UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II
SAM NUNN ATLANTA FEDERAL CENTER
61 FORSYTH STREET SW SUITE 23T85
ATLANTA, GEORGIA 30303-8931

October 27, 2003

Southern Nuclear Operating Company, Inc.
ATTN: J. Gasser, Jr., Vice President
Vogtle Electric Generating Plant
P. O. Box 1295
Birmingham, AL 35201-1295

SUBJECT: VOGTLE ELECTRIC GENERATING PLANT - NRC INTEGRATED INSPECTION REPORT 05000424/2003004 AND 05000425/2003004

Dear Mr. Gasser:

On September 27, 2003, the US Nuclear Regulatory Commission (NRC) completed an inspection at your Vogtle Electric Generating Plant (VEGP), Units 1 and 2. The enclosed integrated inspection report documents the inspection results, which were discussed on October 3, 2003, with Mr. W. Kitchens and other members of your staff.

The inspection examined activities conducted under your license as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your license. The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel.

This report documents two NRC-identified findings and one self-revealing finding of very low safety significance (Green), all of which were determined to involve violations of NRC requirements. However, because of their very low safety significance and because they were entered into your corrective action program, the NRC is treating these violations as non-cited violations (NCVs) consistent with Section VI.A.1 of the NRC Enforcement Policy. Additionally, licensee-identified violations, which were determined to be of very low safety significance, are listed in Section 4OA7 of this report. If you contest any NCV in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the United States Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington DC 20555-0001; with copies to the Regional Administrator, Region II; the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001; and the NRC Resident Inspector at Vogtle.

In accordance with 10 CFR 2.790 of the NRC's "Rules of Practice," a copy of this letter, its enclosures, and your response (if any) will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of the NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at http://www.nrc.gov/reading-rm.html (the Electronic Reading Room).

Sincerely,

/RA/

Brian R. Bonser, Chief
Reactor Projects Branch 2
Division of Reactor Projects

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

Enclosure: Inspection Report 05000424/2003004
and 05000425/2003004
w/Attachment: Supplemental Information

cc w/encl: (See page 3)

cc w/encl:
J. D. Woodard
Executive Vice President
Southern Nuclear Operating Company, Inc.
Electronic Mail Distribution

W. F. Kitchens
General Manager, Plant Vogtle
Southern Nuclear Operating Company, Inc.
Electronic Mail Distribution

N. J. Stringfellow
Manager-Licensing
Southern Nuclear Operating Company, Inc.
Electronic Mail Distribution

Director, Consumers' Utility Counsel Division
Governor's Office of Consumer Affairs
2 M. L. King, Jr. Drive
Plaza Level East; Suite 356
Atlanta, GA 30334-4600

Office of the County Commissioner
Burke County Commission
Waynesboro, GA 30830

Director, Department of Natural Resources
205 Butler Street, SE, Suite 1252
Atlanta, GA 30334

Manager, Radioactive Materials Program
Department of Natural Resources
Electronic Mail Distribution

Attorney General
Law Department
132 Judicial Building
Atlanta, GA 30334

Laurence Bergen
Oglethorpe Power Corporation
Electronic Mail Distribution

Resident Manager
Oglethorpe Power Corporation
Alvin W. Vogtle Nuclear Plant
Electronic Mail Distribution

Arthur H. Domby, Esq.
Troutman Sanders
Electronic Mail Distribution

Senior Engineer - Power Supply
Municipal Electric Authority
of Georgia
Electronic Mail Distribution

Reece McAlister
Executive Secretary
Georgia Public Service Commission
244 Washington Street, SW
Atlanta, GA 30334

Distribution w/encl: (See page 4)

Distribution w/encl:
F. Rinaldi, NRR
C. Evans (Part 72 Only)
L. Slack, RII EICS
RIDSNRRDIPMLIPB
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U. S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket Nos.:	50-424, 50-425
License Nos.:	NPF-68, NPF-81
Report Nos.:	05000424/2003004 and 05000425/2003004
Licensee:	Southern Nuclear Operating Company, Inc. (SNC)
Facility:	Vogtle Electric Generating Plant
Location:	7821 River Road Waynesboro, GA 30830
Dates:	June 29, 2003 - September 27, 2003
Inspectors:	J. Zeiler, Senior Resident Inspector T. Morrissey, Resident Inspector R. Aiello, Senior Operations Engineer (Section 1R11) G. Kuzo, Senior Health Physicist (Sections 2OS1, 2OS3, 2PS1, 2PS3, 4OA1, and 4OA7) G. Laska, Operations Engineer (Section 1R11) A. Nielsen, Health Physicist (Sections 2OS1, 2OS3, 2PS1, 2PS3, 4OA1, and 4OA7) E. Testa, Senior Health Physicist (Sections 2OS1, 2OS3, 2PS1, 2PS3, 4OA1, and 4OA7)
Approved by:	Brian R. Bonser, Chief Reactor Projects Branch 2 Division of Reactor Projects

Enclosure

SUMMARY OF FINDINGS

IR 05000424/2003-004, 05000425/2003-004; 06/29/2003 - 09/27/2003; Vogtle Electric Generating Plant, Units 1 and 2; Licensed Operator Requalification, Maintenance Risk Assessments and Emergent Work Evaluation, and Refueling and Outage Activities.

The report covered a three-month period of inspection by resident inspectors and announced inspections by regional health physics inspectors and operations engineers. Three Green non-cited violations (NCVs) were identified. The significance of most findings is indicated by their color (Green, White, Yellow, or Red) using Inspection Manual Chapter (IMC) 0609, "Significance Determination Process" (SDP). Findings for which the SDP does not apply may be Green or be assigned a severity level after management review. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described NUREG-1649, "Reactor Oversight Process," Revision 3, dated July 2000.

A. NRC-Identified and Self-Revealing Findings

Cornerstone: Initiating Events

- Green. A self-revealing NCV of Technical Specification (TS) 5.4.1.a was identified for failure to maintain a suitable reactor vessel vent path during reduced reactor coolant system (RCS) level conditions in accordance with plant shutdown procedures.

  This finding is greater than minor because it affected the configuration control attribute of the Initiating Events Cornerstone objective, in that, the failure to maintain a suitable vent path resulted in inaccurate level indication and a perturbation in actual RCS water level. The finding was determined to be of very low safety significance because all of the equipment, procedures, and policies that are expected to be maintained in the five shutdown safety functional areas were met. The direct cause of this finding involved the cross-cutting area of Human Performance. (Section 1R20)

Cornerstone: Mitigating Systems

- Green. An NCV of TS 5.4.1.a was identified for the failure of multiple Part 55 licensees to reactivate Reactor Operator (RO) and Senior Reactor Operator (SRO) licenses in accordance with plant administrative procedures.

  This finding is greater than minor because it affected the Mitigating Systems Cornerstone objective, in that, it is associated with human performance attributes of license reactivation that affect operational safety. The finding was determined to be of very low safety significance because more than 20 percent of the reactivation records reviewed failed to meet the requirements. The direct cause of this finding involved the cross-cutting area of Human Performance. (Section 1R11)

- Green. A NCV of 10 CFR 50.65(a)(4) was identified for failure to properly assess and manage the increase in risk of RCS level instrumentation unavailability during a Unit 2 RCS leak repair shutdown outage.

  This finding was greater than minor because it affected the configuration control attribute of the Mitigating Systems Cornerstone objective, in that, it involved the

availability, reliability, and capability of systems (i.e., RCS level instrumentation) that respond to initiating events (e.g., loss of RCS inventory in reduced level conditions) to prevent undesirable consequences. The finding was determined to be of very low safety significance because all of the equipment, procedures, and policies that are expected to be maintained in the five shutdown safety functional areas were met. The direct cause of this finding involved the cross-cutting area of Human Performance. (Section 1R13)

B. Licensee-Identified Violations

Violations of very low safety significance, which were identified by the licensee have been reviewed by the inspectors. Corrective actions taken or planned by the licensee have been entered into the licensee's corrective action program. These violations and corrective action tracking numbers are listed in Section 4OA7 of this report.

REPORT DETAILS

Summary of Plant Status

Unit 1 operated at essentially full Rated Thermal Power (RTP) until September 27, when a shutdown commenced for a planned refueling outage.

Unit 2 operated at full RTP until August 7 when the unit was shutdown for a planned outage to investigate and repair a reactor coolant system (RCS) leak. The unit was restarted on August 15, and attained full RTP on August 17. The unit operated at full RTP until August 29, when the unit was again shutdown to repair an RCS leak. The unit was restarted on September 3, and attained full RTP on September 5. The unit operated at full RTP for the remainder of the inspection period.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity

1R04 Equipment Alignment

a. Inspection Scope

The inspectors performed partial walkdowns of the following four systems to verify correct system alignment while redundant or backup equipment was inoperable. The inspectors checked for correct valve and electrical power alignments by comparing positions of valves, switches, and breakers to the procedures and drawings listed in the Attachment. Additionally, the inspectors reviewed the condition report (CR) database to verify that equipment alignment problems were being identified and appropriately resolved.

- 1B Emergency Diesel Generator (EDG) on July 29 while 1A EDG was out of service
- Unit 1, Train A and Train B Component Cooling Water (CCW) system on August 4 while CCW pump 6 was out of service
- 1B Residual Heat Removal (RHR) system on August 19 while 1A RHR system was out of service
- 1A RHR system on September 23 while 1B RHR system was out of service

b. Findings

No findings of significance were identified.

1R05 Fire Protection

a. Inspection Scope

The inspectors walked down the following nine plant areas to verify the licensee was controlling combustible materials and ignition sources as required by procedures 92015-C, Use, Control, and Storage of Flammable/Combustible Materials, and 92020-C, Control of Ignition Sources. The inspectors assessed the observable condition of fire detection, suppression, and protection systems and reviewed the licensee's fire protection Limiting Condition for Operation log and CR database to verify that the

corrective actions for degraded equipment were identified and appropriately prioritized. The inspectors also reviewed the licensee's fire protection program to verify the requirements of Updated Final Safety Analysis Report (UFSAR) Section 9.5.1, Fire Protection Program, and Appendix 9A, Fire Hazards Analysis, were met. Documents reviewed are listed in the Attachment.

- Unit 1 Main Control Room
- 2B EDG room and associated fuel transfer pump building
- Unit 2 Train A and Train B CCW pump rooms
- 1B EDG room
- 2B Nuclear Service Cooling Water (NSCW) building
- Unit 1, Train A and Train B CCW pump rooms
- 1B RHR pump room
- Unit 2, Train A and Train B remote shutdown panel rooms and Class 1E 4.16 KV switchgear rooms
- Unit 1 Control Building Level B

b. Findings

No findings of significance were identified.

1R11 Licensed Operator Requalification

a. Inspection Scope

Resident Observations: The inspectors observed operator performance during licensed operator simulator training associated with Requalification Segment 20034. The inspectors evaluated operator performance during the conduct of a simulator scenario that began with a steam generator pressure transmitter failure followed by a reactor coolant system temperature channel failure, a main feedwater piping rupture, failure of an automatic safety injection (SI) actuation signal, and ended with the failure of an automatic main steam line isolation actuation signal. The inspectors specifically assessed the following areas:

- Correct use of abnormal and emergency operating procedures including 18001-C, Primary Systems Instrumentation Malfunction; 19000-C, E-0 Reactor Trip or Safety Injection; 19010-C, E-1 Loss of Reactor or Secondary Coolant; 19020-C, E-2 Faulted Steam Generator Isolation; and 19011-C, ES-1.1 SI Termination
- Ability to identify and implement appropriate Technical Specification (TS) actions
- Ability to identify and implement appropriate reporting and emergency plan actions in accordance with procedure 91001-C, Emergency Classification and Implementing Instructions
- Clarity and formality of communications in accordance with procedure 10000-C, Conduct of Operations
- Proper control board manipulations including critical operator actions
- Quality of supervisory command and control
- Effectiveness of the post-evaluation critique

Biennial Requalification Program Inspection: The inspectors reviewed documentation, interviewed licensee personnel, and observed the administration of simulator operating tests associated with the licensee's operator requalification program to assess the effectiveness of the licensee in implementing requalification requirements identified in 10 CFR 55, Operators' Licenses. The evaluations were also performed to determine if the licensee effectively implemented operator requalification guidelines established in NUREG-1021, Operator Licensing Examination Standards for Power Reactors, and Inspection Procedure 71111.11, Licensed Operator Requalification Program. The inspectors also reviewed and evaluated the licensee's simulation facility for adequacy for use in operator licensing examinations. The inspectors observed two shift crews and one staff crew during the performance of the operating tests. Documentation reviewed included written examinations, Job Performance Measures (JPMs), simulator scenarios, licensee procedures, on-shift records, licensed operator qualification and reactivation records, watchstanding and medical records, simulator modification request records and performance test records, the feedback process, and remediation plans. Documents reviewed are listed in the Attachment.

Annual Operating Examination Results: On September 25, the licensee completed the comprehensive requalification written examinations and annual operating tests, required to be given to all licensed operators by 10 CFR 55.59(a)(2). The inspectors reviewed the overall pass/fail results of the written examinations, individual operating tests, and the crew simulator operating tests. These results were compared to the thresholds established in Manual Chapter (IMC) 0609, Significance Determination Process (SDP), Appendix I, Operator Requalification Human Performance SDP.

b. Findings

Introduction. A Green non-cited violation (NCV) was identified for the failure of multiple Part 55 licensees to reactivate Reactor Operator (RO) and Senior Reactor Operator (SRO) licenses in accordance with procedure 10010-C, Operator Qualification Program, Revision (Rev.) 2.

Description. 10 CFR 55.53(f) required that an operator must stand a minimum of 40 hours of shift functions under the direction of an operator or senior operator and in the position to which the individual will be assigned. The 40 hours of reactivation must include a complete tour of the plant. Procedure 10010-C, Section 3.10.2, which implements this requirement, stated that the licensed operator shall perform a comprehensive tour of the plant. As a minimum, the tour of the plant will include a walkdown of all in-plant JPM performance locations on each unit.

The inspectors compared the information contained in eleven reactivation records with vital area computer access records to verify the plant tours were performed as required. All eleven records showed deficiencies in the area of plant tours. Four of the operators failed to tour more than 50 percent of the JPM performance locations and one operator had less than one minute outside the control building.

Analysis. This finding is greater than minor because it affected the Mitigating Systems Cornerstone objective, in that, it is associated with human performance attributes of license reactivation that affect operational safety. The finding was evaluated using the

Operator Requalification Human Performance SDP (IMC 0609, Appendix I) and determined to be of very low safety significance because more than 20 percent of the reactivation records reviewed failed to meet the requirements. The direct cause of this finding involved the cross-cutting area of Human Performance.

Enforcement. TS 5.4.1.a requires written procedures be established, implemented and maintained covering the applicable procedures recommended in Regulatory Guide 1.33, Revision 2, Appendix A, February 1978, Administrative Procedures. The license requirements given in 10 CFR 55.53(f), Conditions of a Licenses, stated, in part, that the licensee has completed a complete tour of the plant. Data Sheet 2 of procedure 10010-C, Operator Qualification Program, Rev. 2, Section III, stated that the operator must perform a comprehensive tour of the plant including the turbine building, auxiliary building, control building and outside areas. The tour will include a walkdown of all in-plant JPM performance locations on both units. Contrary to the above, the licensee failed to ensure that all Part 55 licensees reactivating met the requirements of procedure 10010-C, Operator Qualification Program, Rev 2. Because the finding is of very low safety significance and has been entered in the licensee corrective action program as CR 2003002132, this violation is being treated as an NCV, consistent with Section VI.A.1 of the NRC Enforcement Policy: NCV 05000424, 425/2003004-01, Failure to Reactivate Part 55 Licenses in Accordance with Procedure.

1R13 Maintenance Risk Assessments and Emergent Work Evaluation

a. Inspection Scope

The inspectors reviewed the following ten risk significant and emergent maintenance work orders (MWOs) to verify plant risk was properly assessed by the licensee prior to conducting the activities. The inspectors reviewed risk assessments and risk management controls implemented for these activities to verify they were completed in accordance with procedure 00354-C, Maintenance Scheduling, and 10 CFR 50.65(a)(4). The inspectors also reviewed the CR database to verify that maintenance risk assessment problems were being identified at the appropriate level, entered into the corrective action program, and appropriately resolved.

- Unit 2 NSCW fan 2 vibration switch replacement (MWO 20301951)
- 2A Motor Driven Auxiliary Feedwater (MDAFW) pump mini-flow transmitter calibration (MWO 20201992)
- 1A EDG jacket water leak repair (MWO 10301480)
- Unit 2 NSCW fan 2 high vibration investigation (MWO 20302022)
- Unit 2 Loop 4 OTDT failure due to drift (MWO 20302116)
- Unit 1 CCW pump 6 system outage (MWOs 10103058, 10202327, 10202289, and 10301916)
- Unit 2 shutdown (08/07/03) for RCS leak investigation/repair
- 1A RHR system and associated room cooler outage (MWOs 10202143, 10300554, 10300622, 10200788 and 10200592)
- Unit 2 shutdown (08/29/03) for RCS leak investigation/repair
- Unit 2 rod control regulation card replacement (MWO 20302745)

b. Findings

Introduction. A Green NCV of 10 CFR 50.65(a)(4) was identified for failure to properly assess and manage the increase in risk of RCS level instrumentation unavailability during a Unit 2 RCS leak repair shutdown outage.

Description. On August 10, with the unit in cold shutdown, the inspectors reviewed the adequacy of the risk assessment performed to support Unit 2 RCS draindown from 15 percent pressurizer level to one foot below the top of the reactor head. The licensee had calculated the overall plant risk during the evolution to be "Low Moderate," (i.e., Yellow risk condition) using their Outage Risk Assessment and Management (ORAM) computerized qualitative risk assessment tool. This risk assessment assumed that RCS narrow range level, RCS wide range level, and the RCS sightglass would be available for monitoring vessel water level. Prior to the draindown, the licensee decided not to place the RCS narrow range level in service because vessel water level was not planned to be lowered into the operating range of the instrument. Shortly after reaching the desired level, the RCS wide range instrument was found to be erratic and was not considered reliable for use. Since the RCS narrow range level had not been placed in service, the remaining reliable vessel level indication was from the RCS sightglass. When the inspectors questioned how the unavailable RCS narrow and wide range level instruments affected the overall plant risk profile, the operators maintained that the plant was still in a Yellow risk condition.

The inspectors discussed the risk assessment with the licensee's risk analyst and found that he had not been contacted to discuss the potential impact of the RCS level instrumentation issues on the ORAM risk profile. The inspectors learned that with any one of the three instruments unavailable, ORAM would have reported the overall risk profile as "High Moderate and Questionable Risk," (i.e., Orange risk condition). Therefore, during the period of August 10-11, while either the narrow or wide range level instrument was unavailable, the actual plant risk condition had been Orange versus Yellow. The licensee requires a formal contingency plan to be developed and approved by management for Orange risk conditions. Since the initial risk condition was Yellow, no formal contingency plan had been developed. The inspectors determined that adequate RCS level monitoring capability was still available via the RCS sightglass and Reactor Vessel Level Indication System (RVLIS).

Analysis. The failure to properly assess risk following changes to planned availability of RCS level instrumentation was greater than minor because it affected the configuration control attribute of the Mitigating Systems Cornerstone objective of ensuring the availability, reliability, and capability of systems that respond to initiating events (such as a loss of RCS inventory in reduced level conditions). The finding was evaluated using IMC 0609, Appendix G, Shutdown Operations SDP, checklist "PWR Cold Shutdown and Refueling Operation RCS Open and Refueling Cavity < 23'," and determined to be of very low safety significance because all of the equipment, procedures, and policies that are expected to be maintained in the five shutdown safety functional areas were met. The direct cause of this finding involved the cross-cutting area of Human Performance.

Enforcement. 10 CFR 50.65(a)(4) requires, in part, that before performing maintenance activities (including, but not limited to surveillances, post-maintenance testing, and corrective and preventive maintenance), the licensee shall assess and manage the increase in risk that may result from proposed maintenance. Contrary to the above, the

licensee failed to perform an adequate risk assessment on August 10, 2003, when RCS narrow and wide range level instrumentation was not available during reduced level conditions of a RCS leak repair outage. The failure to perform an adequate risk assessment resulted in the licensee inappropriately assigning an overall Yellow risk condition for Unit 2 when actual plant conditions warranted an Orange risk condition. Because the finding is of very low safety significance and has been entered into the licensee's corrective action program as CR 2003002188, this violation is being treated as a NCV in accordance with Section VI.A.1 of the NRC Enforcement Policy: NCV 05000425/2003004-02, Failure to Assess Increase in Risk of Unavailable RCS Level Instrumentation During Leak Repair Outage.

1R14 Operator Performance During Non-Routine Plant Evolutions

a. Inspection Scope

For the five non-routine plant evolutions described below, the inspectors reviewed the operating crew's performance, reviewed operator logs, control board indications, and plant computer data to verify that operator response was in accordance with the associated plant procedures.

- August 8, Unit 2 shutdown in accordance with procedure 12004-C, Power Operation
- August 15, Unit 2 reactor startup in accordance with procedure 12003-C, Reactor Startup
- August 29, Unit 2 shutdown in accordance with procedure 12004-C, Power Operation
- September 3, Unit 2 reactor startup in accordance with procedure 12003-C, Reactor Startup
- September 27, Unit 1 shutdown in accordance with procedure 12004-C, Power Operation

b. Findings

No findings of significance were identified.

1R17 Permanent Plant Modifications

a. Inspection Scope

The inspectors reviewed Design Change Package (DCP) No. 00-VAN0020-00, Modification to EDG ESF Ventilation Dampers, and DCP 03-V2N0022, Install Canopy Seal Clamp Assembly on Penetration 77, and observed portions of the modification implementations to verify they met the requirements of procedure 58007-C, Design Change Packages. The review was conducted to verify that the modifications did not degrade the system design bases, licensing bases, or performance capability and that plant risk was not increased unnecessarily during implementation of the modifications. Documents reviewed are listed in the Attachment.

b. Findings

No findings of significance were identified.

1R19 Post-Maintenance Testing

a. Inspection Scope

The inspectors either observed post-maintenance testing or reviewed the test results for the following seven maintenance activities to verify that the testing met the requirements of procedure 29401-C, Work Order Functional Tests, for ensuring equipment operability and functional capability was restored. The inspectors also reviewed the test procedures to verify the acceptance criteria was sufficient to meet the TS operability requirements.

- Unit 2 NSCW pump 6 system outage (MWOs 20102957, 20300546, 20300482)
- 1A EDG jacket water leak repair (MWO 10301480)
- Unit 2 NSCW fan 2 high vibration investigation (MWO 20302022)
- Unit 1 CCW pump 6 system outage (MWOs 10103058, 10202327, 10202289, and 10301916)
- 2A MDAFW pump mini-flow valve repair (MWO 20302237)
- 1A RHR system and associated room cooler outage (MWOs 10202143, 10300554, 10300622, 10200788 and 10200592)
- 2A MDAFW pump mini-flow valve repair (MWO 20302560)

b. Findings

No findings of significance were identified.

1R20 Refueling and Outage Activities

a. Inspection Scope

On August 7, and again on August 29, the licensee initiated a cold shutdown on Unit 2 to investigate and repair RCS leaks. During the outages, the inspectors monitored licensee controls over the outage activities listed below. Documents reviewed are listed in the Attachment.

- Pre-outage risk assessment plan
- Controls associated with shutdown cooling, reactivity management, reduced inventory activities, electrical power alignments, and containment integrity and closure
- Reactor mode changes
- Reactor heatup and repressurization
- Reactor startup activities

b. Findings

Introduction. A Green self-revealing NCV was identified for failure to maintain a suitable reactor vessel vent path which resulted in inaccurate reactor vessel water level indication and lower than expected reactor vessel level.

Description. On August 31, with the unit in cold shutdown, temporary RCS level instrumentation and vent hoses were installed to support RCS draindown to one foot below the top of the reactor vessel head. On September 1, following the draindown, during disassembly of a Conoseal on the reactor vessel head, the operators observed an approximately eight inch drop in vessel level as indicated by both the RCS sightglass and RCS wide range level instrument, and a vessel level increase on RVLIS. The licensee walked down the reactor vessel head vent equipment and found an approximately three foot loop seal in the vent hose near the reactor vessel head connection. The licensee was unable to determine when this loop seal formed. The vent hose had been inspected several times during the draindown and no loop seals were noted. The licensee also questioned whether the disc in reactor vessel head vent valve 2-1201-U4-086 was stuck to its seat. The valve relies on spring force to lift and keep the disc off the valve seat. The licensee mechanically agitated the valve to provide additional assurance that the valve was unseated.

Analysis. The inspectors determined that the RCS level response was indicative of a slightly positive pressure in the reactor head area that was relieved when the Conoseal was breached. It was calculated that actual vessel level was approximately one foot lower than that indicated by the licensee's level instrumentation. The inspectors concluded that the licensee had failed to ensure that the reactor vessel head was properly vented during periods of the draindown evolution. This finding is greater than minor because it affected the configuration control attribute of the Initiating Events Cornerstone objective, in that, the failure to maintain a suitable vent path resulted in inaccurate level indication and a perturbation in actual RCS water level. The finding was evaluated using IMC 0609, Appendix G, Shutdown Operations SDP, checklist "PWR Cold Shutdown and Refueling Operation RCS Open and Refueling Cavity < 23'," and determined to be of very low safety significance because all of the equipment, procedures, and policies that are expected to be maintained in the five shutdown safety functional areas were met. The direct cause of this finding involved the cross-cutting area of Human Performance.

Enforcement. TS 5.4.1.a requires that written procedures be implemented covering the activities listed in Regulatory Guide 1.33, Revision 2, Appendix A, February 1978, which includes procedures for draining the reactor coolant system. Procedure 12006-C, Unit Cooldown to Cold Shutdown, Revision 60, Section D4.4.7, requires installation of a suitable vent rig at the reactor vessel head vent without any loop seals to establish a vent path from the reactor vessel head to the vent rig isolation valve. Contrary to the above, the licensee failed to take adequate precautions to ensure a suitable vent path was maintained during the RCS draindown and provide accurate vessel level indication. Because the finding was of very low safety significance and has been entered into the licensee's corrective action program as CR 2003002398, this violation is being treated as a NCV in accordance with Section VI.A.1 of the NRC Enforcement Policy: NCV 05000425/2003004-03, Failure to Provide a Suitable Reactor Vessel Vent Results in Inaccurate Reactor Vessel Level Indication.

1R22 Surveillance Testing

a. Inspection Scope

The inspectors reviewed the following six surveillance test procedures and either observed the testing or reviewed test results to verify that testing was conducted in accordance with the procedures and that the acceptance criteria adequately demonstrated that the equipment was operable. This review included two inservice tests (IST) (i.e., surveillance procedures 14803-2 and 14805-1). Additionally, the inspectors reviewed the CR database to verify that the licensee had adequately identified and implemented appropriate corrective actions for surveillance test problems.

- 14980B-1, Diesel Generator Operability Test (1B, fast start)
- 14803-2, CCW Pumps and Check Valves IST and Response Time Tests (Train A)
- 14980B-2, Diesel Generator Operability Test (2B, slow start)
- 14410-2, Control Rod Operability Test
- 14805-1, Residual Heat Removal Pump and Check Valve IST and Response Time Tests (1B RHR pump)
- 28210-C, Main Steamline Code Safety Valve Setpoint Verification (Unit 1)

b. Findings

No findings of significance were identified.

1REP Equipment Availability, Reliability, and Functional Capability (Pilot Procedure)

a. Inspection Scope

Operability Evaluations: The inspectors reviewed the following five evaluations to verify that they met the requirements of procedure 00150-C, Condition Reporting and Tracking System. This scope included a review of the technical adequacy of the evaluations, the adequacy of compensatory measures, and the impact on continued plant operation.

- Unit 2 NSCW fan 2 high vibration (CR 2003001786)
- 2A EDG room fire sprinkler system degradation (CR 2003002039)
- 2A MDAFW pump mini-flow valve failure to open (CR 2003002176)
- Unit 2 containment cooler coating degradation (CR 2003002151)
- Unit 2 RVLIS transmitter leakage inside containment (CR 2003002266)

Operator Work-Arounds: The inspectors assessed the cumulative effects of operator workarounds, i.e., abnormal plant configurations and conditions requiring operator compensation, on the operators' ability to effect a correct and timely response to plant transients and events. The inspectors periodically reviewed the Unit 1 and Unit 2 control room logs, caution tag log, abnormal configuration log, MWOs, and the clearance and tagging database, to identify any abnormal configurations. For any abnormal configuration identified, the inspectors evaluated whether they would be considered operator workarounds and could increase the likelihood of an initiating event or could affect multiple mitigating systems.

Maintenance Effectiveness: The inspectors reviewed the following two equipment problems and associated licensee CRs to evaluate the effectiveness of the licensee's handling of equipment performance problems and to verify the licensee's maintenance efforts met the requirements of 10 CFR 50.65 (the Maintenance Rule) and procedure 50028-C, Engineering Maintenance Rule Implementation. The reviews included adequacy of the licensee's failure characterization, establishment of performance criteria or 50.65 (a) (1) performance goals, and adequacy of corrective actions. Other documents reviewed during this inspection included control room logs, system health reports, the maintenance rule database, and MWOs. Also, the inspectors interviewed system engineers and the maintenance rule coordinator, to assess the accuracy of identified performance deficiencies and extent of condition.

- Repeated failures of 2A MDAFW pump mini-flow valve, 2FV-5155 (CRs 2003002176, 2003002197 and 2003002389)
- Unit 2 NSCW pump 6 discharge valve failure to open during pump start (CR 2003001422)

b. Findings

No findings of significance were identified.

2. RADIATION SAFETY

Cornerstone: Occupational Radiation Safety

2OS1 Access Controls To Radiologically Significant Areas

a. Inspection Scope

Access Controls: Licensee program activities for monitoring workers and controlling access to radiologically significant areas and tasks were evaluated. The inspectors assessed the adequacy of procedural guidance; directly observed implementation of administrative and established physical controls; assessed worker exposures to radiation and radioactive material; and appraised radiation worker and health physics technician (HPT) knowledge and proficiency in implementing radiation protection program activities.

Routine work activities within the radiological controlled area (RCA) were observed. Through procedure reviews, direct observation of established controls, and interviews with workers, the inspectors evaluated the adequacy of established physical and administrative controls including postings; barricades; procedural guidance; Radiation Work Permits (RWPs); and key controls, as applicable, for High Radiation Areas (HRA), Locked High Radiation Areas (LHRA), and Very High Radiation Areas (VHRA) locations such as Unit 2 entry into bio-shield at power. The inspectors performed independent confirmatory radiation surveys in selected Auxiliary Building (AB) elevations near the filter vault areas and the Spent Fuel Pool Building. The results of those surveys were compared to current licensee survey documentation. For reviewed tasks, RWP established electronic dosimeter (ED) set points were reviewed for consistency with expected work area dose rates. The inspectors attended pre-job briefings for two 'at

power' containment entries conducted during the July 29-30, 2003 period, and assessed the adequacy of information provided to the workers. During tours of the Unit 1 (U1) and Unit 2 (U2) AB areas, the inspectors reviewed implementation of LHRA key controls for selected locations and lift equipment used to remove barriers/shields to waste processing filters and tanks located in the C level filter mezzanines. Controls for access to highly radioactive irradiated materials stored in the spent fuel pool were assessed and discussed with Radiation Protection supervision.

Radiation worker performance with respect to procedural guidance and HPT proficiency were assessed based on interviews and work observations. Knowledge of expected response to ED dose and dose rate alarms was assessed through worker interviews. Proficiency of HPT staff was evaluated through observation of initial coverage during at power containment entries and conduct of surveys associated with release of materials from the RCA.

The effectiveness of licensee radiation controls were reviewed through review and discussion of selected personnel exposure and contamination event data. Access Control Alarm Reports from January 1 through July 9, 2003, were reviewed to assess the adequacy of ED alarm set-points and guidance provided in five applicable RWPs. In addition, the maximum worker total effective dose equivalent data for calendar year (CY) 2002 and year-to-date 2003 were reviewed. Occupational exposure data associated with potential radioactive material intakes were reviewed and assessed independently for routine and investigative whole-body count analyses conducted from July 1, 2002, through July 9, 2003. In particular, the inspectors reviewed and assessed worker doses and radiological controls for waste monitor holdup tank maintenance activities conducted April 9, 2003, in accordance with RWP 03-0127, Rev. 1.

Radiation protection program activities were evaluated against 10 CFR 19.12; 10 CFR 20, Subparts B, C, F, G, H, and J; UFSAR details in Section 11, Radioactive Waste Management and Section 12, Radiation Protection; TS Section 5.4.1, Procedures, and Section 5.7, High Radiation Area; and approved licensee procedures. Documents reviewed are listed in the Attachment.

Problem Identification and Resolution: Licensee Corrective Action Program (CAP) documents associated with radiological controls, personnel monitoring, and exposure assessments were reviewed and discussed with responsible licensee representatives. The inspectors assessed the licensee's ability to identify, characterize, prioritize, and resolve the identified issues in accordance with procedure 00150-C, Condition Reporting and Tracking System. Documents reviewed are listed in the Attachment.

b. Findings

No findings of significance were identified.

2OS3 Radiation Monitoring Instrumentation and Protective Equipment

a. Inspection Scope

Area Radiation Monitoring and Post-Accident Sampling Systems: The operability, availability, and reliability of area radiation monitors and continuous airborne detection equipment, used for monitoring both routine and accident conditions, were reviewed and evaluated. The inspectors reviewed maintenance records, and performance check and calibration data for selected area radiation monitoring and continuous airborne monitoring equipment. The inspectors observed material condition and installed configurations of current Post Accident Sampling (PASS) equipment, where accessible.

Licensee program activities in this area were reviewed against requirements specified in applicable procedures and in USFAR Sections 11 and 12. Documents reviewed are listed in the Attachment.

Personnel Survey Instrumentation: Current program guidance, including calibration and operation procedures, and its implementation to maintain operability and accuracy of selected personnel survey instruments were reviewed and evaluated.

Instrument selection and operability determinations conducted by HPT staff prior to performing selected radiological surveys and monitoring were reviewed and discussed. Responsible staff's knowledge and proficiency regarding on-site instrumentation calibration activities were evaluated through interviews, reviews of calibration records, and discussion of portable survey instrument calibrations. The inspectors reviewed current calibration data for selected personnel survey instruments and assessed operability of various portable survey instruments staged or in use by the HPT staff.

Operability and analysis capabilities of the licensee's whole-body counter (WBC) analysis, personnel contamination monitor (PCM), and portal monitor (PM) equipment were reviewed and evaluated. Reviewed PCM and PM detectors included equipment staged at the RCA and the Protected Area (PA) exit points. For selected PCM and PM equipment, current calibration and recent operational/performance test surveillance data, as applicable, were observed and evaluated. For all PM and PCM equipment located at the RCA exit point, the inspectors directly observed equipment responses to mixed plant-specific radioactive source material, approximately 5000 disintegrations per minute, positioned at varying orientations and distances from the individual detectors to simulate potential worker contamination scenarios.

The inspectors observed performance of WBC equipment daily source checks, and reviewed and discussed current calibration records and radionuclide library data base. The inspectors observed and discussed the conduct and results of a daily WBC source check with the responsible technician. Selected WBC data analysis results were reviewed and discussed with responsible staff to assess knowledge and proficiency in resolving unknown energy peaks and evaluating WBC results.

Licensee activities associated with personnel radiation monitoring instrumentation were reviewed against TS, 10 CFR 20.1501, and applicable licensee procedures listed in the Attachment.

Respiratory Protection Equipment: The licensee's respiratory protection program guidance and its implementation for air-line supplied bubble hood and self-contained breathing apparatus (SCBA) equipment use were evaluated.

The inspectors assessed SCBA units staged for use in the control room and selected locations for material condition, air pressure, and number of units available. Current records associated with supplied air quality and maintenance of SCBA equipment were reviewed and evaluated. Proficiency and knowledge of staff responsible for maintaining SCBA equipment were evaluated through discussions and demonstration of an SCBA functional test. Control room operations personnel were interviewed to determine their knowledge of available SCBA equipment locations and proper use. In addition, licensee guidance for use of supplied-air bubble suits was reviewed and discussed. Specifically, training and guidance regarding use of standby rescue personnel during use of the specified equipment was reviewed and discussed with licensee representatives.

Licensee activities associated with maintenance and use of respiratory protective equipment were reviewed against Regulatory Guide (RG) 8.15 Acceptable Programs for Respiratory Protection, Rev. 1, October 1999; American National Standards Institute (ANSI)-Z88.2-1992, American National Standard Practices for Respiratory Protection; 10 CFR Part 20.1703; and applicable procedures as listed in the Attachment.

Problem Identification and Resolution: Selected licensee CAP documents associated with radiation monitoring instrumentation and respiratory protection equipment were reviewed and assessed. The inspectors assessed the licensee's ability to identify, characterize, prioritize, and resolve the identified issues in accordance with procedure 00150-C, Condition Reporting and Tracking System. Documents reviewed are listed in the Attachment.

b. Findings

No findings of significance were identified.

Cornerstone: Public Radiation Safety

2PS1 Radioactive Gaseous and Liquid Effluent Monitoring Systems

a. Inspection Scope

Effluent Processing Equipment: The inspectors reviewed and evaluated the operability, availability, and reliability of selected radioactive effluent process sampling and monitoring equipment used for routine and accident monitoring activities. Inspection activities consisted of direct observation of installed equipment configuration and operation, and review of calibration and performance data for the liquid and gaseous effluent process systems.

The inspectors directly observed equipment material condition and assessed selected U1 gaseous and liquid effluent processing systems and monitoring components against design configuration and operating specifications. During walk-downs, accessible sections of the U1 liquid waste system, including waste monitor tanks and piping and

the U1 waste liquid effluent monitor (RE-0018) equipment and sample lines, were assessed for material condition and conformance with current system design diagrams. Inspected components of the U1 main gaseous effluent process and release system included the waste gas decay tanks and associated piping leading to the plant vent, and the U1 plant effluent monitor (RE-12442) and associated sample lines. The inspectors interviewed chemistry supervision regarding liquid and gaseous radwaste system configurations, system modifications, and effluent monitor operation. In addition, the inspectors compared plant vent flow rates to flow rates in the RE-12442 sample lines to evaluate system operation for isokinetic sampling conditions.

The inspectors reviewed applicable sections of licensee effluent monitor calibration procedures and evaluated results of calibration and/or performance surveillances for selected process monitors and high efficiency particulate airborne (HEPA) filter systems. Reviewed data included the two most recent calibration records for U1 and U2 RE-12442 and RE-0018 monitors; current calibration data for the U1 plant vent flowmeter; the most recent HEPA surveillance records for three filter trains in the U1 plant vent flowpath; source check results of the U1 RE-0018 and U2 RE-0018 detectors; and out-of-service data for the past two years for all effluent monitors.

Installed configuration, material condition, operability, and reliability for selected effluent sampling and monitoring equipment were reviewed against details documented in the following: 10 CFR Part 20; RG 1.21, Measuring, Evaluating and Reporting Radioactivity in Solid Wastes and Releases of Radioactive Materials In Liquid and Gaseous Effluents from Light-Water Cooled Nuclear Power Plant, June 1974; USFAR Chapter 11.5, the Offsite Dose Calculation Manual (ODCM), Rev. 20; ANSI-N13.1-1969, Guide to Sampling Airborne Radioactive Materials in Nuclear Facilities; and ANSI-N13.10-1974, ANS Specification and Performance of On-Site Instrumentation for Continuously Monitoring Radioactivity in Effluents. Documents reviewed are listed in the Attachment.

Effluent Release Processing and Quality Control Activities: The inspectors evaluated licensee guidance and its implementation, and assessed staff proficiency in conducting effluent release processing and quality control (QC) activities. The inspection included direct observation of sampling and release operations, inspection of count room equipment and daily QC activities, and review of effluent release procedural guidance and documentation.

The inspectors directly observed the collection of weekly airborne effluent samples from the U2 RE-12444 effluent monitor and evaluated chemistry technician proficiency in collecting, processing, and counting the samples. In addition, the inspectors interviewed HP staff regarding RE-0018 set-point calculation methodology for recent liquid releases.

QC activities regarding gamma spectroscopy and liquid scintillation counting instrumentation were discussed with count room technicians and HP supervision. The inspectors reviewed records of daily QC check and trending data for all gamma spectroscopy detectors and for the single liquid scintillation detector. The inspectors reviewed calibration records for germanium detector numbers 1, 2 and 3 (various counting geometries) and the single liquid scintillation detector for the past two years and evaluated the data against procedural guidance. In addition, results of the

radiochemistry cross-check program were reviewed for calendar year (CY) 2002 and CY 2003.

Five procedures for effluent sampling, processing, and release were evaluated for consistency with licensee actions. A liquid and a gaseous release permit were reviewed against ODCM specifications. For the gaseous effluent release, the inspectors performed independent dose calculations for comparison with the doses reported by the licensee. Changes to the ODCM were evaluated for technical adequacy and proper documentation. The inspectors also reviewed the CY 2001 and CY 2002 annual effluent reports for effluent release data trends and for followup of any reported anomalous releases.

Observed task evolutions, offsite dose results, and count room activities were evaluated against details and guidance documented in the following: 10 CFR Part 20 and Appendix I to 10 CFR Part 50; ODCM; RG 1.21, RG 4.15, Quality Assurance for Radiological Monitoring Programs (Normal Operation) - Effluent Streams and the Environment, December 1977; RG 1.109, Calculation of Annual Doses to Man from Routine Releases of Reactor Effluents for the Purpose of Evaluating Compliance with 10 CFR Part 50 Appendix I, October 1977; and USFAR Chapter 12. Documents reviewed are listed in the Attachment.

Problem Identification and Resolution: Two licensee CRs and two QA audits associated with effluent release activities were reviewed and assessed. The inspectors evaluated the licensee's ability to identify, characterize, prioritize, and resolve the identified issues in accordance with procedure 00150-C, Condition Reporting and Tracking System. Documents reviewed are listed in the Attachment.

b. Findings

No findings of significance were identified.

2PS3 Radiological Environmental Monitoring Program (REMP)

a. Inspection Scope

REMP Implementation: The environmental monitoring program guidance and implementing activities were evaluated which consisted of direct observation of sample stations, sample collection, sample preparation, documentation review and interviews with licensee personnel. The inspectors reviewed and discussed the Vogtle ODCM. Results of the CY 2001 and CY 2002 Annual Environmental Operating Reports were reviewed and discussed with licensee representatives.

The inspectors observed equipment material condition and assessed technician proficiency in collecting weekly airborne particulate filter and iodine cartridge samples at ODCM specified monitoring locations 3, 10, 12, and 15. In addition, the collection and initial preparation of vegetation samples from ODCM location 15 was observed. Technician proficiency in collection and initial preparation of the samples was evaluated against established procedures. In addition, flow rate calibration records were reviewed for the observed air sampling equipment. Six environmental thermoluminescent

dosimeters (TLDs) located in the vicinity of the air sampling stations, were checked for material condition and appropriate identification. The inspectors independently determined the selected environmental sampling locations using NRC global positioning system (GPS) instrumentation.

Selected REMP quality control activities were inspected. Results of REMP inter-laboratory comparisons for the CY 2001 and CY 2002 were reviewed and evaluated for trends. Flow rate calibration records were reviewed for current air sampling equipment. Also, the most recent land use census, maximally exposed nearest resident, and applicable dose calculation assumptions were discussed with responsible licensee staff.

License procedures and activities related to environmental monitoring were evaluated for consistency with TS and ODCM details. The inspectors compared NRC GPS determined sampler locations with licensee data, ODCM specifications, and the Annual Radiological Environmental Operating Report details. Documents reviewed are listed in the Attachment.

Meteorological Monitoring Program: The licensee's meteorological monitoring program guidance and its implementation was reviewed and evaluated. On July 30, 2003, inspectors toured the meteorological tower and its supporting instrumentation. The inspectors observed the physical condition of the equipment. The inspectors compared system generated data with qualitative observations of wind direction and speed. The inspectors assessed system reliability and data recovery. Meteorological tower siting was evaluated based on near field obstructions, ground cover, proximity to the plant, and distance from terrain that could affect the representativeness of the measurements. The inspectors reviewed the calibrations and discussed out-of-service sensors for selected meteorological tower instrument sensors used during the previous two years.

License procedures and activities related to meteorological monitoring were evaluated for consistency with Technical Requirements (TR) Manual Section 13.3.3, ODCM, USFAR Section 2.3.3, Onsite Meteorological Measurements Program, and ANS/ANSI 3.11-2000, Determining Meteorological Information at Nuclear Facilities. Documents reviewed are listed in the Attachment.

Unrestricted Release of Materials from the Radiologically Controlled Area: Radiation protection program activities associated with the unconditional release of potentially contaminated materials from the RCA were reviewed and evaluated. During the week of July 28, 2003, the inspectors directly observed surveys of potentially contaminated materials released from the RCA using Small Article Monitor (SAM) detection equipment. Current calibration and performance check data were reviewed and discussed. In addition, detection sensitivities of SAM equipment staged at the RCA exit were assessed by direct performance checks using a low-level radioactive source, approximately 5000 disintegrations per minute (dpm) of plant-specific radionuclides.

The licensee practices and implementation of monitoring for unconditional release of materials from the RCA were evaluated against 10 CFR Part 20; TS; USFAR Section12; IE Circular 81-07, Control of Radioactively Contaminated Material, May 14, 1981; and applicable licensee procedures. Documents reviewed are listed in the Attachment.

Problem Identification and Resolution: Inspectors reviewed CAP documents involving the licensees meteorological and environmental sampling programs. The inspectors evaluated the licensee's ability to identify, characterize, prioritize, and resolve the identified issues in accordance with procedure 00150-C, Condition Reporting and Tracking System. Documents reviewed are listed in the Attachment.

b. Findings

No findings of significance were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator (PI) Verification

a. Inspection Scope

The inspectors sampled licensee submittals for the PIs listed below to verify the accuracy of the PI data reported during the indicated period. The PI definitions and guidance contained in procedures 00163-C, NRC Performance Indicator Preparation and Submittal; 50025-C, Reporting of Mitigating System Performance Indicator Unavailability; and NEI 99-02, Regulatory Assessment Indicator Guideline, Rev. 2, were used to verify the basis in reporting for each data element.

Mitigating Systems Cornerstone

- Auxiliary Feedwater system
- Emergency AC power

The inspectors reviewed operator log entries, maintenance rule database, monthly operating reports, monthly PI Summary reports and NRC inspection reports for PI data submitted by the licensee for Unit 1 and Unit 2 during the period from October 1, 2002, through June 30, 2003 for the Auxiliary Feedwater system PI and July 1, 2002, through June 30, 2003, for the Emergency AC power PI.

Occupational Radiation Safety Cornerstone

- Occupational Exposure Control Effectiveness

For the period November 2002 through June 2003, the inspectors evaluated data reported to the NRC, and subsequently sampled and assessed applicable CAP documents and selected Health Physics Program records. Records reviewed are listed in the Attachment.

Public Radiation Safety Cornerstone

- Radiological Control Effluent Release Occurrences

For the period November 2002 through June 2003, the inspectors evaluated data reported to the NRC, procedural guidance for reporting PI information, and effluent

monitoring data and CRs documented in Sections 2PS1 and 4OA1 of the Attachment. In addition, the inspectors reviewed monthly PI evaluation records from December 2002 through June 2003.

b. Findings

No findings of significance were identified.

4OA2 Identification and Resolution of Problems

a. Inspection Scope

The inspectors reviewed two issues to evaluate the effectiveness of the licensee's corrective actions for important safety issues documented in CRs 2002002065 and 2003001731. The condition reports were associated with Agastat timing relays setpoint drifting and a degraded fire penetration. Specifically, the inspectors assessed whether the issues were identified in a timely manner; documented accurately and completely; properly classified and prioritized; adequately considered extent of condition, generic implications, common cause, and previous occurrences; adequately identified root causes; and, identified appropriate corrective actions to prevent recurrence. Also, the inspectors assessed whether the issues were processed in accordance with procedure 00150-C, Condition Reporting and Tracking System, and procedure 00058-C, Root Cause Determination. Documents reviewed are listed in the Attachment.

b. Findings and Observations

No findings of significance associated with the two reviewed issues were identified.

CR 2002002065 - The inspectors determined that the licensee missed an opportunity to utilize industry operating experience (OE) in identifying Agastat relay reliability issues and vendor relay replacement recommendations. Specifically, industry OE, EPRI Report TR-102067, "Maintenance and Application Guide for Control Relays and Timers," contained recommended maintenance practices and information that may have led the licensee to replace Agastat relays prior to the relays experiencing setpoint drifting problems. In addition, the inspectors reviewed two CRs (2001000640 and 2001001854) written the previous year that questioned the use of Agastat relays that were beyond their vendor recommended replacement schedule. Again, the inspectors determined that the licensee had missed an opportunity to establish a program to replace Agastat relays prior to the relays having setpoint drifting problems.

CR 2003001731 - The inspectors identified that the licensee was unaware of the need to maintain a fire watch until the silicone foam used to fill and repair a fire penetration boundary was cured for 24-hours. This information is contained in the industry nuclear network as OE 10017 (LER 280-99002) and 10283 (LER 317-98011). The inspectors learned that the licensee considers these types of OE items to be lower tier or low significant OE items, which are distributed via email and are not formally tracked or addressed. The licensee changed procedure 00432-C, Penetration Seal Control, to require fire watches to be maintained until the 24-hour cure time has elapsed.

4OA4 Cross Cutting Aspects of Findings

Section 1R11 describes a finding for failure of operators reactivating their licenses to perform comprehensive tours of all of the required plant areas. The direct cause of this finding involved the cross-cutting area of Human Performance.

Section 1R13 describes a finding for failure to properly assess the increase in risk following the unavailability of RCS level instrumentation during a shutdown outage. The direct cause of this finding involved the cross-cutting area of Human Performance.

Section 1R20 describes a finding for failure to take adequate precautions to ensure a suitable vent path was maintained during an RCS draindown. The direct cause of this finding involved the cross-cutting area of Human Performance.

4OA6 Meetings, Including Exit

On October 3, 2003, the resident inspectors presented the inspection results to Mr. W. Kitchens and other members of his staff, who acknowledged the findings. The inspectors confirmed that proprietary information was not provided or examined during the inspection.

4OA7 Licensee Identified Violations

The following violations of very low safety significance were identified by the licensee and are violations of NRC requirements which meet the criteria of Section VI.A.1 of the NRC Enforcement Policy, NUREG-1600, for being dispositioned as NCVs.

- TS 5.4.1.a requires written procedures to be established and implemented for the applicable procedures recommended in RG 1.33, Rev. 2, Appendix A, February 1978. Appendix A, specifies that procedures be developed for limiting personnel exposure. On April 9, 2003, licensee personnel failed to follow guidance for posting and monitoring potential worker exposures for airborne radioactive material conditions associated with U 1 waste holdup tank maintenance activities. As a result, several individuals received unplanned intakes of airborne radioactive materials. This issue was reviewed and documented in Event Report 1-2003-001. This violation is of very low safety significance because doses for the affected individuals were significantly less that regulatory limits.

- TS 5.4.1.c requires written procedures for quality assurance of the effluent monitoring instrumentation to be maintained and implemented. On March 5, 2002, the calibration procedure for count room germanium detectors used to quantitatively determine radionuclide concentrations in effluents was not properly implemented. As a result, from March 5, 2002, until March 20, 2003, three germanium detectors were

out of calibration for the charcoal cartridge geometry and the ability to quantitatively analyze for radioactive iodine released in routine airborne effluents was degraded. This event is documented in CR 2003000732. This violation is of very low safety significance because there were no operational events which would have resulted in measurable releases of radioactive iodines during the specified period.

ATTACHMENT: SUPPLEMENTAL INFORMATION

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

Licensee personnel:

W. Bargeron, Plant Support Assistant General Manager
W. Burmeister, Manager Engineering Support
D. Carter, Superintendent Chemistry
J. Dixon, Superintendent Health Physics
S. Douglas, Manager Operations
K. Holmes, Manager Training and Emergency Preparedness
W. Kitchens, Nuclear Plant General Manager
I. Kochery, Health Physics & Chemistry Manager
T. Tynan, Assistant General Manager Operations

Other licensee employees contacted included office, operations, engineering, maintenance, chemistry/radiation, and corporate personnel.

NRC personnel:

B. Bonser, Chief, Region II Reactor Project Branch 2

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

Opened and Closed

05000424, 425/2003004-01	NCV	Failure to Reactivate Part 55 Licenses in Accordance with Procedure (Section 1R11)
05000425/2003004-02	NCV	Failure to Assess Increase in Risk of Unavailable RCS Level Instrumentation During Leak Repair Outage (Section 1R13)
05000425/2003004-03	NCV	Failure to Provide a Suitable Reactor Vessel Vent Results in Inaccurate Reactor Vessel Level Indication (Section 1R20)

LIST OF DOCUMENTS REVIEWED

Section 1R04: Equipment Alignment

Procedures

13145-1, Diesel Generators
11715-1, Component Cooling Water System Alignment
13011-1, Residual Heat Removal System

Section 1R05: Fire Protection

Procedures

92805-1, Zone 105 - Control Building - Level 1 Fire Fighting Preplan
92862-2, Zone 162 - Diesel Generator Building Fire Fighting Preplan
92864-2, Zone 164 - Diesel Generator Building - Train B DFO Tank Fire Fighting Preplan
92866-2, Zone 166 - Diesel Generator Tanks and Pumphouse Fire Fighting Preplan
92736-2, Zone 36 - Auxiliary Building - Level A, CCW Pumps, Train A Fire Fighting Preplan
92737-2, Zone 37 - Auxiliary Building - Level A, CCW Pumps, Train B Fire Fighting Preplan
92861-1, Zone 161 - Diesel Generator Building Fire Fighting Preplan
92860B-2, Zone 160B - NSCW Pumphouse - Train B Fire Fighting Preplan
92737-1, Auxiliary Building Level A Fire Fighting Preplan
92709-1, Zone 9 - Auxiliary Building - Level D Fire Fighting Preplan
92709-1, Zone 9 - Auxiliary Building - Level D Fire Fighting Preplan
92791-2, Zone 91 - Control Building - Level A Fire Fighting Preplan
92792-2, Zone 92 - Control Building - Level A Fire Fighting Preplan
92798-2, Zone 98 - Control Building - Level A Fire Fighting Preplan
92803-2, Zone 103 - Control Building - Level A Fire Fighting Preplan
00432-C, Penetration Seal Control

Condition Reports

2003001731, Discovered existing breach in control room penetration seal and evaluation of cure time of silicone foam

Section 1R11: Licensed Operator Requalification

Core Performance Tests Reviewed

Operations Test 0607-Core Performance Tests (Unit 1 cycle 11)

Normal Operation Tests Reviewed

Reviewed 06-01 Normal Operation Test Plant Start-Up to hot standby
Reviewed Normal Operations Test Number 06-08 Which included surveillance tests14423-1NI 31/35, 14424-1N1 32/36 and 14425-1 Power Range NI test

Transient Tests Reviewed

Transient Test 07-01 Manual Reactor Trip Reactor trip from 100%
Transient Test 07-04 Simultaneous Trip of All RCPs
Transient Test 07-02 Simultaneous Trip of All Feedwater Pumps
Transient Test 07-03 Simultaneous Closure of All Main Steam Isolation Valves
Transient Test 07-06 Main Turbine Trip W/O Reactor Trip

Malfunction Tests Reviewed

Malfunction Test 05-08 Loss of Offsite Power
Malfunction Test 05-07 Loss of Instrument Air
Malfunction Test 05-22 Generator Trip
Malfunction Test 05-18 Loss of all feedwater
Malfunction Test 05-31 Failure in Auto Reactor Trip
Malfunction Test 05-29g Process Instrument Failures (PT-505)

Simulator Deficiency Reports Reviewed
DR's 2002-006-04; 2002-10-007;2002-10-008, 2003-05-004, 2002-05-003

Procedures Reviewed
Simulator Certification - 60203-C
Simulator Maintenance Procedure - 60200-C
Licensed Operator Requalification Program - 00715-C
Examination Security Program - 60008-C
Licensed Operator Requlification Examination Guidelines - 60007-C

Section 1R17: Permanent Plant Modifications
Maintenance Work Order 20103776

Section 1R20: Refueling and Outage Activities
Procedures
11899-2, RCS Draindown Configuration Checklist
12001-C, Unit Heatup to Hot Shutdown (Mode 5 to Mode 4)
12002-C, Unit Heatup to Normal Operating Temperature and Pressure (Mode 4 to Mode 3)
12003-C, Reactor Startup (Mode 3 to Mode 2)
12004-C, Power Operations (Mode 1)
12005-C, Reactor Shutdown to Hot Standby (Mode 2 to Mode 3)
12006-C, Unit Cooldown to Cold Shutdown
13005-2, Reactor Coolant System and Refueling Cavity Draining
14406-2, Boron Injection Flow Path Verification - Shutdown
14900-C, Containment Exit Inspection
18019-C, Loss of Residual Heat Removal
18030-C, Loss of Spent Fuel Pool Level or Cooling
29540-C, Risk Assessment Monitoring
29542-C, Shutdown Risk Management

Section 2OS1: Access Controls to Radiologically Significant Areas
Procedures and Guidance Documents
00008-C, Plant Lock and Key Control
00042-C, Human Performance Observation Program
00150-C, Condition Reporting and Tracking System
43002-C, Airborne Radioactivity Sampling and Evaluation
43005-C, Establishing and Posting Radiation Controlled Areas and High Radiation Area Access Control
43007-C, Issuance, Use, and Control of Radiation Work Permits
43014-C, Special Radiological Controls
45012-C, Individual Radiation Exposure Records and Reports
45016-C, Evaluation and Management of Damage, Lost or Malfunctioning Dosimetry
Radiation Work Permit (RWP) 03-0100, Perform HP Surveys to Assess Radiological Conditions, Provide Multiple RWP Job Coverage Activities, and Perform Routine Functions
(RWP) 03-0102, Minor Work Tasks, Ops Tours, and Surveillances in the Unit 2 Containment
RWP 03-0109, Minor Work Task and Surveillances in High Radiation Areas, High Contaminated Areas, and/or Airborne Areas
RWP 03-0110, Changeout Reactor Coolant Filters in 1-AB-B-154 and 2-AB-B-179 Filter Pits,

Spent Fuel Pool Filters in 1-AB-B-145 and 2-AB-B-176 Filter Pits and Spent Fuel Skimmer Filters in 1-AB-D-94 and 2-AB-D-83, and All Associated Work Including Transfer to the ARB or 1-AB-D-43 for Filter Disposal
RWP 03-0110, All Sluices from Demins to Spent Resin Storage Tank in Unit 1 and Unit 2 Auxiliary Building
RWP 03-0127, Remove Oil Booms in the Unit 1 and 2 Waste Monitor Tanks
RWP 03-0134, New Fuel Receipt and Storage for 1R11
RWP 03-0138, Top Nozzle Replacement, Insert Shuffle, and Fuel Inspection in Unit 1/Unit 2 Spent Fuel Pool and all Associated Work

Records
Internal Dose Assessment Worksheets - Inhalation and Ingestion, Procedure 44002-C, Data Sheet Number (No.) 1 and No. 2 for Gamma, Beta, and Alpha Emitters Present in Chemical Volume Control System (CVCS) Resin based on Gamma Emitting Radionuclides, and Beta-to-Gamma, and Alpha-to-Gamma Comparisons for Calendar Year (CY) 2002
Internal Dose Assessment Worksheet - Inhalation and /Ingestion, Procedure 44002-C, Data Sheet No. 1 and No. 2 for Gamma, Beta, and Alpha Emitters Present in Dry Active Waste (DAW) based on Gamma Emitting Radionuclides, and Beta-to-Gamma, and Alpha-to-Gamma Comparisons for CY 2003
Plant Vogtle Radiological Information Survey of Waste Holdup Tank Room (1AXD63), Survey No. 36138; Survey No. 53489; Survey No. 53560; Survey No. 53609
Plant Vogtle Radiological Information Survey of Spent Fuel Pool Areas, Survey No. 56548
Plant Vogtle Radiological Information Survey of the Unit 2 Reactor Building, 220 Foot Elevation, Survey No. 56579
Individual Access DDE Record Data for Entries Conducted on RWP 03-127 between April 7 through April 9, 2003
Whole Body Count Listing of Termination and Investigation Analyses Conducted from July 1, 2002 through July 7, 2003
Total Effective Dose Equivalent (TEDE) Dose Records

Corrective Action Program Documents
CR 2003001594, Unexpected Dose Rates on Bag Located in Decon Storage Area of Room 123
CR 2003000118, Unposted Radiation Area Found in 1-AB-R-122
CR 2002003069, Contaminated Vacuum Removed from Unit 2 Containment and Staged Outside of a Posted Radiation Area
Event Report 1-2003-001, Failure to Adequately Evaluate Radiological Condition Results in Unplanned Internal Contamination
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43658-C, Air Sampler Calibration
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