U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Report No. 50-483/94004(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: January 23, 1994 through March 12, 1994

Inspectors: B. L. Bartlett
D. R. Calhoun

Accompanying Personnel: S. S. Lee

Approved By: M. J. Farber, Chief, Reactor Projects, Section 3A — 3/22/94 Date

Inspection Summary

Inspection from January 23, 1994 through March 12, 1994 (Report No. 50-483/94004(DRP))

Areas Inspected: Routine unannounced inspection of containment cooler degraded flow, engineered safety features walkdown, maintenance and surveillance, plant operations, and open item follow up were conducted.

Results: Within the areas inspected no violations or deviations were identified. One inspector followup item concerning the degraded flow through the containment coolers was identified.

The strengths noted included: good root cause analysis and effective corrective actions to the degraded containment cooler flows, and multiple examples of a good questioning attitude by plant operators.

The weaknesses noted included: debris in a non-safety related system that adversely affected flow through technical specification required components.

DETAILS

1. Management Interview (71707)

The inspectors met with licensee representatives, denoted in paragraph 8, on March 10, 1994, to discuss the scope and findings of the inspection. In addition, the likely informational content of the inspection report with regard to documents or processes reviewed by the inspectors during the inspection was also discussed. The licensee did not identify any such documents or processes as proprietary.

Highlights of the exit interview are discussed below:

a. Strengths noted:

1) Good root cause analysis and effective corrective actions to the containment cooler degraded flows (paragraph 2).

2) Knowledgeable system engineer on the internal flooding program (paragraph 4).

3) Examples of good questioning attitudes by plant operators (paragraphs 4 and 5).

4) Good control over secondary water chemistry (paragraph 5).

b. Weaknesses noted:

1) Debris from the non-safety related cooling water system degraded flow in the safety related containment coolers (paragraph 2).

c. There was considerable discussion concerning the licensee's identification of degraded flow through the containment coolers. Findings to date, possible root causes, and corrective actions were discussed. The licensee understood the necessity to ensure the operability of the containment coolers (paragraph 2).

d. There was a brief discussion concerning the inspector observations identified during the ESF walkdown (paragraph 3).

e. Some managers were unaware of the connection between the sump below the condensate storage tank and the auxiliary building. When it was mentioned that preventive maintenance (PM) procedures for internal flooding had been added following the Individual Plant Examination some managers mentioned that might help explain why the number of PMs had remained high despite efforts to reduce unnecessary PMs (paragraph 4).

f. Trash and debris continued to be found in the ultimate heat sink (UHS) by the NRC inspectors. As previous examples discussed, in earlier inspection reports, this trash did not affect the operability of the UHS. However, accumulated trash could degrade UHS performance and should be avoided. In response to the latest findings, the licensee searched the bottom of the UHS with a diver. No significant accumulation of material was identified.

g. One open violation was reviewed for possible closure. The violation will remain open since not all corrective actions had been completed and one of the violation examples had repeated, indicating ineffective corrective actions (paragraph 6).

2. Containment Cooler Degraded Flow (71707,71710, 93702)

Operations surveillance procedure OSP-EF-P001B is performed monthly to verify the "B" Train ESW flows. After the end of refueling outage six (November 19, 1993), the ESW flows through the "B" train containment coolers dropped and have been lower than expected. On several occasions the flows have been measured at values slightly lower than the required minimum. Each time the licensee flushed the coolers and restored them to an operable status. The licensee increased the testing frequency and began root cause identification efforts.

There are four containment coolers, two coolers are in each train. "A" and "C" coolers are in the "A" train and "B" and "D" coolers are in the "B" train. The arrangement of each cooler, as seen from above, is as shown in figure 1. Each of the left, center, and right portions of the coolers contain four heat exchanger coils, each stacked on top of the other, for a total of 12 coils per cooler. Each heat exchanger coil contains copper tubes of three-eights of an inch in diameter. These tubes are the smallest diameter tubes contained within the ESW system. A fan in the center of the cooler draws air across the heat exchanger coils.

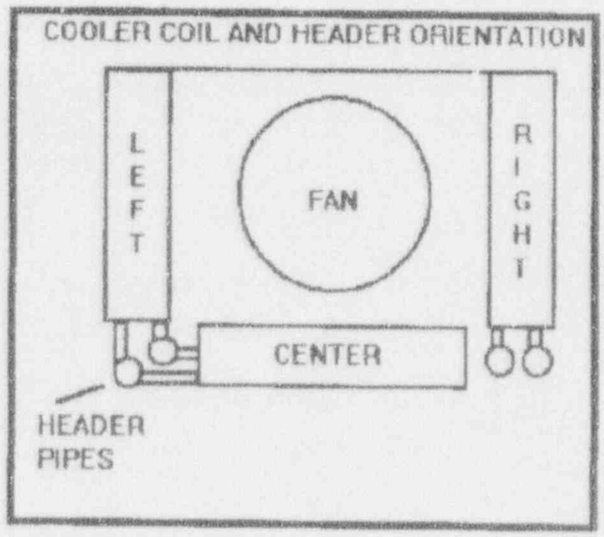

Figure 1

On December 6, 1993, the 31-day surveillance revealed that flow through the cooler was degraded. The licensee originally believed that the cooler flows had slowly degraded due to silt buildup in the tubes of the containment cooler heat exchangers. Every 31 days the licensee would test the flow rate through the coolers. Prior to refueling outage six (October 1, 1993 to November 19, 1993), no unexpected problems had occurred. During refueling outage six the containment coolers passed the required 18-month surveillance procedure.

Even though the 18-month surveillance is more restrictive than the 31-day TS surveillance, the licensee performs the 18-month flow surveillance every 31 days. This action is due to the licensee's commitments to the heat exchanger performance monitoring program, and their understanding that the 18-month surveillance is a better indicator of containment cooler performance. A TS change to improve the 31-day surveillance requirement had previously been submitted to the NRC.

In response to the apparent silt buildup, the coolers were flushed and an investigation into possible sources of silt was begun. In addition, it was decided to decrease the time between surveillance tests in order to quickly identify flow degradation. The flushing only partially restored the degraded flow. A surveillance test performed on December 15, 1993, revealed that flows were stable and above the TS minimums. In January 1994, the process of identifying reduced flow and subsequent flushing was repeated. The licensee re-investigated possible sources of silt buildup in the coolers and initiated additional corrective actions. These actions included verification that chemicals for suspension of silt were being properly maintained in the service water system; evaluations of the flocculators, clarifier, and other water processing systems; evaluations of Missouri river turbidity ranges; and the installation of a bypass line around the flocculators (this would reduce the amount of water that required processing).

During the next 31-day surveillance the flow was once again degraded but it was above the TS requirements. The licensee adjusted flows through other safety related components and succeeded in adding several hundred gallons per minute (gpm) of additional flow through the "B" train containment coolers. However, over the next several weeks flow once again was observed to be degrading.

The licensee moved forward with the following broad scope corrective actions:

- Flushing the coolers for up to a week in an attempt to thoroughly remove silt from the heat exchanger coils.

- Nitrogen was injected in an attempt to create turbulence and enhance cooler flushing. It appeared to have had minimal effect.

- On March 1, 1994, infrared thermography readings of the coolers were obtained. These pictures seemed to indicate that the cooler blockage was <u>not</u> a general blockage due to mud or silt (infrared thermography is not a precise science). Instead, a number of individual tubes had indications of at least partial blockage. This condition was indicative of debris in the coolers. The licensee decided to remove the risers on the left side of the "B" containment cooler. This cooler appeared to have the most number of blocked tubes. In addition, as can be seen in figure 1, by removing the left hand riser, access could be gained to both the left and center coils simultaneously.

The riser was removed and foreign material was retrieved from the standpipes to each of the eight coils (four per left and center sections). In addition, a test rig was fabricated and each coil was back flushed utilizing the ESW system. The material removed from the coils consisted mainly of plastic cooling tower fill separators, wood chips (from the river), two pieces of a chemistry sampling bottle, and other various smaller debris. Most of the debris was found in the top, center heat exchanger coil. The other seven coils inspected contained much less debris.

As a result of these corrective actions the licensee recovered several hundred gpm flow through the coolers. A flow balance was subsequently performed to ensure that all components were receiving their required ESW flow.

Additional followup on the material identified by the licensee, interactions between safety and non-safety related systems, inspections of other heat exchangers, and additional licensee corrective actions will be documented during followup inspection reports. This will remain an inspector followup item (IFI 483/94004-01).

Operability of The Containment Coolers

Flow through the Train "B" coolers had exceeded TS minimums during tests performed prior to the December 6, 1993, surveillance. In addition, the Train "A" coolers at all times exceeded the flow requirements.

The licensee believes that the debris caused low flow areas and allowed silt to slowly build up inside the coolers. During each flushing evolution some of this silt was removed from the coolers. The precise determination as to when flow dropped below the TS minimum could not be made. Nuclear Regulatory Commission regulations state that when a precise determination of the time when a problem occurs can not be made, that the time of discovery is equal to the time of the problem's occurrence. Following these guidelines, the licensee immediately declared the coolers inoperable upon discovering that flow was degraded. Compliance with the TS action statement was achieved by flushing the coolers until the required minimum flow was restored.

The licensee did not perform a specific calculation of the as-found 3,800 gpm flow to verify cooler function, but has performed a calculation as part of an effort to modify flow requirements contained in the TS. To-date the calculation has not been formally completed but would support cooler operability down to an ESW flow as low as 3,700 gpm.

No violations or deviations were identified.

3. Engineered Safety Features (ESF) System Walkdown (71710)

The inspectors performed a walkdown of the accessible portions of the essential service water (ESW or licensee system designator EF) system.

The inspectors independently verified the operability of the selected system.

The inspectors determined that valves were installed properly and in the required configurations. Breaker positions, at switchgear locations, for components were verified to be in the correct positions as well as control room panel switches. Very few condition tags on components and a minimum number of leaks were indicators of good system maintenance. Cleanliness was good in most areas.

In addition to the low flow issue discussed in the previous paragraph, the inspectors made the following observations:

- Operations normal procedure OTN-EF-00001 contained guidance for the normal lineup of the ESW system. This guidance included ensuring vents and drains were closed and capped. However, the guidance for ensuring that caps were installed was inconsistent. Very few vents and drains with caps were required to be verified installed. Inconsistent verification of caps has been identified in previous inspection reports. The licensee's corrective action was to ensure consistency during bi-annual procedure reviews and revisions. While procedure OTN-EF-00001 had been revised since the guidance was issued, it was revised to only include some temporary change notices. The licensee revised the OTN to include verification that caps were installed.

  For many years the licensee has encountered problems keeping different procedures covering the same valve lineups consistent with each other. An operations normal lineup, clearance order (workmens protection assurance or WPA) placement and restoration procedure, or surveillance procedure might all address the proper lineup of the same valves in a system. The licensee has experienced difficulty in keeping procedures current. Occasionally when one of the procedures would be improved or modified, one or more of the other procedures might be missed or receive late revisions. The licensee plans to implement a computerized valve lineup to correct this situation. Procedures would no longer contain valve lineups, instead procedures would reference the proper computer file. The computer file would contain a controlled procedure that could be printed out when required. With only one "procedure" to maintain, this would ensure continuity for all valve lineups. A part of this computerization would be to consistently include verification of the installation of caps. The licensee plans to transfer to computer-driven valve lineups sometime in late 1994.

- On February 17, 1994, the inspectors again identified debris around the UHS. The UHS is a small, open pond that the licensee utilizes to cool the reactor if the normal cooling systems are unavailable. While none of the identified debris would have prevented the UHS or essential service water (ESW) system from performing their intended safety functions, accumulated debris could eventually result in partial blockage of the ESW pumps' intake area. Very little, if any, of the debris discussed in paragraph 2 was determined to have come from the UHS.

The inspectors were concerned because this was a repeat problem with debris in the UHS as discussed in NRC inspection reports 50-483/93017(DRP) and 50-483/93020(DRP). At that time licensee management informed plant personnel of the need to pick up debris, directed that the areas near the UHS be cleaned up, and periodically toured the UHS to ensure its continued cleanliness. These corrective actions were inadequate. Approximately three days before the inspectors identified debris, the plant manager and the superintendent of maintenance had toured the UHS without finding any debris.

In response to the latest findings, the licensee had a diver search the UHS for any debris. While some small pieces of trash were identified, no significant accumulations were located in the UHS.

In addition to corrective actions already implemented, the licensee added instructions to have security periodically patrol the UHS for debris.

- Fire protection insulation (Thermolag®) on safety related conduit 4U3003 was damaged. This conduit provides power to valve EF HV-0038 which had been worked on during the outage. Apparently sometime during removal and reinstallation of the valve, the Thermolag® received some minor damage.

- Valves EF HV-0025 and EF HV-0042 did not have local position indicators.

- Normal service water system (licensee system designator EA) valves EA V-0168, EA V-0169, EA V-0170, and EA V-0171 did not have any identification labels.

All of the findings listed above were given to the licensee. Work requests have been written to correct the findings and will be worked on a priority commensurate with their importance.

Evaluation and Calculation Reviewed

The inspectors reviewed request for resolution RFR 14759, Revision A (including reference calculations ZZ-111 and GN-03) which evaluated the operability of the containment coolers with a reduced outlet pressure of 39.75 psia. The containment coolers were originally evaluated to be operable with an outlet pressure of 47.4 psia assuming a zero fouling factor and maximum heat removal capability. For the purposes of ESW design, it is most conservative to assume maximum heat flow into the ESW system. The degraded flow discussed previously in this report resulted in reduced outlet pressure from the containment coolers.

The inspectors determined the evaluation was properly performed and the system engineer used the appropriate design requirements in the operability determination. The evaluation used a conservative fouling factor of .0005 based on an analysis previously conducted by the cooler vendor (American Air Filter). This resulted in a maximum ESW outlet temperature of 246°F based on a UHS pond temperature of 95°F. The corresponding minimum backpressure of the containment coolers, after adding a 10% margin plus instrument error and UHS level correction factor, was 34.8 psia. Based on this evaluation, the reduced outlet pressure of 39.75 psia, due to the present fouling condition, was acceptable.

No violations or deviations were identified.

4. Maintenance/Surveillance (62703) (61726)

Selected portions of the plant surveillance, test, and maintenance activities on safety related systems and components were observed or reviewed to ascertain that the activities were performed in accordance with approved procedures, regulatory guides, industry codes and standards, and the Technical Specifications. The following items were considered during these inspections: the limiting conditions for operation were met while components or systems were removed from service; approvals were obtained prior to initiating the work; activities were accomplished using approved procedures and were inspected as applicable; functional testing and/or calibration was performed prior to returning the components or systems to service; parts and materials that were used were properly certified; and appropriate fire prevention, radiological, and housekeeping conditions were maintained.

a. Maintenance

The reviewed maintenance activities included:

Work Request No.	Activity
G547416	Generic electrical work request to troubleshoot apparent short stroke problems with valves AB HV-0048 and AB HV-0049.
G545044	Generic mechanical work request to troubleshoot apparent short stroke problems with valves AB HV-0048 and AB HV-0049.
W157011	Inject Nitrogen into the containment coolers to aid in silt removal.

W162005	Adjusted tripper fingers on residual heat removal (RHR) pump "B" minimum flow control valve.
W157632	Maintenance activities related to debris removal and flushing of the "B" containment cooler.

Internal Flooding Program

During a review of the licensee's internal flooding program the inspectors determined that the flooding preventive maintenance (PM) work instructions could be strengthened.

The inspectors met with systems engineering to discuss internal flooding. The system engineer was knowledgeable of the potential flooding problems and their possible causes. The inspectors questioned the engineering staff in regards to possible sources of internal flooding including, building to building interconnections, and sump pump interfaces. All building to building interfaces appeared acceptable except for one interface with the auxiliary building. The system engineer indicated that the sump below the condensate storage tank (CST) gravity drained to the auxiliary building sump and there was no mechanism available to isolate the CST sump.

The inspectors were concerned that if a major leak should develop that the CST could drain into its sump area and the entire volume could then flow into the basement of the auxiliary building. The inspectors also requested information on the preventive maintenance program for engineered features important to internal flooding.

The system engineer responded:

- The assumed maximum flood level in the basement of the auxiliary building was seven feet. Even if all 450,000 gallons contained in the CST drained into the auxiliary building, the maximum flood level would be less than four feet. Thus, the CST draining into the auxiliary building was within assumed parameters.

- Following the completion of the Individual Plant Examination (IPE) the sump pumps and their discharge check valves were added to the PM program.

- Neither the IPE nor the Final Safety Analysis Report discussed this potential flooding mechanism. Engineering would evaluate the need to update these documents for completeness.

In response to inspector questions concerning preventive maintenance (PMs) on doors and other sealing mechanisms, it was identified that the PM work instructions were vague and lacked guidance. The licensee stated that the PM work instructions would be improved to add specific guidance that better addressed door seals.

Worn Clutch Keys on Valve Operator

Maintenance activities scheduled for the motor operator on valve EJ HV-0611 to adjust tripper fingers were initially not performed due to the proper operation of the fingers. However, inspection revealed excessive wear of one of the clutch key "dogs" on the drive sleeve and on the handwheel. This resulted in insufficient dog engagement. Subsequent finger adjustments were unsuccessful at providing adequate dog engagement. This discovery meant that to operate the valve in manual that the clutch handle had to be held down. In addition, the handwheel snap ring was found out of place. The licensee could not determine if the degraded dog conditions caused the snap ring to migrate from its machined groove or vice versa.

A nonconforming material report (NMR) was generated by quality control as a result of the as-found conditions of the operator and was subsequently dispositioned by engineering as use-as-is. Due to the extensive amount of time needed to make repairs, the work activity was rescheduled as an outage work item. Also, the system engineer issued guidance in the operation information logbook on manual operations of the valve and placed a caution tag on the valve.

b. Surveillance

The reviewed surveillances included:

Procedure No.	Activity
OSP-EF-P001A	ESW train "A" operability.
OSP-AB-V0001	Operability test of main steam supply valves to the turbine driven auxiliary feedwater pump.
ETP-EF-0002A	Essential service water train "A" flow verification.
OSP-JE-P001A	Emergency fuel oil pump "A" Section XI surveillance.
HTP-ZZ-02012	Gaseous radwaste release permit (containment).

Procedure No.	Activity
MSE-GK-QG003	Control building emergency ventilation Train "A" flow rate
P488830	Calibration of RHR pump "B" component cooling water (CCW) outlet temperature indicator, EJ TI-0011.
P488831	Calibration of RHR heat exchanger "B" component cooling water shell side outlet temperature indicator, EJ TI-0013.
P488829	Calibration of RHR heat exchanger "B" reactor coolant tube side temperature indicator, EJ TI-0609.
P5169	RHR pump "B" discharge to RHR heat exchanger "B" pressure transmitter loop calibration.

Essential Service Water Surveillance

Operations surveillance procedure OSP-EF-P001A verified the operational readiness of the ESW pump "A". A portion of the test monitored vibration points and verified required flow to the component coolers. During the vibration monitoring portion of the test, the NRC inspectors observed that the non-licensed equipment operators (EO) were confused as to where the vibration data should be taken.

The surveillance procedure required that vibration data be taken at points A through G. Points E and F were marked on the ESW pump motor coupling area, but the EO had been told not to use the marked points. The EO had been told by the vibration engineer to use two other points E and F. The EO contacted the vibration engineer to verify the proper points to utilize. The vibration engineer re-verified that the points marked as E and F were not to be utilized and identified the correct points. The EOs informed the NRC inspectors that a suggestion (SOS) had been previously submitted to address this confusing situation.

The inspectors determined that SOS 93-0591 had been submitted on March 2, 1993, to better identify vibration monitoring points. Request For Resolution (RFR) 14539, Revision A, was subsequently issued to allow systems engineering to improve the identification of vibration monitoring points to 19 different safety related pumps. This improvement was scheduled to be implemented during March, 1994.

This issue was a good example of an improvement opportunity being identified by EOs that was subsequently implemented by engineering. The EOs identified a confusing situation and management took steps to review and correct the situation.

Main Steam Valve Operability Surveillance

During the stroke time verification of air operated valves AB HV-0048 and AB HV-0049, the equipment operators identified that the valves were apparently not stroking the full distance.

Procedure step 2.2.1 stated, "The full stroke valve position should agree within 10% of the position indicator." The EOs recorded that when the valve was full closed the position indicator read 20% open. They also verified that when the valve was full open, that the position indicator read approximately 120% open. The 10% limit was not being met.

Since no maintenance electricians or mechanics were on site during midnight shifts this problem was turned over to the day shift. The maintenance supervisor reviewed the data base and determined that the full stroke distance for these valves was three quarters of an inch. Field measurements determined that both valves were stroking nine sixteenths of an inch.

Further engineering review determined that in 1987 the valve stroke had been shortened to approximately one half an inch in accordance with Callaway Modification Package (CMP) 86-0006. The CMP appropriately changed the valve maintenance procedure; but the valve vendor manual had not been properly updated.

The identification of this issue was the result of a good questioning attitude by the EOs.

The inspector's review of CMPs during previous inspections identified that the updating of vendor manuals was properly performed. In addition, reviews of vendor manuals have verified that they are up to date. The licensee updated the vendor manual, but could find no clear reason as to why it was not properly updated during the original CMP implementation.

No violations or deviations were identified.

5. Plant Operations (71707)

The objectives of this inspection were to ensure that the facility was being operated safely and in conformance with license and regulatory requirements and that the licensee's management control systems were effectively discharging the licensee's responsibilities for continued safe operation. The methods used to perform this inspection included direct observation of activities and equipment, tours of the facility, interviews and discussions with licensee personnel, independent verification of safety system status and limiting conditions for operation (LCOs), corrective actions, and review of facility records.

Areas reviewed during this inspection included, but were not limited to, control room activities, routine surveillances, engineered safety feature operability, radiation protection controls, fire protection, security, plant cleanliness, instrumentation and alarms, deficiency reports, and corrective actions.

a. Operators Demonstrate Questioning Attitude

On February 23, 1994, the on shift reactor operators (ROs) were effective at ensuring required equipment remained operable to meet plant conditions. The ROs demonstrated a questioning attitude and utilized the STAR (Stop, Think, Act, and Review) methodology.

The reactor operators were about to remove equipment from service in accordance with a clearance order (workmens protection assurance or WPA) when they identified incorrect information. The WPA stated that flow through the unit vent was required to be maintained at all times. The reactor operators realized that implementation of the WPA as written would result in flow being reduced below the required value. The on shift operating crew started unaffected fans and informed management of the error in the WPA. In addition, the issue was discussed and corrected with the fragnet/plant impact summary coordinator for future PG25 bus outages.

In another example of a good questioning attitude, after maintenance completed work on load center cross-tie breaker PG1116, operations personnel decided the post maintenance test (PMT) should not be performed as written. During the ROs review of the post maintenance test, they identified it had the potential to trip the unit. Testing breaker PG1116 would have required cross tying buses PG11 and PG12. The unit ROs remembered a previous reactor trip report which discussed the tripping of the unit while cross-tying busses. This work and resulting PMT should have been scheduled for a unit outage.

Both of the examples above represent a good questioning attitude by the operators. However, work documents and clearance orders should not be sent to the plant to be worked unless they have been properly written or scheduled. The licensee has a process of capturing information for clearance orders and for scheduling work. This process includes the use of computers and "canned" clearance orders. These tools allow important information to be captured and helps to ensure that appropriate precautions, limitations, plant conditions, and information is available when required.

The process is effective and helps to ensure quality plant but while the accuracy is very high it is not 100 percent. The licensee is striving to improve the process and when errors are discovered, prompt corrective action is taken.

b. Secondary Chemistry Control

In response to a request from the region the inspectors performed an assessment regarding how secondary chemistry is controlled at the Callaway Plant.

The chemistry engineers work closely with the chemistry technicians and spend a significant portion of their time in the secondary laboratory (commonly referred to as the cold lab). Chemistry personnel appear competent and proactive in their work. As an example, Callaway is one of the first plants in the country to adopt the use of ethanolamine (ETA) to control secondary pH. ETA is effective in reducing iron transport. Iron transport results when secondary water picks up iron from the walls of the secondary piping. The iron then comes out of solution in the steam generators. The accumulation of iron in the steam generators reduces heat exchanger efficiency and may cause long term tube degradation.

A graphical trend for parameters including sodium, sulfate, chlorine, ethanolamine, hydrazine, and cation conductivity during December, 1993 through February, 1994 showed that they were well within their operating limits. Table 1 depicts some of the set parameter operating limits (as well as control band limits) and their actual observed values (min/max range) over the three months.

Table 1. Secondary System Chemistry Parameter Analysis Examples at Callaway Plant (December, 1993 to February, 1994)

Parameter (Analysis)	Operating Limit or Control Band Limit	Observed Values (min/max range)
Hotwell Sodium (ppb)	1.0 (CBL)	0.005 to 0.14
Hotwell Cation Conductivity (uS/cm)	0.2 (CBL)	0.08 to 0.16
Demineralizer Effluent Cation Conductivity (uS/cm)	1.0 (CBL)	0.05 to 0.06
Demineralizer Effluent Sodium (ppb)	10 (CBL)	0.02 to 0.13
Steam Generator Sulfate (ppb)	5 (CBL) 20 (OL)	0.3 to 3.0
Steam Generator Cation Conductivity (uS/cm)	0.15 (CBL) 0.8 (OL)	0.07 to 0.22
Steam Generator Chloride (ppb)	5 (CBL) 20 (OL)	0.2 to 1.7

The inspectors determined that the licensee maintained tight control over secondary water chemistry parameters and was closely following industry recommendations.

No violations or deviations were identified.

6. Open Item Followup (92701)

(OPEN) VIOLATION 483/93012-01: Failure to follow plant procedures.

Plant personnel failed to follow procedures during four different work activities. Operations personnel were involved in three of the examples which included a reactor operator not resetting the boric acid flow controller, a shift supervisor's failure to assure the appropriateness of workman's protection assurance, and a senior reactor operator's failure to correctly position fuel assemblies. Appropriate corrective action was taken for each specific procedural adherence problem. Plant management discussed these occurrences with operations personnel prior to refuel VI.

These incidents will be covered by the end of the second cycle of 1994 requalification training for operations personnel. Also, plant management continued support of the stop, think, act, and review (STAR) methodology. The inspectors reviewed the event review team (ERT) meeting minutes and attended the ERT meeting for two of the events. Verification that operators received training on two events was ascertained by the inspectors. The training related to the boric acid flow controller event had a commitment due date of April 1, 1994. Until the inspectors inquired about this training, the licensee did not realize that the training was scheduled to be completed after the commitment due date. The licensee's commitment control system should have caught this deviation prior to missing the due date. Whether or not this in fact would have occurred, it is now impossible to determine.

The fourth example of the procedure violation, which dealt with the improper erection of scaffolding, had inadequate corrective actions. The corrective actions of revising the procedure and having the maintenance supervisors review the procedure were inadequate to prevent recurrence on January 5, 1994. This item will be reviewed during the closure of violation 483/93020-01 (DRP).

This violation remains open.

7. Persons Contacted

D. F. Schnell, Senior Vice President, Nuclear
*G. L. Randolph, Vice President, Nuclear Operations
*J. D. Blosser, Manager, Callaway Plant
C. D. Naslund, Manager, Nuclear Engineering
*J. V. Laux, Manager, Quality Assurance
*M. E. Taylor, Assistant Manager, Work Control
D. E. Young, Superintendent, Operations

M. S. Evans, Superintendent, Health Physics
G. J. Czeschin, Superintendent, Training
*H. D. Bono, Supervisor, Quality Assurance
*C. E. Slizewski, Supervisor, Quality Assurance
*C. S. Petzel, Senior Quality Assurance Engineer
*T. P. Sharkey, Supervising Engineering, Site Licensing
*G. A. Hughes, Supervising Engineer, Nuclear Safety
*M. J. Farber, Chief, Reactor Projects, Section 3A, NRC
*Denotes those present at one or more exit interviews.

In addition, a number of equipment operators, reactor operators, senior reactor operators, and other members of the quality control, operations, maintenance, health physics, and engineering staffs were contacted.