



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**  
REGION II  
245 PEACHTREE CENTER AVENUE NE, SUITE 1200  
ATLANTA, GEORGIA 30303-1257

October 31, 2012

Mr. Tom E. Tynan  
Vice President  
Southern Nuclear Operating Company, Inc.  
Vogtle Electric Generating Plant  
7821 River Road  
Waynesboro, GA 30830

**SUBJECT: VOGTLE ELECTRIC GENERATING PLANT - NRC INTEGRATED INSPECTION  
REPORT 05000424/2012004 AND 05000425/2012004**

Dear Mr. Tynan:

On September 30, 2012, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Vogtle Electric Generating Plant, Units 1 and 2. The enclosed integrated inspection report documents the inspection results which were discussed on October 23, 2012, with you and other members of your staff.

The inspectors 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.

One self-revealing and one NRC identified finding of very low safety significance (Green) were identified during this inspection.

These findings were determined to involve a violation of NRC requirements. Further, two licensee-identified violations were determined to be of very low safety significance and are listed in this report. The NRC is treating these violations as non-cited violations (NCVs) consistent with Section 2.3.2 of the Enforcement Policy.

If you contest these non-cited violations (NCVs), you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the 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 the Vogtle Electric Generating Plant.

T. Tynan

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If you disagree with the cross-cutting aspects assigned in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your disagreement, to the Regional Administrator, Region II; and the NRC Resident Inspector at the Vogtle Electric Generating Plant. The information you provide will be considered in accordance with Inspection Manual Chapter 0305.

In accordance with the 10 CFR 2.390 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 Agencywide Document Access and Management 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/*

Frank Ehrhardt, Chief  
Reactor Projects Branch 2  
Division of Reactor Projects

Docket Nos.: 05000424, 05000425  
License Nos.: NPF-68 and NPF-81

Enclosures: Inspection Report 05000424/2012004 and 05000425/2012004  
w/Attachment: Supplemental Information

cc w/encl: (See page 3)

T. Lynch

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If you disagree with the cross-cutting aspects assigned in this report, you should provide a response within 30 days of the date of this inspection report, with the basis for your disagreement, to the Regional Administrator, Region II; and the NRC Resident Inspector at the Vogtle Electric Generating Plant. The information you provide will be considered in accordance with Inspection Manual Chapter 0305.

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Sincerely,

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Division of Reactor Projects

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cc w/encl: (See page 3)

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(cc w/encl continued next page)

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T. Tynan

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Letter to Tom E. Tynan from Frank Ehrhardt dated October 31, 2012

SUBJECT: VOGTLE ELECTRIC GENERATING PLANT - NRC INTEGRATED INSPECTION  
REPORT 05000424/2012004 AND 05000425/2012004

Distribution w/encl:

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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.: 05000424/2012004 and 05000425/2012004

Licensee: Southern Nuclear Operating Company, Inc. (SNC)

Facility: Vogtle Electric Generating Plant, Units 1 and 2

Location: Waynesboro, GA 30830

Dates: July 01, 2012 through September 30, 2012

Inspectors: M. Cain, Senior Resident Inspector  
T. Chandler, Resident Inspector  
G. Croon, Project Engineer  
R. Williams, Reactor Inspector  
A. Vargas-Mendez, Reactor Inspector

Approved by: Frank Ehrhardt, Chief  
Reactor Projects Branch 2  
Division of Reactor Projects

Enclosure

## SUMMARY OF FINDINGS

IR 05000424/2012004, 05000425/2012-004; 07/01/2012 - 09/30/2012; Vogtle Electric Generating Plant, Units 1 and 2; Surveillance Testing, Refueling and Other Outage Activities

The report covered a three-month period of inspection by the Vogtle resident inspectors, one project engineer, and two reactor inspectors. Two non-cited violations (NCV) with very low safety significance (Green) 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 assigned a severity level after NRC management review. Cross-cutting aspects are determined using IMC 0310, "Components Within The Cross-Cutting Areas." The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, Reactor Oversight Process, Rev 4 dated December 2006.

### Cornerstone: Mitigating Systems

- Green. A NRC identified, non-cited violation (NCV) for failure to meet the requirements of 10 CFR 50, Appendix B, Criterion XVI was identified. Specifically, the licensee's failure to follow the requirements of 10 CFR 50, Appendix B, Criterion XVI to promptly identify and correct a condition adverse to quality. The condition adverse to quality was that the Unit 1A Engineered Safety Features (ESF) chiller purge compressor resistance temperature detector (RTD) was discovered out of its thermo well. The licensee reinstalled the RTD and took no additional corrective actions. During a subsequent walkdown by a resident inspector and system engineer, they found the RTD not in its thermo well and they informed the control room operators. The licensee's investigation revealed that the RTD's thermo well threads had been cross threaded. The licensee's immediate action was to install a clamping device to hold the RTD inside the thermo well. The licensee has entered the issue into their corrective action program (CR 51198) and has initiated actions to permanently correct the issue with the Unit 1A ESF chiller purge compressor RTD.

This issue is more than minor because it is associated with a cornerstone attribute and adversely affects the objective of the Mitigating Systems cornerstone. Specifically, the performance deficiency is an equipment performance issue which affects the availability, reliability, and capability of the A train ESF chiller to perform its intended safety function. The finding was determined to be Green because the event did not represent an actual loss of safety function of a single train for greater than its Technical Specification allowed outage time. The inspectors determined that the cause of this finding was related to the Corrective Action Program component of the Problem Identification and Resolution cross-cutting area due to less-than-adequate problem evaluation. [P.1(c)]. Specifically, the corrective maintenance actions used to resolve the issue of the purge unit RTD becoming dislodged from its thermo well were less than adequate. (Section 1R12)

Enclosure



### Cornerstone: Barrier Integrity

- Green. A self-revealing NCV of technical specification (TS) 5.4.1 was identified for failure to follow procedure 93641-C Rev.19.2, Development and Implementation of the Fuel Shuffle Sequence Plan during spent fuel pool fuel moves in preparation for an upcoming full core off-load. As a result, a fuel assembly was moved to an unintended, unanalyzed location and remained unanalyzed for 50 days. Upon discovery, the licensee immediately performed an analysis, determined that the location was suitable for the fuel assembly, and verified that all other fuel assemblies moved during the reshuffle sequence were located in their correct locations. This issue was entered into the licensee's corrective action program as Condition Report (CR) 523617.

The inspector determined that the failure to follow procedure 93641-C is a performance deficiency. This finding was more than minor because it was associated with the Human Performance attribute of the Barrier Integrity cornerstone and adversely affected the cornerstone objective of providing reasonable assurance that physical design barriers (fuel cladding, reactor coolant system, and containment) protect the public from radionuclide releases caused by accidents or events. Specifically, a spent fuel assembly was stored in a location for which it had not been analyzed for 50 days. IMC 0609, "Significance Determination Process," Phase 1 screening worksheet of the SDP, instructed the inspector to process this finding using IMC 0609, Appendix G, "Shutdown Operations Significance Determination Process." Checklist 4 from IMC 0609, Appendix G, Attachment 1 was determined to be the most appropriate because the water level was greater than 23 feet and the time to boil was greater than two hours in the Spent Fuel Pool. Using Checklist 4, the inspectors determined that the finding did not require a quantitative assessment because the licensee met the Technical Specifications for the spent fuel pool, specifically water level and boron concentration. Therefore, this finding was determined to be of very low safety significance (Green). The inspectors determined that the cause of this finding was related to the Work Practices component of the Human Performance cross-cutting area due to less than adequate procedure use and self/peer checking. [H.4(a)] (Section 1R20)

Violations of very low safety significance that 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 the corrective action tracking numbers are listed in Section 4OA7 of this report.

## REPORT DETAILS

### Summary of Plant Status

Unit 1 started the report period at full rated thermal power (RTP). The licensee shut down Unit 1 for a planned refueling outage on September 16, 2012. The unit remained shut down through the end of the reporting period.

Unit 2 operated at essentially full RTP for the entire inspection period.

#### 1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity

#### 1R04 Equipment Alignment (71111.04)

##### a. Inspection Scope

##### Partial Walkdown

The inspectors verified that critical portions of selected risk-significant systems were correctly aligned. The inspectors selected systems for assessment because they were a redundant or backup system/train, were important for mitigating risk for the current plant conditions, had been recently realigned, or were a single-train system. The inspectors determined the correct system lineup by reviewing plant procedures and drawings. The inspectors verified that critical portions of the selected systems were correctly aligned by performing partial walkdowns. Documents reviewed are listed in the attachment. The inspectors selected the following four systems/trains to inspect:

- Unit 2 train A nuclear service cooling water (NSCW) system while the train B NSCW system pump #2 was out of service during a planned maintenance outage
- Diesel-driven fire water pump #2, the motor-driven firewater pump, and the associated yard piping system while the diesel-driven firewater pump # 1 was out of service for corrective maintenance
- Unit 1 A and C train auxiliary feedwater (AFW) systems while the B-train AFW system was out of service for planned maintenance
- Unit 1 A train residual heat removal (RHR) system while the B-train RHR system was out of service for planned maintenance

##### b. Findings

No findings were identified.

Enclosure

1R05 Fire Protection (71111.05)a. Inspection Scope

Fire Area Tours. The inspectors walked down the following five 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 (LCO) log and condition report (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 and Unit 2 Fuel Handling Building levels B&C pipe penetration areas
- North/South Firewater Pump Houses
- Unit 1 emergency diesel generator (EDG) fuel oil storage tanks
- Unit 1 ACCW heat exchanger rooms
- Unit 2 CCW pump rooms

b. Findings

No findings were identified.

1R08 Inservice Inspection Activities (71111.08P, Unit 1)a. Inspection Scope

Non-Destructive Examination Activities and Welding Activities: From September 21, 2012, through September 28, 2012, the inspectors conducted an on-site review of the implementation of the licensee's Inservice Inspection (ISI) Program for monitoring degradation of the reactor coolant system, emergency feedwater systems, risk-significant piping and components, and containment systems in Unit 1. The inspectors' activities included a review of non-destructive examinations (NDEs) to evaluate compliance with the applicable edition of the American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code (BPVC), Section XI (Code of record: 2001 Edition through 2003 Addenda), and to verify that indications and defects (if present) were appropriately evaluated and dispositioned in accordance with the requirements of the ASME Code, Section XI, acceptance standards.

The inspectors directly observed the following NDE mandated by the ASME Code Section XI to evaluate compliance with the ASME Code Section XI and Section V requirements and, if any indications or defects were detected, to evaluate if they were dispositioned in accordance with the ASME Code or an NRC-approved alternative requirement.

- ultrasonic testing (UT) examination of component 11201-036-14-RB, 12" Pipe to Elbow Weld, Class 1
- UT of component 11201-036-15-RB, 12" Elbow to Pipe Weld, Class 1

The inspectors also reviewed records of the following NDE mandated by the ASME Code Section XI to evaluate compliance with the ASME Code Section XI and Section V requirements and, if any indications or defects were detected, to evaluate if they were dispositioned in accordance with the ASME Code or an NRC-approved alternative requirement.

- UT of component 11208-007-6-RB, 3" Pipe to Branch Connection Weld, Class 1
- visual examination (VE) of component 1-1201-CNMT BLDG, Containment Liner Beneath Reactor Vessel
- visual examination (VT-3) of component 11204-246-H013, LIN Rack 2-D Restraint, Class 1
- liquid penetrant examination (PT) of component 11205-009-2, Support H009, Class 2
- PT of component 11205-005-43, Support H018, Class 2
- PT of component 11204-V6-001-W04, Vessel Head to Outlet Nozzle Weld, Class 1/2
- PT of component 11204-V6-001-W05, Vessel Support Pad Welded Attachment, Class 2

During non-destructive surface and volumetric examinations performed since the previous refuelling outage, the licensee did not identify any recordable indications that were accepted for continued service. Therefore, no NRC review was completed for this inspection procedure attribute.

The inspectors reviewed the following pressure boundary welds completed for risk-significant systems during the Unit 1 refuelling outage to evaluate if the licensee applied the preservice non-destructive examinations and acceptance criteria required by the Construction Code. In addition, the inspectors reviewed the welding procedure specification, welder qualifications, welding material certification and supporting weld procedure qualification records, to evaluate if the weld procedures were qualified in accordance with the requirements of Construction Code and the ASME Code Section IX.

- Work Order SNC324070, Pipe Seal Weld Plug on Line 1208-95-3", Class 2

PWR Vessel Upper Head Penetration Inspection Activities: For the Unit 1 vessel head, a bare metal visual (BMV) examination was required this outage pursuant to 10 CFR 50.55a(g)(6)(ii)(D). The inspectors observed portions of the Unit 1 BMV and ultrasonic examinations and reviewed NDE records for penetration Nos. 44, 46, 66, 68, 70, 74, 75 for the BMV and penetration Nos. 11, 15, 23, 25, 32, 38, 44, 51, 63, 76, 76, 77 for the UT examinations, to evaluate if the activities were conducted in accordance with the requirements of ASME Code Case N-729-1 and 10 CFR 50.55a(g)(6)(ii)(D). In particular, the inspectors evaluated if the required visual examination and ultrasonic

examination scope/coverage was achieved and limitations (if applicable) were recorded in accordance with the licensee procedures. Additionally, the inspectors evaluated if the licensee's criteria for visual and ultrasonic examination quality and instructions for resolving interference and masking issues were consistent with 10 CFR 50.55a.

The licensee did not identify any relevant indications that were accepted for continued service during the bare metal visual and ultrasonic exam. Additionally, the licensee did not perform any welded repairs to vessel head penetrations since the beginning of the preceding Unit 1 refueling outage. Therefore, no NRC review was completed for these inspection procedure attributes.

Boric Acid Corrosion Control (BACC) Inspection Activities: The inspectors reviewed the licensee's BACC program activities to ensure implementation with commitments made in response to NRC Generic Letter 88-05, "Boric Acid Corrosion of Carbon Steel Reactor Pressure Boundary," and applicable industry guidance documents. Specifically, the inspectors performed an on-site record review of procedures and the results of the licensee's containment walk-down inspections performed during the current fall refueling outage (1R17). The inspectors also interviewed the BACC program owner, conducted an independent walk-down of containment to evaluate compliance with licensee's BACC program requirements, and verified that degraded or non-conforming conditions, such as boric acid leaks, were properly identified and corrected in accordance with the licensee's BACC and corrective action programs.

The inspectors reviewed the following condition reports and associated corrective actions related to evidence of boric acid leakage to evaluate if the corrective actions completed were consistent with the requirements of the ASME Code Section XI and 10 CFR Part 50, Appendix B, Criterion XVI.

- CR333130
- CR333321
- CR409570
- CR483075
- CR485470
- CR510607

The inspectors reviewed the following licensee evaluations of reactor coolant system components with boric acid deposits to evaluate if degraded components were documented in the corrective action system. The inspectors also evaluated the corrective actions for any degraded reactor coolant system components against the component ASME Code Section XI, and other licensee committed documents:

- 1204-2011-001
- 1204-2011-006
- 1208-2011-002
- 1208-2011-013

Steam Generator (SG) Tube Inspection Activities: The inspectors observed the following activities and/or reviewed the following documentation and evaluated them against the licensee's technical specifications, commitments made to the NRC, ASME Section XI, and Nuclear Energy Institute (NEI) 97-06 (Steam Generator Program Guidelines):

- reviewed the licensee's in-situ SG tube pressure testing screening criteria. In particular, assessed whether assumed NDE flaw sizing accuracy was consistent with data from the EPRI examination technique specification sheets (ETSS) or other applicable performance demonstrations
- compared the numbers and sizes of SG tube flaws/degradation identified against the licensee's previous outage Operational Assessment
- reviewed the SG tube examination techniques (ET) examination scope and expansion criteria
- evaluated if the licensee's SG tube ET examination scope included potential areas of tube degradation identified in prior outage SG tube inspections and/or as identified in NRC generic industry operating experience applicable to the licensee's SG tubes
- reviewed the licensee's implementation of their extent of condition inspection scope and repairs for new SG tube degradation mechanism(s). No new degradation mechanisms were identified during the eddy current examinations.
- reviewed the licensee's repair criteria and processes
- evaluated if the ET equipment and techniques used by the licensee to acquire data from the SG tubes were qualified or validated to detect the known/expected types of SG tube degradation in accordance with Appendix H, Performance Demonstration for Eddy Current Examination, of EPRI Pressurized Water Reactor Steam Generator Examination Guidelines, Revision 7
- reviewed the licensee's secondary side SG Foreign Object Search and Removal (FOSAR) activities.
- reviewed ET personnel qualifications

Identification and Resolution of Problems: The inspectors performed a review of a sample of ISI-related problems which were identified by the licensee and entered into the corrective action program as CRs. The inspectors reviewed the CRs to confirm the licensee had appropriately described the scope of the problem and had initiated corrective actions. The review also included the licensee's consideration and assessment of operating experience events applicable to the plant. The inspectors performed this review to ensure compliance with 10CFR Part 50, Appendix B, Criterion XVI, "Corrective Action," requirements. The corrective action documents reviewed by the inspectors are listed in the Attachment.

- b. Findings  
No findings were identified.

1R11 Licensed Operator Requalification Program (71111.11)a. Inspection Scope

Resident Quarterly Observation of Operator Requalification Activities. The inspectors observed operator performance on August 28, during licensed operator simulator training described in simulator exercise guide V-RQ-SE-12601. The scenario observed consisted of a failed loop 3 temperature instrument, followed by the loss of a reserve auxiliary transformer, which was followed by a small break loss of coolant accident (LOCA). Documents reviewed are listed in the Attachment. The inspectors specifically assessed the following areas:

- correct use of the abnormal and emergency operating procedures
- ability to identify and implement appropriate actions in accordance with the requirements of the Technical Specifications
- 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

Resident Quarterly Observation of Operator Performance In-Plant. The inspectors observed operator performance in the main control room on September 16, during reactor shutdown and reactor coolant system (RCS) cooldown for a planned refueling outage. Documents reviewed are listed in the Attachment. The inspectors specifically assessed the following areas:

- operator use of and compliance with plant procedures, including procedure entry and exit, performing procedure steps in the proper sequence, procedure place keeping, and technical specification entry and exit
- control board component manipulations
- communications between crew members
- use and interpretation of plant instruments, indications and alarms
- use of human error prevention techniques, such as pre-job briefs and peer checking
- documentation of activities, including initials and sign-offs in procedures, control room logs, and technical specification entry and exit
- management and supervision of activities, including risk management and reactivity management

b. Findings

No findings were identified.

1R12 Maintenance Effectiveness (71111.12)a. Inspection Scope

The inspectors reviewed the following two safety-significant activities to verify that 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 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. Documents reviewed are listed in the Attachment. Also, the inspectors interviewed system engineers and the maintenance rule coordinator to assess the accuracy of identified deficiencies and extent of condition.

- exceeded unreliability (functional failure) criteria for Unit 2 NSCW system
- repeat Maintenance Preventable Functional Failure (RMPFF) 1A ESF Chiller

b. Findings

Introduction. A Green NRC identified, non-cited violation (NCV) was identified for ineffective corrective maintenance performed on the Unit 1A Engineered Safety Features (ESF) chiller purge compressor resistance temperature detector (RTD). The corrective maintenance actions performed on the purge unit RTD on August 27, 2012 to reinstall the RTD within its thermo well were ineffective, and consequently, the RTD became dislodged from its thermo well again on or about September 4, 2012. As a result, the Unit 1A ESF Chiller was rendered inoperable for the second time in two weeks due to the same RTD issue.

Description. On August 26, while performing a review 'out-of-spec' rounds readings, the operations shift manager questioned the operable status of the 1A ESF chiller due to high condenser pressure. After discussions with engineering personnel, he declared the unit inoperable on August 26 at 1436 and entered a 72 hour LCO technical specification (TS) 3.7.14. Subsequent investigation revealed two issues, a faulty action-pack relay in the control circuitry and a purge condenser RTD that had become dislodged from its thermo well. The relay was replaced and the RTD reinserted into its thermo well. After a functional test run and four maintenance runs the unit was returned to operable status on August 28 at 1930. On September 4 at 1330, a resident inspector accompanied by the ESF system engineer discovered the 1A ESF chiller unit purge condenser RTD had become dislodged again and was hanging, suspended by its leads. The control room was notified and the ESF unit was declared inoperable at 1400 and the issue was entered into the licensee corrective action program (CR 51198). Further investigation of the issue revealed that the RTD's thermo well threads had been cross threaded resulting in an unsecure fit of the RTD within the thermo well. The licensee implemented a temporary modification (TM) to install a clamping device to securely hold the RTD inside the thermo well. Repairs to the unit along with post modification testing resulted in the unit remaining inoperable for nearly 32 hours. The unit was returned to operable status on August 6 at 2135.

Enclosure



Analysis. The corrective maintenance actions performed on the Unit 1A Engineered Safety Features (ESF) chiller purge condenser resistance temperature detector (RTD) to replace the RTD within its thermo well were ineffective. This is a performance deficiency because the personnel performing the corrective maintenance actions failed to identify why the RTD had become dislodged from its thermo well and that the thermo well threads had been cross threaded resulting in an unsecure fit. This issue is more than minor because it is associated with a cornerstone attribute and adversely affects the objective of the Mitigating Systems cornerstone. Specifically, the performance deficiency is an equipment performance issue which affected the availability, reliability, and capability of the 1A ESF chiller to perform its safety-related function.

The inspectors evaluated the finding using IMC 0609, Appendix A, "The Significance Determination Process (SDP) for Findings At-Power." The inspectors used the Initial Screening and Characterization of Findings (IMC 0609.04 Exhibit 2) to characterize the finding. Since the inspectors answered "No" to all of the Exhibit 2, section A, questions 1-4, Mitigating Systems Cornerstone screening questions, the inspectors concluded that the finding was of very low safety significance (Green).

The inspectors determined that the cause of this finding was related to the Corrective Action Program component of the Problem Identification and Resolution cross-cutting area due to less-than-adequate problem evaluation. [P.1(c)] Specifically, the corrective maintenance actions used to resolve the issue of the purge unit RTD becoming dislodged from its thermo well were less than adequate.

Enforcement. The inspectors determined that the finding represents a violation of regulatory requirements because it involved inadequate corrective actions which failed to promptly identify and correct a condition adverse to quality. 10 CFR 50, Appendix B, Criterion XVI requires that, in part, the licensee establish measures to assure that conditions adverse to quality be promptly identified and corrected. Contrary to the above, the corrective maintenance actions performed following the August 26 ESF chiller event were inadequate, and consequently the purge condenser RTD became dislodged again on September 4. As a result, the Unit 1A ESF chiller was rendered inoperable for greater than 31 hours. Because this violation was of very low safety significance and it was entered into the licensee's corrective action program (CR 511798), this violation is being treated as an NCV, consistent with the NRC Enforcement Policy. This finding will be tracked as NCV 05000424/2012004-01, Ineffective Corrective Action Renders Unit 1A ESF Chiller Inoperable.

1R13 Maintenance Risk Assessments and Emergent Work Control (71111.13)a. Inspection Scope

The inspectors reviewed the following five work activities 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.

- Week of 7/16: rendering the Unit 2 B train NSCW cooling tower inoperable to perform maintenance on NSCW pump #2.
- Week of 7/30: 1A EDG monthly surveillance concurrent with the 1A auxiliary component cooling water heat exchanger OOS for maintenance outage.
- Week of 8/13: rendering the Unit 2 B train NSCW cooling tower inoperable to perform maintenance on NSCW fan #3.
- Week of 8/27: operability testing on the Unit 1 train B EDG concurrent with the unplanned maintenance outage on Unit 1 train A ESF chiller.
- 1R17 Defense-In-Depth EOOS Outage Risk Assessment.

b. Findings

No findings were identified.

1R15 Operability Determinations and Functionality Assessments (71111.15)a. Inspection Scope

The inspectors reviewed the following six evaluations to verify they met the requirements of Procedure NMP-GM-002, Corrective Action Program, and NMP-GM-002-001, Corrective Action Program Instructions. The scope of this inspection included a review of the technical adequacy of the evaluations, the adequacy of compensatory measures, and the impact on continued plant operation. Inspectors reviewed licensee procedures and conducted walkdowns in accordance with Operating Experience Smart Sample FY 2012-02, Technical Specification Interpretation and Operability Determination, inspection guidance to ensure that the licensee is not making non-conservative decisions and improperly applying TS LCO and Action requirements.

- CR 482646, 1PI-516 SG-1 pressure instrument spiked low numerous times
- CR 496354, Broken pins welds on FSAR watertight door
- CR 496639, Unplanned LCO entry due to CCP A room cooler trip
- CR 503954, Jacket Water Leak on 2B EDG
- CR 511798, 1A ESF Chiller Purge Condenser RTD
- CR 492648, 1A ESF Chiller Discovered Not Running

b. Findings

No findings were identified.

1R18 Plant Modifications (71111.18)a. Inspection Scope

Temporary Modifications. The inspectors reviewed temporary modification SNC431186 and associated 10CFR50.59 screening criteria against the system design bases documentation and procedure NMP-ES-054-001, Temporary Modification Processing. This temporary modification provides a clamping device to secure the 1A ESF chiller purge condenser RTD in its thermo well. The inspectors reviewed the implementation, engineering justification, and operator awareness for this temporary modification.

b. Findings

No findings were identified.

1R19 Post Maintenance Testing (71111.19)a. Inspection Scope

The inspectors either observed post-maintenance testing or reviewed the test results for the following six 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 were sufficient to meet the Technical Specification (TS) operability requirements.

- MWOs for the Unit 1 train A Centrifugal Charging Pump; SNC 123058 Swap Breaker 1AA0213, SNC 125554 Clean/Inspect/Lube Motor, SNC 125555 Clean/Inspect/Lube 1HV8509B Motor Operator
- MWO for the Unit 1 Train B Containment Spray Pump; SNC 365602 Clean/Inspect/Lube
- MWO for the Unit 1 Train B Residual Heat Removal Pump; SNC 375429 Clean/Inspect/Lube
- MWOs for the Unit 1 Train B Safety Injection Pump; SNC 125522 Motor/Heater Periodic Maintenance, SNC 125537 Pressure/Temperature Gauge Calibration
- MWOs for the Diesel Fire Pump #1 Annual System Test; SNC 362219 – Fire Pump Test – 1Y, SNC 424997 – Diesel Fire Pump #1 Low Oil Pressure
- MWO SNC 386605, Steam Generator Loop 2 Feedback Potentiometer Replacement

b. Findings

No findings were identified.

## 1R20 Refueling and Other Outage Activities

### a. Inspection Scope

The inspectors performed the inspection activities described below for the Unit 1 refueling outage that began on September 16. The inspectors confirmed that, when the licensee removed 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. The inspectors reviewed the licensee's commitments from GL 88-17 and confirmed that they were in place and adequate. During the reduced inventory and mid-loop condition, inspectors verified that the configurations of the plant systems were in accordance with the commitments. During mid-loop operations, the inspectors observed the effect of distractions from unexpected conditions or emergent activities on the operator's ability to maintain required reactor vessel level. Documents reviewed are listed in the Attachment. Inspection activities included:

- prior to the outage, the resident inspectors reviewed the licensee's integrated risk control plan to verify that activities, systems, and/or components which could cause unexpected reactivity changes were identified in the outage risk plan;
- observed portions of the plant shutdown and cooldown to verify that the technical specification cooldown restrictions were followed. RCS integrity was verified by reviewing RCS leakage calculations;
- verified that the licensee reviewed their controls and administrative procedures governing mid-loop operation, and conducted training for mid-loop operation;
- verified that procedures were in use for containment closure capability for mitigation of radioactive releases; identified unexpected RCS inventory changes and verified an adequate RCS vent path existed during RCS drain down to mid-loop; and emergency/abnormal operation during reduced inventory;
- verified that: indications of core exit temperature were operable and periodically monitored; indications of RCS water level were operable and periodically monitored; RCS perturbations were avoided; means of adding inventory to the RCS were available; reasonable assurance was obtained that all hot legs were not simultaneously blocked by nozzle dams unless the upper plenum was vented; and contingency plans existed to repower vital electrical busses from an alternate source if the primary source was lost;
- reviewed reactor coolant system pressure, level, and temperature instruments to verify that the instruments provided accurate indication and that allowances were made for instrumentation errors;
- verified that outage work did not impact the operation of the spent fuel cooling system;
- reviewed the status and configuration of electrical systems to verify that those systems met technical specification requirements and the licensee's outage risk control plan;

- observed decay heat removal parameters to verify that the system was properly functioning and providing cooling to the core, specifically during hot mid-loop operations;
- reviewed system alignments to verify that the flow paths, configurations and alternative means for inventory addition were consistent with the outage risk plan.
- reviewed selected control room operations to verify that the licensee was controlling reactivity in accordance with the technical specifications;
- observed the licensee's control of containment penetrations to verify that the requirements of the technical specifications were met;
- reviewed the licensee's plans for changing plant configuration to verify that technical specifications, license conditions, and other requirements, commitments, and administrative procedure prerequisites were met prior to changing plant configuration; and
- observed refueling activities for compliance with technical specifications, to verify proper tracking of fuel assemblies from the spent fuel pool to the core, and to verify foreign material exclusion was maintained.

b. Findings

Introduction. A self-revealing NCV of technical specification (TS) 5.4.1 was identified for failure to follow procedures. Specifically, the licensee failed to properly implement fuel movement in accordance with procedure 93641-C Rev.19.2, Development and Implementation of the Fuel Shuffle Sequence Plan, resulting in a fuel assembly being moved to an unintended, unanalyzed location for 50 days.

Description. On August 6, during a planned fuel reshuffle, to make room in the Unit 1 spent fuel pool to accommodate a 'full core' offload in the upcoming outage, station operators inadvertently moved an incorrect fuel assembly to an unintended location. Fuel assembly 6B06 was inadvertently moved from the Unit 1 SFP 1N40 location to the Unit 2 SFP 2Z13 location. Fuel Handling Data Sheets (FHDS) showed that fuel assembly 6B61 located in Unit 1 SFP 1P40 location was supposed to have been moved to the Unit 2 SFP 2Z13 location. On September 25, 2012, during the Unit 1 refueling outage core offload, operators attempted to place a fuel assembly from the core into the Unit 1 SFP 1P40 location only to find that a fuel assembly was already there. Upon discovery, the licensee immediately analyzed the 6B06 assembly for its current location (2Z13) and determined that the location was suitable for the fuel assembly as well as verified that all other fuel assemblies moved during the reshuffle sequence were located in their correct locations. The licensee placed the fuel assembly from the core in a suitable temporary holding location while they conducted an event investigation. This issue was entered into the licensee's corrective action program as CR 523617.

Analysis. The inspector determined that the failure to follow procedure 93641-C is a performance deficiency. This finding was more than minor because it was associated with the Human Performance attribute of the Barrier Integrity cornerstone and adversely affected the cornerstone objective of providing reasonable assurance that physical design barriers (fuel cladding, reactor coolant system, and containment) protect the public from radionuclide releases caused by accidents or events. Specifically, it resulted

in a spent fuel assembly being stored in a location for which it had not been analyzed for 50 days. IMC 0609, "Significance Determination Process," Phase 1 screening worksheet of the SDP, instructed the inspectors to process this finding using IMC 0609, Appendix G, "Shutdown Operations Significance Determination Process." Checklist 4 from IMC 0609, Appendix G, Attachment 1 was determined to be the most appropriate because the water level was greater than 23 feet and the time to boil was greater than two hours in the Spent Fuel Pool. Using Checklist 4, the inspectors determined that the finding did not require a quantitative assessment because the licensee met the Technical Specifications for the spent fuel pool, specifically water level and boron concentration. Therefore, this finding was determined to be of very low safety significance (Green). The inspectors determined that the cause of this finding was related to the Work Practices component of the Human Performance cross-cutting area due to less than adequate procedure use and self/peer checking. [H.4(a)]

Enforcement. TS 5.4.1, Procedures, requires that written procedures shall be established, implemented, and maintained, covering applicable procedures recommended in Appendix A of Regulatory Guide 1.33, Revision 2, February 1978. Section 2.1 of Appendix A of Regulatory Guide 1.33, Revision 2, February 1978, states that written procedures should be provided for Refueling and Core Alterations. procedure 93641-C Rev.19.2, Development and Implementation of the Fuel Shuffle Sequence Plan, is the licensee procedure used for reshuffling spent fuel assemblies within the spent fuel pool.

Contrary to the above, on August 06, 2012, the licensee failed to properly implement procedure 93641-C, as written during spent fuel pool fuel assembly reshuffle. As a result, spent fuel assembly 6B06 was stored in a location for which it had not been analyzed for 50 days. As corrective action, the licensee immediately analyzed the 6B06 assembly for its current location (2Z13) and determined that the location was suitable for the fuel assembly as well as verified that all other fuel assemblies moved during the reshuffle sequence were located in their correct locations.

Because the finding is of very low safety significance and has been entered into the CAP (CR 523617), and consistent with Section 2.3.2 of the NRC Enforcement Policy, this violation is being treated as an NCV, and is designated as NCV 05000424/2012004-02, "Failure to Follow Procedure Results in a Mislabeled Fuel Assembly."

## 1R22 Surveillance Testing (71111.22)

### 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. Additionally, the inspectors reviewed the CR database to verify that the licensee had adequately identified and implemented appropriate corrective actions for surveillance test problems.

Surveillance Tests

- 24588-2 Rev. 16, Containment Pressure Protection Channel III 2P-935 Channel Operational Test and Channel Calibration
- 24613-1 Rev 33.3, Safety Features Sequencer train A Channel Operational Test and Channel Calibration
- 14980A-1 Rev. 24, Diesel Generator 1A Operability Test
- 24810-1 Rev. 44.1, Delta T/TAVG Loop 1 Protection Channel I 1T-411 Channel Operational Test and Channel Calibration

In-Service Tests (IST)

- 14806A-1 Rev. 2, Train A Containment Spray Pump IST and Response Time Test

Containment Isolation Valve

- 14362-1 Rev. 10, Containment Penetration No. 62 PRT Sample Local Leak Rate Test

b. Findings

No findings were identified.

1EP6 Drill Evaluation (71114.06)

a. Inspection Scope

The inspectors reviewed the simulator exercise guide and observed the following emergency response activity to verify the licensee was properly classifying emergency events, making the required notifications, and making appropriate protective action recommendations in accordance with procedures 91001-C, Emergency Classifications, and 91305-C, Protective Action Guidelines.

On August 29, 2012, the inspectors observed an emergency preparedness drill conducted on the simulator. The drill involved actuation of the TSC, the OSC, and the EOF. The drill scenario began with a large loss of coolant accident, followed by a complete loss of residual heat removal capability. The inspectors observed the initial declaration and emergency notifications.

b. Findings

No findings were identified.

#### 4. OTHER ACTIVITIES

##### 4OA1 Performance Indicator (PI) Verification (71151)

###### .1 Mitigating Systems Cornerstone

###### a. Inspection Scope

The inspectors sampled licensee submittals for the listed PIs during the period from July 1, 2011, through June 30, 2012, for both Unit 1 and Unit 2. The inspectors verified the licensee's basis in reporting each data element using the PI definitions and guidance contained in procedure 00163-C, Rev. 14.3, NRC Performance Indicator and Monthly Operating Report Preparation and Submittal.

- High Pressure Injection Systems
- Residual Heat Removal Systems
- Heat Removal Systems

The inspectors reviewed Unit 1 and Unit 2 unavailability tracking sheets and demand/failure tracking sheets along with operator log entries, the monthly operating reports, and monthly PI summary reports to verify that the licensee had accurately submitted the PI data.

###### b. Findings

No findings were identified.

##### 4OA2 Problem Identification and Resolution (71152)

.1 Daily Condition Report Review. 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.

###### .2 Focused Review

###### a. Inspection Scope

The inspectors performed a detailed review of the following CR which addressed the 1A ESF Chiller inoperability. The goal of the review was to verify that the full extent of the issue was identified, an appropriate evaluation was performed, and appropriate corrective actions were specified and prioritized. The inspectors evaluated the CR against the licensee's corrective action program as delineated in licensee procedure NMP-GM-002, Corrective Action Program, and 10 CFR 50, Appendix B, Criterion XVI. Documents reviewed are listed in the Attachment.

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- 511798 – Unit 1A ESF Chiller Purge Condenser RTD

The inspectors performed a detailed review of the following CR which addressed the low oil pressure indication on the Diesel Fire Pump #1 during an annual system test. The goal of the review was to verify that the full extent of the issue was identified, an appropriate evaluation was performed, and appropriate corrective actions were specified and prioritized. The inspectors evaluated the CR against the licensee's corrective action program as delineated in licensee procedure NMP-GM-002, Corrective Action Program, and 10 CFR 50, Appendix B, Criterion XVI.

- 497755 - Diesel Fire Pump #1 Low Oil Pressure

b. Findings and Observations

No findings were identified.

4OA3 Followup of Events and Notices of Enforcement Discretion (71153)

.1 (Closed) LER 05000424/2012-002-00 Manual Reactor Trip due to Circuit Board Failure

a. Inspection Scope

On April 14, 2012, at approximately 1346 Eastern Daylight Time (EDT) time, with Unit 1 operating in Mode 1 at 100 percent rated thermal power, Unit 1 operators initiated a manual reactor trip due to the loss of flow from the 1 B Main Feedwater Pump (MFP). The Reactor Trip System, the Engineered Safety Feature Actuation System, and other responding equipment performed as expected. The plant was stabilized in Mode 3. The cause of the loss of 1 B MFP flow was the failure of a "Position 5" circuit board in the feed pump turbine speed control circuit. The failed board was shipped to a vendor for a detailed failure analysis. Upon review of the detailed failure analysis, the board failure was due to component aging. The controller board is obsolete and no longer has original manufacturer support. The prompt corrective action was to replace the subject circuit board. Long term corrective action is to upgrade to a digital control system. The inspectors reviewed the LER, the associated condition report and root cause determination, and subsequent action items. No other findings were identified. This LER is closed.

b. Findings

No findings were identified.

4OA5 Other Activities.1 Quarterly Resident Inspector Observations of Security Personnel and Activitiesa. Inspection Scope

During the inspection period, the inspectors conducted observations of security force personnel and activities to ensure that the activities were consistent with licensee security procedures and regulatory requirements relating to nuclear plant security. These observations took place during both normal and off-normal plant working hours.

b. Findings and Observations

No findings were identified.

.2 (Discussed) NRC Temporary Instruction (TI) 2515/187, Inspection of Near-Term Task Force Recommendation 2.3 Flooding Walkdowns, and NRC TI 2515/188, Inspection of Near-Term Task Force Recommendation 2.3 Seismic Walkdownsa. Inspection Scope

Inspectors accompanied the licensee on a sampling basis, during their flooding and seismic walkdowns, to verify that the licensee's walkdown activities were conducted using the methodology endorsed by the NRC. These walkdowns are being performed at all sites in response to a letter from the NRC to licensees, entitled "Request for Information Pursuant to Title 10 of the *Code of Federal Regulations* 50.54(f) Regarding Recommendations 2.1, 2.3, and 9.3, of the Near-Term Task Force Review of Insights from the Fukushima Dai-ichi Accident," dated March 12, 2012 (ADAMS Accession No. ML12053A340).

Enclosure 3 of the March 12, 2012, letter requested licensees to perform seismic walkdowns using an NRC-endorsed walkdown methodology. Electric Power Research Institute (EPRI) document 1025286 titled, "Seismic Walkdown Guidance," (ADAMS Accession No. ML12188A031) provided the NRC-endorsed methodology for performing seismic walkdowns to verify that plant features, credited in the current licensing basis (CLB) for seismic events, are available, functional, and properly maintained.

Enclosure 4 of the letter requested licensees to perform external flooding walkdowns using an NRC-endorsed walkdown methodology (ADAMS Accession No. ML12056A050). Nuclear Energy Industry (NEI) document 12-07 titled, "Guidelines for Performing Verification Walkdowns of Plant Protection Features," (ADAMS Accession No. ML12173A215) provided the NRC-endorsed methodology for assessing external flood protection and mitigation capabilities to verify that plant features, credited in the CLB for protection and mitigation from external flood events, are available, functional, and properly maintained.

b. Findings

Findings or violations associated with the flooding and seismic walkdowns, if any, will be documented in future reports.

4OA6 Meetings, Including Exit

.1 Exit Meeting

On October 23, 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.

4OA7 Licensee-Identified Violations

The following violations of very low significance (Green) or Severity Level IV were identified by the licensee and are violations of NRC requirements which meet the criteria of the NRC Enforcement Policy, for being dispositioned as a Non-Cited Violation.

.1 Failure to Generate a Condition Report upon Notification of an Out-of-Specification Reading Permits 1A ESF Chiller to Remain Inoperable for Nine Days

10 CFR 50 Appendix B, criterion XVI requires that conditions adverse to quality be promptly identified and corrected. Contrary to the above, on August 17, 2012, at approximately 0000 hours, the Unit 1 Shift Supervisor failed to initiate a condition report (CR), nor did he direct any of the other operators to initiate a CR after being informed by a System Operator that the condenser pressure on the Unit 1 A train engineered safety features (ESF) chiller was out of specification high (< 15.5 inches of mercury). As a result, over the next nine days, condenser pressure on the 1A ESF chiller continued to increase until on August 26 at approximately 1400 hours, the on-duty Shift Manager noted that condenser pressure was 4 inches of mercury, and questioned the operability of the 1A ESF chiller. At 1436, after consulting with engineering personnel, the Shift Manager declared the 1A ESF Chiller inoperable and entered the appropriate 72-hour LCO Action Statement. The licensee documented this event in their corrective action program as CR 507143. Using IMC 0609 Attachment 4 Table 2, the inspectors determined the finding affected the Mitigation Systems Cornerstone. IMC 0609 Attachment 4 Table 3 directed the inspectors to use IMC 0609 Appendix A to characterize the finding. Because the finding represented an actual loss of function of one train of ECCS for greater than its Technical Specification Allowed Outage Time, a detailed risk evaluation was required. A detailed phase 3 risk evaluation was performed by a regional SRA in accordance with IMC 0609 Appendix A guidance using the NRC Vogtle SPAR model and the Sapphire 8 risk analysis code. An events and condition assessment was run with the U1 A train ESF chiller failed with no recovery allowed for a 9 day exposure period. The dominant sequence was a loss of offsite power with success of reactor trip and emergency power with late failure of feedwater and failure to implement feed and bleed cooling due to failure of the B train chiller and loss of the safety related switchgear. The phase 3 SDP analysis determined that the risk due to the

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performance deficiency was an increase in core damage frequency of  $<1E-6$ /year, which is a Green finding of very low safety significance. The risk was mitigated by the availability of alternate train components and the short exposure period.

.2 Failure to Assess Maintenance Activities for Risk Causes an Inadvertent Loss of a Boration Flow Path and a Unplanned Risk Change

10 CFR 50.65(a)(4) requires the licensee to assess and manage risk that may result from proposed maintenance activities. Contrary to the above, on September 29, while performing engineered safety features actuation system (ESFAS) testing, the licensee identified that the boric acid injection tank inlet valves (1HV8803A/B) were closed which isolated a secondary boration flow path they had credited in their outage risk assessment. Without that credited boration flow path, the unit was in a Yellow risk condition, versus the Green risk condition that had been vetted and published. The licensee documented this event in their corrective action program as CR 526195. Using Checklist 4 of IMC 0609 Appendix G Attachment 1, the inspectors concluded that the violation was of very low safety significance (Green).

ATTACHMENT: SUPPLEMENTAL INFORMATION

## SUPPLEMENTAL INFORMATION

### KEY POINTS OF CONTACT

#### Licensee personnel:

S. Bargeron, Plant Manager  
R. Brown, Training Manager  
R. Collins, Chemistry Manager  
P. Downing, Steam Generator Maintenance & Engineering Manager  
K. Dyar, Security Manager  
G. Gunn, Licensing  
G. Houser, NDE/ISI Supervisor  
R. Hudson, ISI Coordinator  
I. Kochery, Health Physics Manager  
D. McCary, Maintenance Manager  
T. Pasour, Licensing Administrator  
J. Robinson, Engineering Programs Manager  
S. Swanson, Site Support Manager  
J. Thomas, Operations Director  
T. Tynan, Site Vice-President  
S. Waldrup, Engineering Director

#### NRC personnel:

M. Cain, Senior Resident Inspector  
T. Chandler, Resident Inspector  
G. Croon, Project Engineer  
F. Ehrhardt, Chief, Region II Reactor Projects Branch 2

### LIST OF ITEMS OPENED AND CLOSED

#### OPEN AND CLOSED

05000424/2012004-01	NCV	Ineffective Corrective Action Renders Unit 1A ESF Chiller Inoperable (Section 1R12)
05000424/2012004-02	NCV	Failure to Follow Procedure Results in a Misplaced Fuel Assembly (Section 1R20)

#### CLOSED

05000424/2012-002-00	LER	Manual Reactor Trip due to loss of 1B MFP (Section 4OA3)
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#### DISCUSSED

05000321,366/2515/187	TI	Inspection of Near-Term Task Force Recommendation 2.3 Flooding Walkdowns (4OA5.2)
05000321,366/2515/188	TI	Inspection of Near-Term Task Force Recommendation 2.3 Seismic Walkdowns (4OA5.2)

Attachment

## LIST OF DOCUMENTS REVIEWED

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

#### Procedures

11150-2 Rev. 23.3, Nuclear Service Cooling Water System Alignment,  
11903-C Rev. 30.4, Fire Protection System Alignment, Section A.  
11610-1, Rev. 20.2, Auxiliary Feedwater System Alignment  
11011-1 Rev. 14.2, Residual Heat Removal System Alignment

#### Drawings

2X4DB170-1 Rev. 39, P&I Diagram Diesel Generator System, Train A System No. 2403  
2X4DB170-2 Rev. 41, P&I Diagram Diesel Generator System, Train B System No. 2403  
2X4DB133-1 Rev. 54, P&I Diagram Nuclear Service Cooling Water System, System No. 1202  
2X4DB133-2 Rev. 52, P&I Diagram Nuclear Service Cooling Water System, System No. 1202  
2X4DB134 Rev. 31, P&I Diagram Nuclear Service Cooling Water System, System No. 1202  
2X4DB135-1 Rev. 28, P&I Diagram Nuclear Service Cooling Water System, System No. 1202  
2X4DB135-2 Rev. 29, P&I Diagram Nuclear Service Cooling Water System, System No. 1202  
1X4DB173-1 Rev. 41.0, P&I Diagram Fire Protection – Pump House No. 1 & 2, System 2301  
1X4DB173-2 Rev. 29.0, P&I Diagram Fire Protection – Yard Piping System, System 2301  
1X4DB161-1, Ver. 44.0, P&I Diagram Fire Protection – Auxiliary Feedwater System Condensate Storage & Degasifier System, System 1302  
1X4DB161-2, Ver. 28.0, P&I Diagram Fire Protection – Auxiliary Feedwater System, System 1302  
1X4DB161-3, Ver. 34.0, P&I Diagram Fire Protection – Auxiliary Feedwater System, System 1305  
1X4DBD122, Ver. 51.0, P & I Diagram Residual Heat Removal, System 1205

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

#### Procedures

92715-1, Rev. 3.1, Zone 15 – Fuel Handling Building Pipe Penetration Room Fire Fighting Preplan  
92715-2, Rev. 1.1, Zone 15 – Fuel Handling Building Pipe Penetration Room Fire Fighting Preplan  
92727-1, Rev. 1.2, Zone 27 – Fuel Handling Building Level B Fire Fighting Preplan  
92727-2, Rev. 1.0, Zone 27 – Fuel Handling Building Level B Access Tunnel Corridor Fire Fighting Preplan  
92930F-1, Rev. 3.2, Zone 530 - North Firewater Pumphouse Fire Fighting Preplan  
92931B-1, Rev. 3.2, Zone 531 - South Firewater Pumphouse Fire Fighting Preplan  
92865-1, Rev. 2.2, Zone 165 - Diesel Generator Tanks and Pumphouse Fire Fighting Preplan  
92866-1, Rev. 1.2, Zone 166 - Diesel Generator Tanks and Pumphouse Fire Fighting Preplan  
92749-1, Rev. 3.0, Zone 49 – Auxiliary Building Level 1 Fire Fighting Preplan  
92752-1, Rev. 2.0, Zone 52 – Auxiliary Building Level 1 Fire Fighting Preplan  
92736-2 Rev. 5.0, Zone 36 – Auxiliary Building – Level A, CCW Pumps, Train A Fire Fighting Preplan  
92737-2 Rev. 5.0, Zone 37 – Auxiliary Building – Level A, CCW Pumps, Train B Fire Fighting Preplan

**Section 1R08: Inservice Inspection Activities (71111.08P, Unit 1)****Corrective Actions**

CR333321  
 CR333130  
 CR510607  
 CR483075  
 CR485470  
 CR409570  
 CR524220

**Other Documents**

Vogtle Electric Generating Plant Boric Acid Corrosion Control Program "Focused" Self-Assessment August 17-19, 2004  
 Southern Nuclear Plant Farley, Plant Hatch, Plant Vogtle Predictive Maintenance Welding & Oil Analysis Focused Self Assessment October 27 - 29 2008 (VNP)  
 PDI-UT-2, PDI Generic Procedure for the Ultrasonic Examination of Austenitic Pipe Welds, Rev. E  
 Liquid Penetrant Examination Report Nos.: S12V1P001, S12V1P002  
 Certified test report for Spotcheck Developer Type SKD-S2 Batch Nos.: 11H07K, 06L13K, 05B07K  
 Certified test report for Spotcheck Penetrant Type SKL-SP1 Batch Nos.: 04A06K, 08K19K  
 Certified test report for Spotcheck Cleaner/Remover Type SKC-S Batch Nos.: 09F21K, 07E16K  
 NDE Examiner certification records for: M. Grell, J. Kilpela, A. Stevermer, T. Thomas  
 Performance of Procedure 14864-1, Containment General Leak Inspection, Rev. 2.4, 9/14/12  
 Vogtle Electric Generating Plant Units 1 and 2 Containment Inspection Plan Third Inspection Interval Volume 6, Rev. 4.0  
 Corrosion Assessment Nos.: 1204-2011-001, 1204-2011-006, 1208-2011-002, 1208-2011-013  
 UT Calibration/Examination Report Nos.: S12V1U028, S12V1U030, S12V1U029, S12V1U023, S12V1U022  
 NMP-ES-018, SNC Inservice Inspection Engineering Program, Rev. 7.0  
 Work Order SNC324070, 1208 Pipe Seal Weld Plug on Line 1208-95-3"  
 Visual Examination of Pipe Hanger, Support or Restraint (VT-3) Report No. S12V1V090

**Procedures**

NMP-ES-019-001, Boric Acid Corrosion Control Program Implementation, Rev. 8  
 NMP-ES-019-004, Boric Acid Corrosion Control Program – Corrosion Assessment, Rev. 2  
 NMP-ES-019, Boric Acid Corrosion Control Program, Rev. 9  
 NMP-ES-024-501, PDI Generic Procedure for the Ultrasonic Examination of Austenitic Pipe Welds (Appendix VIII), Rev. 4.1  
 NMP-ES-024-301, Liquid Penetrant Color Contrast and Fluorescent, Rev. 9.0  
 NMP-ES-024-203, Visual Examination (VT-3), Rev. 5.0  
 NMP-ES-024-204, Visual Examination (IWE), Rev. 4.0  
 NMP-ES-024-207, Visual Examination (IWE), Rev. 3.0  
 NMP-ES-024-202, Visual Examination (VT-2), Rev. 5.0  
 NMP-GM-003, Self-Assessment Procedure, Rev. 18.0  
 14864-1, Containment General Leak Inspection, Rev. 2.4  
 NMP-ES-024-208, Visual Examination of Reactor Vessel Head Penetrations and Base Material (Remote and Direct), Rev 5.0

**Section 1R11: Licensed Operator Requalification**

Procedures

12004-C Rev. 102, Power Operation (Mode 1)  
12005-C Rev. 28, Reactor Shutdown To Hot Standby (Mode 2 to Mode 3)  
12006-C Rev. 95.4, Unit Cooldown To Cold Shutdown

Other

Simulator exercise guide V-RQ-SE-12601

**Section 1R12: Maintenance Effectiveness**

Condition Reports/Technical Evaluations

511798, 1A ESF Chiller RTD Event  
492648, 1A ESF Chiller discovered not running

Procedures

50028-C Rev. 18.1, Engineering Maintenance Rule Implementation

Other Records

(a)(1) Status and Goals for Unit 2 NSCW system dated 8/14/2012

**Section 1R15: Operability Evaluations**

Condition Reports

482646, 1PI-516 SG-1 pressure instrument spiked low numerous times  
496354, Broken pins welds on FSAR watertight door  
496639, Unplanned LCO entry due to CCP A room cooler trip  
503954, Jacket Water Leak on 2B EDG  
511798, 1A ESF Chiller RTD Event  
492648, 1A ESF Chiller discovered not running

Procedures

NMP-GM-002, Corrective Action Program  
NMP-GM-002-001, Corrective Action Program Instructions

Other Records

TE 466357, TE to document IRT actions and operability recommendations for CR 482646  
TE 497691, IDO for CR 496639

**Section 1R18: Plant Modifications**

Work Orders:

MWO SNC 431264

Procedures

NMP-ES-054-001 Rev. 1.0, Temporary Modification Processing

Condition Reports

511798



Other Records

DOEJ-VXSNC431186-C001, Version 1.0, Bracket Clamp Installed to Support RTD 1TE-0722A

**Section 1R19: Post-Maintenance Testing**Procedures

14808A-1 Rev 2, Train A Centrifugal Charging Pump and Check Valve IST and Response Time Test

14806B-1, Rev 2, Train B Containment Spray Pump IST and Response Time Test

148825-1, Rev 95.2, Quarterly Inservice Valve Test

14805B-1 Rev. 3.0, Train B Residual Heat Removal Pump IST and Response Time Test

14710B-1, Ver. 7.1, Train B Shutdown Panel Transfer Switch and Control Circuit 18 Month Surveillance Test

14804B-1, Rev 45.0, Safety Injection Pump B Inservice and Response Time Tests

14952-C Rev. 20.4, Fire Suppression System – Annual System Pump Test (FSAR Fire Protection Surveillance)

22287-C Rev. 13.1, Diagnostics for Digital Valve Controllers using Valvelink Software

Work Orders

MWO SNC123058, Swap Breaker 1AA0213

MWO SNC 125554, Clean/Inspect/Lube Motor

MWO SNC 125555, Clean/Inspect/Lube 1HV8509B Motor Operator

MWO SNC 375429, Quarterly (Train B) Residual Heat Removal Pump (11205P6002) and Check Valve Inservice Test

MWO SNC362219, Fire Pump Test – 1Y

MWO SNC424997, Diesel Fire Pump #1 Low Oil Pressure

MWO SNC386605, Steam Generator Loop 2 Feedback Potentiometer Replacement

Condition Reports

CR 497755 - Diesel Fire Pump #1 Low Oil Pressure

Other Records

LCO 1-2012-107, per 10008-C Ver. 29

**Section 1R20 Refueling and Other Outage Activities**Procedures

14335-2, Revision 8, Containment Penetration No. 35 Containment Spray Train "A" Local Leak Rate Test, Completed 09/21/11

12004-C Rev. 102, Power Operation (Mode 1)

12005-C Rev. 28, Reactor Shutdown To Hot Standby (Mode 2 to Mode 3)

12006-C Rev. 95.4, Unit Cooldown To Cold Shutdown

Other

1R17 TTB <35 minutes DID Contingency Plan, Rev. 0, 9/17/12

1R17 Hot Midloop DID Contingency Plan, Rev. 0, 9/17/12

**Section 1R22: Surveillance Testing**

Procedures

24588-2 Rev. 16, Containment Pressure Protection Channel III 2P-935 Channel Operational Test and Channel Calibration

14806A-1 Rev. 2, Train A Containment Spray Pump IST and Response Time

24613-1 Rev 33.3, Safety Features Sequencer train A Channel Operational Test and Channel Calibration

14362-1 Rev. 10, Containment Penetration No. 62 PRT Sample Local Leak Rate Test

14980A-1 Rev. 24, Diesel Generator 1A Operability Test

24810-1 Rev. 44.1, Delta T/TAVG Loop 1 Protection Channel I 1T-411 Channel Operational Test and Channel Calibration

Work Orders

SNC364960, SF Sequencer Broad Train A

SNC361677, Delta T/TAVG T411 18 mo. Calibration

**Section 40A2: Identification and Resolution of Problems**

Condition Reports

CR 497755 - Diesel Fire Pump #1 Low Oil Pressure

CR 511798, 1A ESF Chiller RTD Event

CR 492648, 1A ESF Chiller discovered not running

Procedures/Calculations/Engineering Documents

DOEJ-VXSNC431186-C001, Version 1.0, Bracket Clamp Installed to Support RTD 1TE-0722A

Other Records

MWO SNC424997 – Diesel Fire Pump #1 Low Oil Pressure

**Section 40A7: Licensee-Identified Violations**

Condition Reports

507143

526195