



UNITED STATES  
NUCLEAR REGULATORY COMMISSION

REGION II  
SAM NUNN ATLANTA FEDERAL CENTER  
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ATLANTA, GEORGIA 30303-8931

October 28, 2005

Southern Nuclear Operating Company, Inc.  
ATTN: D. E. Grissette, Jr.  
Vice President - Vogtle Project  
P. O. Box 1295  
Birmingham, AL 35201-1295

SUBJECT: VOGTLE ELECTRIC GENERATING PLANT - NRC INTEGRATED INSPECTION  
REPORT 05000424/2005004 AND 05000425/2005004

Dear Mr. Grissette:

On September 30, 2005, the U. S. 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 17, 2005, with Mr. Tom Tynan 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 one NRC-identified finding of very low safety significance which was determined to involve a violation of NRC requirements. However, because of its very low safety significance and because it has been entered into your corrective action program, the NRC is treating this violation as a non-cited violation (NCV) consistent with Section VI.A of the NRC Enforcement Policy. If you contest this NCV, 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 VEGP.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be available electronically for public inspection in the NRC Public Document Room

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or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

***/RA by Curt Rapp For/***

Malcolm T. Widmann, Chief  
Reactor Projects Branch 2  
Division of Reactor Projects

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

Enclosure: Inspection Report 05000424/2005004 and  
05000425/2005004  
w/Attachment: Supplemental Information

cc w/encl: (See page 3)

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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.: 05000424/2005004 and 05000425/2005004

Licensee: Southern Nuclear Operating Company, Inc.

Facility: Vogtle Electric Generating Plant

Location: 7821 River Road  
Waynesboro, GA 30830

Dates: July 1 - September 30, 2005

Inspectors: G. McCoy, Senior Resident Inspector  
B. Anderson, Resident Inspector  
N. Garrett, Senior Resident Inspector, Surry  
D. Arnett, Resident Inspector, Surry  
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(Sections 1EP2-1EP5 and 4OA1)  
W. Loo, Senior Health Physicist (Sections 2OS1, 2OS3, 4OA1,  
and 4OA5)  
J. Díaz Vélez, Health Physicist (Section 2OS3)  
H. Gepford, Health Physicist (Section 2PS3)  
A. Nielsen, Health Physicist (Section 2PS1 and 4OA1)

Approved by: Malcolm T. Widmann, Chief  
Reactor Projects Branch 2  
Division of Reactor Projects

Enclosure

## SUMMARY OF FINDINGS

IR 05000424/2005-004, 05000425/2005-004; 07/01/2005 - 09/30/2005; Vogtle Electric Generating Plant, Units 1 and 2; Radiation Monitoring Instrumentation and Protective Equipment.

The report covered a three-month period of inspection by seven resident inspectors, one emergency preparedness inspector, and three health physicists. One Green non-cited violation was 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

#### Emergency Preparedness Cornerstone

- Green. An NRC-identified non-cited violation of 10 CFR 50.47(b)(10) was identified for the failure to provide adequate respiratory protection equipment for emergency response, compromising the protective actions developed for the plume exposure pathway for emergency workers.

This finding is greater than minor because it is associated with the Emergency Preparedness cornerstone attribute of Response Organization Performance and adversely affects the cornerstone objective of ensuring the licensee is capable of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency. Failure to provide appropriate respiratory protective equipment for a required worker could result in the individual being unable to perform his emergency response function. The finding was evaluated using the Emergency Preparedness Significance Determination Process, Sheet 1. The finding was a failure to comply that was a planning standard problem, was not a risk-significant planning standard problem, and did not involve a planning standard function failure. For these reasons, the inspectors concluded that the issue is of very low safety significance. (Section 2OS3)

### B. Licensee-Identified Violations

None

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## REPORT DETAILS

### Summary of Plant Status

Unit 1 operated at essentially full rated thermal power (RTP) for this report period.

Unit 2 operated at essentially full RTP until September 18 when the unit was shutdown for a planned refueling outage.

### **1. REACTOR SAFETY**

#### **Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity**

#### 1R04 Equipment Alignment

##### a. Inspection Scope

Partial Walk-downs. The inspectors performed partial walk-downs of the following three systems to verify correct system alignment. 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. Documents reviewed are listed in the Attachment.

C Unit 2 nuclear service cooling water (NSCW) system while the number 3 NSCW pump was out of service for maintenance

C Unit 1 essential chilled water system after significant maintenance

C Unit 1 number 2 condensate storage tank while the number 1 condensate storage tank was tagged out for maintenance

##### b. Findings

No findings of significance were identified.

#### 1R05 Fire Protection

##### a. Inspection Scope

The inspectors walked down the following eight 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

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Protection Program, and Appendix 9A, Fire Hazards Analysis, were met. Documents reviewed are listed in the Attachment.

C Unit 1 train A cable spreading room  
 C Unit 1 control building level 2  
 C Unit 1 train A diesel generator  
 C Unit 1 auxiliary feedwater pump building  
 C North fire water pump house  
 C Technical support center  
 C Unit 2 train A NSCW pump house  
 C South fire water pump house

b. Findings

No findings of significance were identified.

1R08 Inservice Inspection (ISI) Activities

a. Inspection Scope

Piping Systems ISI. The inspectors reviewed the implementation of the licensee's ISI program for monitoring degradation of the reactor coolant system boundary and the risk significant piping system boundaries for Unit 2. The inspectors selected a sample of American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code, Section XI required examinations and Code components in order of risk priority as identified in Section 03 of NRC inspection procedure 71111.08, Inservice Inspection Activities, based upon the ISI activities available for review. The inspectors also conducted an on-site review of nondestructive examination (NDE) activities to evaluate compliance with Technical Specifications (TS), ASME Section XI, and ASME Section V requirements, 1989 Edition, to verify that indications and any defects were appropriately evaluated and dispositioned in accordance with the requirements of ASME Section XI, IWB-3000 or IWC-3000 acceptance standards. The inspectors observed the following examinations:

Ultrasonic Testing (UT)

C Component #: 21201-V6-001-B02R, Reactor Head Closure Studs  
 C Component #: 21201-V6-001-B26R, Reactor Head Closure Studs Weld #: 21201-B6-003-W05, Lower Cone End Stub Barrel to Lower Shell Barrel-B

The inspectors reviewed the following examination records:

UT

C Weld #: 21201-031-3, Reactor Coolant System pipe to elbow  
 C Weld #: 21201-042-2, Reactor Coolant System pipe to elbow  
 C Weld #: 21201-046-2, Reactor Coolant System pipe to elbow



Visual Testing (VT):

C Reactor Vessel Head Penetrations above insulation  
 C Component #: 21201-V6-002W17, 6" Safety Nozzle to Safe End Weld  
 C Component #: 21201-V6-002W18, 6" Safety Nozzle to Safe End Weld  
 C Component #: 21201-V6-002W19, 6" Safety Nozzle to Safe End Weld  
 C Component #: 21201-V6-002W20, 6" Relief Nozzle to Safe End Weld  
 C Component #: 21201-V6-002W21, 4" Spray Nozzle to Safe End Weld

Magnetic Particle Testing

C Component #: 21201-B6-002-W19, 16" Main Feedwater Nozzle to Shell Weld

Liquid Penetrant Testing

C Component #: 21208P6-002-W01, Pump Casing To 6" Suction Nozzle Weld  
 C Component #: 21204-063-16, Support H006  
 C Component #: 21208-411-6, Support H006

The Inspectors reviewed examination records for the following recordable indications to evaluate if the licensee's acceptance was in accordance with acceptance standards contained in Article IWB-3000 of ASME Section XI.

UT

C Component #: 2-CV-110, CVCS Orifice to Orifice Reducer

VT

C Component #: 21201-B6-003-I10, Steam Generator #3 Channel Head Drain Tube (WCAP 12907)  
 C Component #: 21201-B6-001-I10, Steam Generator #1 Channel Head Drain Tube (WCAP 12907)  
 C Component #: 21501-024-H003, Hanger U-bolt nuts  
 C Component #: 21201-P6-002-B25-B32, 1.5" Dia. Sealwater Housing Cap Screws  
 C Component #: 21501-024-H003, Restraint

The inspectors reviewed the Vogtle, Unit 2, Owner's Report For Inservice Inspection, Tenth Maintenance/Refueling Outage, dated August, 2004, which stated that there were no reportable indications from last outage.

Qualification and certification records for examiners, inspection equipment, and consumables along with the applicable NDE procedures for the above ISI examination activities were reviewed and compared to requirements stated in ASME Section V and Section XI.

The inspectors reviewed the following three pressure boundary welding activities associated with ASME Class 1 and Class 2 components were reviewed to verify the welding process and examinations were performed in accordance with the ASME Code Sections III, V, IX, and XI requirements.

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C Weld #: 1K2-1305-157-01, Main Feed Water pipe segment between weldolet and first downstream elbow

C Weld #: 040502A, Auxiliary Feed Water Pipe to Sweepolet

C Weld #: 040502B, Auxiliary Feed Water Pipe to Elbow

The inspectors performed a review of piping system ISI related problems that were identified by the licensee and entered into the corrective action program. The inspectors reviewed these corrective action documents to confirm that the licensee had appropriately described the scope of the problems. Additionally, the inspectors' review included confirmation that the licensee had an appropriate threshold for identifying issues and had implemented effective corrective actions. The inspectors evaluated the threshold for identifying issues through interviews with licensee staff and review of licensee actions to incorporate lessons learned from industry issues related to the ISI program. Documents reviewed are listed in the Attachment.

Boric Acid Corrosion Control (BACC) ISI. The inspectors reviewed the licensee's BACC program to ensure compliance with commitments made in response to NRC Generic Letter 88-05, Boric Acid Corrosion of Carbon Steel Reactor Pressure Boundary, and Bulletin 2002-01, Reactor Pressure Vessel Head Degradation and Reactor Coolant Pressure Boundary Integrity.

The inspectors conducted a record review and walk-down of parts of the reactor building that are not normally accessible during at-power operations to evaluate compliance with licensee BACC program requirements. In particular, the inspectors verified that the visual examinations focused on locations where boric acid leaks can cause degradation of safety significant components and that degraded or non-conforming conditions were properly identified in the licensee's corrective action system.

The inspectors reviewed a sample of engineering evaluations completed for boric acid found on reactor coolant system piping and components to verify that the minimum design code required section thickness had been maintained for the affected component(s). The inspectors also reviewed the following licensee corrective actions implemented for evidence of boric acid leakage to confirm that they were consistent with requirements of Section XI of the ASME Code.

C CR 205106370, Boron residue present on the pipe coupling between 2HV10953 and the containment penetration

C CR 2005108224, Accumulation of boric acid build up surrounding nipple below pipe cap on SI Accumulator #4

C CR 2005108220, Heavy boron build-up residue below pipe cap for series vent valves 2-1208-X4-461 and 2-1208-X4-478

Steam Generator (SG) Tube ISI. The inspectors reviewed the Unit 2 SG tube examination activities conducted pursuant to TS and the ASME Code Section XI requirements. The inspectors reviewed the SG examination scope, expansion criteria, eddy current testing (ET) acquisition procedures, ET analysis procedures, the SG

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Operational Assessment, in-situ tube pressure testing procedures and records and examination reports to confirm that:

- C The numbers and sizes of SG tube flaws/degradation identified was bounded by the licensee's previous outage Operational Assessment predictions. Also, the SG tube ET examination scope and expansion criteria was sufficient to identify tube degradation based on site and industry operating experience by confirming that the ET scope completed was consistent with the licensee's procedures and plant TS requirements. Additionally, the inspectors reviewed the SG tube ET examination scope to determine that it was consistent with that recommended in EPRI 1003138 Pressurized Water Reactor Steam Generator Examination Guidelines and included tube areas which represent ET challenges such as the tubesheet regions, expansion transitions, U-bends and support plates.
- C The SG tube repair criteria and process (plugging) implemented was consistent with TS requirements and the licensee was only applying the TS plugging limit at tube wear locations.
- C The ET probes and equipment configurations used to acquire ET data from the SG tubes were qualified to detect the known/expected types of SG tube degradation in accordance with Appendix H Performance Demonstration for Eddy Current Examination of EPRI 1003138 Pressurized Water Reactor Steam Generator Examination Guidelines.
- C The licensee adequately examined for loose parts indications.
- C The licensee adequately evaluated for any contractor deviations from their ET data acquisition or analysis procedures or EPRI 1003138, Pressurized Water Reactor Steam Generator Examination Guidelines: Revision 6.

The inspectors performed a review of SG ISI related problems that were identified by the licensee and entered into the corrective action program to confirm that the licensee had appropriately described the scope of the problems. Additionally, the inspectors' review included confirmation that the licensee had an appropriate threshold for identifying issues and had implemented effective corrective actions. The inspectors evaluated the threshold for identifying issues through interviews with licensee staff and review of licensee actions to incorporate lessons learned from industry issues related to the ISI program. Documents reviewed are listed in the Attachment.

b. Findings

No findings of significance were found.

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## 1R11 Licensed Operator Requalification

### a. Inspection Scope

Resident Quarterly Review. The inspectors evaluated operator performance on July 26, 2005 during licensed operator simulator training associated with Requalification Segment 20054 and described on simulator exercise guide V-RQ-SE-05401. The simulator scenario covered operator actions resulting from a loss of class 1E 125V DC followed by an uncontrolled continuous rod motion and a failure of the plant to trip. Procedures reviewed are listed in the attachment. The inspectors specifically assessed the following areas:

- C Correct use of the abnormal and emergency operating procedures
- C Ability to identify and implement appropriate actions in accordance with the requirements of the Technical Specifications
- C Clarity and formality of communications in accordance with procedure 10000-C, Conduct of Operations
- C Proper control board manipulations including critical operator actions
- C Quality of supervisory command and control
- C Effectiveness of post-evaluation critique

### b. Findings

No findings of significance were identified.

## 1R12 Maintenance Effectiveness

### a. Inspection Scope

The inspectors reviewed the following equipment problem 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 licensee procedure 50028-C, Engineering Maintenance Rule Implementation. The reviews included adequacy of the licensee's failure characterization, establishment of performance criteria or 10 CFR 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 maintenance work orders (MWOs). Also, the inspectors interviewed system engineers and the maintenance rule coordinator to assess the accuracy of identified performance deficiencies and extent of condition. Documents reviewed are listed in the Attachment.

C 2-2103-P4-003, Unit 2 train A number 3 component cooling water pump

### b. Findings

No findings of significance were identified.

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1R13 Maintenance Risk Assessments and Emergent Work Evaluationa. Inspection Scope

The inspectors reviewed the following five plan of the day (POD) documents listed below to verify that risk assessments were performed prior to components being removed from service. 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.

C POD for the week of 7/23 - 7/29  
 C POD for the week of 7/30 - 8/5  
 C POD for the week of 8/6 - 8/12  
 C POD for the week of 8/20 - 8/26  
 C POD for the week of 9/10 - 9/16

b. Findings

No findings of significance were identified.

1R15 Operability Evaluationsa. Inspection Scope

The inspectors reviewed the following five evaluations to verify they met the requirements of NMP-GM-002, Corrective Action Program, and NMP-002-GL02, Corrective Action Program Details and Expectations Guideline. This scope included a review of the technical adequacy of the evaluations, the adequacy of compensatory measures, and the impact on continued plant operation.

C CR 2005106203, Unexpected 'Engine Not Available' light during monthly surveillance  
 C CR 2005105732, Cooling water leak on unit 2 nuclear service cooling water pump 2  
 C CR 2005106036, Atmospheric relief valve 1PV3030 oil reservoir empty  
 C CR 2005106370, Boron residue on Unit 2 accumulator sample line  
 C CR 2005107704, 2HV0606 would not fully shut when residual heat removal (RHR) train B was being placed in service.

b. Findings

No findings of significance were identified.

1R16 Operator Workaroundsa. Inspection Scope

The inspectors reviewed the licensee's list of identified operator workarounds as of August 15, 2005, to assess the cumulative effects of operator workarounds on the reliability, availability, and potential for mis-operation of a system to verify that there was no increase in overall plant risk. This assessment included increases of initiating event frequencies, effects on multiple mitigating systems, and the ability of operators to correctly respond to abnormal plant conditions.

b. Findings

No findings of significance were identified.

1R19 Post-Maintenance Testinga. Inspection Scope

The inspectors either observed post-maintenance testing or reviewed the test results for the following four 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.

C MWO 10523854, Repair of 1-PV-3030, main steam LP4 atmospheric relief inlet  
 C MWO 20522642, Repair of cooling leak on Unit 2 number 2 NSCW pump  
 C MWO 20516270, Preventive maintenance of Unit 2 B train RHR pump  
 C MWO 20411014, Preventive maintenance of Unit 2 A train coolant charging pump

b. Findings

No findings of significance were identified.

1R20 Refueling and Outage Activitiesa. Inspection Scope

Unit 2 Refueling Outage. The inspectors performed the inspection activities described below for the Unit 2 refueling outage that began on September 18, 2005. The inspectors reviewed the licensee's outage risk control plan to verify that the licensee had appropriately considered risk, industry experience and previous site specific problems, and to confirm that the licensee had mitigation/response strategies for losses of key safety functions. During the cooldown which preceded the outage, the inspectors reviewed portions of the cooldown process to verify that technical specification cooldown restrictions were followed. The inspectors confirmed that, when the licensee removed

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equipment from service, the licensee maintained defense-in-depth commensurate with the outage risk control plan for key safety functions and applicable technical specifications, and that configuration changes due to emergent work and unexpected conditions were controlled in accordance with the outage risk control plan. During the outage, the inspectors:

- C Reviewed reactor coolant system (RCS) pressure, level, and temperature instruments to verify that the instruments provided accurate indication and that allowances were made for instrumentation errors
- C Reviewed the status and configuration of electrical systems to verify that those systems met TS requirements and the licensee's outage risk control plan
- C Observed decay heat removal parameters to verify that the system was properly functioning and providing cooling to the core
- C Reviewed system alignments to verify that the flow paths, configurations, and alternative means for inventory addition were consistent with the outage risk plan
- C Reviewed selected control room operations to verify that the licensee was controlling reactivity in accordance with the technical specifications
- C Observed spent fuel pool operations to verify that outage work was not impacting the ability of the operations staff to operate the spent fuel pool cooling system during and after core offload
- C Reviewed the outage risk plan to verify that activities, systems, and/or components which could cause unexpected reactivity changes were identified in the outage risk plan and were controlled
- C Observed licensee control of containment penetrations to verify that the requirements of the technical specifications were met
- C Reviewed the licensee's plans for changing plant configurations to verify that technical specifications, license conditions, and other requirements, commitments, and administrative procedure prerequisites had been met

b. Findings

No findings of significance were identified.

1R22 Surveillance Testing

a. Inspection Scope

The inspectors reviewed the following five 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. Additionally, the inspectors reviewed the CR database to verify that the licensee had adequately identified and implemented appropriate corrective actions for surveillance test problems. Documents reviewed are listed in the Attachment.

Surveillance Tests

C 24376-1 Main Steam Atmospheric Relief Valve Control 1PV3000 Channel Calibration

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C 24705-2, Nuclear Instrumentation System, Power Range Channel 2N42 Channel Calibration

C 14980B-2, Diesel Generator Operability Test

In-Service Tests

C 14805-2, Residual Heat Removal Pump and Check Valve IST

Containment Isolation Valve Tests

C 14349-2, Containment Penetration No. 49 Excess Letdown and Seal Water Leakoff Local Leak Rate Test

b. Findings

No findings of significance were identified.

1R23 Temporary Plant Modifications

a. Inspection Scope

The inspectors evaluated the following two Temporary Modifications (TM) and associated 10 CFR 50.59 screening against the system design basis documentation and the Updated Final Safety Analysis Report (UFSAR) to verify that the modifications did not adversely affect the safety functions of important safety systems. Additionally, the inspectors reviewed licensee procedure 00307-C, Temporary Modifications, to assess if the modification was properly developed and implemented.

- TM 2052247801, Defeat Unit 2 A turbine exhaust hood low pressure alarm and trip
- TM 2052084801, Unit 2 temporary hot leg RCS level sight glass

b. Findings

No findings of significance were identified.

**Cornerstone: Emergency Preparedness**

1EP2 Alert and Notification System (ANS) Testing

a. Inspection Scope

The inspectors evaluated the adequacy of licensee methods for testing the ANS. The applicable planning standard 10 CFR 50.47(b)(5) and related requirements contained in Section IV.D of Appendix E to 10 CFR Part 50 were used as reference criteria. The evaluation criteria contained in NUREG-0654, Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants; Federal Emergency Management Agency (FEMA) Report REP-10, Guide for the Evaluation of Alert and Notification Systems for Nuclear Power Plants; and the



licensee's FEMA-approved ANS design report were also used as references. Documents reviewed are listed in the Attachment.

b. Findings

No findings of significance were identified.

1EP3 Emergency Response Organization (ERO) Augmentation

a. Inspection Scope

The inspectors reviewed the ERO augmentation staffing requirements and the process for notifying the ERO to ensure the readiness of key staff for responding to an event and timely facility activation. The results of the unannounced off-hour augmentation drill conducted on November 8, 2004 were reviewed. The inspectors reviewed the provisions for a backup notification system. The qualification records of key position ERO personnel were reviewed to ensure all ERO qualifications were current. A sample of problems identified from augmentation drills or system tests performed since the last inspection were reviewed to assess the effectiveness of corrective actions. The applicable planning standard 10 CFR 50.47(b)(2) and related requirements contained in Appendix E to 10 CFR Part 50 were used as reference criteria. Documents reviewed are listed in the Attachment.

b. Findings

No findings of significance were identified.

1EP4 Emergency Action Level (EAL) and Emergency Plan Changes

a. Inspection Scope

The inspectors evaluated the non-administrative Emergency Plan changes and the associated 10 CFR 50.54(q) reviews for Revisions 38, 39, and 40, along with affiliated implementing procedures changes. No EAL modifications were made in the referenced revisions, which were issued during the period from December 2004 to May 2005. The current Emergency Plan is Revision 40. The applicable planning standard 10 CFR 50.47(b)(4) and related requirements contained in Appendix E to 10 CFR Part 50 were used as reference criteria. Documents reviewed are listed in the Attachment.

b. Findings

No findings of significance were identified.

#### 1EP5 Correction of Emergency Preparedness Weaknesses and Deficiencies

##### a. Inspection Scope

The inspectors reviewed the corrective actions identified through the EP program to ascertain the significance of the issues and to determine whether repetitive problems were occurring. The facility's self-assessments and audits were reviewed to assess the licensee's ability to be self-critical, thus avoiding complacency and degradation of its EP program. In addition, the inspectors reviewed the licensee's self-assessments and audits to assess the completeness and effectiveness of a sample of EP-related corrective actions. The applicable planning standard, 10 CFR 50.47(b)(14) and related requirements contained in Appendix E to 10 CFR Part 50 were used as reference criteria. Documents reviewed are listed in the Attachment.

##### b. Findings

No findings of significance were identified.

#### 1EP6 Drill Evaluation

##### a. Inspection Scope

The inspectors observed and reviewed the emergency plan drill on August 17 to verify the licensee was properly classifying emergency events, making required notifications, and making appropriate protective action recommendations in accordance with procedures 91001-C, Emergency Classification and Implementing Instructions, 91002-C, Emergency Notifications, and 91305-C, Protective Action Guidelines. Additionally, the inspectors observed the licensee's critique to verify that performance weaknesses and improvements were identified.

##### b. Findings

No findings of significance were identified.

## 2. RADIATION SAFETY

### **Cornerstone: Occupational Radiation Safety**

#### 2OS1 Access Control To Radiologically Significant Areas

##### a. Inspection Scope

Access Control. Licensee activities for monitoring workers and controlling access to radiologically significant areas were inspected. The inspectors evaluated procedural guidance and directly observed implementation of administrative and physical controls; appraised radiation worker and technician knowledge of, and proficiency in implementing Radiation Protection (RP) program activities; and assessed worker exposures to radiation and radioactive material.

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Radiological postings and material labeling were directly observed during tours of the Auxiliary Building and external buildings. Inspectors conducted independent surveys in the Auxiliary Building to verify posted radiation levels and to compare with current licensee survey records. During plant tours, control of High Radiation Area (HRA) with dose rates greater than 15 rem per hour and Very HRA keys and the physical status of HRA doors were examined. In addition, the inspectors observed radiological controls for non-fuel items stored in the spent fuel pools. The inspectors also reviewed selected RP procedures and radiation work permits (RWPs), and discussed current access control program implementation with RP supervisors.

During the inspection, radiological controls for select work activities in HRAs were observed and discussed. These activities included the change out of the Unit 2 Spent Fuel Pool (SFP) filter, activities associated with items being removed from the SFP, and items being moved into the railroad bay. The inspectors observed workers' adherence to RWP guidance and Health Physics Technician (HPT) proficiency in providing job coverage. Controls for limiting exposure to airborne radioactive material were reviewed and operation of ventilation units and positioning of air samplers were also observed. The inspectors evaluated electronic dosimeter alarm set points for consistency with radiological conditions in Auxiliary Building. In addition, the inspectors interviewed workers to assess knowledge of RWP requirements.

The inspectors evaluated worker exposures through review of data associated with discrete radioactive particle and dispersed skin contamination events. Controls used for monitoring extremity doses and the placement of dosimetry when work involved significant dose gradients were reviewed. The inspectors discussed the processes that would be used if an individual were to have an uptake of radioactive materials.

RP program activities were evaluated against 10 CFR Part 20; Regulatory Guide (RG) 8.38, Control of Access to High and Very High Radiation Areas in Nuclear Power Plants; and approved licensee procedures. Documents reviewed are listed in the Attachment.

Problem Identification and Resolution. CRs and audits associated with radiological controls, personnel monitoring, and exposure assessments were reviewed and discussed with RP supervisors. The inspectors assessed the licensee's ability to identify, characterize, prioritize, and resolve the identified issues. 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

Radiation Monitoring Instrumentation and Post-Accident Sampling. During tours of the Auxiliary Building and SFP area, the inspectors observed installed radiation detection

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equipment including the following instrument types: Area Radiation Monitors, Continuous Air Monitors, Personnel Contamination Monitors (PCMs), and components of the Post-Accident Sampling System. The inspectors observed the physical location of the components, noted the material condition, and compared sensitivity ranges with the information contained in the UFSAR.

During equipment walk-downs, the inspectors observed functional checks of various fixed and portable radiation monitoring/detection instruments. The observations included source/response checks of PCM and portal monitoring (PM) equipment, portable ion chambers and telepoles, Small Article Monitors (SAMs), and a Whole Body Counter (WBC). The inspectors reviewed calibration records and discussed the functional testing and testing intervals for selected PCM and PM equipment located at the Radiologically Controlled Area (RCA) exits. PCM equipment detection capabilities were demonstrated using a low-level mixed radionuclide source that was passed through the equipment. The inspectors also observed demonstrations of instrument calibrations, including a WBC, a telepole, a REM ball, and an Eberline RM-14. The 10 CFR Part 61 analysis for Dry Active Waste was reviewed to determine if calibration and response check sources are representative of the plant source term.

The inspectors reviewed calibration records for select PCMs, PMs, SAMs, WBCs, and Eberline RM-14s. In addition, calibration records were reviewed for Unit 2 RE-0005, Unit 2 RE-0006, Unit 2 RE-0001 and Unit 2 RE-0008 radiation monitors. The records were evaluated to determine frequency and adequacy of the calibrations. Calibration stickers on portable survey instruments were noted during inspection of storage areas for "ready-to-use" equipment.

Operability and reliability of selected radiation detection instruments were reviewed against details documented in the following: 10 CFR Part 20; NUREG-0737, Clarification of TMI Action Plan Requirements; TS Section 3; UFSAR Chapter 12; and applicable licensee procedures. Documents reviewed are listed in the Attachment.

Self-Contained Breathing Apparatus (SCBA) and Protective Equipment. Selected SCBA units staged for emergency use in the Control room and other locations were inspected for material condition, air pressure, and number of units available. The inspectors also reviewed maintenance records for components of selected SCBA units for the past five years and certification records associated with supplied air quality.

Qualifications for licensee staff responsible for testing and repairing SCBA equipment were evaluated through a review of manufacturer training certificates. In addition, selected Control room operators were interviewed to determine their knowledge of available SCBA equipment locations, including spectacles (corrective lens inserts) if needed, and their training on bottle change-out during periods of extended SCBA use. Respirator qualification records were reviewed for several Control room operators and Maintenance department personnel assigned emergency response duties.

Licensee activities associated with maintenance and use of respiratory protection equipment were reviewed against 10 CFR Part 20; RG 8.15, Acceptable Programs for

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Respiratory Protection; American National Standards Institute (ANSI)-Z88.2-1992, American National Standard for Respiratory Protection; and applicable licensee procedures. Documents reviewed are listed in the Attachment.

Problem Identification and Resolution. CRs associated with instrumentation and protective equipment were reviewed and assessed. The inspectors evaluated the licensee's ability to identify, characterize, prioritize, and resolve the identified issues. Documents reviewed are listed in the Attachment.

b. Findings

Introduction. A NRC-identified Green non-cited violation (NCV) of 10 CFR 50.47(b)(10) was identified for the failure to provide adequate respiratory protection equipment for emergency response, compromising the protective actions developed for the plume exposure pathway for emergency workers.

Description. During evaluation of SCBA units staged in the Control room for emergency use, the inspectors observed ten units fitted with medium respirator masks. On top of an adjacent emergency planning storage cabinet were two small respirator masks and three large respirator masks. Through discussions with the licensee, it was determined that these masks were placed on top of the storage cabinet on about May 2005, when the licensee had identified the need to provide mask sizes other than medium. The licensee identified this need based on control room staffing, which included personnel fit tested for small, medium, and large-sized masks. Prior to May 2005, only medium-sized masks had been staged in the control room. The inspectors noted that the licensee had not entered this problem into their corrective action program.

Selected control room operators interviewed by the inspectors were knowledgeable in the use and operation of SCBA units; however, some of the operators were not aware of the location of the small and large masks.

A review of Licensee Procedure No. 47013-C, Inspection, Repair, Storage of Self Contained Breathing Apparatus, showed that the monthly checks did not include the inspection and storage of respirator masks in the control room which are separate from the SCBA units. Although HPTs had been inspecting the extra masks during monthly checks, it was not in their procedure to do so nor had they create any record of these inspections. The inspectors noted that the licensee provided additional respirator masks in small and large sizes for SCBA units used by the fire brigade and that these masks were inside sealed bags with current inspection tags and were placed in a closed cabinet with a tamper proof seal. In contrast, the extra masks in the Control room were stored in the manufacturer's boxes inside of open plastic bags that had no inspection tags or a tamper proof seal.

Regulatory Guide 8.15, Acceptable Programs for Respiratory Protection, Section 4.5, states in part, that persons may only be issued face-sealing respirators for which they have been tested. Prior to May 2005, in the event of an emergency requiring immediate respiratory protection, the individuals who were fit tested using small or large masks

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would not have been qualified to use the pre-staged, SCBA equipment and may have been unable to perform their function as emergency responders. A licensed operator may need an SCBA in the event the control room becomes uninhabitable, must evacuate the control room, or must perform emergency response functions in a hazardous environment outside of the control room.

Analysis. This finding is greater than minor because it is associated with the Emergency Preparedness cornerstone attribute of Response Organization Performance and adversely affects the cornerstone objective in that failure to provide appropriate respiratory protective equipment could result in control room operators being unable to perform their emergency response functions. The finding was evaluated using the Emergency Preparedness Significance Determination Process, Sheet 1. The finding was a failure to comply that was a planning standard problem, was not a risk-significant planning standard problem, and did not involve a planning standard function failure. For these reasons, the inspectors concluded that the issue is of very low safety significance.

Although the licensee identified the need for additional respirator mask sizes in the control room, the licensee's corrective actions were incomplete in that operators were not made aware of the location of the new masks and Procedure No. 47013-C was not updated to include them on the monthly surveillance check. The licensee was not aware of these additional issues until they were identified by the inspectors. Therefore, this finding is being treated as an NRC-identified finding. This finding involved the cross-cutting aspect of problem identification and resolution in the area of resolution.

Enforcement. 10 CFR 50.47(b)(10) states, in part, that a range of protective actions will be developed for the plume exposure pathway Emergency Planning Zone (EPZ) for emergency workers. Contrary to the above, prior to May 2005, the licensee failed to provide adequate respiratory protective equipment, i.e., small and large size SCBA respirator masks, for licensed plant operators with emergency response functions. Because the failure to comply with 10 CFR 50.47(b)(10) is of very low safety significance and has been entered into the licensee's corrective action program (CRs 2005107596 and 2005107597), this violation is being treated as a non-cited violation (NCV), consistent with Section VI.A of the NRC Enforcement Policy: NCV 05000424,425/2005004-01, Failure to Provide Adequate Respiratory Protection Equipment for Emergency Response.

### **Cornerstone: Public Radiation Safety**

#### **2PS1 Radioactive Gaseous and Liquid Effluent Treatment and Monitoring Systems**

##### **a. Inspection Scope**

Effluent Monitoring and Radwaste Equipment. During inspector walk-downs, accessible sections of the Unit 1/Unit 2 liquid and gaseous Radioactive Waste (Radwaste) and effluent systems were assessed for material condition and conformance with system design diagrams. The inspection included floor drain tanks, liquid waste system piping, Waste Liquid Effluent Monitor (RE-18), Nuclear Service Water Process Monitors (RE-

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20A & B), waste gas decay tanks, Containment Vent Effluent Monitors (RE-2565A, B, & C), Plant Vent Effluent Monitors (RE-12442A, B, & C), and associated airborne effluent sample lines. The inspectors interviewed chemistry supervision regarding Radwaste equipment configuration and effluent monitor operation.

The inspectors reviewed performance records and calibration results for selected radiation monitors, flowmeters, and air filtration systems. For Unit 1/Unit 2 monitors RE-20 and RE-2565 the inspectors reviewed Control room channel check logs for June 2005 and the two most recent isotopic calibration records. The last two surveillances on the Unit 1/Unit 2 Containment Purge High Efficiency Particulate Air/charcoal air treatment system were also reviewed. The inspectors evaluated out-of-service effluent monitors and compensatory action data for the period August 2003 - September 2005. In addition, 2-RE-2565A and 2-RE-12442A stack versus sample line flow rates were reviewed and discussed with chemistry staff to evaluate the adequacy of isokinetic sampling.

Installed configuration, material condition, operability, and reliability of 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 Plants; ANSI - N13.1-1969, Guide to Sampling Airborne Radioactive Materials in Nuclear Facilities; TS Section 5; the Offsite Dose Calculation Manual (ODCM), Rev. 21; and UFSAR, Chapter 11. Procedures and records reviewed are listed in the Attachment.

Effluent Release Processing and Quality Control (QC) Activities. The inspectors directly observed the weekly collection of airborne effluent samples from the Unit 2 Plant Vent (monitors 2-RE-12442 and 2-RE-12444). Chemistry technician proficiency in collecting, processing, and counting the samples, as well as preparing the applicable release permits was evaluated.

QC activities regarding gamma spectroscopy and beta-emitter detection were discussed with count room technicians and Chemistry supervision. The inspectors reviewed daily QC data logs from January 1, 2005, to September 14, 2005, for High Purity Germanium (HPGe) detectors No. 1 & 3, and reviewed licensee procedural guidance for count room QC. The inspectors also reviewed the two most recent calibration records for HPGe detector No. 1 and the Beckman 6500 liquid scintillation counter. In addition, results of the 2004 and 2005 radiochemistry cross-check program were reviewed.

Selected parts of three procedures for effluent sampling, processing, and release were evaluated for consistency with licensee actions. Two liquid and four gaseous release permits were reviewed against ODCM specifications for pre-release sampling and effluent monitor setpoints. For two of the gaseous releases, independent calculations were performed to evaluate reported doses to the public from airborne radionuclides. The inspectors also reviewed the 2003 and 2004 annual effluent reports to evaluate reported doses to the public and to review ODCM changes.

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Observed task evolutions, count room activities, and offsite dose results 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 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; RG 1.33, Quality Assurance Program Requirements (Operation); and TS Section 5. Procedures and records reviewed are listed in the Attachment.

Problem Identification and Resolution. Four CRs and one Quality Assurance Audit associated with effluent release activities were reviewed and assessed. The inspectors evaluated the licensee's ability to identify, characterize, prioritize, and resolve selected issues. Documents reviewed are listed in the Attachment.

b. Findings

No findings of significance were identified.

2PS3 Radiological Environmental Monitoring Program (REMP) and Radioactive Material Control Program

a. Inspection Scope

REMP Implementation. The inspectors observed collection of environmental samples and surveillance of sampling instruments during the licensee's weekly environmental run. The inspectors noted the material condition and operability of airborne particulate and iodine sampling stations at monitoring location Nos. 3, 7, 10, 12, 16, and 35. Environmental thermoluminescent dosimeter (TLD) Nos. 6, 7, 12, 15, 16, 35, 44, and 47 were checked for material condition. The inspectors also observed the collection of a milk sample from Dixon Dairy. The inspectors determined the current location of selected air samplers, TLDs, and vegetation sampling stations using NRC global positioning system instrumentation and compared the results with ODCM data. Land use census results and sample collection/processing activities were discussed with environmental technicians.

The inspectors reviewed the previous calibration records for the environmental air samplers and observed performance of the current rotameter calibrations at each air sampling location by the technicians. The inspectors also reviewed the 2003 and 2004 REMP reports, results of the 2003 and 2004 interlaboratory cross-check program, and procedures for environmental sample collection and processing. The inspectors discussed missed samples/inoperable samplers reported in the REMP reports, detection capabilities, and cross-check results with cognizant personnel.

Program implementation, sampling locations, and environmental monitoring results were reviewed against: 10 CFR Part 20; Appendix I to 10 CFR Part 50; TS 5.5; ODCM; RG 4.15, Quality Assurance for Radiological Monitoring Programs (Normal Operation) - Effluent Streams and the Environment; and Branch Technical Position, An Acceptable

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Radiological Environmental Monitoring Program - 1979. Documents reviewed are listed in the Attachment.

Meteorological Monitoring Program. During a walk-down of the meteorological tower and associated equipment, the inspectors observed the physical condition of the tower and discussed equipment operability and maintenance history with cognizant licensee personnel. The inspectors compared locally generated meteorological data with information available to control room operators. For the primary meteorological measurements of wind speed, wind direction, and temperature, the inspectors reviewed calibration records for applicable tower instrumentation and evaluated measurement data recovery for calendar years 2003 and 2004.

Licensee procedures and activities related to meteorological monitoring were evaluated against: ODCM; UFSAR Section 2.3; ANSI/ANS-2.5-1984, Standard for Determining Meteorological Information at Nuclear Power Sites; and Safety Guide 23, Onsite Meteorological Programs. Documents reviewed are listed in the Attachment.

Unrestricted Release of Materials from the RCA. The inspectors observed surveys of material and personnel being released from the RCA using SAM, PCM, and PM instruments. The inspectors also observed source checks of these instruments and discussed equipment sensitivity and release program guidance with licensee staff.

To evaluate the appropriateness and accuracy of release survey instrumentation, radionuclides identified within recent waste stream analyses were compared against the radionuclides used in current calibration sources and performance check sources. The inspectors also reviewed the last two calibration records for SAM instruments at the HP Control Point and Unit 2 Containment.

Licensee programs for monitoring materials and personnel released from the RCA were evaluated against: 10 CFR Part 20 and IE Circular 81-07, Control of Radioactively Contaminated Material. Documents reviewed are listed in the Attachment.

Problem Identification and Resolution. The inspectors reviewed audits and CRs involving environmental monitoring, meteorological monitoring, and release of radioactive materials. The inspectors evaluated the licensee's ability to identify, characterize, prioritize, and resolve the identified issues. 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

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The inspectors sampled licensee records to verify the accuracy of reported PI data for the periods listed below. To verify the accuracy of the reported PI elements, the reviewed data were assessed against guidance contained in NEI 99-02, "Regulatory Assessment Indicator Guideline," Revision (Rev.) 3, and the NEI Frequently Asked Questions list.

#### Occupational Radiation Safety Cornerstone

- Occupational Exposure Control Effectiveness

The inspectors reviewed the PI results for the period of May 2004 through June 2005. The inspectors reviewed HP shift log entries, electronic dosimeter alarm logs, and licensee procedural guidance for collecting and documenting PI data. CRs were reviewed for uptakes and abnormal TLD results. Documents reviewed are listed in the Attachment.

#### Public Radiation Safety Cornerstone

- Radiological Effluent Technical Specifications (RETS)/ODCM Effluent Occurrences

The inspectors reviewed the PI results for the April 2004 through June 2005. The inspectors reviewed cumulative and projected doses to the public, out-of-service effluent radiation monitor data logs, and two CRs related to Radiological Environmental Technical Specifications/ODCM issues. The inspectors also reviewed licensee procedural guidance for collecting and documenting PI data. Documents reviewed are listed in the Attachment.

#### b. Findings

No findings of significance were identified.

### 4OA2 Identification and Resolution of Problems

#### a. Inspection Scope

Daily Screening. As required by Inspection Procedure 71152, Identification and Resolution of Problems, and in order to help identify repetitive equipment failures or specific human performance issues for follow-up, the inspectors performed a daily screening of items entered into the licensee's corrective action program. This review was accomplished by either attending daily screening meetings that briefly discussed major CRs, or accessing the licensee's computerized corrective action database and reviewing each CR that was initiated.

Annual Sample Review. The inspectors reviewed CR 2005103739 to evaluate the effectiveness of the licensee's corrective actions associated with the licensee's failure to obtain a relaxation of the requirements for NRC Order EA-03-009 prior to the restart of Unit 1 on April 9, 2005, following a refueling outage. This NRC order required the

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performance of specific inspections of the reactor pressure vessel head and head penetration nozzles to be completed prior to the end of the 1R12 refueling outage. The licensee had performed inspections of the reactor pressure vessel head and head penetration nozzles during an outage in October 2004. In a written response dated March 8, 2004, the licensee noted that the visual inspections were limited by inaccessible areas of the reactor pressure vessel head. In this response, the licensee requested relaxation from some specific requirements of the order and provided justification for the request. This relaxation was required in order to restart Unit 1 after refueling outage 1R12. On May 16, 2005, during a record review following the completion of 1R12, the licensee discovered that the required relaxation had not been received from the NRC. The licensee contacted the NRC to determine the status of the relaxation. On September 13, 2005, the NRC completed an evaluation of the licensee's request and granted the requested relaxation from Order EA-03-009. The inspectors reviewed the condition report and discussed the resulting corrective actions with the licensee.

b. Findings and Observations

No findings of significance were identified. The fact that the licensee restarted Unit 1 on April 9, 2005, but had not received a relaxation from order EA-03-009 is a violation of NRC requirements. This is considered a minor violation because it is a licensing issue with no safety significance. The licensee had properly submitted a request for the relaxation in a timely manner with suitable justification. The inspectors determined that the licensee's corrective actions were adequate and would reasonably prevent the issue from occurring in the future.

4OA5 Other

.1 (Closed) Temporary Instruction (TI) 2515/160, Pressurizer Penetration Nozzles and Steam Space Piping Connections in U.S. Pressurized Water Reactors (NRC Bulletin 2004-01)

The inspectors reviewed the licensee's 60-day response to NRC Bulletin 2004-01, dated July 27, 2004, to verify that the licensee's inspection activities conducted during this outage were consistent with their response. The inspectors conducted an independent walk-down of the top of the pressurizer to ensure that the physical conditions of the pressurizer penetrations and welds were clean and accessible for the prescribed inspections and that there were no debris, insulation, dirt, boron from other sources, physical layout, or viewing obstructions which could have interfered with the identification of relevant indications. The inspectors observed or reviewed documentation for the following components:

C Component #: 21201-V6-002W17, 6" Safety Nozzle to Safe End Weld  
 C Component #: 21201-V6-002W18, 6" Safety Nozzle to Safe End Weld  
 C Component #: 21201-V6-002W19, 6" Safety Nozzle to Safe End Weld  
 C Component #: 21201-V6-002W20, 6" Relief Nozzle to Safe End Weld  
 C Component #: 21201-V6-002W21, 4" Spray Nozzle to Safe End Weld

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Reporting Requirements are as follows:

a. For each of the examination methods used during the outage, was the examination:

1. Performed by qualified and knowledgeable personnel? (Briefly describe the personnel training/qualification process used by the licensee for this activity.)

The licensee used knowledgeable staff members certified as Level II, VT-1 examiners.

2. Performed in accordance with demonstrated procedures?

The inspectors reviewed records and photographs of the bare metal inspection of the pressurizer penetrations in accordance with procedure ES-MISN-V-715, Version 1.0, Visual Examination (VT-1). The inspectors also performed an independent walk-down of the top of the pressurizer to verify the licensee's results.

3. Able to identify, disposition, and resolve deficiencies?

The inspectors concluded that the licensee's direct visual examinations were capable of detecting leakage from cracking in pressurizer penetrations if it had existed. This conclusion was based upon the inspectors' direct observations of pressurizer penetration locations, which were free of debris or deposits that could mask evidence of leakage in the areas examined. The inspectors also verified that the licensee's procedures included guidance for proper disposition and investigation of any identified deficiencies.

4. Capable of identifying the leakage in pressurizer penetration nozzle or steam space piping components, as discussed in NRC Bulletin 2004-01?

The inspectors verified that the licensee's examination personnel were capable of identifying any leakage in pressurizer penetration nozzles or steam space piping components.

b. What was the physical condition of the penetration nozzle and steam space piping components in the pressurizer system (e.g., debris, insulation, dirt, boron from other sources, physical layout, viewing obstructions)?

Through discussions with licensee personnel, the inspectors verified that the insulation had been removed so as not to disrupt any potential indications of boric acid leakage from the pressurizer at these penetration locations. The licensee personnel performed a direct visual inspection of these pressurizer penetrations.

c. How was the visual inspection conducted (e.g., with video camera or direct visual by the examination personnel)?

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The licensee's inspection personnel used the direct visual examination technique along with a handheld mirror.

- d. How complete was the coverage (e.g., 360° around the circumference of all the nozzles)?

The licensee was able to view the entire circumference around each penetration.

- e. Could small boron deposits, as described in the Bulletin 2004-01, be identified and characterized?

The examination personnel were appropriately trained and qualified to identify small boron deposits as described in the bulletin.

- f. What material deficiencies (i.e., cracks, corrosion, etc.) were identified that required repair?

There were no deficiencies identified that required repair.

- g. What, if any, impediments to effective examinations, for each of the applied methods, were identified (e.g., centering rings, insulation, thermal sleeves, instrumentation, nozzle distortion)?

There were no impediments for an effective examination.

- h. If volumetric or surface examination techniques were used for the augmented inspections examinations, what process did the licensee use to evaluate and dispose any indications that may have been detected as a result of the examinations?

No augmented surface or volumetric examinations were performed.

- i. Did the licensee perform appropriate follow-up examinations for indications of boric acid leaks from pressure-retaining components in the pressurizer system?

There were no indications of boric acid leaks.

.2 (Closed) TI 2515/163, Operational Readiness of Offsite Power

Completion of this TI was documented in NRC Inspection Report 05000424,425/2005003. However, after an NRC headquarters review of the data provided, additional information related to the TI was requested. The inspectors collected this information from licensee discussions, site procedures and licensee documentation. The information was subsequently provided to the headquarters staff for further analysis.

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.3 Temporary Instruction 2515/161, Transport of Control Rod Drive (CRD) in Type 'A' Packages

a. Inspection Scope

The inspectors reviewed shipping logs and discussed shipment of CRDs in Type 'A' packages with shipping staff. No shipments of CRDs in Type 'A' packages were made since January 1, 2002.

b. Findings

No findings of significance were identified.

4OA6 Meetings, Including Exit

On October 17, 2005, the resident inspectors presented the inspection results to Mr. Tom Tynan and other members of his staff, who acknowledged the findings. The inspectors confirmed that proprietary information was not provided or examined during the inspection.

ATTACHMENT: SUPPLEMENTAL INFORMATION

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## **SUPPLEMENTAL INFORMATION**

### **KEY POINTS OF CONTACT**

#### Licensee personnel:

R. Brown, Training and Emergency Preparedness Manager  
C. Buck, Chemistry Manager  
J. Robinson, Operations Manager  
K. Dyar, Security Manager  
T. Tynan, Nuclear Plant General Manager  
I. Kochery, Health Physics Manager  
J. Williams, Assistant General Manager - Plant Support  
S. Swanson, Engineering Support Manager  
R. Dedrickson, Assistant General Manager - Operations

#### NRC personnel:

M. Widmann, Chief, Reactor Project Branch 2

### **LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED**

#### Opened and Closed

05000424,425/2005004-01    NCV    Failure to Provide Adequate Respiratory Protection Equipment for Emergency Response (Section 2OS3)

#### Closed

2515/160                                    TI    Pressurizer Penetration Nozzles and Steam Space Piping Connections in U.S. Pressurized Water Reactors (NRC Bulletin 2004-01) (Section 4OA5.1)

2515/163                                    TI    Operational Readiness of Offsite Power (Section 4OA5.2)

### **LIST OF DOCUMENTS REVIEWED**

#### **Section 1R04: Equipment Alignment**

##### Procedures

13150-2, Nuclear Service Water Cooling System  
13744-1, Essential Chilled Water System  
13610-1, Auxiliary Feedwater System  
13625-1, Condensate Storage and Degassifier System

##### Drawings

2X4D133-1, Nuclear Service Water Cooling System P&ID  
2X4D133-2, Nuclear Service Water Cooling System P&ID  
AX4AJ04-104, Cooled Motor Hot Gas Bypass P&ID  
AX4AJ04-139, Emergency Safety Feature Chillers Line Diagram  
AX4AJ04-140, ESF Chillers Line Diagram  
AX4AJ04-141, ESF Chillers Line Diagram  
1X4DB161-1, Auxiliary Feedwater System

## **Section 1R05: Fire Protection**

### **Procedures**

92795-1, Zone 95 - Control Building Level A Fire Fighting Preplan  
 92820-1, Zone 120 - Control Building Level 2 Fire Fighting Preplan  
 92833B-1, Zone 133B, Control Building Level 2 Fire Fighting Preplan  
 92861-1, Zone 161, Diesel Generator Building Fire Fighting Preplan  
 92855-1, Zone 155, Auxiliary Feedwater Pumphouse - Train B Fire Fighting Preplan  
 92856-1, Zone 156, Auxiliary Feedwater Pumphouse Fire Fighting Preplan  
 92857A-1, Zone 157A, Auxiliary Feedwater Pumphouse - Train C Fire Fighting Preplan  
 92756B-1, Zone 56B, Control Building Level B Fire Fighting Preplan  
 92777B-1, Zone 77B, Control Building Level B Fire Fighting Preplan  
 92778B-1, Zone 78B, Control Building Level B Fire Fighting Preplan  
 92779B-1, Zone 79B, Control Building Level B Fire Fighting Preplan  
 92780-1, Zone 80, Control Building Level B Fire Fighting Preplan  
 92930-1, Zone 530, North Fire Water Pumphouse Fire Fighting Preplan  
 92931B-1, Zone 531, South Fire Water Pumphouse Fire Fighting Preplan  
 92921-1, Zone 601, Technical Support Center Fire Fighting Preplan  
 92860A-2, Zone 160A, NSCW Pumphouse - Train A Fire Fighting Preplan

## **Section 1R08: Inservice Inspection (ISI) Activities**

### **Nondestructive Examination**

ES-MISN-V-411, Version 2.0, Manual Ultrasonic Examination of Pressure Vessel Welds (greater than 2" in thickness)  
 ES-MISN-V-715, Version 1.0, Visual Examination (VT-1)  
 ES-MISN-V-307, Version 1.0, Preservice and Inservice Inspection Documentation  
 ES-MISN-V-465, Version 1.0, Ultrasonic Thickness Examination Procedure  
 ES-MISN-V-735, Visual Examination (VT-3)  
 ES-MISN-V-505, Version 1.0, Magnetic Particle Testing  
 85060-C, Revision 11.1, Visual Examination For Leakage  
 14864-2, Revision 1.0, Containment General Leak Inspection  
 83201-C, Revision 6, Corrosion Assessment

### **Steam Generator**

Southern Nuclear Operating Company Vogtle Electric Generating Plant Unit 2, Transmittal of 2R11 Steam Generator Degradation Assessment, September 9, 2005  
 Vogtle Electric Generating Plant, Units 1 and 2 Re: Issuance of Amendments Regarding the Steam Generator Tube Surveillance Program, September 21, 2005  
 MRS 2.4.2 GPC-37, Revision 11, Steam Generator Eddy Current Data Analysis Techniques For Vogtle Units 1 & 2  
 SGS-06-026, Vogtle Data Cop Guidelines

### **Corrective Action Documents**

CR 2004001842, Ultrasonic thickness measurements for ISI Point 2CV-110 were below the 12.5% , mill spec. tolerance.  
 CR 2005108176, Reduction in wall thickness for piping between CVCS letdown orifices (2FO0200, 2FO0201, 2FO0202) an valves 2HV8149A, B, C.  
 CR 2005106370, Boron residue on the pipe coupling between 2HV10953 and the containment penetration.  
 CR 2205108220, Significant amount of boron on 2-1208-X4-478 and 2-1208-X4-461, CVCS letdown Regen HX Inlet valves



CR 2005107942, White residue present on the "Bottom Channel Head Drain Tube and Weld" on S/G 1 and 3.

CR 2005107560, While performing procedure 31105-C, "Collection of Data for Hideout Return Calculation", the Unit 2 steam generator sample valves 1-4 (upper and lower) were closed to assess leakage

CR 2005108378, Hydraulic pump for s/g manway tensioner device was found to be leaking at a fitting.

CR 2005107322,

#### Self-Assessments and Audits

Inservice Inspection Program Self-Assessment Report, January 10, 2002

Response Report for 2002 ISI Program Self Assessment, February 7, 2003

Boric Acid Corrosion Control Program "Focused" Self Assessment, August 17-19, 2004

#### Other Documents

Vogtle Electric Generating Plant- Units 1 and 2 CVCS Letdown Line Minimal Wall Thickness and Evaluation Supporting ISI, April 28, 2004

Owner's Report For Inservice Inspection (2R10)

NMP-ES-019, Version 1.0, Boric Acid Corrosion Control Program

NMP-ES-GL01, Version 1.0, Boric Acid Corrosion Control Implementation Guideline

NMP-ES-GL02, Version 1.0, Boric Acid Corrosion Control Health Report Guideline

NMP-ES-GL03, Version 2.0, Boric Acid Deposit Sampling, Analysis, and Data Evaluation Program Health Report, August 13, 2004

Program Health Report, May 12, 2005

Corrosion Assessment Leak #: 1208-2005-036

### **Section 1R11: Licensed Operator Requalification**

#### Procedures

18003-1, Rod Control System Malfunction

18034-1, Loss of Class 1E 125V DC Power

19211-C, FR-S.1 Response to Nuclear Power Generation/ATWT

91001-C, Emergency Classification and Implementing Instructions

### **Section 1R12: Maintenance Effectiveness**

#### Condition Reports

1997037686, 1997037687, 1998000730, 1998000819, 1998000828, 1998000915,

1998000915, 1998000946, 1999000785, 1999001698, 1999001090, 1999001725,

2001000529, 2002002122, 2001002960, 2002003533, 2003002006, 2003002282,

2004151120, 2004151620, 2004151707, 2005106222, 2005106256, 2005103841,

2005106336

#### Work Orders

00146810, 00146811, 00146812, 20000617, 20001903, 20002199, 20002332, 20003132,

20003239, 20100487, 20101614, 20103011, 20201996, 20202028, 20202029, 20202030,

20202031, 20202032, 20202586, 20302079, 20370476, 20410474, 20410930, 20410934,

20410937, 20450221, 20450216, 20450217, 20501854, 29703180, 29703216, 29703217,

29703248, 29800663, 29802189, 29802190, 29802383, 29802410, 29802516, 29900096,

29900101, 29900097, 29900098, 29900100

#### Procedures

27080-C, Ingersoll Rand Model 10 X 18 SE CCW Pump Maintenance

System Health Report, Component Cooling Water

## **Section 1R20: Refueling and Outage Activities**

### **Procedures**

00309-C, Control of Unattended Temporary Material in Containment in Modes 1-4  
 11899-2, RCS Draindown Configuration Checklist  
 12000-C, Post Refueling Operations (Mode 6 to Mode 5)  
 12005-C, Reactor Shutdown to Hot Standby (Mode 2 to Mode 3)  
 12006-C, Unit Cooldown to Cold Shutdown  
 12007-C, Refueling Operations (Entry into Mode 6)  
 12008-C, Midloop Operations  
 13005-2, Reactor Coolant System and Refueling Cavity Draining  
 14210-2, Containment Building Penetrations Verification - Refueling  
 14406-2, Boron Injection Flow Path Verification - Shutdown  
 14900-C, Containment Exit Inspection  
 18019-C, Loss of Residual Heat Removal  
 27504-C, Equipment Hatch Emergency Closure  
 29540-C, Risk Assessment Monitoring  
 29542-C, Shutdown Risk Assessment  
 93300-C, Conduct of Refueling Operations

## **Section 2OS1: Access Control To Radiologically Significant Areas**

### **Procedures, Manuals, and Guides**

00008-C, Plant Lock and Key Control, Revision (Rev.) 15  
 00930-C, Radiation and Contamination Control, Rev. 23.1  
 43000-C, Radiation and Contamination Surveys, Rev. 20  
 43005-C, Establishing and Posting Radiation Controlled Areas and High Radiation Area Access Control, Rev. 31  
 43007-C, Issuance Use and Control of Radiation Work Permits, Rev. 22  
 43014-C, Special Radiological Controls, Rev. 32  
 43019-C, Spent Filter Handling Special Radiological Controls, Rev. 7  
 43300-C, Personnel Decontamination, Rev. 25  
 45016-C, Investigation, Evaluation and Management of Damaged, Lost, Malfunctioning, or Alarming Dosimetry, Rev. 6.1  
 46017-C, Control and Monitoring of Materials in Radiation Controlled Areas, Rev. 30  
 NMP-GM-002, Corrective Action Program, Version (Ver.) 4.0

### **Radiation Work Permits (RWPs)**

RWP 05-100, Perform HP Surveys to Assess Radiological Conditions, Provide Multiple RWP Job Coverage Activities, and Perform Routine Functions, Rev. 0  
 RWP 05-0109, Minor Work Task and Surveillances in High Radiation Areas, High Contamination Areas, and/or Airborne Areas, Rev. 0  
 RWP 05-0110, Changeout Reactor Coolant Filters in 1-AB-B-15 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 RPF or 1-AB-D-43 for Filter Disposal, Rev. 2  
 RWP 05-0113, All Sluices from Demins to Spent Resin Storage Tank in Unit 1 and Unit 2 Auxiliary Building, Rev. 0  
 RWP 05-0121, Decon Activities Performed in High Radiation Areas, Rev. 0  
 RWP 05-0148, Remove Tri-Nuke Filters from Spent Fuel Pool and Transfer to the RPF For Survey/Segregation/and Disposal, Rev. 0  
 RWP 05-0149, Perform Corrective Maintenance on Ultrasonic Fuel Cleaning Equipment and All

Associated Work, Rev. 0

Records and Data

Accumulated Dose for Entry  $\geq$  to Dose Alarm Setpoint Since August 2003

Plant Vogtle Radiological Information Survey Numbers (Nos.) 76006, 76944, 76946, 76957, and 76971

Corrective Action Program Documents/Audits

Condition Report (CR) 2003002872, A contractor working on RCPs failed to log in on his RWP and obtain an electronic dosimeter prior to entering containment

CR 2003002966, Carpenter entered the S/G #3 primary platform without HP permission while looking for a scaffold in loop #3

CR 2005100382, The keys to the Very HRA key box were left in the RPF tool monitor for ~30 minutes by the HP Duty Foreman when exiting the RCA

CR 2005100692, Upon issuance of the Unit 1 Containment cage door key (#1C1), the locked high radiation area key cabinet was noted to be closed but unlocked

CR 2005103949, Individual received an accumulated dose alarm while calibrating pressure flow transmitters in 2-AB-A-103

Self Assessment of Health Physics Measuring and Test Equipment (MT&E), Assessment Date: 05/16 - 05/20/05, Plant Vogtle

SNC Fleet High Radiation Area Control Self-Assessment, 12/20/04

**Section 20S3: Radiation Monitoring Instrumentation and Protective Equipment**

Procedures

00971-C, Selection and Use of Respirators for Nonradiological Applications, Rev. 2

18035-C, Abnormal Operating Procedures, Rev. 9

24138-C, Isotopic Channel Calibration of the Fuel Handling Building Area Monitor 2RE-0008, Rev. 2

24171-2, Control Room (2RE-0001) Area Monitor 2RX-0001 Channel Calibration, Rev. 7

24624-2, Containment High Range (2RE-0005) Area Monitor 2RX-0005 Channel Calibration, Rev. 20

24988-2, Isotopic Channel Calibration of the Control Room Area Monitor 2RE-0001, Rev. 2

24989-2, Isotopic Channel Calibration of the Containment High Range Area Monitors 2RE-0005 and 2RE-0006, Rev. 3

34330-C, Surveillance of the DRMS (Digital Radiation Monitoring System), Rev. 31

43631-C, Calibration of the IPM-7A/8/9 Contamination Monitors, Rev. 24

43634-C, Calibration of the HFM-7A Hand and Foot Monitor, Rev. 10

43651-C, Calibration of the SPM Personnel Portal Monitors, Rev. 12

43657-C, Operation, Use and Calibration of the Ludlum 2200 Scaler Ratemeter, Rev. 8

43669-C, Operation and Calibration of MGPI Dose Rate Instruments, Rev. 6

43670-C, Calibration of Dose Rate Meters, Rev. 22

43673-C, Calibration of the Ludlum 177, Eberline Model RM-14, Eberline Model RM-25 Count Rate Meters, Rev. 7

43680-C, Calibration of the Eberline Model RM-14S Radiation Monitor, Rev. 4

43689-C, Calibration of the (SAM) Small Articles Monitor, Rev. 4

44022-C, Operation and Calibration of the Whole Body Counter, Rev. 9

47001-C, Selection and Use of Respiratory Protection Equipment Used for Radiological Purposes, Rev. 12

47002-C, Cleaning and Surveying Respiratory Protection Equipment, Rev. 6

47003-C, Qualitative and Quantitative Fit Testing of Individual's for Respirator Use, Rev. 18.1

47004-C, Breathing Air Analysis, Rev. 8  
 47005-C, Inspection, Repair, and Storage of Respiratory Protection Equipment, Rev. 7  
 47006-C, Control Issuance and Return of Radiological Respiratory Protection Equipment, Rev. 11  
 47013-C, Inspection, Repair, Storage of Self Contained Breathing Apparatus, Rev. 16  
 91702-C, Emergency Equipment and Supplies, Rev. 27  
 NMP-GM-002, Corrective Action Program, Ver. 4.0  
Calibrations, Surveillance Tests, and Licensee Records  
 2005 OPS Dept Shift Schedule Report, Shift Coverage Week 09/10/05, Four Weeks at a Glance 08/27/05, 09/03/05, 09/10/05, and 09/17/05.  
 24138-1, Isotopic Channel Calibration of the Fuel Handling Building Area Monitor 1RE-0008,  
 24138-2, Isotopic Channel Calibration of the Fuel Handling Building Area Monitor 2RE-0008,  
 24171-2, Control Room (2RE-0001) Area Radiation Monitor 2RX-0001 Channel Calibration,  
 24174-1, Control Room (1RE-0001) Area Radiation Monitor 1RX-0001 Channel Calibration,  
 24174-2, Fuel Handling Room (RE-0008) Area Monitor 2RX-0008 Channel Calibration, pages  
 24624-1, Containment High Range (1RE-0005) Area Monitor 1RX-0005 Channel Calibration,  
 24624-1, Containment High Range (1RE-0005) Area Radiation Monitor 1RX-0005 Channel  
 24624-2, Containment High Range (2RE-0005) Area Monitor 2RX-0005 Channel Calibration,  
 24625-1, Containment High Range (1RE-0006) Area Monitor 1RX-0006 Channel Calibration,  
 24625-2, Containment High Range (2RE-0006) Area Monitor 2RX-0006 Channel Calibration  
 24988-1, Isotopic Channel Calibration of the Control Room Area Monitor 1RE-0001  
 24988-2, Isotopic Channel Calibration of the Control Room Area Monitor 2RE-0001  
 24989-1, Isotopic Channel Calibration of the Containment High Range Area Radiation Monitors 1RE-0005 and 1RE-0006  
 24989-2, Isotopic Channel Calibration of the Containment High Range Area Radiation Monitors 2RE-0005 and 2RE-0006  
 34330-C Data Sheet 5-1, Surveillance of the DRMS, for surveillance dates between 01/16/03 and 07/29/05  
 34330-C Data Sheet 5-2, Surveillance of the DRMS, for surveillance dates between 01/15/03 and 07/28/05  
 34330-C Data Sheet 9-1, Surveillance of the DRMS, Dated 02/15/04, 08/16/04, and 02/21/05  
 34330-C Data Sheet 9-2, Surveillance of the DRMS, Dated 02/19/04, 02/27/04, 08/22/04, and 08/23/04  
 43673-C, Calibration of the Ludlum 177, Eberline Model RM-14, Eberline Model RM-25 Count Rate Meters, Data Sheet 1 for RM-14, Serial Number (S/N) 0104, Dated 09/13/05  
 47013-C, Data Sheet 2, Inspection and Maintenance of SCBA Units, for Unit HP-0019, Dated 11/1999 to 07/005, Unit FP-019, Dated 02/04 to 07/05, Unit HP-0009, Dated 11/99 to 08/00 and 01/04 to 07/05, Unit FP-009, Dated 07/00 to 09/05, Unit HP-030, Dated 10/99 to 06/05, and Unit FP-030, Dated 11/03 to 09/05  
 47013-C, Data Sheet 3, Inspection and Maintenance of SCBA Units (ProCheck3 Test Results), for facepiece S/N 72127, Dated 06/06/05  
 47013-C, Data Sheet 1, Monthly SCBA Cylinder Surveillance for FP-XXX and HP-XXX cylinders (current, unsigned, used for tracking of hydro-test due dates only)  
 47013-C, Table 1, SCBA Cylinder Location List, dated 12/15/04, manually updated (unknown date) to incorporate codes 7 (Chem Lab), 8 (RPF), 9 (OSC), 10 (PESB), 12 (OOS), 11 (OOS Hydro), and 13 (Plant Wilson), still not incorporated in Rev. 15  
 Calibration of IPM-7A/8/9, S/N VEGP-HP-0636, 07/07/05  
 Calibration of IPM-7A/8/9, S/N VEGP-HP-0640, 06/03/05  
 Respirator Qualification Report by Department, Dated September 14, 2005

VEGP-FSAR-11 and VEGP-FSAR-12

VMS Quality Assurance Report V1.3, Generated September 13, 2005 (Demonstration of calibration source check for September 13, 2005), including WBC Daily Calibration Source Check (energy and efficiency check) for WBC #1 @Dosimetry and WBC #2 @HP Access Point

Work Order (WO) No. 10202551, Temporary Jumper to 1RX-0001 per Procedure No. 20429-C, Dated 03/19/03

WO No. 1040174601, 1RE-0001 Area Monitor Control Room, Dated 03/13/03

WO No. 2040123801, 2RE-0008 Area Monitor Fuel Handling Bldg, Dated 04/15/03

WO No. 2040176101, 2RE-0001 Area Monitor Control Room, Dated 08/06/03

#### CAP Documents/Audits

CR No. 2004151659, HP WBC not functioning properly

CR No. 2005101263, SCBA Spectacles come loose

CR No. 2005101781, Late PM on 2RE008 Isotopic Calibration

CR No. 2005103730, Facial injury while donning an SCBA

CR No. 2005104066, SCBA unit found with "Vogtle Training" cylinder

CR No. 2005107596, Lack of documentation of monthly control room respirators inspections

CR No. 2005107597, Lack of small and large control room respirators masks

CR No. 2005107598, HP Tech responses to portal monitors not consistent

### **Section 2PS1: Radioactive Gaseous and Liquid Effluent Treatment and Monitoring Systems**

#### Procedures, Guidance Documents, and Operating Manuals

24972-2, Isotopic Channel Calibration of the Containment Vent Effluent Air Monitors

2RE-2565A, 2RE-2565B and 2RE-2565C, Rev. 6

33015-2, Obtaining Gaseous Samples for Radioactivity Analysis Unit #2, Rev. 1

33037-C, Daily Quality Control of the Gamma Spectroscopy System, Rev. 9

36015-C, Radioactive Liquid Effluent Release Permit Generation and Data Control Computer Method, Rev. 23

36020-C, Radioactive Gaseous Effluent Release Permit Generation and Data Control Computer Method, Rev. 20

NMP-GM-002, Corrective Action Program, Ver. 4.0

#### Records, Data, and Drawings

Annual Radioactive Effluent Release Report, 2003 and 2004.

Germanium Detector #1 Calibrations (effluent sample geometries), 10/21/98, 11/8/01, 04/18/03, 04/22/03, 04/23/03, 01/25/04, 01/26/04, and 03/11/04

Germanium Detectors No. 1 and 3, Daily Source Check and Trend Logs, 01/01/05 - 09/14/05

Gaseous Radioactive Waste Release Permit Nos. 50137.020.025.G (06/13 - 06/20/05), 50142.026.024.G (06/21/05), 50199.021.037.G (09/07 - 09/14/05), and 50204.021.038.G (07/14 - 07/21/05, pre-release only)

Liquid Radioactive Waste Release Permit Nos. 50129.002.057.L (09/14/05) and 50072.001.025.L (05/30/05)

Liquid Scintillation Detector Calibrations, 05/17/04 and 05/17/05

Out-of-service data for Unit 1 and Unit 2 radiation monitors RE-12442 and RE-18, 08/01/03 - 09/01/05

Radiation Monitor 1-RE-2565 A, B, C, Isotopic Calibrations, 10/28/03 and 01/27/05

Radiation Monitor 2-RE-2565 A, B, C, Isotopic Calibrations, 09/10/02 and 01/14/04

Radiation Monitor 1-RE-20 A, B, Isotopic Calibrations, 07/31/03 and 11/08/04

Radiation Monitor 2-RE-20 A, B, Isotopic Calibrations, 05/05/02, 05/21/02, and 01/12/04



Radiation Monitor 1-RE-20A, B, Channel Check Logs, June 2005  
 Radiation Monitor 2-RE-2565A, B, C, Channel Check Logs, June 2005  
 Results of Radiochemistry Cross-Check Program, 2004 and 2005  
 Unit 1 Containment Purge Flowmeter Calibrations, 02/05/02 and 07/29/04  
 Unit 1 Containment Purge System Functional Test, 09/29/03 and 06/17/05  
 Unit 2 Containment Purge System Functional Test, 10/16/03 and 06/20/05  
 Unit 2 Containment Purge Flowmeter Calibrations, 06/12/01 and 11/21/03  
CAP Documents/Audits  
 Audit No. VQA-2005-029, QA Audit of Chemistry and Radioactive Waste, 06/27/05  
 CR 2004001547, Two consecutive points in the upper warning region for efficiency @  
 1332 KeV on HpGe detector No. 2, 04/20/04  
 CR 2004003774, Apparent trend in repetitive failures with paper drive associated with  
 2-RE-2565A, 09/13/04  
 CR 2004150102, Interlaboratory crosscheck results disagreed with outside vendor lab,  
 10/08/04  
 CR 2005101890, Pre-release permit limit of 18000 CFM for the Unit 1 containment purge was  
 exceeded according to flow transmitter 1FT2565, 03/18/05

### **Section 2PS3: Radiological Environmental Monitoring Program (REMP) and Radioactive Material Control Program**

#### Procedures and Guidance Documents

36030-C, Meteorological Tower Monitoring and Data Control, Rev. 16  
 46024-C, Release of Materials from the RCA, Rev. 7.1  
 ENV-861, Collection and Handling of Drinking Water Samples for Radiological Analysis,  
 Rev. 10  
 ENV-860, Collection and Handling of Milk Samples for Radiological Analysis, Rev. 12  
 ENV-859, Collection and Handling of River Water Samples for Radiological Analysis, Rev. 11  
 ENV-858, Collection and Handling of Grass Samples for Radiological Analysis, Rev. 10  
 ENV-856, Collection and Handling of Sediment Samples for Radiological Analysis, Rev. 9  
 ENV-855, Collection and Handling of Fish Samples for Radiological Analysis, Rev. 9  
 ENV-851, Radiological Monitoring - Air Dust/Gaseous Iodine Air Sampling Flow Calibration,  
 Rev. 6  
 ENV-850, Collection and Handling of Airborne Dust and Gaseous Iodine Samples, Rev. 11  
 ENV-612, Quality Control Program, Rev. 7  
 NMP-GM-002, Corrective Action Program, Ver. 4.0

#### Reports, Manuals, and Audits

CQA 2003-81, Southern Nuclear Operating Company Audit of GPC Environmental Laboratory,  
 May 28, 2003  
 CQA 2004-126, Southern Nuclear Operating Company Audit of GPC Environmental Laboratory,  
 June 16, 2004  
 Offsite Dose Calculation Manual for Southern Nuclear Operating Company, Vogtle Electric  
 Generating Plant, Rev. 22  
 Plant Vogtle 2003 and 2004 Annual Meteorological Reports  
 Vogtle Electric Generating Plant Annual Radiological Environmental Operating Reports for 2003  
 and 2004

#### Instrument Calibration and Environmental Data Records

10 CFR 61 Waste Analysis, 1<sup>st</sup> and 2<sup>nd</sup> Quarters, 2005  
 Calibration of SAM-9: S/N 0868, 01/21/05  
 Calibration of SAM-11: S/N 1159 (05/24/05, 04/29/05, 11/01/04), S/N 1223 (05/23/05,

12/04/04), S/N 1152 (05/23/05, 12/02/04), S/N 1151 (05/23/05, 12/02/04), and S/N 1158 (05/24/05, 12/02/04)

Surveillance 24681-C, Semi-Annual Meteorological Station 10M Wind Direction Channel Calibration, 06/29/05 and 01/07/05

Surveillance 24683-C, Semi-Annual Meteorological Station 10M Wind Speed Channel Calibration, 07/01/05 and 01/06/05

Surveillance 24684-C, Semi-Annual Meteorological Station 60M Wind Speed Channel Calibration, 06/30/05 and 01/05/05

Surveillance 24686-C, Semi-Annual Meteorological Station 60M Wind Direction Channel Calibration, 06/30/05 and 01/05/05

Surveillance 24688-C, Semi-Annual Meteorological Station 10M Ambient and 10-60M Delta T Channel Calibration, 06/30/05 and 01/07/05

VEGP Rotameter Air Flow Calibration Field Sheets, Rotameters #1,3,7,2,6,8,5, 03/15/04

CAP Documents

2003002432, 10m wind speed not responding to expected changes, 09/04/03

2003002996, Found met tower 10m primary wind direction not responding, 10/12/03

2004003089, Met tower chart recorder 60 m wind direction pen is sticking, 07/22/04

2004000287, Met tower 10m and 60m wind speed not reading due to sleet, 01/26/04

2004000867, Met tower aspirator has gone into alarm and appears unreliable, 03/08/04

2004002515, 10m wind direction on primary met tower not functioning properly, 06/11/04

2004003942, Met tower 10m backup temperature on IPC reading high, 09/27/04

2005103153, Review of 2004 meteorological data indicate an abnormally low number of hours of Stability Class A atmospheric conditions, 05/04/05

2005105684, Air conditioner leaking water inside instrument room, 07/29/05

#### **Section 40A1: Performance Indicator Verification**

##### Procedures

00163-C, NRC Performance indicator and Monthly Operating Report Preparation and Submittal, Rev. 8.1

##### Records and Data

Gaseous effluent release permit No. 50199.021.037.G (09/07 - 09/14/05)

Liquid effluent release permit No. 50129.002.057.L (09/14/05)

Out-of-service data for Unit 1 and Unit 2 radiation monitors RE-12442 and RE-18, 08/01/03 - 09/01/05

##### CAP Documents

CR 2003002418, 1-RE-020A, B went into low voltage power supply alarm, 09/03/03

CR 2003002792, Two mechanics entered the labyrinth area at the west entrance to the bioshield in search of a snubber and their teledosimeters alarmed when they got near a hot spot on a reactor cavity drain line

CR 2005101890, Pre-release permit limit of 18000 CFM for the Unit 1 containment purge was exceeded according to flow transmitter 1FT2565, 03/18/05

CR 2005103166, Individual received a dose rate alarm when he entered into 1-AB-C-94

#### **Section 40A5: Other Activities**

##### Temporary Instruction 2515/161, Transport of Control Rod Drive (CRD) in Type A Packages

##### Records

Radioactive Material Shipment Log, 01/02 - 08/05