

U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Report No. 50-483/89015(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, Missouri

Inspection Conducted: July 16 through August 31, 1989

Inspectors: B. H. Little

C. H. Brown

Approved By: *Robert W. DeFayette*
Robert W. DeFayette, Chief
Reactor Projects Section 3A

9/15/89
Date

Inspection Summary

Inspection from July 16 through August 31, 1989 (Report No. 50-483/89015(DRP))

Areas Inspected: A routine unannounced safety inspection of non-routine events, plant operations, maintenance and surveillance, and regional requests was performed.

Results: Two violations were identified. The first identified three examples of the licensee's failure to report diesel generator failures (Paragraph 2.a). The other involves an environmental qualification deficiency associated with Target Rock solenoid operated valves (Paragraph 2.b). Other results included: identification of avoidable plant transients and/or safety system actuations associated with performance/procedural weaknesses (Paragraph 2.c); and observations of good radiological controls, conditions, and practices by health physics staff (Paragraph 3.d). A conservative safety attitude was demonstrated during work planning, work performance and in response to problems associated with fuel reconstitution activities (Paragraph 3.f). The licensee was responsive to "fastener testing" - TI 2500/27 (Paragraph 5).

DETAILS

1. Persons Contacted

- D. F. Schnell, Senior Vice President, Nuclear
- *G. L. Randolph, General Manager, Nuclear Operations
- J. D. Blosser, Manager, Callaway Plant
- C. D. Naslund, Manager, Operations Support
- *J. V. Laux, Manager, Quality Assurance
- *J. R. Peevy, Assistant Manager, Technical Services
- *W. R. Campbell, Manager, Nuclear Engineering
- M. E. Taylor, Assistant Manager, Work Control
- D. E. Young, Superintendent, Operations
- *W. R. Robinson, Assistant Manager, Operations and Maintenance
- R. R. Roselius, Superintendent, Health Physics
- *T. P. Sharkey, Supervising Engineer, Site Licensing
- G. J. Czeschin, Superintendent, Planning and Scheduling
- W. H. Sheppard, Superintendent, Maintenance
- G. R. Pendegraff, Superintendent, Security
- L. H. Kanuckel, Supervisor, Quality Assurance Program
- G. A. Hughes, Supervisor, Independent Safety Engineer Group
- *J. C. Gearhart, Superintendent, Operations Support, Quality Assurance
- *C. S. Petzel, Quality Assurance Engineer
- *J. A. McGraw, Superintendent, Design Control
- *J. M. Brown, Licensing Fuels Engineer

*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.

2. Reports of Non-Routine Events (92700)

a. Diesel Generator (D/G) Failures

An inspection in this area was performed to assess the licensee's documentation, evaluation, and reporting of D/G failures. The inspection was initiated following discussions with NRR staff, regarding the licensee's classification of the D/G failure documented in the Special Report Number 89-03 and questions as to the reportability of the D/G failure described in NRC Inspection Report Number 483/89009(DRP).

On July 13, 1989 the resident inspectors met with utility management and discussed the apparent reporting discrepancies relating to the D/G failures. The licensee expressed the desire for further communication with NRC staff regarding the D/G failure classification. On July 17, 1989, during a telephone conversation, the licensee was advised by the NRC staff that it disagreed with the classification of the D/G failure as reported in Special Report

Number 89-03. The NRC staff position is that the discovery of conditions that are automatically alarmed or found during inspections, when the D/G unit is on standby, that would have resulted in the failure of the diesel generator unit during test or during response to a bona fide signal, should be considered a valid test and failure. The NRC staff position, regarding the D/G failure described in NRC Inspection Report Number 83/89009(DRP), is that the failure is reportable as an "invalid" failure. The above D/G failures are discussed briefly in the paragraphs that follow.

- Special Report (SR) 89-03 (Invalid Diesel Generator 'A' Failure) documented that on March 30, 1989 the diesel generator 'A' was declared inoperable due to cooling water leaking from the exhaust valve cooling water jumper O-rings on cylinder #8 into the rocker arm lube oil reservoir. This condition was discovered when the rocker arm lube oil reservoir high-high level alarm sounded.

The report also stated that this condition would eventually cause the rockers to seize and cause the diesel generator to fail, and that the engine could not be relied upon to perform its safety function. However, the report classified this event as an invalid failure since this failure did not occur during a test.

On July 24, 1989 the licensee issued Revision 1 to SP 89-03 which reclassified the above failure as a valid D/G 'A' failure.

- NRC Inspection Report Number 483/89009(DRP) documents the inspector's observations during the licensee's performance of surveillance procedure ISP-SA-2413A (Train 'A' Diesel Generator and Sequencer Test). The report indicated that the initial test failed due to a card failure. The licensee documented the failure in an Incident Report (IR) Number 89-079 on April 1, 1989. Through trouble shooting, the licensee determined that the D/G 'A' failure to start during the test was due to a failed driver relay card in the load shedding and emergency load sequencing (LSELS) circuit. The licensee dispositioned the IR as "not reportable", because the failed card was not part of the defined D/G unit design and the special report was not submitted within the allotted time.
- On July 19, 1989, the licensee issued SP 89-07 which appropriately reported the failure as an "invalid" failure of D/G 'A'.

Technical Specification (T/S) 4.8.1.1.3 requires that all diesel generator failures, valid or non-valid, be reported in a special report to the Commission pursuant to Specification 6.9.2 within 30 days. Reports of diesel generator failures shall include the information recommended in Regulatory Position C.3.b. of Regulatory Guide 1.108, Revision 1, August 1977.

The 'A' D/G failure to start on April 1, 1989 was not reported until July 19, 1989. The licensee's failure to report all D/G failures within 30 days is a violation of T/S 4.8.1.1.3 (483/89015-01(A)(DRP)).

Upon becoming aware of the NRC position relating to D/G failures, the licensee initiated a document review to assure that prior D/G failures had been correctly classified and reported. The review included previous SPs and the IR database for D/C system deficiencies occurring since the issuance of the operating licensee (June 1984). The review identified two additional D/G failures that had not been reported as required by T/S 4.8.1.1.3.

- (1) On February 15, 1989 D/G train 'B' was declared inoperable when the fuel oil transfer pump failed to autostart during a surveillance test. Troubleshooting determined the cause to be a Safety Main Control Board (MCB) switch. The MCB switch had disabled the fuel oil day tank level switches and the local handswitch. Consequently, the transfer pump was not capable of automatically supplying fuel to the day tank.

The licensee's evaluation determined that the deficiency had existed since February 7, 1989. On that date an equipment operator (EO) discovered that the transfer pump failed to start using the local handswitch. The EO notified the control room licensed reactor operator (RO) of the problem. The RO operated the pump from the MCB switch. Due to the short period taken to fill the standpipe, there was no indication of a problem with the MCB switch. The EO verified that the standpipe level was satisfactory and wrote a work request for the local handswitch. The licensee determined that the D/G had been inoperable from about 4:00 a.m. on February 7, 1989 until 10:25 p.m. on February 15, 1989. Technical specification 3.8.1.1 actions "b" and "d" were not initiated until discovery of the condition at 4:00 a.m. on February 15, 1989 and, therefore, exceeded the allowed time limits.

Licensee Event Report (LER) Number 89001 issued on March 9, 1989 appropriately reported the violation of T/S 3.8.1.1 but did not provide the D/G failure details, e.g.; classification and failure history, as required by T/S 4.8.1.1.3.

LER 89001-01 issued on July 21, 1989 classified the failure as "valid" D/G 'B' failure and provided the specified "special report" details. The D/G "failure" discovered on February 15, 1989 was not reported until July 21, 1989. The licensee's failure to report all D/G failures within 30 days is another example of a violation of T/S 4.8.1.1.3 (483/89015-01(B)(DRP)).

- (2) On April 3, 1989 during the performance of surveillance test procedure ISP-SA-2413B, D/G 'B' failed to start. This failure was documented in IR Number 89-084. The licensee's evaluation showed that the operator failed to depress the undervoltage

(UV) pushbuttons long enough for the logic circuit time delays to "time out" and as a result the D/G did not receive a start signal. The operator error was attributed to a procedural inadequacy in that the procedure step did not specify a minimum time that the pushbuttons must be held.

On July 19, 1989 the licensee issued SP 89-08 which classified the failure as an "invalid" failure of D/G 'B'. The D/G failure discovered on April 3, 1989 was not reported until July 19, 1989. The licensee's failure to report all D/G failures within 30 days is another example of a violation of T/S 4.8.1.1.3 (483/89015-01(C)(DRP)).

The inspector reviewed the IRs associated with the above events and interviewed licensee personnel involved in the event evaluation and resolution process. The inspector determined that although reporting errors were made, the deficiencies were documented in IRs. The IRs underwent licensee event cause evaluation and appropriate corrective action was taken, including action in response to an engineering reliability study (O-rings) and in response to a failure analysis (relay cards). The licensee's corrective action included the following:

- Replaced O-rings on all cylinders for both D/G units during the refueling outage.
- Instrumentation and control preventive maintenance (PM) tasks (Numbers P460225 and P459502) were issued. These tasks specify monthly verification of proper relay driver card operation.
- Operations surveillance procedures (ISP-SA-2413A and B) were revised to provide caution of the 1.2 second time delay associated with the undervoltage pushbuttons.
- A temporary change to operations surveillance procedures (OSP-NE-00002 and ODP-ZZ-00016) was issued which changes the minimum level of the D/G day tanks to 3.0 feet. This allows the automatic control operation of D/G fuel oil transfer pumps.

In addition, D/G reportability issues were discussed with site licensing personnel. The NRC staff position relating to D/G failures has been entered in the licensee's event "reference file" to preclude future reportability determination errors.

The inspection showed that the licensee had taken appropriate corrective action for the specific events and action to prevent future reporting violations.

The violations meet the tests of 10 CFR 2, Appendix C, Sections V.A and V.G; consequently, no Notice of Violation will be issued and this matter is considered closed.

This inspection closes the associated items listed below:

- Special Report 89-03
- Special Report 89-07
- Special Report 89-08
- LER 89001 and 89001-01
- Unresolved Item 483/89011-02(DRP)

b. (Closed) Unresolved Item Number 483/89011-01(DRP): Target Rock Solenoid Operated Valves (SOVs) Used in 10 CFR 50.49 Applications

Carolina Power and Light (CP&L) Licensee Event Report (LER) 88-026, dated October 6, 1988, documented equipment qualification (EQ) deficiencies associated with Target Rock (TR) SOVs at the Shearon Harris nuclear plant. In November 1988, the Nuclear Utility Group on EQ (NUGEQ) notified its members, by a memorandum, dated November 29, 1988, of the specific deficiencies identified by CP&L. The EQ discrepancies noted were; 1) the cracking of Ristance or Markel reed switch lead wires; 2) the lack of traceability between the EQ tested components and the components actually installed in the SOVs (qualification of the SOVs had been established through the testing of Bolden wire and Kulka terminal blocks, and the valves installed in the plant were found to contain either Ristance or Markel wires and Beau terminal blocks) and; 3) the cracking of terminal blocks due to the tightening of jumper wire lugs on the blocks. CP&L replaced the reed switch lead wires with qualified Kapton wires and the Beau terminal blocks were replaced with qualified Kulka terminal blocks.

Due to the EQ deficiencies identified above, Union Electric (UE) performed an inspection, in March 1989, of spare TR SOVs located in their warehouse. The inspection identified unqualified Beau terminal blocks and Ristance or Markel lead wires installed in the SOVs. The licensee initiated a Justification for Continued Operations (JCO) which addressed the qualifiability and operability of 14 suspect SOVs installed in the plant. The valves were reported to be installed in the BB system (head vent), BG system (excess letdown), and the EP system (accumulator vent). The licensee stated, in its JCO, that the valves were operable because the TR housing was a sealed enclosure and would prevent moisture intrusion. In addition, the licensee reported that alternate equipment and instrumentation indications were available to mitigate possible SOV failures.

During the April 1989 refuel outage the licensee performed an inspection of the suspect TR SOVs installed in the plant. The licensee identified the unqualified Ristance or Markel wires and Beau terminal blocks installed in the SOVs. The licensee reported that the components were found in good condition and that no cracking or breakage was discovered. The licensee replaced the unqualified wires and terminal blocks with the qualified Kapton wires and Kulka terminal blocks. The NRC inspectors concluded that

this represented a violation of 10 CFR 50.49 requirements (483/89015-02(DRS)). However, this violation meets the tests of 10 CFR Part 2, Appendix C, Section V.G.1; consequently, no Notice of Violation will be issued, and this matter is considered closed.

c. Inspection of Licensee Event Reports

Through direct observations, discussions with licensee personnel, and a review of records, the following licensee event reports were reviewed to determine that reportability requirements were fulfilled, that immediate corrective action was accomplished, and that corrective action to prevent recurrence was accomplished in accordance with Technical Specifications (T/Ss). The LERs listed below are considered closed.

(1) (Closed) LER 89002: Engineered Safety Features (ESF) Actuations

Two unplanned ESF actuations occurred. In the first event, a control room ventilation isolation signal (CRVIS) occurred due to an electrical spike on GK-RE-04. The spike occurred due to a shield breakage of the GK-RE-04 coaxial cable.

In the second event, a CRVIS and a fuel building isolation signal (FBIS) occurred due to a technician's inadvertent actions while troubleshooting the ESF automatic test insertion (ATI) system. In this event, the technician accidentally pushed in an ESF actuation pushbutton located adjacent to the ATI decoder module card he was reinserting.

(2) (Closed) LER 89003: Engineered Safety Features Actuation on High Steam Generator Level

During a plant shutdown in preparation for the Refuel III outage, a feedwater isolation signal (FWIS) and an auxiliary feedwater actuation signal (AFAS) occurred due to a high water level in steam generator 'A'. Reactor power was at three percent and decreasing. The main turbine had been manually tripped eight minutes prior to the event.

The root cause of the event was attributed to personnel error, in which the reactor operator did not take sufficient actions in reducing feedwater flow to stop the 'A' steam generator level increase. A contributing factor was the fact that automatic level control for steam generator 'A' was not available, due to a problem with the controller card.

(3) (Closed) LER 89004-01: Engineered Safety Features Actuation on High Steam Generator Level

A feedwater isolation occurred due to a high water level in steam generator (S/G) 'A'. The plant was being heated up following Refuel III. The 'A' main steam isolation valve

(MSIV) was opened, and the level in S/G 'A' began to swell rapidly to the high level setpoint. The 'A' MSIV bypass valve had been opened 14 minutes earlier to equalize pressure across the MSIV.

The root cause of this event was the failure to adequately equalize pressure across the MSIVs prior to opening the valves.

(4) (Closed) LER 89005: Two Safety Injection (SI) Actuations

A SI actuation on train 'A' was received due to a low steamline pressure signal during a reactor trip breaker trip actuating device operational test. Five minutes later during restoration, a second SI signal was received. The plant was in Mode 4, Hot Shutdown at the time of the event.

The root cause of the first SI event is cognitive personnel error. A licensed operator turned a logic switch in the wrong direction, unblocking the low steamline pressure SI. When the mode switch was turned from "test" to "operate", the established SI signal was processed, causing the train 'A' SI plant equipment to actuate.

The second SI was due to a licensed operator inadvertently pressing the "pressurizer pressure SI reset" button, instead of the "manual SI reset". A second SI signal was processed, but all equipment was already in its SI position.

(5) (Closed) LER 89006: Reactor Trip/Turbine Trip Due to High Power Start-Up Flux Rate Trip

On May 29, 1989, a reactor trip occurred on a power range neutron flux rate trip signal. An incore/excore calibration surveillance was in progress. At the request of a reactor engineer, an I&C technician removed the leads that were connected to power range channels N41 and N42. When reconnecting, the N42 leads were dropped causing a ground. A ground in one of the N41 leads also occurred, which gave the two-out-of-four coincidence for the trip signal.

The cause of this event was the lack of detail provided in plant procedures, which resulted in personnel not being aware of the potential consequences. Neither the technician nor the reactor engineer realized the risks associated with the configuration due to the multiple channel arrangement and the non-isolated test points.

(6) (Closed) LER 89007: Auxiliary Feedwater Actuation (AFA)

During the performance of surveillance procedure OSP-SA-0015A, an AFA of the motor driven auxiliary feedwater pump 'A' occurred. Near the end of the procedure, the operator is

required to reset a steam generator blowdown isolation signal. The button is covered with a "Stop and Think" cover. The operator lifted the cover, then he inadvertently pressed "Actuate" instead of "Reset", resulting in an AFA.

The above events occurred between February and June 1989. The inspectors determined that the events were appropriately documented and reported. Plant systems and equipment functioned as designed. The events were attributed to a combination of performance errors, procedural weaknesses, and test hardware deficiencies; and involved different personnel and work activities.

The licensee performed a post trip and event review for each occurrence as part of Callaway's Plant Event Reduction Program. This review included a human performance evaluation. The evaluation resulted in a critical assessment of root cause and recommendations for improvements. Action taken included management/crew discussions and "lessons learned" training to increase personnel awareness, procedure revisions (steps and cautions) and hardware improvements (non-conductive material for test instrument tables).

The above events resulted in avoidable plant transients and/or safety system actuations. The inspectors determined that the licensee is actively involved in overall event reduction activities including corrective and improvement initiatives.

Other than avoidable actuation of safety systems, all activities were conducted in an adequate and safe manner.

3. Plant Operations (71707)

a. Operational Safety Verification

Inspections were routinely performed to ensure that the licensee conducts activities at the facility safely and in conformance with regulatory requirements. The inspections focused on the implementation and overall effectiveness of the licensee's control of operating activities, and on the performance of licensed and non-licensed operators and shift technical advisors. The inspections included direct observation of activities, tours of the facility, interviews and discussions with licensee personnel, independent verification of safety system status and limiting conditions of operation (LCO), and reviews of facility procedures, records, and reports. The following items were considered during these inspections:

- Adequacy of plant staffing and supervision.
- Control room professionalism, including procedure adherence, operator attentiveness, and response to alarms, events, and off-normal conditions.
- Operability of selected safety-related systems, including attendant alarms, instrumentation, and controls.
- Maintenance of quality records and reports.

The inspectors observed that control room supervisors, shift technical advisors, and operators were attentive to plant conditions, performed frequent panel walkdowns and were responsive to off-normal alarms and conditions.

b. Off-Shift Inspection of Control Room

The inspectors performed routine inspections of the control room during off-shift and weekend periods; these included inspections between the hours of 10:00 p.m. and 5:00 a.m. The inspections were conducted to assess overall crew performance and, specifically, control room operator attentiveness during night shifts.

The inspectors determined that both licensed and non-licensed operators were attentive to their duties, and that the administrative controls relating to the conduct of operation were being adhered to.

c. Plant Material Conditions/Housekeeping

The inspectors performed routine plant tours to assess material conditions within the plant, ongoing quality activities and plantwide housekeeping. The inspectors also accompanied the licensee's management on monthly plant tours.

d. Radiological Controls

The licensee's radiological controls and practices were routinely observed by the inspectors during plant tours and during the inspection of selected work activities. The inspection included direct observations of health physics (HP) activities relating to radiological surveys and monitoring, maintenance of radiological control signs and barriers, contamination, and radioactive waste controls. The inspection also included a routine review of the licensee's radiological and water chemistry control records and reports.

Good radiological controls, conditions and practices were observed. Overall radiological conditions in the plant have improved through the licensee's "contaminated area reduction" program. The total contaminated area had been reduced to approximately 5,000 square feet (an area of approximately one-half the area existing in 1988). The HP staff provided close supervision and effective control of fuel reconstitution activities in the fuel building.

e. Security

The licensee's security activities were observed by the inspectors during routine facility tours and during the inspectors' site arrivals and departures. Observations included the security personnel's performance associated with access control, security checks, and surveillance activities, and focused on the adequacy of security staffing, the security response (compensatory measures), and the security staff's attentiveness and thoroughness.

f. Spent Fuel Pool Work Activities

During August 1989, licensee and Westinghouse personnel performed a variety of work activities in the spent fuel pool. The work was associated with the inspection and testing of Hafnium Rod Cluster Control Assemblies (RCCA), the inspection of fuel pins in standard low-parasitic (LOPAR) fuel assemblies, and fuel reconstitution of Vantage 5 fuel assemblies. The following deficiencies were identified during the performance of these activities.

- On August 18, 1989 an attempt to remove RCCA R-41 from the fuel assembly failed, apparently due to binding. The licensee directed that no further attempts be made to move Rod R-41 pending further evaluation. (Incident Report IR 89-310).
- On August 21 and 23, 1989 two broken fuel pins were found during visual inspection of fuel pins in LOPAR fuel assemblies.

The licensee placed a hold on fuel pin removal pending further evaluation (IR 89-316).

- On August 26, 1989 while performing work associated with fuel reconstitution of Vantage 5 fuel assembly E07, visual examination found that eight of the 24 guide tube flexures had sustained excessive bending. The bending was such that locktubes, which secure the nozzle to the assembly, could not be inserted. Reconstitution work was stopped and is currently undergoing event cause and corrective action evaluation. (IR 89-321)

The inspectors performed frequent observations of ongoing work in the spent fuel pool area. The inspectors determined that the licensee provided close supervision and control of the work activities, and demonstrated a conservative safety attitude during the work planning, work performance and in response to problems. The deficiencies were appropriately documented and are undergoing event cause and corrective action evaluation.

g. Emergency Preparedness

An inspection of emergency preparedness activities was performed to assess the licensee's implementation of the emergency plan and implementing procedures. The inspection included monthly observation of emergency facilities and equipment, interviews with licensee staff, and a review of selected emergency implementing procedures.

The Callaway Plant Radiological Emergency Response Drill was conducted August 16, 1989. The On-Shift, On-Site, Emergency Operations Facility (EOF), and Public Information Emergency Response Organizations were operational during the drill. Participation by off-site organizations was limited to an abbreviated response by state personnel at the Joint Public

Information Center and the State Forward Command Post in the EOF. The primary objective for this drill was to provide drill practice and experience for the identified emergency response personnel. The majority of on-site drill participants selected had not been involved in prior emergency preparedness exercises. Efforts were made to reduce the amount of simulation, however, the loss of all AC power (including the loss of the public address system and plant emergency alarms) was simulated. This loss of power identified various communication problems and delayed the personnel accountability process.

The inspector observed drill participant's performance in the control room and the Technical Support Center, and attended the initial post-drill critique. Drill participants demonstrated good teamwork and a positive attitude. The critique included a critical self-assessment of drill performance weaknesses. The drill appeared to be challenging, satisfying the drill objective.

All activities were conducted in an adequate and safe manner.

4. Maintenance/Surveillance (62703) (6/26)

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.

The observed ongoing maintenance and surveillance activities were found to be properly authorized and were being performed using approved procedures. The activities were noted to be scheduled and required isolations and tagging were found to be correctly carried out. The limiting conditions for operation were adhered to during the performance of these activities. In general, the workmanship was found to be satisfactory.

a. Maintenance

The reviewed maintenance activities included:

<u>Work Request No.</u>	<u>Activity</u>
WR P449961	Clean/inspect load center breaker per procedure E-017-00397.

WR A405639A Install and remove freeze seal for recycle evaporator condenser component cooling water outlet relief, per procedure MDP-ZZ-FS001.

WR P405639 Test pressure relief valve for recycle evaporator condenser component cooling water outlet relief.

WR W1115990 Replace temperature switches, essential service water ultimate heat sink cooling tower cell 'A'.

b. Surveillance

The reviewed surveillances included:

<u>Procedure No.</u>	<u>Activity</u>
ISL-GS-00A2B	Containment hydrogen concentration analysis transmitter, train 'B'.
ISF-BB-OP458	Reactor coolant system pressurizer protection 'B' pressurizer transmitter, functional.
ISF-EF-00P43	Essential service water train 'A' to compressed air compressor differential pressure transmitter.
OSP-SF-00002	Control rod partial movement test.
ISF-AL-00P37	Condensate storage tank to auxiliary feedwater pump suction header pressure transmitter.
ESP-ZZ-00025	Reactor vessel delta temperature measurement.
OSP-NE-00002	'A' diesel generator one hour load test.
OSP-SA-0017A	Slave relay test, load shedding emergency load sequencing train 'A', centrifugal charging pump 'A' and 'A' diesel auto start.
OSP-SB-00001	Reactor trip breakers, trip actuating devices operational test.
OSF-ZZ-00001	Control room shift and daily log readings and channel checks.
ISL-BB-AE421	Loop temperature, loop 2 delta temperature input to steam generator low-low level.

ISL-NF-NB01C

Loop, miscellaneous NB01C degraded and under voltage to load shedding emergency load sequencer.

All activities were conducted in an adequate and safe manner.

f. Regional Requests (12701)

Temporary Instruction (TI) 2500/27 - Inspection Requirements for NRC Compliance to Bulletin 87-02, "Fastener Testing to Determine Conformance with Applicable Material Specifications".

TI 2500/27 provided inspection requirements and guidance specific to plants identified in the TI. Inspection requirements specified for Callaway were Paragraphs 04.02, 04.05 and 04.06.

Paragraph 04.05 identified the licensees that had not satisfied the sample testing requested by Bulletin 87-02. Callaway was inadvertently listed in that group. Callaway's sample testing included 37 safety related and 12 non-safety related fasteners and nuts, which exceeded the minimum requested by the bulletin.

The TI paragraphs applicable to Callaway are 04.02 and 04.06. These relate to the licensee's root cause analysis and corrective actions pertaining to the three non-safety related nuts which failed the hardness testing requirements. All three of these nuts were from a single stock number and were sent to Callaway as a spare parts replacement by Dresser Industries for use on its non-safety related 1"-600 pound carbon steel gate valves. The intended end use was as a replacement gland packing nut which is considered non-pressure retaining.

The licensee attributed the root cause to the lack of a requirement for vendors to supply information on material specification or grades on non-safety related spare parts. As such, non-safety related spare parts do not receive a receipt inspection for this attribute.

The licensee's corrective action includes the following:

- The three non-safety related nuts which failed the hardness test were scrapped along with the entire batch supplied by the vendor.
- Callaway has developed and implemented a training course "Good Bolting Practices" (T67.0120.6) that the mechanical craft personnel were required to complete as part of their annual requalification. This was implemented in the second half of 1988. Part of this course covered the recognition of fastener specifications and grade markings.
- Inventory at Callaway is split into two categories comprising of General Stock and Spare Parts. Callaway does not maintain any non-safety related SA-194, grade 2H nuts in general stock. Only safety related nuts, which require material certifications and receive a hardness check as part of receipt inspection are available from the storeroom as general stock.

- Piping class sheets, 10466-MS-2, were revised to require safety related ASME SA-194, grade 7 nuts in lieu of ASTM A-194, grade 2H nuts on non-safety related Main Steam and Feedwater piping systems as well as other systems. This was done as a combination of ensuring superior quality nuts on piping systems and consolidating inventory. SA-194, grade 7 nut material has the same physical strength requirements as SA-194, grade 2H but is more corrosion resistant. No backfit program is anticipated for this item.

The inspector determined that the licensee was responsive to NRC requests in this matter.

TI 2500/27 is considered closed.

6. Violations for Which a "Notice of Violation" Will Not be Issued

The NRC uses the Notice of Violation as a standard method for formalizing the existence of a violation of a legally binding requirement. However, because the NRC wants to encourage and support licensee initiatives for self-identification and correction of problems, the NRC will not generally issue a Notice of Violation for a violation that meets the tests of 10 CFR 2, Appendix C, Section V.G.1. These tests are: (1) the violation was identified by the licensee; (2) the violation would be categorized as Severity Level IV or V; (3) the violation was reported to the NRC, if required; (4) the violation will be corrected, including measures to prevent recurrence, within a reasonable time period; and (5) it was not a violation that could reasonably be expected to have been prevented by the licensee's corrective action for a previous violation.

In addition, for isolated Severity Level V violations, a Notice of Violation normally will not be issued regardless of who identifies the violation provided that the licensee has initiated appropriate corrective action before the inspection ends. (10 CFR 2, Appendix C, Section V.A).

Violations for which a Notice of Violation will not be issued are identified in Paragraph 2.a and 2.b of this report.

7. Exit Meeting (30703)

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. The inspectors also discussed the likely informational content of the inspection report with regard to documents or processes reviewed by the inspectors during the inspection. The licensee did not identify any such documents/processes as proprietary.