information regarding the "disagreement" event and additional QC concerns.

#### a. Inadequate Procedures

The QC inspector said that he was instructed by the QC supervisor to look for damage and if the material wasn't damaged to hang a green (accept) tag. The QC inspector said that the procedures for performing this activity did not provide adequate instructions for the inspection of the material nor provide a process for completing and hanging a QC accept tag. The procedural disagreement occurred on August 2, 1984. The related work activity and procedures are as follows:

- ° Work Request WR #30678 and WR #25627 - The work involved the transfer of a spare motor operated valve from the Daniel warehouse to the Nuclear Operations warehouse, removal of the spare motor and installation of the spare motor in the plant.
- ° Plant Procedure APA-ZZ-00410, Rev. 2 (Storeroom Receiving, Storage, and Handling of Material, Components, and Equipment)
- ° Plant Procedure APA-ZZ-00411, Rev. 0 (Parts Removed from Spare Components or Assemblies)
- ° Plant Procedure APA-ZZ-00320, Rev. 4 (Initiating and Processing Work Requests)

The NRC inspector reviewed the work package including the QC inspection records and the applicable procedures. The work requests had received the appropriate reviews and approvals. The QC inspection points as assigned on the maintenance inspection checklist contained the following steps: 1) Removal of motor, 2) Installation of motor, 3) Retermination and 4) Rotation. These inspections were signed off as satisfactory by QC Maintenance Inspection Group personnel. The inspector found that the procedure for initiating and processing work requests was adequate and was adhered to in the performance of the actual work/inspection activities.

The procedures for parts removal and issue, APA-ZZ-00410 and 411, did not provide adequate instruction for QC receiving inspection and the issuance of an accept tag. APA-ZZ-00411 specifies that, "QC shall perform any necessary inspections", but does not specify the responsible QC group nor does it reference any QC department procedure(s). The procedure does not provide or reference instructions for hanging an accept tag. The allegation regarding this matter is substantiated.

Although the allegation is substantiated, the licensee identified and corrected the procedural inadequacies described above. On September 14, 1984, before the allegation was received, APA-ZZ-00411 was revised to provide reference to QC procedures and provide instructions for attaching QC accept tags.

This item is considered to be closed.

- b. Additional QC Concerns - The QC inspector said he had become aware of additional QC concerns through discussions he had with other QC inspectors, and although they were matters of concern, he did not consider them to be allegations.

(1) Nonconformance Reports

During a recent meeting, the QC supervisor had instructed QC inspectors to write Work Requests (WRs) instead of nonconforming Material Reports (NMRs). To obtain additional information, the inspector interviewed QC supervisors and QC inspectors. The QC supervisor said he had instructed the QC inspectors to write WRs instead of NMRs for minor plant deficiencies which did not require engineering evaluation for resolution. He said that many NMRs were written for items such as valve packing, gasket leaks, and missing screws on handwheels. The NMR resolution was to write a Work Request.

The QC inspectors indicated that the instructions for writing Work Requests were directed at minor deficiencies, and believed they had adequate supervisory support for issuing NMRs for other than minor deficiencies. However, during the interviews some inspectors expressed that the upper boundary of minor deficiencies was not well defined. They were not aware of nonconforming conditions for which NMRs had not been issued.

Although no deficiencies were identified during the review of this matter, the lack of a well defined boundary has the potential for oversight of evaluation, reporting and trending of deficiencies. This matter is an open item pending further evaluation (483/84-42-01(DRP)).

(2) QC Witness Points

QC witness points assigned to maintenance activities are frequently bypassed. Inspection in this matter included a review of completed Work Requests (WRs), attached inspection checklists, incident reports and interviews with members of the licensee's QC, QA, Technical Support, and Instrumentation and Controls Groups. The following plant procedures were also reviewed.

- APA-ZZ-00320 Initiation and Processing Work Requests
- APA-ZZ-00500 Nonconforming Operations Reporting and Corrective Actions
- QCP-ZZ-04002 Performance of Inspections on Maintenance Activities

On October 11, 1984, QC issued Incident Report #84-791 which documented the results of a QC review of QC Maintenance Inspection Checklists for 300 completed or voided Work Requests. QC found that 37 of the 300 contained missed QC witness points.

At the close of this inspection, Incident Report #84-17 had not been closed. However, the licensee's prompt action is evident as documented in an Independent Safety Engineering Group Report #10-032. The report summary is as follows:

SPECIAL MEETING: REVIEW OF QC MAINTENANCE INSPECTION  
CHECKLIST DISCREPANCIES FOR APPLICABILITY TO NATURAL  
CIRCULATION TESTING AND MODE 1

On October 12 and 13, meetings were held in response to Incident Report 84-791, which identified 37 work requests which had missed QC check points. These meetings addressed the affected work requests for impact on natural circulation testing and Mode 1. No items preventing initiation of natural circulation testing or the change to Mode 1 were identified. The attached list summarizes the Work Requests and past Incident Reports that were reviewed in this meeting and their findings. Certain recommendations were made in the meeting, and departments were assigned responsibility for followup on these recommendations.

These meetings were attended by members of the licensee's QA, QC, Engineering, Planning and Independent Safety Engineering Groups. Corrective action included QC inspections, reindoc-trination of the work groups involved, and Operations Department overview to prevent further occurrences.

The inspector considers that the licensee took prompt and appropriate action for the inspection deficiencies identified in IR # 84-791. However, during an interview with QC inspectors the inspector was advised of a Work Request WR #22568 which contained a bypassed QC witness point, which was not reviewed by the above special review group. The following procedure violations were noted.

- (a) WR #22568 was issued on May 17, 1984, to trouble shoot and repair an ESFAS power isolation board. A replacement part was rejected by QC pending an Engineering Evaluation. The work group supervisor completed the work without obtaining QC's "consent to proceed". Continuing work without QC signoff is contrary to Callaway Plant Procedure QCP-ZZ-04002, Rev. 1, Section 2.2.1 which states that a Witness Point is "a point in an activity at which a selected inspection shall be performed or waived and beyond which work shall not proceed without UENO QC signoff."
- (b) On or about September 12, 1984, the QC inspector reported the above procedure violation on an Incident Report which was subsequently signed by the QC supervisor. However, the Incident Report was not processed further and the procedure violation was not documented.

The failure to document procedure violations is contrary to Callaway Plant Procedures. APA-ZZ-00320, Section 4.6.2 which states "An incident, such as a procedure violation, discovered during work planning, performance, or review, shall be reported per APA-ZZ-00500, Nonconforming Operations Reporting and Corrective Actions." APA-ZZ-00500, Section 2.5 states "An Incident Report form is generated to document an incident, determine its reportability, the root cause, the corrective action taken, and action taken to prevent recurrence."

Failure to follow procedures is an item of noncompliance with the requirements of Callaway Plant Technical Specification 6.8 (483/84-42-02).

Followup interviews with the licensee indicated that although the above event was not documented on an Incident Report, corrective action was promptly taken. Meetings were held with the personnel involved during which the procedural requirement of QC witnessing was stressed. In addition, the work group supervisor was reprimanded for bypassing the QC witness point. The QC inspectors expressed that response to IK #84-791 has brought about significant improvement in this area.

The inspector considers this an isolated event for which appropriate action has been taken. This item is considered to be closed.

#### 4. Bulletins

(Closed) IE Bulletin 81-03: Flow Blockage of Cooling Water to Safety System Components by Corbicula sp. (Asiatic Clam) and Mytilus sp. (Mussel). This bulletin was previously closed in Inspection Report No. 81-17. Subsequently, NUREG/CR-3054 pertaining to the closeout of this bulletin was issued. Appendix C states, for the Callaway Plant, that the utility personnel responded to the bulletin on July 7, 1981, indicating that flow performance for the Fire Suppression System (FWS) would be tested monthly, with no mention of testing frequency for the Essential Service Water System (ESWS). Followup was suggested to verify that performance testing for the ESWS is of sufficient frequency to preclude fouling by Corbicula and that appropriate biofouling control are included in FWS and ESWS plans.

The inspector reviewed Operations Surveillance Procedures OSP-EF-P001A and OSP-EF-P001B, "Section IX ESW Trains "A" and "B" Operability," which provide for performance testing of the ESWS flowpaths once every three months. Additionally, the Union Electric Environmental Services Department will implement a Corbicula sampling program beginning during Spring 1985.

This program will sample the Missouri River adjacent to the plant, the Ultimate Heat Sink perimeter, the ESW pump intake bays, sludge ponds, and the cooling tower basin twice annually during the spring and fall. If Corbicula biofouling is detected, appropriate corrective action will be taken by the licensee. This bulletin is considered to be closed.

#### 5. Inspection of License Conditions

The Callaway Operating License (NPF-25), Attachment 1, contains license conditions which the licensee must complete before specified operational modes. Inspection of the following items has been completed.

(Closed) Attachment 1, Item C.1 (483/84-20-07) Evaluate/validate natural circulation cooldown procedures based on results of the Natural Circulation Test (ETT-ZZ-09240).

The Natural Circulation Test was performed at Callaway on October 14, 1984. The test was to demonstrate the time required to attain stable natural circulation flow and obtain plant specific data for verification of the Callaway simulator model and evaluate the plant's natural circulation cooldown procedures.

The inspector witnessed portions of the test, reviewed the test procedure and test results. The test objectives were achieved. Test procedure ETT-ZZ-09240, Rev. 1, Step 7.25 was added which provides signoff verification that the natural circulation cooldown procedures are evaluated based on the test methodology used and data obtained. This item is considered to be closed.

(Closed) Attachment 1, Item D: The licensee shall satisfactorily resolve those deficiencies in accordance with the schedule shown on the Master Tracking System (MTS) dated May 25, 1984. The licensee shall notify a representative of the NRC Resident Inspectors Office prior to extending the resolution of individual items listed.

This license condition was established to provide NRC overview of the resolution of licensee identified deficiencies. The inspector performed weekly reviews of the MTS to ascertain that the deficiencies were being resolved (closed) as scheduled or extended subject to system operability requirements. The inspector's review of this matter was completed on October 8, 1984. The inspector verified that the remaining deficiencies, for which resolution was extended, resulted in no operational restraints. This license condition is considered to be closed.

6. Inspection of Safety Evaluation Report (SER) Items

(Closed) SER Item (483/84-32-05)

<u>Description</u>	<u>SER Section</u>	<u>Page</u>
Setpoint adjustment of Barton Differential Pressure Indicating Switches.	Supplement 4	3-5

Residual Heat Removal (RHR) and Centrifugal Charging Pump (CCP) mini-flow switches experienced setpoint changes during seismic qualification test EQDP-ESE-40. To provide for reliable RHR/CCP pump performance during a seismic disturbance the licensee changed the mini-flow switch setpoints. The work was performed using Callaway Modification Package (CMP) No. 84-0227-A and Work Requests (WRs) Numbers 30-232 and 30-235.

The inspector reviewed the CMP, WRs and related quality records including the Safety Evaluation Checklists CA #133, Forms N-79 and N-93 and the maintenance checklists. This item is considered to be closed.

7. Augmented Inspection Program

The augmented inspection program was implemented at the Callaway Plant on August 29, 1984, when the plant first entered operational Mode 3 (Hot Standby). In addition to the Callaway senior resident inspectors, the program provided NRC Region III resident inspectors and regional based reactor inspectors. The program was implemented to provide additional onsite inspection of operational activities during the initial startup and power ascension phase to better assess the licensee's personnel and plant readiness for full power operation. Specifically, the following items were observed.

- ° Operators are attentive and responsive to plant parameters and conditions,
- ° Plant evolutions and testing are planned and properly authorized,
- ° Procedures are used and followed as required by plant policy,
- ° Equipment status changes are appropriately documented and communicated to appropriate shift personnel,
- ° The operating conditions of plant equipment are effectively monitored, and appropriate corrective action is initiated when required, and

- ° Control room activities are conducted in a professional manner.

This inspection effort has resulted in NRC onsite inspections during most shifts including weekends and shift turnovers.

The inspectors observed shift crew performance during mode changes between Mode 2 (Critical), Mode 3 (Hot Standby) and Mode 1 (Power Operation). Prior to the mode change for initial criticality, the inspectors performed a plant walkdown, reviewed the initial criticality procedure, interviewed shift crews, observed crew briefings, observed the completion of prerequisites and the withdrawal of control rods. The inspectors also witnessed a subsequent mode cycle which was performed for shift crew training and additional mode changes resulting from the planned power ascension program including planned and unplanned reactor trips. The inspectors observed operator performance during several unplanned events including turbine trip/reactor trips, steam generator level control/feed water regulator valve failures and circulating water pump trips. On October 5, 1984, the resident inspector was in the control room when the "A" steam generator power operated relief valve failed open. This was classified as an "Unusual Event" and appropriate notifications were made. The reactor operators responded promptly, recognizing and taking the appropriate corrective actions. The inspector noted that the event was promptly communicated to the crew, and that an off-going shift supervisor assisted in manually closing the down stream isolation valve.

The inspectors found that events are being promptly reported and factually documented. The licensee is thoroughly involved in the evaluation of events as to root cause and contributing factors, and is taking appropriate corrective action.

The inspectors observed that plant operating activities were performed in accordance with plant procedures and in a deliberate manner. Shift crew briefings were held frequently, were detailed, involved shift technical and operating shift advisors. Crew response to the inspectors' questions relating to Technical Specifications, system details and status indicated that crews had a good operational knowledge and crew performance demonstrated the ability to safely operate the plant.

On November 6, 1984, during a control room walkdown, the inspector found that the following recorders contained depleted chart paper.

GT-RR-21B Unit Vent Effluent Radiation

GH-RR-18 RADWASTE Building Effluent Radiation

GH-RR-51 RADWASTE Building Effluent Concentration

A review of the recorder charts found that the chart paper had been depleted for approximately 34 hours, and lacked the specified chart notations (date, time and initial). This condition had gone uncorrected during three shifts including one "owl" shift.

Callaway Plant Operations Department Procedures (ODP's) provide adequate instructions relative to this matter; ODP-ZZ-00016 (Watchstanding, Equipment, Logs and Practices) Section 4.3.1.4.2 specifies that:

Recorders operating properly with sufficient paper, and marked in accordance with ODP-ZZ-00009.

ODP-ZZ-00009 (Control of Documents) Section 4.8.4 specified that:

Daily on the owl shift, as close to midnight as practicable, the chart should be timed, such that the pen is on the horizontal line on the hour. A line drawn from the pen position should be drawn and dated, giving the time, and initialed. On each succeeding shift, the chart should be marked with a line drawn from the pen position, giving the time, and initialed.

Failure to maintain recorder charts is contrary to the licensee's Operating Department Procedures and is an example of noncompliance with Callaway Plant Technical Specification 6.8 (483/84-42-02).

The inspector discussed the deficient maintenance of recorder charts with the licensee. The licensee took prompt action to correct the deficiency, and to prevent recurrence. Action taken included the issuance of a department directive to the operating crews, and an item in the operating night orders which stressed the required maintenance of recorder charts. Subsequent inspection has found that procedures and practices relative to this matter are being fully implemented. This matter is considered to be closed.

#### 8. Compliance with Callaway Plant Technical Specifications

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

- Technical Specification 3.1.2.1 Boration Systems Flow Path - Shutdown
- 3.2.1 Axial Flux Difference
- 3.2.4 Quadrant Power Tilt Ratio
- 3.3.3.5 Remote Shutdown Instrumentation

- 3.4.1.3 Reactor Coolant System Hot Shutdown
- 3.4.7 Reactor Coolant System Chemistry
- 3.5.1 ECCS Accumulators
- 3.5.2 ECCS Subsystems Average Temperature Above 350°F
- 3.7.1.3 Condensate Storage Tank
- 3.7.3 Component Cooling Water System
- 3.7.5 Ultimate Heat Sink
- 3.8.1.1 AC Sources

No items of noncompliance or deviations were identified.

9. Power Ascension Test Witnessing

The inspectors witnessed portions of the following startup and power ascension tests.

<u>Test Number</u>	<u>Title</u>
ETT-SF-07033	Rod Drop Time MSMT (Hot, Full Flow)
ETT-SF-07020	Rod Control System
ETT-ZZ-07040	Initial Criticality
ETT-ZZ-07071	Isothermal Temperature Coefficient MSMT (ARO)
ETT-ZZ-07072	Isothermal Temperature Coefficient MSMT (CBD at 0)
ETT-ZZ-07073	Isothermal Temperature Coefficient MSMT (CBC, CBD at 0)
ETT-SF-07081	Control Bank D Reactivity Worth Measurement
ETT-SF-07082	Control Bank C Reactivity Worth Measurement
ETT-SF-07083	Control Bank B Reactivity Worth Measurement
ETT-SF-07085	Shutdown Banks and Highest Worth Stuck RCCA Reactivity Worth Measurements
ETT-SF-07086	Control Banks Reactivity Worth Measurement in Normal Overlap

ETT-ZZ-09240	Natural Circulation Test
ETT-ZZ-07081	Power Coeff, Determination (30%)
ETT-ZZ-07082	Power Coeff, Determination (50%)
ETT-ZZ-07084	Power Coeff, Determination (90%)
ETT-SR-07010	Initial Startup Flux Mapping
ETT-ZZ-07101	Large Load Reduction
ETT-ZZ-07120	Rods Drop and Plant Trip
ETT-SF-07091	Pseudo Rod Ejection at 30% Power
ETT-SF-07092	Pseudo Rod Drop at 50% Power

The inspectors observed plant operators and test personnel during the performance of testing activities, and through interviews determined that they were knowledgeable of test methods, limitations and acceptance criteria. Pretest briefings were held prior to starting test activities and included test personnel, supervisors, advisor and plant operators.

The inspectors verified that the test procedure in use was the latest revision, and that temporary changes had been properly reviewed and approved. The inspectors observed that test prerequisites had been accomplished and that the tests were performed in accordance with the procedures. The inspectors reviewed the on-line test data and test summaries.

No items of noncompliance or deviations were identified.

#### 10. NRC Site Tour

On September 17, 1984, the resident inspectors and the Region III Division Director (DRP) accompanied NRC Commissioner F. M. Bernthal and staff member J. Myer during a site tour. The tour included a plant walkdown, interviews with the resident inspectors, licensee management and staff, and observation of licensed operator performance during plant simulator drills. The visit was performed to assess the operational readiness of the Callaway Plant and personnel.

During this visit the licensee discussed organization and staffing, staff training and operator experience. The licensee also discussed reportable events, cause of events and the related corrective action taken.

No items of noncompliance or deviations were identified.

11. Plant Tours

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

No items of noncompliance or deviations were identified.

12. 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 or licensee or both. An open item disclosed during the inspection is discussed in Paragraph 3.

13. Exit Interview

The inspectors met with licensee representatives (denoted under Persons Contacted) at intervals during the inspection period. The inspectors summarized the scope and findings of the inspection. The licensee representatives acknowledged the findings as reported herein.