

U. S. NUCLEAR REGULATORY COMMISSION

REGION III

Report No. 50-483/88004(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: February 7 through April 2, 1988

Inspectors: B. H. Little
C. H. Brown

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

4/25/88
Date

Inspection Summary

Inspection from February 7 through April 2, 1988 (Report No. 50-483/88004(DRP))

Areas Inspected: A routine unannounced safety inspection of Licensee Event Reports (LERs), inspector-identified problems, plant operations, engineered safety features (ESF) system walkdown, radiological controls, maintenance, surveillance, fire protection, emergency preparedness, security, quality programs and administrative controls affecting quality, training and qualification effectiveness and regional requests.

Results: Of the 13 areas inspected, no violations were identified in 11 areas. One violation (with three examples) was identified in one area (failure to follow procedure for retest of a Main Steam Isolation Valve; failure to use applicable drawing during trouble shooting the Engineering Safety Features Status Panel; and failure to provide adequate procedures for preventing excessive plant cooldown following a reactor trip - Paragraph 2.b).

Three violations were identified in two areas (failure to maintain a continuous firewatch; failure to establish a continuous firewatch - Paragraphs 2.c and 2.f; and failure to control a design change - Paragraph 3.e. However, in accordance with 10 CFR 2, Appendix C, Section V.A, a Notice of Violation was not issued. The violations were of minor safety significance.

8805040318 880427
PDR ADUCK 05000483
Q DCD

DETAILS

1. Persons Contacted

D. F. Schnell, Vice President, Nuclear
*G. L. Randolph, General Manager, Nuclear Operations
*J. D. Blosser, Manager, Callaway Plant
C. D. Naslund, Manager, Operations Support
A. P. Neuhalfen, Manager, Quality Assurance
J. R. Peevy, Assistant Manager, Technical Services
*W. R. Campbell, Assistant Manager, Nuclear Engineering
M. E. Taylor, Superintendent, Operations
D. E. Young, Superintendent, Maintenance
*W. R. Robinson, Assistant Manager, Operations and Maintenance
R. R. Roselius, Superintendent, Health Physics
T. P. Sharkey, Supervisor, Compliance
G. J. Czeschin, Superintendent, Planning and Scheduling
W. H. Sheppard, Superintendent, Outages
G. R. Pendegraff, Superintendent, Security
*L. H. Kanuckel, Supervisor, Quality Assurance Program
R. D. Affolter, Superintendent, Systems Engineering
*J. V. Laux, Superintendent, Technical Support, Quality Assurance
G. A. Hughes, Supervisor, Independent Safety Engineer Group
J. C. Gearhart, Superintendent, Operations Support, Quality Assurance
J. J. Cassmeyer, Quality Assurance 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. Inspection of Licensee Event Reports (92700)

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.

- a. LER 88-003-00: Containment High Range Radiation Monitors Inoperable due to missing heat shrink moisture seals.

At 1840 CST on February 2, 1988, the licensee determined in response to a voluntary followup of a Wolf Creek LER, that the electrical penetration assemblies connected via coax cabling to the containment high range radiation monitors, GT-RE-59 and GT-RE-60, were not installed with protective heat shrink moisture seals, a configuration that would not ensure post accident operability. Therefore, they were technically inoperable, a condition prohibited by Technical Specification 3.3.3.6 for accident monitoring instrumentation. This requirement for operability had not been met since initial entry into Mode 3, Hct Standby, on 8/19/84.

The licensee determined that the incident was the result of an inadequate CONAX Corporation vendor manual (Installation and Maintenance Manual for Feedthrough/Adapter Module Assemblies, IPS-655) which resulted in an incomplete electrical termination list prepared by the architectural engineer (Bechtel). The electrical termination list did not require heat shrink moisture seals on the containment penetration assembly coax connectors, therefore none were installed.

Licensee's corrective action included the following:

- On February 2, 1988, a plant modification was developed and implemented to install nuclear grade heat shrink moisture seals for coaxial cables ISPI01LC, ISPI01LD, 4SPI01MC, and 4SPI01MD.
- A document review of the remaining containment coax type connections for electrical penetration assemblies were found to be non-safety related and did not require heat shrink moisture seals.
- Information was added to the electrical termination list. The CONAX vendor specification and GAC manual will be modified accordingly to specify heat shrink moisture seals over coax connections.

Inspection in this matter included the review of Incident Report No. 88-025 which documented the missing moisture seals, Request for Resolution (RFR) Number 04947 (Engineering Operability Evaluation), and interviews with utility management, engineering and health physics personnel.

The problem was discovered by a health physics supervisor and a system engineer's review and response to an information copy of Wolf Creek's LER. The licensee took appropriate action upon discovery.

The NRC is concerned that the lack of moisture seals on the coaxial cable could affect the accuracy of the radiation monitor and could mislead the operator during and after an accident.

The licensee provided prompt and thorough response in this matter and has completed appropriate corrective action. However, the licensee's failure to provide moisture seals on the electrical penetration connectors for GT-RE-59/60 is an apparent violation of Environmental Qualification (EQ) Requirements. This matter is unresolved pending further NRC review. Unresolved item (483/88004/01(DRP)).

LER 88-003-00 is considered closed.

- b. (Closed) LERs 87-032-00, 88001-00, and 88-004-00: These LERs relate to reactor trips which occurred during maintenance associated activities eg: retest or trouble shooting. LER 88-004-00 also documents the occurrence of a safety injection actuation on low steam line pressure. These events resulted from procedural/hardware deficiencies or performance errors or a combination thereof, and resulted in avoidable actuation of engineering safety features and plant transients. The events including the licensee's cause evaluation and corrective actions are summarized as follows:

LER 87032-00: On November 8, 1987, at 0252 CST, with the plant in Mode 2 - Startup, a reactor trip occurred as the result of Low Level in the "B" Steam Generator (S/G). The low S/G level occurred as a result of S/G level oscillations following the retest of leaking Main Steam Isolation Valve (MSIV) "B" at 0229. The licensed operators failed to follow the test procedure which required performance of the test only in Mode 3 - Hot Standby. Additionally, the "B" Main Steam Dump Valve was cycling due to a low control band. This magnified the perturbation of the test on the plant. Licensed operators were unable to stabilize the oscillations and the reactor tripped at 0252. The operators recovered from the trip via plant procedures and stabilized plant conditions by 0258.

The licensee's evaluation determined that the initial conditions of the retest procedure (OSP-AB-V002B) required the plant to be in Mode 3 for this retest. Due to familiarity with this test, the procedure was not referred to by the operators and the retest was performed in Mode 2 versus Mode 3.

Corrective Actions and Actions to Prevent Recurrence

- The plant was placed in Mode 5, Cold Shutdown, and the scored valve stem of AB-HV-17 which was the cause of the MSIV leak, was replaced. The control band for AB-UV-35, steam dump valve, was adjusted to prevent the excessive cycling.
- Progressive discipline was initiated with the licensed operators involved with the failure to refer to the retest procedure. This event was discussed with the other licensed operators to emphasize the necessity to review retest requirements.

Licensee's failure to use the retest procedure (OSP-AB-V002B) for testing of MSIV "B" is contrary to licensee's Operating Quality Assurance Manual (OQAM), Section 5, Paragraph 5.2 which specifies that activities affecting quality shall be controlled by using approved drawings, procedures, instructions or checklists to accomplish an activity, and is an example of a violation of 10 CFR, Appendix B, Criterion V - Instructions, Procedures, and Drawings (483/88004-02A(DRP)).

LER 88001-00: On January 4, 1988 at 0236 CST, a reactor trip occurred as a result of Low Level in the "A" Steam Generator (S/G).

The reactor trip occurred during troubleshooting of the main feedwater isolation valve (FWIV), AE-FV-39, accumulator pressure indication alarm light on the Engineered Safety Features (ESF) Status Panel SA066X located on the Main Control Board. The control voltage was shorted when a jumper was incorrectly placed across what was assumed to be the switch contacts for AE-PSL-0039A (located in cabinet SA066A). This blew a fuse in the adjacent Main Steam Feedwater Isolation System (MSFIS) cabinet resulting in the fast closing of AE-FV-39, followed by a flow mismatch on all four steam generators with an accompanying reactor trip on steam generator 10-10 level in the "A" steam generator. The initial problem of the amber light on the ESF Status Panel was later found to be caused by a bad relay card.

The review of this event identified the root cause as personnel involved in troubleshooting the faulty indication failing to obtain and use all available wiring details of the AE-PSL-0039A circuit prior to troubleshooting.

Corrective Actions and Actions to Prevent Recurrence

- I&C technicians replaced the blown fuse and completed troubleshooting the amber light condition on the ESF status panel. Valve AE-FV-0039 light condition was found to be due to a defective relay card which was replaced. The plant was returned to power operations at 0237 on January 5, 1988.
- A Request for Resolution (RFR) was written to evaluate isolating the ESF Actuation System status panel indications from the control circuitry with additional fuses.
- Technicians involved in the troubleshooting have been counseled for their failure to obtain and use the appropriate wiring details of the circuit for AE-PSL-0039A prior to troubleshooting.
- I&C personnel have been instructed that before troubleshooting, all activities should be verified by a review of the appropriate design information. Additional training was given to I&C technicians on SA066 cabinets power distribution.

Licensee's Operating Quality Assurance Manual (OQAM), Section 5, Paragraph 5.2 specifies that activities affecting quality shall be controlled by using approved drawings, procedures, instructions or checklists to accomplish an activity.

Licensee's failure to use applicable drawings during troubleshooting of the ESF status panel is contrary to licensee's OQAM and is another example of a violation of 10 CFR 50, Appendix B, Criterion V - Instructions, Procedures, and Drawings (483/88004-02B(DRP)).

LER 88004-00: On February 13, 1988, at 0355 CST, a turbine trip/reactor trip occurred during turbine surveillance testing. Following the trip at 0522 CST Safety Injection (SI) was automatically initiated due to low steam line pressure.

While performing OSP-AC-00004 (Normal Weekly Turbine Surveillance Test) the Mechanical Trip Piston portion of the test failed to respond as required. In the event the test failed, the procedure called for installation of a jumper in the EHC cabinets to allow resetting the turbine and completing the procedure. The jumper was installed in accordance with the procedure but the clip of the jumper slipped loose, shorting the 125 VDC circuit to ground. This resulted in an electrical turbine trip. Since power was greater than 50%, the P-9 interlock caused a reactor trip.

The operating crew promptly entered the appropriate Emergency Procedures, completing these procedures in approximately 25 minutes. At this point, pressurizer level and pressure were stable with Auxiliary Feedwater slowly returning Steam Generator levels to normal. However, a combination of several events prevented restoration of the Reactor Coolant System (RCS) temperature to its normal value of 557 degrees Fahrenheit. These included a failure of the Auxiliary Boiler to pick up auxiliary steam loads, a malfunction of the main steam controller to the steam seal system, and the continuous blowdown through the main steam line drains to the condenser. At 0522 on February 13, 1988, steam line pressure reached its low setpoint (617 psig) and a Safety Injection resulted. All systems functioned as required in response to the Safety Injection. As soon as the Main Steam Isolation valves shut (part of the response to a Safety Injection), RCS temperature immediately began to return to its normal value (557 degrees Fahrenheit) due to the termination of the steam loss.

The operators again entered the appropriate Emergency Procedures, this time for a Safety Injection. An Unusual Event was declared at 0532 on February 13, 1988, as required by our Emergency Plan for any Safety Injection. All necessary notifications were properly completed and the plant was restored to normal conditions. The Unusual Event was terminated at 0645 on February 13, 1988.

A review of the turbine trip/reactor trip determined the following causes:

- The cause of the turbine test failure (Mechanical Trip failed to reset) has not been determined. Extensive post trip testing and evaluation indicated an intermittent failure of the mechanical trip linkage to reset. A suspected cause was determined to be excessive free play in the linkage. This cannot be confirmed without a major disassembly of the main turbine front standard which is scheduled for the next refueling outage. This condition does not prevent the mechanical over-speed trip from performing its intended function.

- The jumper used in the procedure slipped from a terminal in the EHC cabinet. The location and design of the terminal block did not provide an easily accessible location at which to place the jumper. Human factors were not adequately addressed during development of the surveillance test procedure steps that addressed the use of this jumper.

Corrective Actions and Actions to Prevent Recurrence

- A complete disassembly and inspection of the mechanical trip linkage is scheduled for Refuel III. Reviews of experience at similar units and discussions with the turbine vendor, General Electric, have not indicated a generic failure trend involving similar failures.
- A bypass switch was installed so that use of a jumper in the EHC cabinet will not be required if the Mechanical Trip fails to reset in the future.

A review of the SI actuation determined the following causes:

- The utility licensed operators were not continuously cognizant of RCS temperature and consequently did not take effective action to stop the decreasing RCS temperature caused by the excessive steam loads described above.
- A contributing factor was the lack of guidance in the emergency procedure ES-0.1 (e.g., no action was specified when RCS temperature fell below 557 degrees fahrenheit).

Corrective Actions and Actions to Prevent Recurrence

- The controller for the main steam seal automatic pressure regulator valve was re-adjusted.
- Operations personnel were reminded that constant attention to certain key parameters (RCS pressure, RCS temperature, RCS flow and Reactor Power) is imperative. Progressive discipline has been initiated for those personnel involved.
- As interim guidance, a night order has been issued directing licensed operators to shut MSIVs in the event RCS temperature falls below 530 degrees fahrenheit following a reactor trip.
- Emergency procedure, ES-0.1, has been changed to caution operators to the consequences of low RCS temperatures.

Licensee's failure to provide appropriate procedures/instructions which preclude excessive RCS cooldown following a reactor trip is contrary to licensee's OQAM, Section 5, Paragraph 5.2 which specifies that activities affecting quality shall be controlled by preparing procedures, instructions, specifications, drawings or

checklists of a type appropriate to the activity and its importance to safety; including in these documents quantitative or qualitative acceptance criteria for verifying that an activity has been satisfactorily accomplished.

This is another example of a violation of 10 CFR 50, Appendix B, Criterion V - Instructions, Procedures, and Drawings (483/83004-02C (DRP)).

The inspectors determined, through the review of plant records and interviews, that appropriate corrective action has been taken to prevent recurrence. The licensee's combined Event and Trip Review Team reports indicate that the events undergo thorough evaluation of root cause and causal factors. The licensee has been responsive to the team's findings and recommendations. Although the events are "isolated", regarding activity and personnel involved, they indicate a need for increased attention to detail. The licensee has stressed "attentiveness" during meetings with utility personnel.

The events described above posed no significant threat to the public or plant safety, based on successful performance of safety systems in response to the reactor trips and SI actuation. However, the events are considered significant in view of the recurrence of avoidable events resulting from procedural and performance deficiencies.

The licensee has been responsive to these events, applying prompt and thorough corrective actions. Based on these corrective actions, the inspector has no further concerns regarding the specific event, and these items are considered closed; consequently no reply to violations 483/88004-02A, B, and C is required. LERs 870032-00, 88001-00 and 88004-00 are considered closed.

c. LER 87-028-00: Failure to maintain a continuous firewatch.

A Technical Specification continuous Fire Watch (FW) was posted in the Engineered Safety Features switchgear rooms (3301 and 3302) because the fire doors were blocked open to run an electrical cable between the rooms for testing switchgear equipment. At 10:30 AM CDT, on October 3, 1987, the continuous firewatch left the area in response to an audible fire alarm which was mistakenly assumed to be a halon dump alarm. The firewatch was re-established at 10:40 AM (approximately ten minutes later) after being informed by the control room that a halon dump had not occurred.

The licensee's corrective action included the revision of firewatch training programs and instructions associated with halon alarms, fire alarms, recognition and action, and the retraining of firewatch personnel.

The licensee's failure to maintain a continuous firewatch in the ESF switchgear room while the fire doors were blocked open is a

violation of T/S 3.7.10.3 Action (a). The violation meets the tests of 10 CFR 2, Appendix C, Section V.A; consequently, no Notice of Violation will be issued, and this matter is considered closed. The corrective action was timely and appropriate, and the safety significance was minor (483/88004-03(DRP)).

LER 870028-00 is considered closed.

- d. LER 87025-00: Containment purge, fuel building and control room ventilation isolations due to failed power supply.

This Licensee Event Report covers two events. At 0220 CDT on 9/4/87, a spurious control room ventilation isolation (CRVI), fuel building isolation (FBI), and a containment purge isolation (CPI) occurred. At 0823 CDT 9/4/87, a second spurious ESF actuation of CPI, CRVI, and FBVI occurred. Following the initial ESF actuation at 0220, an assessment of indications was made and a recorder was attached to the power supply outputs. After the second ESF actuation at 0823, a review of the recorded data showed that PS-4 (power supply) had intermittently failed. The power supply was replaced.

The licensee performed tests of the failed unit but could not determine the cause of failure. However, the licensee's review determined that electrolytic capacitor power supply vendors recommend periodic energization of the power supplies and this was not being done at Callaway.

The inspector reviewed the licensee's corrective action including the preventative maintenance (PM) request, approved January 8, 1988, which revised the PM program to provide for periodic energizing of stored power supply components.

LER 87025-00 is considered closed.

- e. LER 87-018-00, LER 87-018-01: Inoperable Essential Service Water (ESW) System due to misposition ESW valve, EF-V-0117. Inspection and close out of this item is included in paragraph three of this report.

LER 87-018-00 and LER 87-018-01 are considered closed.

- f. LER 87-011-00: Failure to establish a continuous firewatch within one hour as required by technical specifications.

On June 5, 1987, during a review of completed work packages, the licensee determined that for a period of approximately two hours and 15 minutes the T/S required continuous firewatch had not been established for the Engineered Safety Features switchgear rooms. The event occurred when utility personnel removed the pressure gauges from the main and reserve halon bank cylinders for calibration. This action rendered both halon banks inoperable.

The licensee's evaluation attributed the cause of the event to cognitive personnel error during the scheduling and performance of the calibration activity.

The licensee's corrective action included the following:

- This event was discussed with utility planning, operations, and I&C personnel.
- The work authorizing documents have been re-scheduled such that main and reserve bank gauge calibrations occur at different times.
- A precautionary statement was added to the work authorizing documents referenced in Item 2 and to equipment records for the halon cylinders that require gauge and solenoid valve removal. The statement will describe the action necessary to ensure that the halon system is operable or that the T/S action statement is met.

The inspector's review of licensee's performance in this area found that two subsequent events occurred wherein the licensee failed to establish T/S required firewatches e.g.; LERs 87-020-00 and 87-024-00. A notice of violation was issued for these events (NRC Inspection Report No. 483/87025 (DRP)). There has been no similar recurrence since September 3, 1987, which indicates that licensee's corrective action has been effective.

Licensee's failure to establish a continuous firewatch within one hour of rendering the halon system inoperable is a violation of T/S 3.7.10.3. Action (a) the violation meets the tests of 10 CFR 2, Appendix C, Section V.A; consequently, no Notice of Violation will be issued, and this matter is considered closed (483/88004-04(DRP))

LER 87-011-00 is considered closed.

- g. LER 87-009-00: Inadvertent Reactor Protection (RPS) actuation when the incorrect reactor trip breaker was tested.

On May 7, 1987, with the plant in cold shutdown, an unplanned RPS actuation and feedwater isolation signal occurred during a Trip Actuating Device Operational Test (TADOT) of the reactor trip breakers. The incident was the result of an equipment operator incorrectly depressing the auto shunt trip pushbutton for the reactor trip breaker "B" rather than "A". Licensee's evaluation determined that the governing procedure did not specify the cabinet location of the specific test pushbutton and that inadequate labeling contributed to the operator's error.

The inspector reviewed the TADOT Operational Test Procedure, OSP-SB-00001. The procedure has been revised to provide cabinet location of the specific auto shunt trip pushbuttons. Appropriate labels have been installed on the cabinets. There has been no similar recurrence.

LER 87-009-00 is considered closed.

- h. LER 87-004-00: Engineered Safety Features (ESF) actuation on high containment radiation levels when temporary vent tubing disengaged.

On April 4, 1987, with the plant in cold shutdown, solid plant condition, a temporary tubing between the pressurizer and the pressurizer relief tank, disengaged from a fitting which released primary coolant to the containment environment, resulting in an increase in containment radiation levels and an ESF actuation, Containment Purge Isolation (CPI), and Control Room Ventilation Isolation (CRVI).

Based on an engineering evaluation, the licensee determined that the fittings used were inadequate. Plant procedures OTN-BB-00001 and OTN-BB-00002 were revised to specify that fittings have serrated nipples and use of double hose clamps on each end of the tygon tubing. All operating crews were briefed on the event and revised procedures.

There has been no similar occurrences nor recurrence. Based on the corrective action taken, the inspector has no further concern regarding this event.

LER 87-004-00 is considered closed.

- i. LER 87-002-00: Diesel Generator Valid Failure (Loss of Static Exciter Voltage Regulator (SEVR)) and plant shutdown as required by Technical Specifications (T/S).

This matter relates to a condition wherein both emergency diesel generators (D/G) were inoperable. T/S 3.8.1.1. requires that both D/G be restored to operable status within 48 hours or a plant shutdown be initiated.

On April 1, 1987, the D/G "B" was out of service for planned maintenance during an operational verification run of D/G "A". The generator failed to achieve the required voltage due to the partial loss of firing output at the control card plug-in connection in the SEVR panel. Attempts were made to restore both D/Gs to operable status. The D/G "B" was returned to service on April 1, however, on April 2 during a one-hour operability load test of D/G "A", a fuel oil leak developed on the number three cylinder. Because the oil leak problem could not be corrected within the T/S allowable time period, a plant shutdown was initiated.

The cause of the SEVR failure was not determined, however as a precaution, work authorizing documents were initiated to remove SEVR control cards and inspect the cards and wire connections to the SEVR panel for any physical damage or loose connections. The control card contacts for D/G "A" and "B" were inspected and cleaned.

The fuel leak was found to be a cracked injector pump which was replaced with a new pump. The damaged pump was returned to the vendor for evaluation of cause of failure. The vendor determined that the pump failure was due to incorrect tightening of pump flange screws. The vendor's recommendations regarding screw tightening have been incorporated in revision eight to maintenance procedure MSM-KJ-QK001 (Emergency Diesel Generator Inspection).

The inspector reviewed the LER and related documents including the vendor's engineering report and the revised maintenance procedure. The inspector determined that this matter was appropriately documented, reported, and that corrective actions were completed.

LER 87002-00 is considered closed.

3. Inspection of Previous Identified Problems (92701)

- a. (Closed) Violation 87028-01: Failure to promptly identify and correct the mispositioning of the Train "B" Essential Service Water (ESW) to the Ultimate Heat Sink Isolation Valve, EF-V-0117.

The mispositioning of valve EF-V-0117 was the result of a valve position indicator deficiency caused by the incorrect assembly of the valve prior to operating license issuance. The position indication deficiency was documented on a work request (WR) on May 14, 1984, which was inadvertently voided without correcting the deficiency. The mispositioned valve condition was discovered by utility personnel during system flow verification on August 15, 1987. The licensee took appropriate action, made the required notifications and documented the event on LERs Number 87-018-00 and 87-018-01.

Licensee's response included the following:

- A caution tag was placed on the valve actuator for EF-V-0117 to alert operators to the problem and to ensure that the local indicator on the valve stem was used for position indication until the actuator was repaired during Refuel II to provide accurate position indication.
- The failure of personnel to properly prioritize work on the valve indicator and to properly investigate the circumstances created by voiding the WR is considered an isolated case. To provide additional assurance that this was an isolated occurrence, a review of voided and open WRs on selected systems was performed. This review ensured that operability concerns were properly identified and prioritized. In addition, this review ensured that WRs were not voided without work completion or appropriate follow-up action.

- The current WR control procedures, APA-ZZ-00320 "Initiating and Processing Work Requests" and PDP-ZZ-00003 "Work Request Processing", require specific definition of the reason for voiding WRs, including the name of the person who initiates such action. In addition, PDP-ZZ-00003 was revised to specifically require the work planner to ensure that the entire scope of work for a WR being voided is covered by another work document if the WR is being voided because of redundant work documents.
- Engineering and work planning personnel involved in voiding the WRs have been counseled. It was re-emphasized that a thorough review must be accomplished prior to authorizing the voiding of any WR. Using this event as an example, management has directed planning and engineering personnel to fully consider the impact of their activities on the operability of plant systems.
- An ESW System Total Flow Verification test was performed during Refuel II which confirmed that total ESW system flow for trains "A" and "B" satisfies LOCA requirements.

The inspectors verified licensee's completion of corrective actions in this matter. The violation and related IERs are considered closed.

- b. (Closed) Violation (483/87005-01(DRP): Failure to perform Technical Specifications (T/S) Surveillances at specified intervals. This item documented two examples where the allowable date for performing T/S surveillances had been exceeded.

1. Stroke testing of an ASME Code Class-3 valve, AL-HV-0034 (Auxiliary Feed Pump "B" Isolation Valve). The licensee's evaluation of root cause determined that; A surveillance task sheet was not revised to reflect an increased frequency as required by ASME Section XI. There was cognitive personnel error by the reviewer of the Surveillance Test Request Form failing to recognize this error.

Licensee's corrective action included the following:

The Surveillance Test Request Form was revised to improve tracking of surveillances.

As a result of the failure to comply with the increased surveillance frequency, a review of other Section XI components which have increased surveillance frequency requirements was completed with no other deficiencies noted.

The surveillance tracking engineer has been counseled to review Surveillance Test Request Forms more closely to ensure completeness.

In addition, Quality Assurance (QA) performed an independent assessment of the review performed by the Inservice Inspection Engineer. (Surveillance Report Number SP87-098). QA concluded that the review performed by the Inservice Inspection Engineer was adequate to determine that documentation is available to show that appropriate test acceptance criteria has been met for pump and valve surveillance tests.

2. Visual inspection of fire rated assemblies and penetration seals.

The licensee determined that the failure to declare the seals and the fire rated assemblies inoperable and properly enter the Technical Specification Action Statement after exceeding the late finish date was due to personnel error in the determination that the seals were operable until proven inoperable by the inspection.

Licensee's corrective action included the following:

Upon discovery of the violation the action statement was entered, appropriate fire watches were established, and management directed a 100% inspection of the fire seals. As a precautionary measure, hourly firewatch patrols were maintained throughout the plant during the inspection period. When an inoperable seal was identified, appropriate fire watches were posted or verified in place and work requests were initiated.

Appropriate plant personnel have been counseled that, regardless of the reason for inoperability, the Technical Specification action statement requirements must be imposed in accordance with plant administrative controls when Technical Specification equipment is inoperable.

A review was conducted of other surveillances requiring long-term inspection of a large population of passive equipment. A 100% inspection of all fire rated assemblies was performed and appropriate action statements were met.

The surveillance program administrative procedure has been revised to provide guidance to ensure proper declaration of inoperable status is made if the late date for a surveillance is exceeded. The Compliance Department surveillance tracking procedure has also been revised to require Compliance Group personnel to generate an Incident Report if the late finish date is not satisfied. This is in addition to the progressive notifications already outlined in this Compliance Department procedure.

The inspector determined that the licensee provided prompt and thorough response in this matter, and that appropriate

corrective action has been taken. Violation 483/87995-01 (01A and 01B) is considered closed.

- c. (Closed) Unresolved Item (483/87022-01(DRS)): This item concerns post maintenance testing of motor operated valves, which was identified during an inspection of Bulletin 85-03 "Motor-Operated Valve Common Mode Failures During Plant Transients Due to Improper Switch Settings".

NRC review determined that the licensee's selection of the applicable safety-related valves, the valves' maximum differential pressures and the licensee's program to assure valve operability requested by action item e. of the bulletin are acceptable.

The licensee's description of their post-maintenance program to ensure continued valve operability (action item d. of the bulletin) indicated a reliance on the ASME Boiler and Pressure Vessel Code Section XI testing. Such a program meets the minimum requirements currently specified by NRC for inservice testing of motor-operated valves and hence the minimum requirements of the bulletin. However, the NRC Office of Nuclear Regulatory Research is currently reviewing the adequacy of relying solely on ASME Section XI testing to demonstrate valve operability. There is a concern that stroke-time testing, which is done without differential pressure, does not demonstrate that the valve has sufficient margin to accommodate the additional loadings which will occur at the time of required valve operation. Any changes prompted by this study could impact the licensee's post-maintenance program.

Unresolved Item 483/87022-01 is considered closed.

- d. (Closed) Unresolved Item (483/87015-03(DRS)): KULKA Terminal Blocks Environmental Qualification (EQ) for Accident Conditions.

During a NRC team inspection of the EQ of electric equipment the inspectors determined that sufficient evidence had not been provided to demonstrate that the KULKA terminal blocks were qualified for 480V and 120 VAC applications during accident conditions at the Callaway plant. The licensee was informed that based on the guidance in Generic Letter 86-03 the licensee was required to submit an operability analysis to justify the continued operation of the plant.

Licensee's response included additional test documentation for NRC review. NRR completed a review of the EQ test documentation for KULKA terminal blocks used in 10 CFR 50.49 designated applications at Callaway. NRR concluded that qualification of the terminal blocks was demonstrated.

This item is considered closed.

- e. (Closed) Unresolved Item 87036-01: Incorrect Height of the Essential Service Water (ESW) pump room walls:

Background

At 0930 CST on February 2, 1988, a member of the utility's ESW Safety Systems Functional Assessment (SSFA) group discovered that the concrete masonry unit (CMU) walls separating each train of the ESW pumps from their associated electrical panels were in excess of the design height of six feet for these walls. The walls function as splash screens.

An immediate review of design documents by members of the SSFA revealed an architectural (Bechtel, Inc.) seismic design calculation that limited the CMU wall height to six feet three inches. Incident Report 88022 was initiated at 1140 CST to document the design concern. Bechtel was immediately requested to review Callaway's design records in an attempt to gather additional information, if any, that could (1) explain why the ESW CMU walls were built to eight feet nine inches, or (2) justify the as-built condition in lieu of their previous seismic calculation.

The licensee commenced efforts to lower the "B" CMU wall and notified the NRC Senior Resident Inspector of the potential operability issue.

Upon receipt of information from Bechtel, that there were no design documents available to support the wall height above six feet three inches, the plant entered Technical Specification 3.0.3 at 1510 CST. The ESW CMU wall height was greater than required for seismic qualifications and potentially jeopardized the operability of both trains of ESW pumps during a seismic event. To preclude plant shutdown the licensee made an oral request to NRC Region III for enforcement discretion. At 1605 CST, Region III notified the licensee that enforcement discretion was granted.

Train "B" of ESW was returned to an operable condition, Technical Specification 3.0.3 was exited, and Technical Specification 3.7.4, Action Statement for the Remaining Train, was met at 1725 CST on February 2, 1988. Restoration of Train "A" was completed on February 3, 1988.

The licensee performed a hazards analysis to determine ESW system operability and an evaluation of cause of the construction deficiency.

Determination of ESW Operability

The licensee's Request for Resolution (RFR) Number 04931B documents the ESW system operability evaluation which includes the hazards evaluation and the 10 CFR 50.59 safety evaluation.

Wall Failure Assumptions

Since the wall was restrained on two sides, versus the single side used in the calculation, and the design allowables for CMU walls employs a safety factor of three, it was concluded that any gross

physical failure of the wall would be highly unlikely. However, for conservatism, three potential modes were considered for an SSE condition.

- General wall crumbling with individual blocks falling in a vertical direction.
- A diagonal failure occurring from approximately the top of the wall adjacent to the building wall connection and running to the lower edge of the free side of the wall.

A 16 inch wide strip separating and falling at the free end of the wall.

The assumed failures were evaluated for effects on the ESW pump, pump terminal box and other equipment in the immediate area including a platform support and motor control center (MCC).

The licensee's safety evaluation determined that the operability of the Essential Service Water System as required by Technical Specification 3.7.4 was not degraded by the construction error which existed. While the CMU walls in question were not seismically designed for the height they were erected to, they did not constitute a seismic hazard to any safety related equipment.

The inspector closely monitored licensee's response in this matter. Inspection included the observation of the as-found wall condition, restoration activities and as-left condition; a review of the safety evaluation and reports documenting the event and interviews with utility management, engineering, and quality assurance personnel. The licensee provided prompt/appropriate response. The inspector has no further questions with regard to the ESW system operability.

Evaluation of Cause

The wall was erected and accepted to civil drawing C-UC303 Revision 10 which required the wall to be eight feet, eight inches high. Revision 11 which reduced the height of the wall to six feet, zero inches high was issued during the time period when the wall was being completed to Revision 10. Revision 11 contained many changes, primarily the addition of wall plates. The change in elevation was not specifically flagged as a change, but was only included in a general drawing area revision cloud. Failure to identify this elevation change appears to be an isolated personnel error during construction activities, which was under the Quality Assurance program applied to construction.

The licensee's design control program provided detailed procedures for the control of design changes (APA-ZZ-00600). The current design change program controlled by APA-ZZ-00600 appears sufficient to prevent recurrence. However, the licensee's failure to reduce

the height of the CMU walls as specified in Civil Drawing C-UC303, Revision 11 is contrary to licensee's design change control program and is a violation of 10 CFR 50, Appendix B, Criterion 111-Design Control.

The violation meets the test of 10CFR2, Appendix c, Section V.A.; consequently, no Notice of Violation will be issued, and Unresolved Item 483/87036-01 (DRP) is considered closed.

4. 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 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 inspections included direct observation of activities, tours of the facility, interviews and discussions with licensee personnel, independent verification of safety system status and LCOs, and reviews of facility procedures, records, and reports.

b. Off-shift Inspection of Control Rooms

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 also reviewed the licensee's administrative controls regarding "Conduct of Operations" and interviewed the licensee's security personnel, shift supervisors and operators to determine if shift personnel were notified of the inspectors' arrivals on site during off-shifts.

The inspectors determined that both licensed and non-licensed operators were attentive to their duties, and that the inspectors' arrivals on site were unannounced. The licensee has implemented appropriate administrative controls related to the conduct of operations. These include procedures which specify fitness for duty and operator attentiveness. Personal radios and reading materials are prohibited.

No violations or deviations were identified.

5. ESF System Walkdown (71710)

The operability of selected engineered safety features was confirmed by the inspectors during walkdowns of the accessible portions of several systems. The following items were included: verification that procedures match the plant drawings, equipment conditions, housekeeping, instrumentation, valve and electrical breaker lineup status (per procedure checklist), and verification that locks, tags, jumpers, etc. are properly attached and identifiable. The following systems were walked down during this inspection period:

- "A" Emergency Diesel Generator
- "B" Emergency Diesel Generator
- Component Cooling Water System
- Essential Service Water System
- Auxiliary Feed Water System
- Reactor Trip System
- 125 Volt D.C. Power Source
- AC Electrical Vital Power Source

Overall material condition and housekeeping appeared excellent with the following exceptions:

- Various cover fasteners missing or not fully secured.
- Minor leak indication on the "B" safety injection pump discharge flange.
- Auxiliary shutdown panels contained missing lamp covers and burned out indicating bulbs.

The above deficiencies were discussed with the licensee following plant walkdowns. Subsequent inspection showed that corrective action had been taken.

No violations or deviations were identified.

6. Radiological Controls (71709)

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 HP housekeeping practices were observed. The inspectors observed that personnel entering, working in, and exiting radiological control areas generally displayed good radiological work practices.

No violations or deviations were identified.

7. Maintenance (62703)

Selected portions of the plant 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 inspections included activities associated with preventative and corrective maintenance of electrical, instrumentation and control, and mechanical equipment and systems. 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 reviewed maintenance activities included:

<u>Work Request No.</u>	<u>Activity</u>
WR 4531	Clean and inspect GE 480V load center (maintenance Procedure MPE-ZZ-QS008).
WR G432235	Maintenance on Security/Fire Door Number 11021.
WR 113129	Trouble shooting electrical ground.
WR G432575	Trouble shoot and repair (power supply to "D" pump seal injection flow instrument).

All maintenance activities inspected were satisfactory and no violations or deviations were identified.

8. Surveillance (61726)

The inspectors reviewed or observed selected portions of the Technical Specifications required surveillance testing during power operations. Items which were considered during the inspection included whether adequate procedures were used to perform the testing, whether test instrumentation was calibrated, whether test results conformed with

Technical Specifications and procedural requirements, and whether tests were performed within the required time limits. The inspectors determined that the test results were reviewed by individuals other than the personnel involved with the performance of the tests, and that any deficiencies identified during the testing were reviewed and resolved by appropriate management personnel.

The inspectors' overview of the licensee's surveillance program showed that the licensee had developed and implemented a comprehensive and effective program.

The reviewed surveillances included:

<u>Procedure No.</u>	<u>Activity</u>
OSP-KC-00014	Fire door position verification.
OSP-ZZ-00001	Control room shift and daily log readings and channel checks.
OSP-SM-LI.0L3	Containment personnel access hatch leak rate test.
OSP-SA-0016B	Train "B" slave relay KG18 test.
OSP-KC-00007	Fire hose station and portable extinguisher visual inspection.
OSP-SE-00003	Quadrant power tilt ratio calculation.
OSP-BM-V0001	Reactor makeup water valve operability.
OSP-BB-00009	Reactor coolant system inventory balance.
ISF-AE-0L552	Function - Level: Steam generator "B" narrow range level protection.
ISF-SE-00N42	Loop - Nuclear: Nuclear instrument power range N42.
ISF-SE-00N31	Loop - Nuclear: Nuclear instrument source range N31.
ISF-AB-0P514	Loop - Pressure: Steam generator "A" pressure.
ISF-GT-00R31	Functional - Nuclear: Containment atmosphere radiation detector.
ISF-BN-0L931	Functional - Level: Refueling water storage tank.
ISF-AB-0P535	Loop Pressure: Steam generator "C" pressure.

ISF-EG-000L2	Functional - Level: Component cooling water surge tank level.
ISF-SD-00R37	Functional - Nuclear: Fuel pool bridge crane radiation monitor.
ISL-BB-0T421	Loop Temperature: Loop 2 delta-temperature/temperature average.
ISL-GS-00A2B	Loop Analyzer: Containment hydrogen analyzer train "B".
ETP-SR-00020	Flux and thermocouple mapping.
ESP-ZZ-00006	Incore/Excore calibration.
OSP-SB-00001	Reactor trip breaker actuating device.
ISL-BB-0T441	I&C loop calibration/functional test (loop 4 temperature).
ITL-EG-00F96	I&C loop calibration (component cooling water pump discharge flow).

All surveillances observed were conducted satisfactorily and no violations or deviations were identified.

9. Fire Protection (64704)

Implementation of the licensee's fire protection/prevention program was routinely assessed by the inspectors during plant tours. The inspection included observation of housekeeping conditions, storage and control of combustible material, operability of fire protection/suppression systems, and fire brigade staffing and training.

Two unannounced and two announced fire brigade drills were monitored during the inspection interval. The response time of the brigade to assemble was satisfactory. The manual fire equipment was noted to have been maintained; and at the completion of the drills, the equipment was returned to readiness status.

The housekeeping and control of combustible materials and flammable liquids were found to be satisfactory. A review of selected surveillances for this area indicated that the surveillances were up to date. The operability of the fire protection/suppression equipment and systems was maintained. Fire watches and patrols were utilized in areas of the plant when required by the Technical Specifications.

No violations or deviations were identified.

10. Emergency Preparedness (82301)

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.

No emergency preparedness drills were performed during this inspection interval.

No violations or deviations were identified.

11. Security (71881)

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.

No violations or deviations were identified.

12. Quality Programs and Administrative Controls Affecting Quality (35701)

An inspection of the licensee's quality programs was performed to assess the implementation and effectiveness of programs associated with management control, verification, and oversight activities. The inspectors considered areas indicative of overall management involvement in quality matters, including the frequency of management plant tours and control room observations, and management personnel's attendance at technical, planning/schedule, and committee meetings. The inspectors attended On-site Review Committee meetings and incident/event critiques and reviewed related documents, focusing on the licensee's root cause determinations and corrective actions. The inspectors accompanied licensee management on monthly plant tours, which focused on quality activities and material conditions within the plant. The inspection also included a review of quality records and selected quality assurance audit and surveillance activities. Performance in this area included the following major items:

a. 10 CFR 50.59 Review (37700)

A sample inspection of licensee design changes and modifications was performed by the NRC Project Manager (PM)-Callaway to ascertain that changes are in conformance with license requirements. The inspection included a review of change descriptions, design documents, safety evaluations, and discussions with the licensee's engineering staff. The following licensee 10 CFR 50.59 evaluations were reviewed.

<u>Activity No.</u>	<u>Type of Change</u>	<u>Description</u>
FSAR Change Notice No. 442	FSAR Change	The change revised the FSAR to address separation of open trays containing safety-related cables and totally enclosed conduits containing non-safety related cables. The cables in the conduit are maintained with at least one inch of separation from the trays.
CMP Number 85-0265	Design Change	This change involved adding vestibule enclosures to the turbine building doors. These vestibules are small enclosed entrances to the turbine building.
CMP Number 86-0085	Design Change	This change added fire dampers in the walls in room 1405, chemical storage area.
ECP-BB-01306	Engineering Technical Procedures	A procedure was written to provide a method to leak test the S/G for ILRT requirements.
RPM Number 86-2003	Design Change	This change added a bypass line around each main feedwater pump section and discharge isolation valves.

No violations or deviations were identified.

13. Training and Qualification Effectiveness (41400)

A performance evaluation of the licensee staff and contractors was performed to assess the effectiveness of the licensee's training and qualification program. The following items were considered:

- Program implementation (various work groups).
- Understanding of work.
- Event and problem causal factors.
- Experience feedback.

The inspection included personnel interviews, direct observation of training, operation, maintenance, and testing activities, observation of incident/event response, and a review of quality records and reports.

The inspectors observed that the performance of various work groups reflects favorably on the effectiveness of the licensee training program, and program implementation. Utility personnel are knowledgeable of task details, procedures are generally well written and used during task performance. However, Paragraph 2 of this report identifies events which indicate isolated program implementation deficiencies associated with procedural discipline. The licensee has taken measures to heighten utility personnel's awareness in this area.

No violations or deviations were identified.

14. Regional Requests (92701)

- a. TI 2500/26-01, NRC Bulletin Number 87-02: "Fastener Testing to Determine Conformance with Applicable Material Specifications".

TI 2500/26-01 provided guidance and requirements for inspector participation in the licensee's selection of fasteners in response to NRC Bulletin Number 87-02. NRC Compliance Bulletin 87-02 required licensees to review their receipt inspection requirements and internal controls for fasteners and to independently determine, through testing, whether fasteners in stores at their facilities meet required mechanical and chemical specification requirements. The bulletin listed six action items to be addressed concerning the potential use of inferior fasteners.

The licensee was requested to provide the NRC information concerning: the description of receipt inspections; internal control for storage and issuance of fasteners; sample storage and issuance of fasteners; sample selection (type and quantity); the results of fastener testings; and an evaluation of any deficient fasteners identified. The requested information was proposed to NRC in its Union Electric letter Number ULNRC-1726 dated February 17, 1988.

An inspection in this matter was performed by the NRC Senior Resident Inspector and included the following:

A review of licensee's receipt inspection program/procedures as follows:

<u>Procedure Number</u>	<u>Title</u>
QCP-ZZ-03003	Material Receipt Inspection
Revisions 5 - 10	
WDP-ZZ-00008	Processing and Review of Procurement Documents
WSP-ZZ-00002	Storeroom Storage and Control
WSP-ZZ-00003	Storeroom Material Receiving

- A review of licensee's sampling plan.
- Performed independent selection of samples for testing and observed licensee's selection and tagging of samples.
- A selective examination of specifications grade and class of fasteners and instructions to the testing laboratory.
- Reviewed licensee's response to NRC Bulletin 87-02 including a sample review of test results.

The inspector determined that the licensee has in place appropriate procedures for the procurement, receipt, storage, and issuance of fasteners. The licensee developed an appropriate sampling plan and random selection was performed in accordance with the plan. Appropriate requirements were established for the independent testing of the fasteners.

The specified chemical analysis and mechanical tests were performed by METLAB Testing Services, Inc. The test results showed that two safety related fasteners and three non-safety related nuts were out of specification. A Non-Conforming Material Report Number 88-U00043 was initiated for the two safety related fasteners and dispositioned "use as is" based on the small degree of variance found. The three non-safety related nuts had been purchased as spare parts from Dresser Industries. The licensee has scrapped these nuts and the batch supplied by the vendor.

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

TI 2500/26-01, and NRC Bulletin Number 87-02 are considered closed.

- b. Natural Circulation Cooldown (TI) 2515/86 and Generic Letter (GL) 81-21

TI 2515/86 contains inspection requirements to verify that licensees have implemented programs for the control of natural circulation cooldown in accordance with their commitments to GL Number 81-21. The inspection requirements included:

- Verify plant-specific commitments and/or items requiring field verification as identified by the regional office.
- Verify that the training program includes both classroom and simulator coverage of procedures on a natural circulation cooldown, by review of records, discussions with individuals or observation of similar activities for three licensed operators.

- Verify that the licensee has emergency procedures regarding natural circulation in accordance with its response to GL 81-21. Specifically, ensure that procedures for reactor vessel upper head bubble prevention or mitigation are in accordance with the response to GL 81-21. TI 2515/79 also may be implemented at this time if not already implemented.

Inspection in this matter included the review of GL Number 81-21 and related Licensee commitments, Callaway Plant Safety Evaluation Report (SER) and SER Supplements, and NRC inspection reports.

NRC licensing review included the adequacy of Callaway plant design relating to the auxiliary feedwater system, the safety grade water supply and licensee's programs and commitments associated with procedures and training for Natural Circulation Cooldown. Specific items, requiring staff field verification, were included in the SER and SER supplements and issued as license conditions in Callaway Operation License (NPF-25).

The inspector determined that the field verification items had been inspected and closed as follows:

<u>Item</u>	<u>Close Out NRC Inspection Report Number</u>
- 48-hour endurance test of all auxiliary feedwater pumps	483/83032 (DRP)
- Operator training (natural circulation cooldown)	483/84020 (DRP)
- Testing and procedure validation (natural circulation test - ETT-ZZ-09240)	483/84842 (DRP)
- Emergency operation procedure/ procedure generation package (TI 2515/79)	483/87019 (DRS)

TI 2515/79, TI 2515/86 and GL Number 81-21 are considered closed.

No violations or deviations were identified.

c. Request for Information Regarding Main Steam Safety Valve (MSSV) Used on PWR's

A request for information on the main steam line safety valve was received which referenced IN86-05. The request was to obtain the following (1-6) information and provide it to the regional engineering branch for evaluation.

- (1) Has your assigned facility addressed IE Information Notice No. 86-05 for applicability. If yes, how?

The facility has reviewed the IN and found it to be applicable to the installed and spare MSSR's. The site has reviewed the tests and surveillances performed on site installed valves and has contacted the valve vendor. The licensee is part of the owner's group that is testing the safety valves. The licensee has been maintaining a working contact with other utilities that have the same valve type. The licensee has included the primary safety valves in the review also. The primary safety valves have not been changed per the vendor's determination that the valve's original settings were satisfactory at the present time.

- (2) What are the make(s) and model(s) of the Main Steam Safety Valves used in your assigned facility?

Crosby 6R8X8; HA-75-FN

- (3) What are the ring settings of these valves?

The valves have been reset to a interim setting recommended by the vendor (similar to Vogtle site).

- (a) nozzle ring setting of - 100
- (b) guide ring setting of - 50

- (4) Does your assigned facility have a maintenance program or history of maintenance performed on these valves? If so, is there (or has there been) a program in place to ensure proper ring settings following maintenance?

The licensee program for equipment history maintains a maintenance of these valves. The valve settings are recorded and the maintenance program or the QA program would ensure proper settings following maintenance on a valve.

- (5) Is your assigned facility (or has it been) involved in any test programs related to ring settings or flow capacities of the MSSVs?

Callaway personnel have been involved with the owner's group (WOG) study on the ring settings and full flow tests performed on these valves. The testing is still on-going and further analysis is being performed.

- (6) Based on the FSAR, what is the required flow capacity of the MSSVs at your assigned facility? Do the installed MSSVs provide this capacity? If so, what are the bases for this determination (e.g., tests, analyses, etc.). If not, what quantity of degraded MSSV capacity would require a commensurate reduction in power?

From 893,160 lb/hr @ 1185 psig to 929,652 lb/hr @ 1234 psig

The five safeties on each steam line are progressively set in this range. The preliminary data (after the reset of the rings) appear to provide this capacity. More testing is still being performed. If any of the relief capacity is not available, the over-power trip set points are reduced according to the amount of capacity lost. Several items on the performance of the safety valves are still being evaluated.

No violations or deviations were identified.

15. Unresolved Item

Unresolved items are matters about which more information is required in order to ascertain whether it is an acceptable item, a violation, a failure to meet a licensee commitment, or a deviation. An unresolved item is identified in Paragraph 2 of this report.

16. 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.A. 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.

Violations for which Notice of Violation will not be issued are identified in Paragraph 2 and 3 of this report.

17. 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.