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

Report Nos.: 50-424/95-28 and 50-425/95-28

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: November 19 through December 16, 1995

Inspector: FOR R. W. Wright 1/10/96
C. R. Ogle, Senior Resident Inspector Date Signed

FOR R. W. Wright 1/10/96
P. C. Hopkins, Resident Inspector Date Signed

FOR R. W. Wright 1/10/96
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Approved by: P. H. Skinner 1/10/96
P. H. Skinner, Chief Date Signed
Reactor Projects Branch 2
Division of Reactor Projects

SUMMARY

Scope: This routine inspection entailed inspection in the following areas: plant operations, surveillance, maintenance, onsite engineering, plant support, and follow-up. Backshift inspections were performed on November 20, 24, 26, and 28-30, 1995; and on December 1, 6-7, 9-10, and 12, 1995.

Results:

Operations:

- In general, the performance in the operations area was satisfactory.

- A deficiency was identified in the establishment of a clearance for maintenance on a radiation monitor. As a result of an inadequate review by clearance and tagging personnel, an inadvertent vent path from containment was established. (paragraph 2.d)

Maintenance:

- The overall performance in the maintenance area was satisfactory.

- A violation was identified in the licensee's control of oil stored in the predictive maintenance laboratory. The observed practice did not maintain traceability of the oil as specified in the licensee's procedures. (paragraph 4.b)

- The licensee identified a missed functional test on the Unit 1 hydrogen recombiners. This is identified as an unresolved item pending a review of the licensee's corrective actions. (paragraph 4.c)

- A strength was noted in the licensee's efforts in controlling maintenance work backlog. During this period, the non-outage corrective maintenance work order backlog was reduced to less than 100 items. (paragraph 4.d)

Engineering:

- The general performance in the engineering area was satisfactory.

- A deficiency was identified in the licensee's implementation of a design change package for the spent fuel pool filters. The review process for this design change was inadequate in that it failed to recognize that an interlock existed between the nitrogen system and the filter system. (paragraph 5.b)

- A non-cited violation was identified regarding licensee identification of non-conservatively established OPΔT setpoints. (paragraph 7.a)

Plant Support:

- The general performance in the plant support area was satisfactory.

- A violation involving an unattended designated vehicle left with the engine running in the protected area was identified. This occurrence was similar to three previous violations identified in Inspection Reports 94-22, 95-06, and 95-24. (paragraph 6.b)

- The inspectors identified a non-cited violation involving two examples of failures to properly label radioactive materials. (paragraph 6.c)

- A non-cited violation was issued for two examples of improperly controlled transient combustibles. (paragraph 6.d)

- The conduct of a recall drill involving a simulated Alert declaration was good. However, a delay in the notification of State and local authorities occurred. (paragraph 6.e)

REPORT DETAILS

1. Persons Contacted

Licensee Employees

*J. Beasley, General Manager Nuclear Plant
S. Bradley, Reactor Engineering Supervisor
*W. Burmeister, Manager Engineering Support
*C. Christiansen, SAER Supervisor
*R. Dorman, Manager Training and Emergency Preparedness
J. Gasser, Assistant General Manager Plant Operations
M. Griffis, Manager Plant Modifications & Maintenance Support
*K. Holmes, Manager Maintenance
*D. Huyck, Manager Nuclear Security
W. Kitchens, Assistant General Manager Plant Support
I. Kochery, Health Physics Superintendent
*P. Kochery, Engineering Supervisor Plant Modifications
*M. Kurtzman, Supervisor HP/Chemistry Training
R. LeGrand, Manager Health Physics and Chemistry
*R. Odom, Assistant Performance Team Manager Maintenance
T. Parton, Health Physics Superintendent
*T. Polito, Outage Scheduling Supervisor
*A. Rickman, Senior Engineer, ISEG
P. Rushton, Manager Operations
*M. Sheibani, Nuclear Safety and Compliance Supervisor
M. Slivka, ISEG Supervisor
*C. Stinespring, Manager Plant Administration
J. Swartzwelder, Manager Outage and Planning
*C. Tippins, Nuclear Specialist, NSAC
R. Waters, Material Supervisor, Plant Administration
*T. Webb, Senior Engineer, NSAC

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

Oglethorpe Power Company Representative

J. Sharpe, Site Representative

NRC Inspectors

*C. Ogle, Senior Resident Inspector
P. Hopkins, Resident Inspector
*M. Widmann, Resident Inspector
*P. Skinner, Branch Chief, Region II

*Attended Exit Interview

An alphabetical list of abbreviations and acronyms 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.

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

b. Unit 1 Summary

The unit operated at full power until November 27, when reactor power was reduced to 98% to support moderator temperature coefficient testing. The unit returned to full power later that day. Reactor power was again reduced on December 14, to 98.5% power to conduct maintenance on the level control valve on the sixth stage feedwater heater. Reactor power was returned to full power on December 14 and remained there throughout the rest of the inspection period.

c. Unit 2 Summary

The unit operated at full power until December 2, when power was reduced to 63% to repair a TPCW leak on the isophase bus duct cooler. The unit returned to full power on December 3. On December 15, reactor power was reduced to 98.5% to allow maintenance on the level control valve for the sixth stage feedwater heater. Reactor power was returned to full power later that day and remained there throughout the inspection period.

d. Inadequate Review of Clearance for Maintenance Work

On November 20, 1995, radiation monitor, 2RE-2562, was removed from service for maintenance. A clearance was issued and work authorized to remove and replace the sample pump. When the pump was disconnected from the piping flanges maintenance personnel detected gas escaping from the sample lines. Investigation by operations and maintenance personnel identified that a flowpath had been established from inside to outside containment through the one-inch radiation monitor sample piping. No isolation valves were closed as part of the issued clearance. As a result, the licensee inadvertently entered TS 3.6.1.1., Containment Integrity. Within 1-hour, operators closed the automatic containment isolation valves from the control room isolating the leakage path and thereby exiting the TS action statement.

The inspectors reviewed the associated MWO; the initial and modified clearance boundaries; procedures 00304-C, Equipment Clearance and Tagging, and 29402-C, Work Planning Group Work Request Processing; the DC generated in response to the event; and maintenance personnel statements. The inspectors interviewed appropriate maintenance, operations, and management personnel regarding the licensee's investigation into this issue. Maintenance work package, 29502727, was developed to replace a potentially defective sample pump for 2RE-2562. On November 19, operations prepared and installed clearance 29500543 to isolate the feeder breaker to the sample pump motor. The inspectors were informed during operations interviews that this clearance was initially prepared to de-energize the sample pump motor. However, when maintenance workers sought authorization to commence work on November 20, the scope of work identified on the MWO was to remove and replace the pump. The clearance and tagging supervisor stated that he did not closely review the MWO because he believed he understood the scope of work to be accomplished. The maintenance was authorized and the sample pump was subsequently removed. When the pump was physically removed from the sample system, the inadvertent flowpath from inside to outside containment was established.

Procedure 00304-C, requires that the USS or SSS review the impact of clearances on plant operations and maintain configuration control. The inspectors concluded that an inadequate review of clearance 29500543 was performed by the clearance and tagging supervisor on November 20 for MWO 29502727. This was contrary to the requirements of VEGP 00304-C. However, since the sample pump unit is not safety related, this failure will not be cited, but is identified as a deficiency.

The licensee attributed the failure to adequately establish the clearance for the actual scope of work to cognitive personnel error. Based on their independent inspection effort, the inspectors concurred with the licensee's determination. The

licensee's planned corrective actions include a review of the work package and clearance development approval process and the process of assigning clearances to work orders based on scope of work.

The inspectors observed that although containment integrity was not maintained, the automatic containment isolation valves were operable and would have acted to isolate the flow path if actuated. Furthermore, a review of chemistry permits revealed that a containment sample permit was active and the plant vent radiation monitors were operable at the time the containment vent path was established. Hence, no unmonitored release occurred. In addition, the safety significance was somewhat mitigated due to the relatively minor size of the opening created from inside to outside containment through the one-inch radiation monitor sample pump piping.

No violations or deviations were identified.

3. Surveillance Observation (61726)

General

Surveillance tests were reviewed by the inspectors to verify procedural and performance adequacy. The completed tests were examined for necessary test prerequisites, instructions, acceptance criteria, technical content, data collection, independent verification where required, handling of deficiencies, 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 system restoration was completed.

The inspectors witnessed or reviewed the following surveillance activities:

SURVEILLANCE NO.	TITLE
14400-1	Control Room Emergency Filtration Actuation Logic Test Train B
14410-1	Control Rod Operability Test
14510-1	Control Room Emergency Filtration System Operability Test
14616-1	SSPS Slave Relay K609 Train A Test Safety Injection
88009-C	Moderator Temperature Coefficient Determination

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

No violations or deviations were identified.

4. Maintenance Observation (62703)

a. General

Maintenance activities were observed 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, fire hazard provisions, cleanliness, and exposure controls, proper return of equipment to service, and adherence to limiting conditions for operation were met.

The inspectors witnessed or reviewed the following maintenance activities:

MWO NOS.	WORK DESCRIPTION
19500063	MSIV 1HV-3006A Hydraulic Pump Cycling
19502419	DG 1B Fuel Oil Transfer Pump No. 3 and Strainer PM
19503162	MSIV 1HV-3006A Air Regulator Replacement
29502203	CREFS Train B 18 Month PM; Clean/Inspect
29502746	Auxiliary Building Exhaust Fan No. 2 PM

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

b. Oil Traceability

On November 28, 1995, the inspectors witnessed collection of an oil sample from the turbine for the Unit 2 TDAFW pump. The inspectors questioned the traceability of the replacement oil. The inspectors were advised that an incorrect oil had been added to the turbine. The licensee stated that based on consultation with the responsible vendors, the inadvertent substitution did not impact the operability of the turbine. Technical documentation to support this position was provided by the licensee. On November 29, 1995, the licensee reversed their position, and informed the inspectors that the required oil had been added to the turbine. This revised position was based on statements of the individual who filled the 1-quart oil bottles used to add oil to the turbine lube oil system. This individual recalled filling the bottles with the correct oil, but for one bottle in particular, failed to remove a MER which remained on the bottle from a prior use. (This incorrect MER had led the licensee to question the bottle

contents.) On December 14, 1995, the inspectors were also informed that a chemical analysis performed on residual oil in the bottle confirmed that the correct oil was in the bottle.

As a result of this issue, the inspectors reviewed licensee procedures for the control of lubricants; material identification, control, and issue; and oil sampling. The inspectors also interviewed several individuals involved in the oil sampling program. The inspectors, in addition, witnessed the issue of a container of oil from the warehouse and conducted an inspection of two satellite oil storage areas within the protected area. The inspectors concluded that it is likely that the correct oil was added to the turbine.

During the review by the inspectors two deficiencies with the licensee's control of oil were identified. First, the general condition of the satellite oil storage area in the maintenance building (not the source of the oil for the TDAFW) was markedly below the licensee's usually high standards for cleanliness and housekeeping. Licensee management was informed of this observation. During a tour of this area after the end of the inspection period, the inspectors noted improved levels of cleanliness and housekeeping. Second, the inspectors noted that quart and 4-ounce bottles containing replacement oil stored in the predictive oil lab, were not marked pursuant to licensee procedures so as to maintain the traceability of the oil. Each bottle examined by the inspectors was marked as to the manufacturer's designation but was not labelled as to MER or issue authorization number. The inspectors were informed that the customary practice is to fill these small bottles from containers annotated with a MER. However, the MER is not transferred to the smaller bottles and hence traceability was not maintained. The small bottles are used at a job site to replenish oil removed from equipment by sampling.

Appendix B, Criterion VIII, Identification and Control of Material, Parts, and Components and the licensee's Quality Assurance Policy Manual require that traceability be maintained for components installed in safety related applications. No single site procedure implements all the measures by which this is accomplished. Procedures 00853-C, Material Identification, Control, and Issue; 00262-C, Control of Chemicals/Fluids; and 20411-C, Control of Lubricants, establish requirements to ensure that the necessary traceability is maintained. The inspectors noted that procedures 00262-C specifically requires an Approved Use Category Label annotated with an issue authorization number or MER be affixed to secondary chemical containers. The inspectors concluded that this represents a critical step in maintaining traceability.

The inspectors observed that the oil control practices in the predictive oil lab, did not meet the requirements of procedure 00262-C. This is identified as VIO 50-424,425/95-28-01, Oil Control Practices Contrary To Plant Procedures.

c. Unit 1 Hydrogen Recombiners Missed Functional Test

During licensee QA audit OP09-95/20, it was identified that TS surveillance 14970, Hydrogen Recombiners Functional Test, was not performed prior to Mode 2 entry as required by TS 4.6.4.2, Electric Hydrogen Recombiners, on October 15, 1994.

MWO 19303168 and 19303169 replaced heater cables for Trains A and B hydrogen recombiners during the Unit 1 refueling outage in September 1994. The maintenance was performed to upgrade the cable originally installed in the recombiners. After the cable replacement was performed, surveillance procedure 28835-C, Electric Hydrogen Recombiner Visual and Electrical Checks, was successfully performed on September 25, 1994, for Train A, and on October 1, 1994, for Train B, respectively. This surveillance check consisted of a megger check of power and control cables, as well as, a continuity check of the heater elements. No functional test was performed as part of this surveillance. On October 15, 1994, Unit 1 entered Mode 2. On October 18, 1994, a functional test was performed in accordance with surveillance 14970.

The inspectors reviewed Unit 1 completed surveillances 14970 and 28835-C; Westinghouse letter MED-PCE-13620, Electric Hydrogen Recombiners Heater Wire Change-Out Procedure; heater power and control diagrams; MWOs associated with the heater cable change-out; and DCs generated as a result of the QA audit. The inspectors also interviewed the technician who performed the hydrogen recombiner wiring changes.

From the review, the inspectors concluded that the wiring changes accomplished by MWOs 19303168 and 19303169 were significant enough to require a functional test in accordance with surveillance 14970. The megger and continuity checks performed in accordance with surveillance procedure 28835-C did not provide sufficient assurance of operability given the magnitude of these wiring changes.

A review of Westinghouse's change-out procedure MED-PCE-13620, recommended a functional test to be performed to verify system operability. The letter contained a recommendation to perform a functional test in accordance with applicable sections of the Westinghouse technical manual or existing Vogtle surveillance test procedures. A review of work orders 19303168 and 19303169 identified that no functional test was assigned.

The licensee had not completed their formal review of this issue prior to the end of the inspection period. Pending NRC review of

this effort and any corrective actions, this is identified as URI 50-424/95-28-02, Unit 1 Hydrogen Recombiners Missed Functional Test.

The inspectors reviewed QA audit OP09-95/20 and considered the identification of the missed TS surveillance functional test on the part of the individual auditor to be an excellent finding.

d. Reduction of Non-Outage Corrective Maintenance Work Order Backlog

During the inspection period, the licensee backlog of non-outage corrective work orders was reduced to less than 100. In 1990 this backlog was 983 and in July 1994, the start of the current SALP period, the backlog was 227.

The inspectors noted that this was a significant accomplishment and the result of dedicated licensee efforts focused on reducing the backlog. This is identified as a strength.

One violation and one unresolved item were identified.

5. Onsite Engineering (37551)

a. General

During the inspection period, the inspectors assessed the effectiveness of onsite engineering processes by reviewing engineering evaluations, root cause determinations, modifications, and engineering testing. The inspectors also reviewed DCs to determine whether the licensee was appropriately documenting problems and implementing corrective actions.

b. Oversight of Electrical Interlock During Spent Fuel Pool Filter Design Change Package Review

A design change package to replace the spent fuel pool backflushable filter with a disposable cartridge filter was implemented for Units 1 and 2 during this inspection period. The work included the removal of nitrogen system valving used to backflush the SFP filters. During the post-modification testing, the licensee identified that a portion of an interlock that controls SFP filter inlet and outlet isolation valves, filter vent and drain valves, and the nitrogen system isolation valves was not removed during the DCP work as should have been required by the DCP. The portion of the interlock which was not removed by the DCP, prevented the drain and vent valves on the SFP filter vessel from being opened remotely. However, manual valves to permit draining and venting were available. The other interlocked valves functioned properly.

The inspectors reviewed DCP 94-VAN005, Spent Fuel Pit Backflushable Filter Modification, and applicable drawings. The inspector also interviewed the plant engineer responsible for review of the SFP DCP as well as plant modification and operations management.

The engineering review of the SFP DCP conducted by SCS and PMMS failed to recognize that the interlock existed between the SFP filter system and the backflushable nitrogen system. The licensee attributed the oversight of the interlock to a combination of limited electrical drawings (i.e., vendor schematics and no filter elementary diagrams), and personnel error. The P&IDs associated with the SFP did indicate that an electrical interlock existed between the SFP filter valves and the nitrogen backflushable system. However, the P&ID was not reviewed to develop the electrical wiring modification until after the issue became self-identifying during post-modification testing.

The licensee's corrective actions included a further review of the electrical system schematics, and issuance of a field change request to modify the wiring to resolve the interlock discrepancy.

The inspectors noted that the licensee's post-modification testing program detected the error and prevented the filter from being returned to service. The inspectors also acknowledge that the lack of detailed drawings coupled with the intricacies of the interlock increased the complexities of the design change. Nevertheless, the inspectors concluded that design review process for this DCP was inadequate in that it failed to properly account for the interlock. Since the SFP is not safety related, this inadequacy will not be cited. However, this is identified as a deficiency.

c. Review of Spent Fuel Pool Cooling

Introduction

The inspectors reviewed the adequacy of the original heat load design assumptions for the Spent Fuel Pool System relative to the current operating practice. The inspectors reviewed the FSAR, calculations of SFP Cooling System performance, and historical operating records.

System Description

Each unit has a separate spent fuel pool equipped with racks which provide storage for irradiated spent fuel. Unit 1 has storage locations for 288 assemblies while Unit 2 is equipped with 2098 storage locations. Unit 1 assemblies are transferred to the Unit 2 pool after they have decayed for approximately 15 months in the Unit 1 pool. Each SFP is also provided with two separate redundant cooling loops consisting of a pump, heat exchanger, and

associated piping and valves. A portion of the cooling loop flow can also be diverted through a filter and demineralizer for pool cleanup. The FSAR states that the cooling systems for the two pools are identical.

Design Basis

According to the FSAR, the Unit 2 Spent Fuel Pool Cooling System is evaluated based on the storage of 2098 assemblies. Three different situations for heat removal capability are presented in the FSAR.

> Normal refueling - In this case it is assumed that 84 assemblies are transferred to the Unit 2 pool 150 hours after shutdown. This case assumes 2014 assemblies in the pool from earlier core offloads (1006 from Unit 2 and 1008 from Unit 1). With one train of cooling in operation, analysis indicates pool temperature will be maintained below 140°F.
>
> Maximum normal refueling - This case assumes a full core offload of 193 fuel assemblies 120 hours after shutdown. Again 2014 assemblies from previous refuelings are assumed to be in the pool (1006 from Unit 2 and 1008 from Unit 1). With a single train of cooling, the analysis concludes that SFP temperature will be maintained at or below 171.1°F (This analysis conservatively assumes more fuel assemblies than can be stored in the Unit 2 SFP).
>
> Maximum Emergency Core Unload - This case assumes that the entire core is unloaded into the pool 150 hours after shutdown. The pool inventory is assumed to include 84 assemblies from the most recent refueling, with a decay time of 36 days and 1821 assemblies from earlier refuelings (This is assumed to be 897 Unit 2 assemblies and 924 Unit 1 assemblies). With a single train of SFP cooling, the analysis determines that SFP temperature will be maintained below 182°F.

The Unit 1 analyses are similar but use different bounding conditions. The Unit 1 SFP analyses are based on 936 fuel assemblies even though this exceeds the pool loading capacity.

> General design - (No special designation for this case is provided in the FSAR.) The general design considers the situation where one-third of the reactor core is unloaded into the SFP 150 hours after shutdown. The SFP inventory is assumed to also contain one-third of a reactor core per year from the annual refueling of the previous 10 years. This is equivalent to eleven-thirds of a core. Using a single train of SFP cooling, the SFP temperature will be maintained below 140°F.

Maximum Normal Refueling - This case is developed assuming a SFP loading of one-third of a core per year for nine years, plus 40 percent of a core from the preceding years refueling, and 40 percent of a core 150 hours after the most recent shutdown. With a single train of SFP cooling, the SFP temperature is analyzed to not exceed 170°F.

Maximum Emergency Core Unload - This case is developed assuming a SFP loading of one-third of a core per year for 10 years and an additional full core loaded into the pool 330 hours after the most recent refueling in which 40 percent of the core was added. With a single train of cooling in operation, the SFP temperature is analyzed to not exceed 170°F.

Refueling Methodology

The inspectors determined based on interviews with plant personnel, that the licensee removes the entire core during refueling. This is also consistent with inspector observations of previous refueling practices. Based on a review of licensee records, the inspectors determined that the licensee has not moved fuel until at least 200 hours after shutdown.

Conclusion

The inspectors concluded that the licensees actual practices for spent fuel movement are bounded by the analyses of the FSAR.

No violations or deviations were identified.

6. Plant Support (71750)

a. General

Plant support activities were observed and reviewed to ensure that licensee programs were implemented in conformance with facility policies and procedures and in compliance with regulatory requirements. Activities reviewed included radiological controls, physical security, emergency preparedness, and fire protection.

b. Designated Vehicle Unsecured Inside the Protected Area

At approximately 8:30 p.m. on December 11, 1995, the licensee's security patrol identified an unattended designated vehicle in the protected area with the keys in the ignition and the engine running. The driver was located and the vehicle was removed from the protected area.

In response to this issue, the inspectors reviewed the Physical Security Plan, applicable security procedures, and vehicle records. The inspectors also interviewed security and operations

management, and the individual responsible for leaving the vehicle unattended. In addition, the inspectors observed the operation of the alarm device installed on the vehicle provided to warn the occupant that the key has been left in the ignition.

The inspectors determined that this incident was the result of inadvertent error on the part of an outside equipment operator. This operator advised the inspectors that he was aware of the requirement to remove the keys from the vehicle but forgot to do so when he exited the vehicle. The inspectors also observed that the vehicle alarm does not warn the occupant if the keys are left in the ignition when the engine is running.

Failure to remove keys from an unattended designated vehicle in the protected area is contrary to the requirements of procedure 00653-C, Protected Area Entry/Exit Control. This is identified as a VIO 50-424,425/95-28-03, Designated Vehicle Left Unattended In Protected Area With Engine Running.

The inspectors noted that this is the sixth incident involving a designated vehicle inappropriately left unattended within the protected area which has been cited in the last 15 months. While the identification of this occurrence by plant security personnel is noteworthy, it does not diminish the fact that it is a repeat violation. The inspectors concluded that licensee management has failed to take sufficient action to prevent repeat violations associated with unattended designated vehicles.

c. Failure to Properly Label Radioactive Materials

On November 22, 1995, during a routine tour of the Unit 1 auxiliary building, the inspectors identified an unattended contaminated laundry bag which was not sealed or labeled with radioactive materials tags. The inspectors waited in the area until HP trained personnel arrived and were informed of the observation. On November 28, 1995, during a routine tour of the Unit 2 auxiliary building, the inspectors identified normal air conditioning fan filters inside a temporary radioactive materials storage area without proper radioactive material tags. The discrepancy was identified to the HP supervisor and SS at the time of discovery. Following confirmation of the inspectors' observations, the contaminated items were properly surveyed and tagged.

As a result of this issue, the inspectors reviewed procedures 00960-C, Control of Radioactive Materials, and 46017-C, Control, Monitoring and Removal of Materials in Radiation Controlled Areas. The inspectors also reviewed a health physics shift briefing detailing these issues. The inspectors interviewed decontamination personnel, the HP technician, and cognizant management regarding the licensee's investigation into both examples of untagged radioactive materials.

The inspectors determined that the laundry bag was left unattended while decontamination personnel were collecting laundry from other auxiliary building areas. The inspectors determined that decontamination and HP personnel were cognizant of the requirements of procedures 00960-C and 46017-C to properly tag, store, and remove radioactive material from inside the RCA. However, the personnel collecting contaminated clothing failed to adhere to the procedure requirements due to their attention being focused on accomplishing the task quickly.

The inspectors determined that the auxiliary building normal air conditioning filters were spot surveyed by the HP technician upon removal from the filter unit on November 2. The spot survey did not identify smearable or fixed contamination. However due to other tasking, the HP technician was unable to continuously monitor the entire maintenance evolution and left the work site. Prior to his departure the technician instructed the maintenance personnel to place the filters in clear plastic bags and store them inside a roped-off temporary radioactive materials storage area as a conservative measure. The HP technician did not return to the filter work area as planned to complete the filter survey due to being distracted by competing activities. A second survey was conducted by HP personnel on November 28 that identified 100 net counts per minute fixed contamination on several filters with zero smearable contamination.

The licensee attributed these incidents to personnel error. The inspectors concurred with the licensee's determination based on their independent inspection effort.

Licensee corrective actions included counseling of the personnel involved on proper surveys and tagging requirements. A shift briefing was also conducted for each HP crew to emphasize the requirements to properly label radioactive materials inside the RCA.

The inspectors concluded that although the contaminated laundry bag identified on November 22 was left unattended for approximately five minutes contrary to licensee procedures, the event was minimized due to the outside of the contaminated bag being subsequently surveyed at less than 0.2 millirem per hour. The inspectors also concluded that the significance of the improperly surveyed filters identified on November 28 was minimized due to the filters being properly contained inside a temporary radioactive materials storage area, and the likelihood of personnel in the area becoming contaminated was remote.

The inspectors concluded that two examples of improperly tagged radioactive materials inside the RCA were contrary to the requirements of procedures 00960-C, and 46017-C. Consistent with Section IV of the NRC Enforcement Policy these failures constitute a violation of minor significance identified as NCV 50-424,425/95-

28-04, Failure to Properly Label Radioactive Materials Inside an RCA.

d. Failure to Obtain Transient Combustible Material Permits

On November 30, 1995, during a routine tour of the Unit 2 auxiliary building, the inspectors identified fire retardant wood scaffolding, a transient combustible material, without the required transient combustible fire loading permit. The discrepancy was identified to a fire protection engineer and following confirmation of the inspectors' observation a combustible permit was issued. The inspectors were informed that a subsequent walkdown by the fire protection engineer in the Unit 2 auxiliary building identified another example of a transient combustible fire load without a proper permit. The second example was also corrected by the fire engineer. The inspectors have identified three other similar examples of undocumented transient combustibles inside the RCA within the last four months. In each case, the discrepancies were resolved by an on-duty fire technician, fire protection engineer, or the responsible maintenance work foreman.

The inspectors reviewed the DC generated in response to this issue. The inspectors also interviewed the foreman responsible for a portion of the scaffold and wood brought into the auxiliary building, and cognizant fire protection personnel regarding the licensee's investigation of the issue.

The inspectors were advised that the transient combustible materials identified on November 30, were brought into the auxiliary building to support separate maintenance work activities. The licensee attributes this issue to a failure to properly implement procedure 92015-C, Use, Control and Storage of Flammable/Combustible Materials, in that the required permits were not obtained. Procedure 92015-C states that if the maximum amount of transient combustible material being brought into a fire protected area exceeds the limits specified in the procedure guidance, a transient combustible permit is required. In both of the cases identified during the inspection report period, the loadings exceeded the procedural limit for a permit being required.

The inspectors noted that a contributing factor to these occurrences may be the process by which a fire permit is obtained. Procedure 92015-C, requires the persons planning to bring materials into a fire zone to perform a calculation to determine if transient combustible limits are exceeded. If the calculation is determined to be below the specified limits no permit is required and the material may be brought into the fire zone. Individual transient combustible loads under procedural limits are not required to be tracked by the fire technician. The inspector determined during the review that it is possible to have several

different fire loads be below procedural limits within a specific fire zone, but have a combined total load that exceeds the procedural requirement. Procedure 92015-C does not address this situation.

As corrective action, the licensee stated their intention to enhance procedure 92015-C to ensure that any transient combustible materials, regardless of quantity, are reviewed and documented by the fire technician to ensure that specified fire loading zones limits are not exceeded.

The inspectors concluded that these two examples of transient combustible materials in the auxiliary building without the proper fire loading permits were contrary to the requirements of procedure 92015-C. However, the safety significance of the these observations were minimized due to the availability of fire detection devices located in the areas. Consistent with Section IV of the NRC Enforcement Policy these failures constitute a violation of minor significance identified as NCV 50-424,425/95-28-05, Failure to Obtain Transient Combustible Material Permits.

e. Recall Drill

On the evening of December 12, 1995, the inspectors witnessed an unannounced, after hours recall drill conducted by the licensee. The drill simulated an Alert declaration based on a seismic event and included activation of the TSC and OSC. The inspectors also attended an exercise controller's critique held the following day.

Overall, the conduct of the drill was good. The TSC and OSC were activated within specified timeframes. While notification to the NRC Operations Center was timely, the licensee failed to notify all appropriate State and local authorities within 15-minutes of the Alert declaration. This notification took almost 25-minutes and involved some coaching on the part of an exercise controller. Both control room communicator performance and difficulties in establishing communications with certain local authorities were involved in this delay. This issue was captured during the licensee's critique for corrective action. The inspectors will monitor licensee performance in this area during future drills.

One violation and two non-cited violations were identified.

7. Follow-up (92902)

The following items were reviewed using licensee reports, inspections, record reviews, and discussions with licensee personnel, as appropriate:

a. (Closed) URI 50-424,425/95-24-04 OPΔT Non-Conservative Setpoints.

IR 95-24 documents the inspectors' initial review of non-conservative OPΔT setpoints identified by the licensee in early

October 1995. The improperly established setpoints were attributed to calculational errors in the software program used to generate the setpoints. Pending an inspector review of the licensee's formal evaluation of the setpoint errors, the issue was documented as URI 50-424,425/95-24-04.

The inspectors have reviewed the licensee's evaluation as well as their proposed corrective actions. The licensee determined that the root cause of the event was an inaccurate assumption made during the development of the software algorithms regarding the upper limit of the plants operating Tavg value.

The licensee identified several long term corrective actions in response to this issue. These included a revised testing philosophy to challenge the Tavg penalty generator; management oversight for future projects of this nature; training to enhance individual performance of design verification and validation; and an independent formal review of the OPΔT and OTΔT calculational methods.

The inspectors concluded that the improperly established OPΔT setpoint represented a failure to maintain system design and was contrary to the requirements of 10 CFR 50 Appendix B Criterion III, Design Control. Consistent with Section VII of the NRC Enforcement Policy, this licensee identified and corrected violation is identified as NCV 50-424,425/95-28-06, OPΔT Setpoints Established Incorrectly.

Based on the inspector's review of licensee actions, this item is closed.

b. (Closed) URI 50-424,425/94-09-01, Falsification of Battery Maintenance Data Sheet.

Inspection Report 50-424,425/94-09 documents the inspector's review of a falsification event which occurred in April 1994. The event involved an alteration of an out-of-tolerance reading by an electrician on a battery surveillance data sheet approximately four days after the reading was taken. The inspectors concluded that there was no safety significance to this event since the battery was in a standby condition in the warehouse.

The NRC has completed its review of this issue.

This item is closed.

One non-cited violation was identified.

8. Exit Meeting

The inspection scope and findings were summarized on December 19, with those persons indicated in paragraph 1. The inspector described the areas inspected and discussed in detail the inspection findings. 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.	Status	Description and Reference
VIO 50-424,425/ 95-28-01	Open	Oil Control Practices Contrary To Plant Procedures (paragraph 4.b)
URI 50-424/ 95-28-02	Open	Unit 1 Hydrogen Recombiners Missed Functional Test (paragraph 4.c)
VIO 50-424,425/ 95-28-03	Open	Designated Vehicle Left Unattended In Protected Area With Engine Running (paragraph 6.b)
NCV 50-424,425/ 95-28-04	Closed	Failure to Properly Label Radioactive Materials Inside an RCA (paragraph 6.c)
NCV 50-424,425/ 95-28-05	Closed	Failure to Obtain Transient Combustible Material Permits (paragraph 6.d)
NCV 50-424,425/ 95-28-06	Closed	OPΔT Setpoints Established Incorrectly (paragraph 7.a)
URI 50-424,425/ 95-24-04	Closed	OPΔT Non-Conservative Setpoints (paragraph 7.a)
URI 50-424,425/ 94-09-01	Closed	Falsification of Battery Maintenance Data Sheet (paragraph 7.b)

Two cited and three non-cited violations were identified.

9. Abbreviations

AFW - Auxiliary Feedwater System
BTU - British Thermal Unit
CFR - Code of Federal Regulations
CREFS - Control Room Emergency Filtration System
DC - Deficiency Card
DCP - Design Change Package
DG - Diesel Generator
FSAR - Final Safety Analysis Report
HP - Health Physics
IR - Inspection Report

ISEG	- Independent Safety Engineering Group
LCO	- Limiting Condition for Operation
MER	- Material/Equipment Request
MSIV	- Main Steam Isolation Valve
MWO	- Maintenance Work Order
NCV	- Non-Cited Violation
NPF	- Nuclear Power Facility
NRC	- Nuclear Regulatory Commission
NSAC	- Nuclear Safety and Compliance
NSCW	- Nuclear Service Cooling Water System
NUREG	- Nuclear Regulations
OPΔT	- Over Power Differential Temperature
OSC	- Operations Support Center
OTΔT	- Over Temperature Differential Temperature
PDR	- Public Document Room
P&ID	- Piping & Instrumentation Drawings
PM	- Preventive Maintenance
PMMS	- Plant Modifications and Maintenance Support
QA	- Quality Assurance
RCA	- Radiation Controlled Area
SAER	- Safety Audit And Engineering Review
SALP	- Systematic Assessment of Licensee Performance
SCS	- Southern Company Services
SFP	- Spent Fuel Pool
SSPS	- Solid State Protection System
SS	- Shift Superintendent
SSS	- Support Shift Supervisor
TAVG	- Average Temperature
TDAFW	- Turbine Driven Auxiliary Feedwater
TPCW	- Turbine Plant Cooling Water
TS	- Technical Specifications
TSC	- Technical Support Center
URI	- Unresolved Item
USS	- Unit Shift Supervisor
VIO	- Violation