UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
101 MARIETTA STREET, N.W., SUITE 2900
ATLANTA, GEORGIA 30323-0199

Report Nos.: 50-424/94-02 and 50-425/94-02

Licensee: Georgia Power Company
P. O. Box 1295
Birmingham, AL 35201

Docket Nos.: 50-424 and 50-425 License Nos.: NPF-68 and NPF-81

Facility Name: Vogtle 1 and 2

Inspection Conducted: January 23, 1994 - February 18, 1994

Inspector: D.A. Seymour 3.8.94
for B. R. Bonser, Senior Resident Inspector Date Signed

D.A. Seymour 3.8.94
for R. D. Starkey, Resident Inspector Date Signed

D.A. Seymour 3.8.94
for P. A. Balmain, Resident Inspector Date Signed

Approved by: Leonard D. Wert 3/16/94
for P. Skinner, Chief Date Signed
Reactor Projects Section 3B
Division of Reactor Projects

SUMMARY

Scope: This routine, inspection entailed inspection in the following areas: plant operations, surveillance, maintenance, and follow-up of open items.

Results: One Non-Cited Violation (NCV) was identified.

During this inspection period an automatic reactor trip with a safety injection (SI) occurred on Unit 1. The direct cause of the trip/SI was a pressure drop in a pressurizer pressure sensing line common to two pressure instruments. The pressure drop made up the logic for a reactor trip/SI. The event resulted from a personnel error by technicians replacing one of the pressure instruments on the common sensing line. The inspectors review of this event concluded that adequate procedural guidance and direction was available and used during the transmitter replacement and this event did not indicate a programmatic weakness in work practices (paragraph 2d).

A conflict between the Chemical and Volume Control System operating procedure (SOP) and a centrifugal charging pump (CCP) surveillance procedure was identified. The SOP gave a limitation on the time a CCP may operate on miniflow when the surveillance, which is performed with the pump on miniflow, normally takes greater than 15 minutes to complete (paragraph 3b).

An NCV was identified involving failure to follow procedure. During a walkdown of single cell charge equipment being used on the Unit 1 D-train battery, the inspectors identified that an incorrect class 1E cable was being used. The inspector determined that an engineering review had been performed for the replacement cable. The procedure, however, had not been revised to reflect the replacement cable (paragraph 4c).

The inspectors reviewed the licensee's actions in response to a water intrusion problem into the CCP 1A oil and concluded that a delay in bringing this issue to managements attention appeared to slow its resolution. The inspectors have normally observed more direct and timely management involvement in the resolution of similar equipment issues. This issue involved an unusual condition that resulted in degradation of a critical safety component. The inspector also concluded that the licensees predictive maintenance was effective in identifying the degradation of the oil (paragraph 4d).

A concern was identified with two recent failures of 1E SOLA transformers. Previous transformer failures had occurred only in non-1E applications. The licensee's corrective actions for the non-1E failures are continuing to be implemented and also address the recent 1E failures (paragraph 4e).

REPORT DETAILS

1. Persons Contacted

Licensee Employees

*J. Beasley, General Manager Nuclear Plant
*S. Bradley, Engineer Supervisor Technical Support
W. Burmeister, Manager Engineering Support
S. Chesnut, Manager Engineering Technical Support
*C. Christiansen, SAER Supervisor
R. Dorman, Manager Training and Emergency Preparedness
*B. Dunn, Unit Supervisor
*G. Frederick, Manager Maintenance
*W. Gabbard, Nuclear Specialist, Technical Support
J. Gasser, Unit Superintendent
M. Griffis, Manager Plant Modifications
*K. Holmes, Manager Operations
*D. Huyck, Nuclear Security Manager
*W. Kitchens, Assistant General Manager Plant Support
*I. Kochery, Supervisor Health Physics
*R. LeGrand, Manager Health Physics and Chemistry
*G. McCarley, ISEG Supervisor
M. Seepe, Radwaste Supervisor
*M. Sheibani, Nuclear Safety and Compliance Supervisor
C. Stinespring, Manager Administration
J. Swartzwelder, Manager Outage and Planning

Other licensee employees contacted included technicians, supervisors, engineers, operators, maintenance personnel, quality control inspectors, and office personnel.

Oglethorpe Power Company Representative

T. Mozingo

NRC Inspectors

*B. Bonser, Senior Resident Inspector
D. Starkey, Resident Inspector
*P. Balmain, Resident Inspector
D. Seymour, Project Engineer

* Attended February 18, 1994 exit meeting

An alphabetical list of abbreviations is located in the last paragraph of the inspection report.

2. Plant Operations (71707)

a. General

The inspection staff reviewed plant operations throughout the reporting period to verify conformance with regulatory requirements, TSs, and administrative controls. Control logs, shift supervisors' logs, shift relief records, LCO status logs, night orders, standing orders, and clearance logs were routinely reviewed. Discussions were conducted with plant operations, maintenance, chemistry, health physics, engineering support and technical support personnel. Daily plant status meetings were routinely attended.

Activities within the control room were monitored during shifts and shift changes. Actions observed were conducted as required by the licensee's procedures. The complement of licensed personnel on each shift met or exceeded the minimum required by TS. Direct observations were conducted of control room panels, instrumentation and recorder traces important to safety. Operating parameters were verified to be within TS limits. The inspectors also reviewed DCs to determine whether the licensee was appropriately documenting problems and implementing corrective actions.

Plant tours were taken during the reporting period on a routine basis. They included, but were not limited to the turbine building, the auxiliary building, electrical equipment rooms, cable spreading rooms, NSCW towers, DG buildings, AFW buildings, and the low voltage switchyard.

During plant tours, housekeeping, security, equipment status and radiation control practices were observed.

b. Unit 1 Summary

The unit began the period operating at 100% power. The unit entered Mode 3 following a reactor trip and safety injection that occurred on February 2. The unit entered Mode 2 on February 3 and Mode 1 on February 4. The unit returned to 100% power on February 6. The unit operated at full power through the remainder of the inspection period.

c. Unit 2 Summary

The unit began the period operating at 100% power and operated at full power through the remainder of the inspection period.

d. Unit 1 Reactor Trip and Safety Injection

On February 2, 1994, at 5:57 a.m., Unit 1 tripped automatically from 100% power and an SI automatically initiated. The trip/SI was caused when I&C technicians, who were replacing pressurizer pressure transmitter 1PT-457 because of chronic drift problems, accidently bumped the transmitter isolation valve while removing the transmitter from its mounting stanchion. The bump momentarily vented off a common sensing line shared with 1PT-458. This resulted in two of the four pressurizer pressure instruments sensing low pressure which actuated the reactor trip/SI. A similar reactor trip involving these two pressurizer pressure transmitters occurred on July 28, 1993, and is discussed in IRs 50-424,425/ 93-16 and 93-17. The unit responded as expected and operators stabilized the plant in Mode 3. Since no actual low pressure condition existed, the SI was terminated after ten minutes at 6:07 a.m. Approximately 1500 gallons of RWST water was injected into the RCS during the SI and the highest recorded RCS pressure was 2315 psig. Power operated relief valve 1PV-0455A opened to maintain RCS within the pressurizer code safety valve setpoint of 2485 psig. The licensee declared a NOUE at 6:10 a.m. and subsequently terminated the event at 7:50 a.m.

Within the last year 1PT-457 has had a history of chronic drift. The transmitter has been re-calibrated numerous times and had been replaced twice prior to the replacement which resulted in this event. The licensee consulted with the transmitter vendor, had testing performed at an independent testing laboratory, and conducted in-house testing, but has not yet determined the root cause of the transmitter failures. The licensee is considering a long term solution to replace the transmitters with a different type, but has not formalized this action.

It should be noted that any maintenance performed on 1PT-457 is complicated by the fact that 1PT-457 shares a common sensing line with 1PT-458 and extreme care must be exercised when working on either instrument. The licensee is evaluating long term corrective actions which will preclude future events of this type. One such action was the request by the licensee to the NRC in a letter dated February 10, 1994, that the licensee be permitted to use BTI for maintenance purposes in addition to the previously approved use of BTI for routine surveillances. Also, on February 10, a telephone conversation was held with NRC-Region II, NRC-NRR, and GPC, during which the NRC concurred with the proposed use of BTI for maintenance purposes. A letter from the NRC to the licensee will be forthcoming which will confirm the conditions under which BTI can be used for maintenance activities.

The inspector concluded that this event was caused by personnel error while technicians were replacing 1PT-457. The inspector, however, determined that there was a comprehensive and through pre-job briefing and that the technicians were experienced in

performing this type of work. Adequate procedural guidance was available and was used during the evolution. The event did not indicate a programmatic weakness in work practices, but did indicate a need to consider the consequences of all actions during such activities.

During the subsequent replacement of 1PT-457 on February 3, the licensee identified a potential deficiency (DC 1-94-010) regarding the environmental qualification of a Greyboot connector used for the installation. The Greyboot connectors documented in the DC were installed during the replacement of transmitter 1PT-457. The licensee determined that the use of Greyboot connectors, as well as any other cable splice except transition splices, is unacceptable for Eaton supplied cables, like those used for installing 1PT-457, inside of containment. The only acceptable splice for the termination of the 1PT-457 pigtail to the field cable is a transition splice. During the subsequent installation of the transition spice, a second discrepancy was noted. Drawing 1X3D-AA-A00V, sheet 4 of 6, Transition Splice Detail for Kit 2, required a minimum 2¼ inch overlap of the outer sealing sleeve with the field cable jacket. Contrary to this requirement, the final field dimensions for this overlap was only 1¼ inches. The licensee's Corporate Electrical Design Group reviewed the configuration by comparing similar cable configurations with significantly less overlap which exist at Plant Hatch. Specifically, Wylie Test Report 48558 documented that the overlap required for a hypalon jacketed cable for similar conditions at Plant Hatch had a minimum overlap requirement of ¼ inch. Vogtle also uses the hypalon material. The review also considered the differences in environmental conditions between Plant Vogtle and Hatch.

The licensee concluded, from the above review, that the use of the existing heat shrink for the cable splice to 1PT-457 was acceptable as a one time exception to the overlap requirement. The inspector reviewed the justification for the disposition of the deficiency and concluded that it was acceptable.

A second deficiency (DC 1-94-015) was identified during the licensee's critique of this event. The licensee discovered during a review of pressurizer pressure transmitter model/part numbers that 1PT-458 was a wide-range pressure transmitter which was factory calibrated to 0 to 3000 psig. Transmitters used in this application should be narrow range instruments calibrated for a range of 1700 to 2500 psig. The licensee determined that this particular transmitter had been in service since 1990. In response to DC 1-94-015 the licensee intends to initiate corrective actions which should ensure that instrument misapplications of this type do not recur.

The licensee initiated an engineering evaluation of the installed wide-range pressure transmitter which concluded that the existing

instrument was technically acceptable for use and that it would perform its safety related function until such time as it was convenient to replace it. The inspector reviewed the licensee's written evaluation and concluded that it adequately justified the continued use of the wide range pressure transmitter until it could be replaced during a future outage.

The inspectors will follow-up on the licensee's corrective actions for this event when the LER is issued.

e. Operation with Inoperable Steam Line Safety Valves

During the shutdown following the reactor trip and safety injection that occurred on February 2, the licensee observed SG #4 main steamline code safety valve 1PSV-3031 leaking by its seat. The valve manufacturer has recommended in the past to gag these valves while raising power to stop leaks. The licensee gagged 1PSV-3031, raised power to 48%, and removed the gag. When the gag was removed, the leak had stopped.

TS 3. .1.1, Safety Valves, allows continued operation with one or more safety valves inoperable provided that the inoperable valve is restored in 4 hours, or that the Power Range Neutron Flux High Trip Setpoint be reduced. TS table 3.7-1 requires that with one safety valve inoperable on any operating SG, the maximum allowable trip setpoint is 87% of rated thermal power. The operability of the main steam line code safety valves ensures that secondary system pressure will be limited to 110% of design pressure during the most severe anticipated transient. The maximum relieving capacity is associated with a turbine trip from full power with an assumed loss of condenser heat sink.

On January 20, 1994, Westinghouse issued a Nuclear Safety Advisory Letter advising Vogtle and other Westinghouse plants that the high neutron flux trip setpoints identified in TS table 3.7-1 may not be low enough for a corresponding number of inoperable safety valves to preclude a secondary side overpressurization condition. Westinghouse had identified a deficiency in the assumptions of the TS bases.

As a result of this advisory, prior to gagging the steam line safety valve, the licensee lowered the Unit 1 high neutron flux trip setpoints to 71% instead of 87% as given in the TS. The 71% setpoint was determined by Westinghouse. The inspectors reviewed the licensee's actions and the advisory letter and were satisfied with the licensee's response to this issue. The inspectors also reviewed MWO records for the main steam line safeties and did not identify any instances where the licensee operated above 71% power for more than 4 hours with an inoperable safety. The licensee plans to revise the TS after a plant specific analysis.

No violations or deviations were identified.

3. Surveillance Observation (61726)

a. General

Surveillance tests were reviewed by the inspectors to verify procedural and performance adequacy. The completed tests reviewed were examined for necessary test prerequisites, instructions, acceptance criteria, technical content, data collection, independent verification where required, handling of deficiencies noted, and review of completed work. The tests witnessed, in whole or in part, were inspected to determine that approved procedures were available, equipment was calibrated, prerequisites were met, tests were conducted according to procedure, test results were acceptable and systems restoration was completed.

SURVEILLANCE NO.	TITLE
14701-1	Reactor Trip Breakers UV & Shunt Trip Test
14951-C	Fire Suppression Operability Test-DG Fire Pump #1
14609-1	SSPS Slave Relay K601 Train B Test - Safety Injection
14801-2	NSCW Transfer Pump Inservice Test
14005-1	Shutdown Margin Calculations
14980-1	DG Operability Test

The inspectors did not identify any problems or concerns during the observation of these surveillance activities.

b. Observation of Charging Pump Surveillance

On February 1, the inspector observed portions of surveillance procedure 14808-1 Centrifugal Charging Pump and Check Valve IST and Response Time Test, in the Unit 1 control room, for CCP 1B. During the conduct of the surveillance the BOP operator became concerned about exceeding 15 minutes of run time on CCP 1B while on miniflow. The inspector questioned the operator and found that a limitation in system operating procedure 13006-1, Chemical and Volume Control System, step 2.2.10, limits the operation of the CCPs to no longer that 15 minutes when miniflow is the only flowpath. The SOP states that exceeding this limitation can cause excessive thrust bearing wear.

The inspector was concerned that the SOP limitation regarding miniflow operation conflicted with the time it takes to perform

the charging pump surveillance. Normally the surveillance takes greater than 15 minutes to complete. After reviewing this issue with the licensee the inspector found that the limitation in the SOP was a recommendation and not an actual pump limitation as stated in the SOP. The licensee is revising the SOP to recommend limiting the time a CCP is on miniflow.

No violations or deviations were identified.

4 Maintenance Observation (62703)

a. General

Maintenance activities were observed and/or reviewed during the reporting period to verify that work was conducted in accordance with approved procedures, TSs, and applicable industry codes and standards. Activities, procedures, and work orders were examined to verify proper authorization to begin work, provisions for fire, cleanliness, and exposure control, proper return of equipment to service, and that limiting conditions for operation were met.

The inspectors witnessed or reviewed the following maintenance activities:

MWO NOS.	WORK DESCRIPTION
A9400024	Replace Bearing on Control Building HVAC Fan A1533A7001
19400483	Repair Tube Leaks In 1A Feedwater Heater
19302623	Replace Cell #16 On B-Train Battery
19400215	Perform PM On 1B Aux Relay Room ESF AC Unit

The inspectors did not identify any problems or concerns during the observation of these maintenance activities.

b. Unit 1 Train B Battery Cell Replacement

On February 8, at 11:30 a.m., Unit 1 entered the 2 hour action statement of TS 3.8.2.1, D.C. Sources, when cell #16 of the B-Train Battery failed to meet the minimum voltage requirement of 2.10 volts as required by TS 4.8.2.1, D.C. sources, Table 4.8-2. The actual voltage reading for cell #16 was 2.07 volts. The licensee responded promptly and replaced cell #16 and exited the LCO at 1:12 p.m. The inspector reviewed with the system engineer the trend history of cell #16 and determined that, although there had been voltage swings during the last year, there was not a trend which indicated an imminent cell failure. The inspector

also noted that this was the first time since 1988 that a failure of a B-Train battery cell resulted in a LCO action statement entry. The inspector did not have any concerns regarding the licensee's response to this specific event. However, the inspectors have previously noted in several inspection reports the licensee's continuing problems related to Unit 1 safety-related battery cell failures. The inspectors will continue to monitor the licensee's evaluation of battery failures and their corrective action plan.

c. Battery Single Cell Charge

On January 26, the inspector reviewed a class 1E single cell battery charging configuration for the Unit 1 D-train battery (1DD1B), cell #5. Cell #5 had been measured at 2.15 volts, slightly above the minimum cell voltage limit of 2.13 volts, and was undergoing a five day charge to raise the voltage.

The cell was being charged in accordance with procedure 27915-C, General Battery Maintenance, on MWO 19400259. During the walkdown of the single cell charging equipment the inspector identified that incorrect class 1E cables were being used. The cable specified in the procedure was cable code 81E(1C#2). All other equipment being used for the single cell charge and the performance of the charge were in compliance with the procedure.

The inspector found, in discussing the cable issue with the licensee, that the cables specified in the procedure were difficult to use. The licensee had requested, and had evaluated by corporate engineering, a replacement cable. The cable, Rockbestos SISF cable (1C #2 cable code A1EN), was found to be an acceptable replacement.

The inspector was concerned that the licensee was not following the procedure as written and had not made a procedure change to document the acceptability of the replacement cable. Plant management has repeatedly stressed the importance of following procedures and raising questions if a procedure cannot be followed. The inspector concluded that this was not a safety significant issue, since an engineering evaluation had been performed on the replacement cable and it was found to be acceptable. This NRC identified violation is not being cited because criteria specified in section VII.B of the Enforcement Policy were satisfied. This item is identified as NCV 50-424/94-02-01, Failure to Follow Battery Single Cell Charging Procedure.

The licensee has acknowledged this issue and is reviewing procedure 27915-C for revision.

d. Water Intrusion Identified in Centrifugal Charging Pump Oil

On February 9, the licensee changed the oil in the 1A CCP for the third time since November 1993. During each oil change the pump was taken out of service and the 72 hour TS LCO Action Statement entered. Each time the licensee's oil analysis program identified an unusually high water content and a higher than normal particulate count (two of three measurements) in the CCP 1A oil. The inspector was concerned that the licensee's corrective action had not been adequate to resolve the water intrusion issue in a timely and effective manner.

Vogtle Maintenance Engineering, as part of the predictive maintenance program, periodically samples lubricants on many plant components. Properties measured or checked in the oil analysis include water content, viscosity, particulate, odor, and color. The oil in the CCPs is sampled about once every three months. A review of CCP oil analysis data collected since 1987, showed that water had not been identified in any CCP oil before October 1993. In October 1993, a water content of 0.39% was detected. In December 1993, it was measured at 1.1%, and in February, it was measured at 0.265%. Each time the oil was replaced.

The inspector found that limits on water content in oil are not specific and may be dependent on the type of oil and the component. EPRI guidelines provide a warning limit of 0.2%. Other information reviewed by the inspector stated that water in oil can significantly increase component wear or cause corrosion of internal metal surfaces. The information also stated that the presence of water requires immediate corrective action. A review of other oil properties analyzed found that particulates had increased in addition to water content. Other properties had remained normal. The inspector also reviewed pump vibration data and found that it had remained normal.

The licensee determined, following functional testing of the pump after the first oil change, that the most likely cause of the water intrusion was blockage of a drainline in a water collection bowl used to drain water leakage from the outboard mechanical seal. Water had apparently collected in the bowl and leaked into the outboard bearing housing, through which oil circulates. When the oil was changed the second time, the system was not flushed adequately to remove all of the water, and a third oil change was required to remove water that remained from the initial problem.

The inspector also observed portions of the oil change on CCP 1A on February 9 (MWO 19400542). The work included removing the water-contaminated oil, cleaning the oil reservoir, and flushing the pump oil system with new oil. The 72 hour LCO Action Statement for CCP was entered at 8:35 a.m. and exited at 6:50 p.m. on February 9. Work Planning had planned the job duration to be

three hours. During the conduct of the MWO, delays occurred as a result of a misunderstanding of the job scope. From this observation, the inspector concluded that this work had not been adequately planned and coordinated before entering the LCO Action Statement. The time spent in the Action Statement appeared to exceed what was necessary for the completion of this work. The inspector also identified a concern with the availability of HP support which was brought to the licensee's attention.

The inspector concluded that, although the licensee's predictive maintenance was effective in identifying the degradation of the oil, there was a delay in bringing this issue to management's attention, which appeared to slow its resolution. This issue involved an unusual condition that resulted in degradation of a critical safety component. Normally the inspectors have observed more direct and timely management involvement in the resolution of similar equipment issues.

e. Review of 1E SOLA Regulating Transformer Failures

On February 15, the licensee identified that SOLA regulating transformer 1BBB40X had failed. The transformer was safety-related and served as a backup power supply to 120 VAC vital bus 1BY2B. This failure did not impact the operation of the vital bus or the inverter since the backup power supply is normally disconnected and only used to supply the vital bus in the event of an inverter failure. This was the second recent failure of a 1E SOLA transformer.

Previous SOLA transformer failures have occurred only in non-1E applications and were reviewed in NRC IRs 50-424,425/93-11 and 92-12. These inspections concluded that the licensee's corrective actions for the failures were adequate and that failures of SOLA transformers would not result in a reactor trip or other actuations which could affect plant safety. Since two recent SOLA failures involved 1E transformers the inspector reviewed licensee corrective actions to determine if safety-related transformer failures were adequately addressed.

The inspector reviewed, with system engineering personnel, the electrical loads which are supplied by 1E SOLA transformers, and noted that they are used in three types of applications: 1) as primary power supplies to MCC loads that include safety-related compartment space heaters and ARV servo amplifiers, 2) as normally disconnected backup power supplies to 1E inverters, and 3) as 1E isolation devices for the emergency lighting distribution system. Failure of these power supplies would not have a significant impact on the plant.

The inspector also reviewed the licensee's corrective action plan as it related to 1E SOLA applications, and noted that the licensee has generated several DCPs to delete unnecessary transformer banks

which will provide additional 1E spares. The licensee is also procuring reliable non-1E regulating transformers from another vendor. These transformers will be qualifiable to 1E applications. The licensee is also considering the use of 1E isolation devices such as fuses to replace transformers which are used as isolation devices.

Based on this review the inspector determined that the licensee's corrective actions for non-1E SOLA transformer failures are continuing to be implemented and also address recent safety-related failures. The inspector will continue to monitor the licensee's actions in this area.

One non cited violation was identified.

6. Follow-up (90712) (92700) (92702)

The Licensee Event Reports listed below were reviewed to determine if the information provided met NRC requirements. The determination included: adequacy of description, verification of TS compliance and regulatory requirements, corrective action taken, existence of potential generic problems, reporting requirements satisfied, and relative safety significance of each event.

a. (Closed) LER 50-424/93-002, TS 3.0.3 Entry Due to Pressurizer Code Safety Valves Lift Setpoints Out of Tolerance

The cause of this event was two PSVs with lift setpoints in excess of the TS limit. Additionally, the two valves were determined by the NSSS vendor to be inoperable from the time the hydraulic testing devices were installed since the testing devices restrict the valves from going full open. Therefore, TS 3.0.3 was actually applicable at the time the testing devices were installed rather than following the failure of the second valve.

The licensee sent all three Unit 1 PSVs to a vendor for testing and adjustment of the lift setpoints. Procedure 28215-C, Pressurizer Code Safety Valve Setpoint Verification, was revised to include a warning against the installation of more than one hydraulic testing device while in Modes 1, 2, and 3, or more than two devices while in Modes 4 and 5.

The inspector noted, during the review of this LER, that neither the licensee nor the vendor was aware that the testing devices would restrict full stroking of the PSVs and thus render the valves inoperable. However, the licensee initiated appropriate corrective action for this deficiency and this item is considered closed.

b. (Closed) LER 50-425/93-006, Reactor Trip Due to Trip of Reactor Coolant Pump

This event was caused by personnel error when a QC Inspector, while performing a fuse monitoring inspection, pried open a cabinet door housing a circuit breaker for RCP #4. A breaker relay, mounted on the inside of the cabinet door, was jarred initiating a trip of the RCP breaker and reactor trip due to low flow in loop #4.

The licensee reset the RCP #4 breaker and the RCP was returned to service. The QC monitoring program for fuses, links, and lifted wires was suspended until this event was evaluated by the licensee. The licensee is in the process of revising the inspection program to eliminate the inspection of fuses, links, and lifted wires which affect critical safety functions. Until that revision is completed, the inspection program will remain suspended. The licensee also tested the relay which tripped and determined that it was working properly, but that it was extremely sensitive to vibration. Appropriate personnel were disciplined concerning the importance of using caution when working on equipment that could cause a unit trip.

The inspector reviewed this event and determined that the licensee's corrective actions were adequate. This item is considered closed.

c. (Closed) LER 50-425/93-004, Manual Reactor Trip Due to Main Feed Water Regulating Valve Failing Closed.

The cause of this event on June 28, 1993, was the failure of the MFRV #2 tracking/driver card which supplies the control signal for MFRV valve position (a similar card failed on Unit 1 on September 14, 1992, and is documented in IR 50-424,425/92-20). The card failure caused the valve demand signal to fail low which resulted in the closure of MFRV #2 and reduced feedwater flow to SG #2. Additionally, following the trip, source range neutron detector N32 did not indicate on scale when energized.

The licensee replaced the failed circuit card for the MFRV position controller and returned the card to the vendor for failure analysis. The pulse driver circuit card for N32 was replaced and the channel was returned to service.

Based on the inspector's review of the licensees corrective actions, this item is considered closed.

d. (Closed) LER 50-424/93-005, Containment Ventilation Isolation Due to Improper Radiation Monitor Actuation Setpoints.

A CVI occurred due to high radiation sensed by the containment low range area radiation monitors during placement of the reactor upper internals in the reactor vessel. This event was caused by the USS not ensuring that the actuation setpoints for the radiation monitors were raised prior to beginning the evolution. At the time the USS was following procedure 12007-C, Refueling Operations, while the directions for resetting the radiation monitor actuation setpoints were in procedure 12000-C, Post Refueling Operations. The USS failed to review ahead to procedure 12000-C which would have directed him to adjust the setpoints for the containment area radiation monitors.

The licensee initiated immediate corrective action by raising the actuation setpoints to the proper values. The USS was disciplined for failure to follow the procedure 12000-C. Appropriate sections related to post refueling operations were deleted from procedure 12007-C and added to procedure 12000-C to provide a smoother transition between procedures.

Based on a review of these corrective actions, this item is considered closed.

e. (Closed) LER 50-424/93-007, Manual Reactor Trip During Low Power Physics Testing Due to Negative Reactivity.

This event was caused by a reactor engineer when he was momentarily distracted while monitoring reactivity changes during rod worth testing, and a negative reactivity excursion resulted. There was not a dropped or decoupled rod and no unusual characteristics of the work location which contributed to the event.

The test was subsequently performed successfully. The engineer was counseled and the event was discussed in reactor engineering training.

Based on the corrective actions taken by the licensee this item is considered closed.

No violations or deviations were identified.

7. Exit Meeting

The inspection scope and findings were summarized on February 18, 1994 with those persons indicated in paragraph 1. The inspector described the areas inspected and discussed in detail the inspection findings listed below. No dissenting comments were received from the licensee. The licensee did not identify as proprietary any of

the material provided to or reviewed by the inspectors during the inspection.

Item No.	Description and Reference
NCV 50-424/94-02-01	Failure To Follow Battery Single Cell Charging Procedure (paragraph 4c)

8. Abbreviations

AC - Alternating Current
AFW - Auxiliary Feedwater System
ARV - Atmospheric Relief Valve
BOP - Balance Of Plant
BTI - Bypass Test Instrumentation
CCP - Centrifugal Charging Pump
CVI - Containment Ventilation Isolation
DC - Deficiency Card
DCP - Design Change Package
DG - Diesel Generator
EPRI - Electric Power Research Institute
ESF - Engineered Safety Feature
HP - Health Physics
HVAC - Heating, Ventilating and Air Conditioning
I&C - Instrumentation and Controls
ISEG - Independent Safety Engineering Group
LCO - Limiting Condition for Operation
LER - Licensee Event Report
MCC - Motor Control Center
MFRV - Main Feedwater Regulating Valve
MWO - Maintenance Work Order
NCV - Non-Cited Violation
NPF - Nuclear Power Facility
NOUE - Notification of Unusual Event
NRC - Nuclear Regulatory Commission
NRR - Nuclear Reactor Regulation
NSCW - Nuclear Service Cooling Water System
NSSS - Nuclear Steam Supply system
psig - Sounds Per Square Inch Gauge
PM - Preventive Maintenance
PSV - Pressurizer Safety Valves
PT - Pressure Transmitter
QC - Quality Control
RCS - Reactor Coolant System
RCP - Reactor Coolant Pump
RWST - Refueling Water Storage Tank
SAER - Safety Audit And Engineering Review
SG - Steam Generator
SI - Safety Injection
SOP - System Operating Procedure
SSPS - Solid State Protection System
TS - Technical Specifications
USS - Unit Shift Supervisor
UV - Under Voltage