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

October 31, 2012

EA-12-205

Mr. T. Preston Gillespie, Jr.
Site Vice President
Duke Energy Corporation
Oconee Nuclear Station
7800 Rochester Highway
Seneca, SC 29672-0752

SUBJECT: OCONEE NUCLEAR STATION - NRC INTEGRATED INSPECTION REPORT 05000269/2012004, 05000270/2012004, 05000287/2012004 AND EXERCISE OF ENFORCEMENT DISCRETION

Dear Mr. Gillespie:

On September 30, 2012, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at your Oconee Nuclear Station Units 1, 2, and 3. The enclosed inspection report documents the inspection results which were discussed on October 11, 2012, with Mr. Tom D. Ray 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.

One NRC-identified finding of very low safety significance (Green) was identified during this inspection which was determined to involve a violation of NRC requirements. The NRC is treating this violation as non-cited violation (NCV) consistent with Section 2.3.2 of the Enforcement Policy. If you contest the violation or the significance of the NCV, 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 20555-001; 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 Oconee Nuclear Station. If you disagree with a cross-cutting aspect assignment 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 Oconee Nuclear Station.

On August 4, 2003, you submitted LER 2003-001-00, describing an unanalyzed condition involving cables routed contrary to 10 CFR 50, Appendix R separation criteria. Fire damage to these cables could result in spurious actuations that would render the valves incapable of operating when necessary after the standby shutdown facility (SSF) was placed in service. The NRC is exercising enforcement discretion in accordance with Section 9.1 of the NRC Enforcement Policy, “Enforcement Discretion for Certain Fire Protection Issues (10 CFR 50.48)” for this noncompliance. The noncompliance was identified by the licensee and is a violation of NRC requirements. The inspectors have screened the violation and determined that it warrants enforcement discretion per the Interim Enforcement Policy Regarding Enforcement Discretion for Certain Fire Protection Issues, and Section 11.05(b) of Inspection Manual Chapter 0305, Operating Reactor Assessment Program.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosure, 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 NRC's Agency-wide 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/

Richard P. Croteau, Director
Division of Reactor Projects

Docket Nos.: 50-269, 50-270, 50-287
License Nos.: DPR-38, DPR-47, DPR-55

Enclosure: NRC Integrated Inspection Report 05000269/2012004, 05000270/2012004, 05000287/2012004 w/Attachment: Supplementary Information

cc w/encl: (See page 3)

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DATE	10/22/2012	10/25/2012	10/17/2012	10/16/2012	10/18/2012	10/18/2012	10/17/2012
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Letter to T. Preston Gillespie, Jr. from Richard P. Croteau dated October 31, 2012

SUBJECT: OCONEE NUCLEAR STATION - NRC INTEGRATED INSPECTION REPORT 05000269/2012004, 05000270/2012004, 05000287/2012004 AND EXERCISE OF ENFORCEMENT DISCRETION

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U. S. NUCLEAR REGULATORY COMMISSION

REGION II

Docket Nos:	50-269, 50-270, 50-287
License Nos:	DPR-38, DPR-47, DPR-55
Report Nos:	05000269/2012004, 05000270/2012004, 05000287/2012004
Licensee:	Duke Energy Carolinas, LLC
Facility:	Oconee Nuclear Station, Units 1, 2 and 3
Location:	Seneca, SC 29672
Dates:	July 1, 2012, through September 30, 2012
Inspectors:	A. Sabisch, Senior Resident Inspector G. Ottenberg, Senior Resident Inspector (Acting) K. Ellis, Resident Inspector M. Endress, Resident Inspector R. Hamilton, Senior Health Physicist (Sections 2RS7, 40A1) R. Kellner, Health Physicist (Section 2RS6) W. Loo, Senior Health Physicist (Section 2RS6) J. Montgomery, Reactor Inspector (Section 4OA3) R. Patterson, Reactor Inspector (4OA5) R. Williams, Reactor Inspector (4OA5) J. Worosilo, Reactor Inspector (4OA5) A. Sengupta, Reactor Inspector (4OA5)
Approved by:	Richard P. Croteau, Director Division of Reactor Projects

Enclosure

SUMMARY OF FINDINGS

IR 05000269/2012-004, 05000270/2012-004, 05000287/2012-004; 07/01/2012 – 09/30/2012; Oconee Nuclear Station Units 1, 2 and 3; Fire Protection

The report covered a three-month period of inspection by the resident inspectors and eight Region-based reactor inspectors. One Green non-cited violation (NCV) was identified. The significance of inspection findings are indicated by their color (i.e., greater than Green, or Green, White, Yellow, Red) using Inspection Manual Chapter (IMC) 0609, Significance Determination Process (SDP) dated June 2, 2011. Cross-cutting aspects are determined using IMC 0310, Components Within the Cross-Cutting Areas dated October 28, 2011. All violations of NRC requirements are dispositioned in accordance with the NRC's Enforcement Policy dated June 12, 2012. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, Reactor Oversight Process, Revision 4.

Cornerstone: Mitigating Systems

- Green. An NRC-identified non-cited violation of the Oconee Units 1, 2, and 3 renewed facility operating licenses, condition 3.D. was identified for the licensee's failure to maintain accurate pre-fire plans in areas that contain safety related equipment. Discrepancies such as failure to identify compressed gas cylinder and chemical storage areas, fire extinguisher locations, and physical building characteristics were identified in 79 fire zone pre-fire plans. The licensee modified the pre-fire plans to correct the deficiencies. This violation was entered into the licensee's corrective action program (CAP) as PIP O-12-10817.

  The performance deficiency (PD) was more than minor because it was associated with the Mitigating Systems Cornerstone Attribute of Protection Against External Events (Fire) and adversely affected the cornerstone objective in that inaccurate pre-fire plans could impact the fire brigade's ability to effectively fight a fire. The inspectors determined that the finding was of very low safety significance (Green) because an alternate means of safe shutdown was available, the fire brigade consisted of plant personnel familiar with the plant layout and associated hazards, and appropriate firefighting equipment was available in each area. The cause of the PD was directly related to the aspect of complete, accurate, and up-to-date procedures of the Resources Component in the cross cutting area of Human Performance because the licensee failed to ensure that other personnel were assigned the responsibility to maintain the pre-fire plans. [H.2(c)] (1R05)

REPORT DETAILS

Summary of Plant Status

Unit 1 began the inspection period at approximately 100 percent rated thermal power (RTP). The Unit was shutdown to Mode 3 on July 16, 2012, to repair a leaking valve inside containment. The unit returned to 100 percent RTP on July 21, 2012, where it remained for the rest of the inspection period.

Unit 2 began the inspection period at approximately 100 percent RTP and remained there for the inspection period except for a brief power reduction to 88 percent RTP on July 13, 2012, to support secondary side valve testing.

Unit 3 began the inspection period at approximately 100 percent RTP and remained there for the inspection period except for a brief power reduction to approximately 88 percent RTP September 7, 2012, to support secondary side valve testing.

1. REACTOR SAFETY

Cornerstones: Initiating Events, Mitigating Systems, Barrier Integrity

1R01 Adverse Weather Protection

a. Inspection Scope

Actual Adverse Weather: The inspectors assessed the licensee's response to a severe thunderstorm warning affecting the site on July 13, 2012. The inspectors reviewed the licensee's entry into the abnormal procedure for Natural Disaster (AP-6), and the licensee's actions as a result of the severe weather condition. The inspectors used the guidance in OpESS 2012/01, High Wind Generated Missile Hazards, to evaluate the licensee's processes and control over potential windborne hazards onsite, and performed a walkdown of the site to identify discrepancies. Documents reviewed are listed in the Attachment.

External Flooding: The inspectors conducted two walkdowns to evaluate the plant's readiness to cope with external flooding. The samples included:

- A walkdown of the exterior walls of the Turbine Building and Auxiliary Building including the newly-constructed structures surrounding the BWST's as well as the below grade floors in both buildings following a period of heavy rains on July 13, 2012, to verify the adequacy of flood protection features to prevent water from entering the plant and impacting plant equipment. The walkdown also included the outside yard drains including the ones recently added as part of the Natural Phenomena Barrier System project to ensure they were clear of debris and functioning properly.

- A walkdown of compensatory measures identified in CAL 2-10-003, "Confirmatory Action Letter- Oconee Nuclear Station, Units 1, 2, and 3 Commitments to Address External Flooding Concerns" to ensure the measures were available and in place.

b. Findings

No findings were identified.

1R04 Equipment Alignment

a. Inspection Scope

Partial Walkdowns: The inspectors performed the three partial walkdowns listed below to assess the operability of redundant or diverse trains and components when safety-related equipment was inoperable or out-of-service and to identify any discrepancies that could impact the function of the system potentially increasing overall risk. The inspectors reviewed applicable operating procedures and walked down system components, selected breakers, valves, and support equipment to determine if they were correctly aligned to support system operation. The inspectors reviewed protected equipment sheets, maintenance plans, and system drawings to determine if the licensee had properly identified and resolved equipment alignment problems that could cause initiating events or impact the capability of mitigating systems or barriers and entered them into the CAP. Documents reviewed are listed in the Attachment.

- Protection of equipment identified in the Critical Activity Plan during the planned Standby Shutdown Facility (SSF) outage
- Keowee underground path and designated underground Keowee Hydro Unit
- Keowee overhead power path and 230kV switchyard relay house

b. Findings

No findings were identified.

1R05 Fire Protection

a. Inspection Scope

Fire Area Tours: The inspectors walked down accessible portions of the five plant areas listed below to assess the licensee's control of transient combustible material and ignition sources, fire detection and suppression capabilities, fire barriers, and any related compensatory measures. The inspectors observed the fire protection suppression and detection equipment to determine if any conditions or deficiencies existed which could impair the operability of that equipment. The inspectors selected the areas based on a review of the licensee's safe shutdown analysis probabilistic risk assessment and sensitivity studies for fire-related core damage accident sequences. Documents reviewed are listed in the Attachment.

- Unit 3 East & West Pen Rooms (following the refueling outage)
- Unit 3 Cable Room
- Keowee Hydro Unit
- Unit 3 Vital Battery Room
- Unit 1 / Unit 2 LPI and RBS pump rooms

Fire Drill Observation: Inspectors observed the performance of a fire drill on September 7, 2012. The licensee conducted a drill simulating a fire on the Unit 1 main transformer. The inspectors observed this drill to verify the fire brigade's use of protective gear and fire-fighting equipment; that fire fighting pre-plan procedures and appropriate fire fighting techniques were used; and that the directions of the fire brigade leader were thorough, clear, and effective. The inspectors also observed the post-drill critique to assess if it was appropriately critical, included discussions of drill observations, and identified any areas requiring corrective action. Documents reviewed are listed in the Attachment.

b. Findings

Introduction: An NRC-identified Green NCV of the Oconee Units 1, 2, and 3 renewed facility operating licenses, condition 3.D. was identified for the licensee's failure to maintain accurate pre-fire plans in areas that contain safety related equipment. Discrepancies such as failure to identify compressed gas cylinder and chemical storage areas, fire extinguisher locations, and physical building characteristics were identified in 79 fire zone pre-fire plans.

Description: During plant tours, the inspectors identified deficiencies with the pre-fire plans used by the licensee's fire brigade. In response, the licensee reviewed all ONS pre-fire plans and identified 79 pre-fire plans with deficiencies. These deficiencies included failure to identify compressed gas cylinder and chemical storage areas, firefighting equipment locations, and physical building characteristics. Compressed gas and chemicals present unique hazards to the fire brigade while fighting a fire. In addition, inaccurate locations of firefighting equipment and inaccurate physical description of the fire zones decrease the effectiveness of the fire brigade's response. Safety Evaluation Report (SER) dated August 11, 1978, Section 6.0, Administrative Controls, as implemented by the Oconee Nuclear Station Fire Protection Design Basis Document, Section 3.4, Fire Protection Administrative Controls, described fire protection plan administrative controls in-part as pre-fire plans. In addition, in a Duke Energy January 16, 1978, letter regarding the comparison of ONS fire protection program to the positions outlined in "Nuclear Plant Fire Protection Functional Responsibilities, Administrative Controls and Quality Assurance," ONS concluded that pre-fire plans, in-part, will include combustibles, physical layout, and location of firefighting equipment. Pre-fire plans were normally maintained by the fire protection engineer. However, the fire protection engineer position was vacant and the licensee had not assigned responsibility for updating pre-fire plans to other personnel.

Analysis: The licensee's failure to maintain the pre-fire plans in accordance with fire protection program administrative control requirements was a PD. The PD was more than minor because it was associated with the Mitigating Systems Cornerstone Attribute of Protection Against External Events (Fire) and adversely affected the cornerstone objective in that inaccurate pre-fire plans could impact the fire brigade's ability to effectively fight a fire. The inspectors used IMC 0609, Attachment 0609.4, Phase 1 – Initial Screening and Characterization of Findings, dated June 19, 2012, and IMC 0609, Appendix A, The Significance Determination Process (SDP) for Findings At-Power, dated June 19, 2012, Exhibit 2, Mitigating Systems Screening Questions, and determined that the finding was of very low safety significance (Green) because an alternate means of safe shutdown was available, the fire brigade consisted of plant personnel familiar with the plant layout and associated hazards, and appropriate firefighting equipment was available in each area. The cause of the PD was directly related to the aspect of complete, accurate, and up-to-date procedures of the Resources Component in the cross cutting area of Human Performance because the licensee failed to ensure that other personnel were assigned the responsibility to maintain the pre-fire plans. [H.2(c)]

Enforcement: License condition 3.D for Oconee Units 1, 2 and 3 required the licensee to implement and maintain in effect all provisions for the approved fire protection program that comply with 10 CFR 50.48(a). 10 CFR 50.48(a) required in part that the fire protection plan must describe administrative controls and personnel requirements for fire prevention and manual fire suppression activities. SER dated August 11, 1978, Section 6.0, Administrative Controls, as implemented by the Oconee Nuclear Station Design Basis Document Section 3.4, Fire Protection Administrative Controls, describes fire protection plan administrative controls in-part as pre-fire plans. Contrary to the above, from approximately January 2010 to August 2012, all provisions of the approved fire protection program were not maintained. The pre-fire plans for 79 separate fire zones were not updated to identify compressed gas cylinder and chemical storage areas, fire extinguisher locations, and physical building characteristics for fire zones in safety related equipment areas. The licensee modified the existing pre-fire plans to correct the deficiencies. The inspectors evaluated this NRC-identified violation and determined it did not meet the enforcement discretion criteria for plants transitioning to NFPA-805. This violation is being treated as an NCV consistent with Section 2.3.2 of the Enforcement Policy because it was of very low safety significance and was entered into the licensee's corrective action program as PIP O-12-10817 and is identified as NCV 05000269,270,287/2012004-01, Failure to Maintain Accurate Pre-Fire Plans.

1R06 Flood Protection Measures

a. Inspection Scope

Submerged or Buried Cable Inspection: The inspectors inspected the condition of the following cable trench through direct observation. The inspectors inspected the trenches to ensure there was no standing water and that the cables within the trench were intact and in good condition.

- Cable trench located between 3TA/3TB and the Unit 3 turbine building

b. Findings

No findings were identified.

1R11 Licensed Operator Requalification Program and Licensed Operator Performance

a. Inspection Scope

Routine Operator Requalification Review: On August 7, 2012, the inspectors observed operators in the plant's simulator during licensed operator requalification training to verify that the operator performance was adequate, evaluators were identifying and documenting crew performance issues and training was being conducted in accordance with station procedures. The inspectors observed a shift crew's response to the scenario listed below. Documents reviewed during this inspection are listed in the Attachment to this report.

- The pressurizer spray valve failed to the open position, an RCS leak greater than 160 gpm, and the reactor failed to trip automatically or manually from the control room and required the crew to enter the Emergency Operating Procedure to shut the reactor down. Additionally ES channels 1 through 6 actuated and a Reactor Building Cooling Unit failed to reduce to low speed.

Observation of Operator Performance: The inspectors observed main control room crew performance during a scheduled Unit 3 downpower for main turbine stop and control valve testing, and return to full power. The inspectors reviewed the operator performance and adherence to the operating procedures for performing reactor power manipulations. Adherence to the test procedure was also verified during the observation. Communications of the crew was evaluated for conformance to the licensee's standard.

b. Findings

No findings were identified.

1R12 Maintenance Effectiveness

a. Inspection Scope

The inspectors reviewed the licensee's effectiveness in performing the following two corrective maintenance activities. These reviews included an assessment of the licensee's practices pertaining to the identification, scoping, and handling of degraded equipment conditions, as well as common cause failure evaluations. For each activity selected, the inspectors performed a detailed review of the problem history and surrounding circumstances, evaluated the extent of condition reviews as required, and reviewed the generic implications of the equipment and/or work practice problem. For those structures, systems and components (SSCs) scoped in the Maintenance Rule per 10 CFR 50.65, the inspectors verified that reliability and unavailability were properly

monitored and that 10 CFR 50.65 (a)(1) and (a)(2) classifications were justified in light of the reviewed degraded equipment condition. Documents reviewed are listed in the Attachment.

- 3-FDW-352 (3A MDEFW Pump test line valve) repair (PIP O-12-9592)
- Keowee Hydro Units Governor Oil Pump reliability issues (PIP O-12-10209)

b. Findings

No findings were identified.

1R13 Maintenance Risk Assessments and Emergent Work Control

a. Inspection Scope

The inspectors evaluated the following attributes for the five activities listed below: (1) the effectiveness of the risk assessments performed before maintenance activities were conducted; (2) the management of risk; (3) that, upon identification of an unforeseen situation, necessary steps were taken to plan and control the resulting emergent work activities; and (4) that maintenance risk assessments and emergent work problems were adequately identified and resolved. Documents reviewed are listed in the Attachment.

- Review of the Critical Activity Plan for the installation of electrical equipment required to allow power to be supplied to SSF loads from the Protected Service Water building
- Review of Critical Activity Plan for Cable Pulling Into Auxiliary Building Room 165 From Manhole 7 and observation of activity
- Review of Critical Activity Plan for the SSF Annual Outage
- Review of Critical Activity Plan for Keowee Emergency Start Cable Re-route Termination and Testing
- Review of Critical Activity Plan for underground power path transformer, CT-4, removal from service for planned maintenance activities

b. Findings

No findings were identified.

1R15 Operability Determinations and Functionality Assessments

a. Inspection Scope

The inspectors reviewed the following six operability evaluations or functionality assessments affecting risk significant systems to assess: (1) the technical adequacy of the evaluations; (2) whether continued system operability was warranted; (3) whether other existing degraded conditions were considered; (4) if compensatory measures were involved, whether the compensatory measures were in place, would work as intended, and were appropriately controlled; and (5) where continued operability was considered

unjustified, the impact on Technical Specifications (TS) limiting condition for operations. Operating Experience Smart Sample (OpESS) 2012/02, Technical Specification Interpretation and Operability Determination was used by the inspectors during the review.

- PIP O-12-3487, Unanalyzed conditions exist for a SSF-mitigated events because associated thermal & hydraulic analyses do not consider all initial operating conditions.
- PIP O-12-9101, Delay in 52-1TD and 2-1TD timer actuation during performance of Keowee Emergency Start Test
- PIP O-12-4243, Swagelock filed a Part 21 notice for two 8U bellows valves returned from Duke Energy (Oconee)
- PIP O-12-4787, Degraded HPSW fire protection header pipe identified (AB 1st floor hall)
- PIP O-12-10969, Information needed for assessment O-0ENG-SA-12-14 regarding Switchgear Blockhouse Heat Loads/Temperature
- PIP O-12-9926, Found only 6 of 9 elements operating in the Unit 2, Bank 2, Group "D" heaters

b. Findings

No findings were identified.

1R19 Post-Maintenance Testing

a. Inspection Scope

The inspectors reviewed the following seven post-maintenance test procedures and/or test activities to assess if: (1) the effect of testing on the plant had been adequately addressed by control room and/or engineering personnel; (2) testing was adequate for the maintenance performed; (3) acceptance criteria were clear and demonstrated operational readiness consistent with design and licensing basis documents; (4) test instrumentation had current calibrations, range, and accuracy consistent with the application; (5) tests were performed as written with applicable prerequisites satisfied; (6) jumpers installed or leads lifted were properly controlled; (7) test equipment was removed following testing; and (8) equipment was returned to the status required to perform its safety function. Documents reviewed are listed in the Attachment.

- 2A Motor-driven Emergency Feedwater (MDEFW) Pump test post lubrication preventive maintenance
- Unit 1 Reactor Building Tri-sodium Phosphate (TSP) Baskets 2, 3, and 4 Verification post TSP addition
- 2B MDEFW Pump test post lubrication preventive maintenance
- Control Rod Drive Breaker Trip Timing Test following Breaker Replacement
- SSF Diesel Generator Run following annual PM's and the ten year fuel oil tank inspection

- Keowee Unit 2 DC Turbine Guide Bearing Oil Pump test following pump and motor replacement
- 3A MDEFW Pump test following emergent 3FDW-352 test line valve repair

b. Findings

No findings were identified.

1R20 Refueling and Other Outage Activities

a. Inspection Scope

Unit 1 Forced Outage Due to Elevated RCS Leakage: The inspectors observed portions of a Unit 1 shutdown from 100 percent RTP to Mode 3 and subsequent forced outage activities resulting from elevated reactor coolant system (RCS) leakage. The inspectors reviewed the temporary leak repair of an instrument root valve for a pressurizer level instrument. An inspector accompanied licensee personnel on a containment walkdown prior to unit start-up to assess the material condition of safety related and risk significant SSC's. Inspectors reviewed the items entered into the licensee's CAP to establish that the licensee identified problems related to the outage at an appropriate threshold and entered them into their CAP. Documents reviewed are listed in the Attachment.

b. Findings

No findings were identified.

1R22 Surveillance Testing

a. Inspection Scope

The inspectors either witnessed and/or reviewed test data for the five surveillance tests listed below to assess if the SSCs met Technical Specifications (TSs), Updated Final Safety Analysis Report (UFSAR), and licensee procedure requirements. In addition, the inspectors determined if the testing effectively demonstrated that the SSCs were ready and capable of performing their intended safety functions. Documents reviewed are listed in the Attachment.

Routine Surveillances

- IP/3/A/0275/006 C, Unit 3 Safety Related Functional Test of MDEFWP and Turbine-drive emergency feedwater pump Initiation Pressure Switches and Cooling Water Valves
- PT/0/A/0620/016, Keowee Hydro Emergency Start Test
- TT/0/A/0250/010, SLC Fire Hose Station Flow Test

In-Service Tests

- PT/1/A/2200/018, KHU-1 Governor Pumping Units IST Surveillance

RCS Leakage

- PT/1/A/0600/010, Reactor Coolant Leakage

b. Findings

No findings were identified.

2. RADIATION SAFETY

Cornerstones: Occupational Radiation Safety and Public Radiation Safety

2RS6 Radioactive Gaseous and Liquid Effluent Treatment

a. Inspection Scope

Event and Effluent Program Reviews: The inspectors reviewed the 2010 and 2011 Annual Radiological Effluent Release Report (ARERR) documents for consistency with requirements in the Offsite Dose Calculation Manual (ODCM) and TSs. Routine and abnormal effluent release results and reports, as applicable, were reviewed and discussed with responsible licensee representatives. Status of the radioactive gaseous and liquid effluent processing and monitoring equipment, and applicable equipment changes, as described in the UFSAR and current ODCM were discussed with responsible staff. Radioactive effluent monitor operability issues and the status of the engineering design change to correct the issues were discussed with plant staff.

Equipment Walk downs: The inspectors walked-down and discussed selected components of the Unit 1, Unit 2, and Unit 3 gaseous and liquid waste processing and discharge systems to ascertain material condition, configuration and alignment. The walk-downs included visual inspection of RIA 33 Plant discharge liquid radioactive waste (radwaste) monitor, 4RIA-45/46 Rad Waste Facility noble gas radiation monitors, 2-RIA 43 through 49A, 1, 2, and 3RIA-40 Condenser off-gas radiation monitor, and 1-RIA 41 Spent Fuel Building (SFP) noble gas monitor. To the extent practical, the inspectors observed the material condition of abandoned in place liquid waste processing, and in-service gaseous and liquid waste processing equipment for indications of degradation or leakage that could constitute a possible release pathway to the environment. The walk-downs were accompanied by Radiation Protection (RP) or Chemistry personnel and included discussion and evaluation of observed leaks, material condition, and configuration control associated with waste processing and monitor tanks and pumps, gas decay tanks, and associated piping and valves. The inspectors discussed operability of the particulate and iodine monitors with plant personnel, reviewed effluent radiation monitoring system health reports, and observed the status of the Unit 1 and Unit 2 Condenser off-gas radiation monitors (1RIA-40 and 2RIA-40).

Effluent Processing: The inspectors discussed the various configurations available for processing liquid radwaste using the liquid waste management system, observed the release of a Decant Monitor Tank (DMT), and reviewed the DMT sample analysis results and liquid waste release permit with Chemistry personnel. The reviews included review and discussion of selected dose calculation summaries, maximum release flowrate, and

required release point dilution flowrate. Release quantities and dose impacts were reviewed and discussed. The inspectors reviewed 10 CFR 61 analysis data for expected nuclide distributions used to quantify effluents, treatment of hard to detect nuclides, and determination of appropriate calibration nuclides for effluent analysis instruments. The inspectors reviewed and discussed the site administrative control to hold waste gas for at least 30 days before release, reviewed selected waste gas release permits, and observed weekly routine plant vent stack gaseous and tritium sampling and analysis. The inspectors reviewed the calculated public dose results for any indications of higher than anticipated or abnormal releases. In addition, the inspectors discussed testing requirements for the high efficiency particulate air and charcoal iodine filters in the SFP and Reactor Building Ventilation systems and minimum system efficiency assumptions used in public dose calculations for gaseous releases.

Ground Water Protection: The inspectors reviewed the current groundwater sample results. The groundwater program was discussed with both Chemistry and RP representatives.

Problem Identification and Resolution: The inspectors reviewed selected CAP documents in the areas of gaseous and liquid effluent processing and release activities. The inspectors evaluated the licensee's ability to identify, characterize, prioritize, and resolve the identified issues in accordance with procedure NSD-208, Problem Investigation Program (PIP), Revision (Rev.) 35. The inspectors also discussed the scope of the licensee's internal audit program and reviewed recent assessment results.

Effluent process and monitoring activities were evaluated against the details and requirements documented in UFSAR Sections 11, 12 and 16; ODCM; 10 CFR Part 20; Appendix I to 10 CFR Part 50; and approved licensee procedures. In addition, ODCM and UFSAR changes since the last onsite inspection were reviewed against the guidance in NUREG-1301 and Regulatory Guide (RG) 1.109, RG 1.21, and RG 4.1. Documents reviewed are listed in the Attachment. The inspectors completed one sample.

b. Findings

No findings were identified.

2RS7 Radiological Environmental Monitoring Program (REMP)

a. Inspection Scope

REMP Status and Results: The inspectors reviewed and discussed changes to the ODCM and results presented in the Annual Radiological Environmental Operating Report (AREOR) documents issued for calendar year (CY) 2010 and CY 2011. REMP contract laboratory cross-check program results, and current procedural guidance for offsite collection, processing and analysis of airborne particulate and iodine, broadleaf vegetation, and surface water samples were reviewed and discussed. The AREOR environmental measurement results were reviewed for consistency with licensee effluent data and evaluated for radionuclide concentration trends. The inspectors independently

verified detection level sensitivity requirements for selected environmental media analyzed by the offsite environmental laboratory.

Equipment Walk-down: The inspectors observed implementation of selected REMP monitoring and sample collection activities for atmospheric and milk samples as specified in the current ODCM and applicable procedures. The inspectors observed equipment material condition and verified operability, including verification of flow rates and total sample volume results for the weekly airborne particulate filter and iodine cartridge change-outs at six atmospheric sampling stations. In addition, the inspectors discussed broadleaf vegetation sampling. Milk sample collection was observed at a dairy. Use of proportional water sampling equipment was observed and discussed. Thermo-luminescent dosimeter material condition and placement were verified by direct verification at select ODCM locations. Land use census results, actions for missed samples including compensatory measures, sediment sample collection/processing activities, and availability of replacement equipment were discussed with environmental technicians and knowledgeable licensee staff. In addition, calibration and maintenance surveillance records for the installed environmental air sampling stations were reviewed. Procedural guidance, program implementation, quantitative analysis sensitivities, and environmental monitoring results were reviewed against 10 CFR Part 20; Appendix I to 10 CFR Part 50; TS Sections 5.4, Procedures, 5.5.1 Program and Manual, ODCM; and 5.6.2, Reporting Requirements, AREOR; ODCM, Rev. 52; RG 4.15, Quality Assurance for Radiological Monitoring Programs (Normal Operation) - Effluent Streams and the Environment; and the Branch Technical Position, An Acceptable Radiological Environmental Monitoring Program - 1979. Documents reviewed are listed in the Attachment.

Meteorological Monitoring Program: The inspectors toured the primary and backup meteorological towers and observed local data collection equipment readouts. The inspectors observed the physical condition of the towers and their instruments and discussed equipment operability, maintenance history, and backup power supplies with responsible licensee staff. The inspectors evaluated transmission of locally generated meteorological data from the primary meteorological tower to the main control room operators. For the meteorological measurements of wind speed, wind direction, and temperature, the inspectors reviewed applicable tower instrumentation calibration records and evaluated meteorological measurement data recovery for CY 2010 and CY 2011.

Licensee procedures and activities related to meteorological monitoring were evaluated against: ODCM; UFSAR; RG 1.23, Meteorological Monitoring Programs for Nuclear Power Plants, and ANSI/ANS-2.5-1984, Standard for Determining Meteorological Information at Nuclear Power Sites. Documents reviewed are listed in the Attachment.

Problem Identification and Resolution: The inspectors reviewed selected CAP documents in the areas of environmental and meteorological monitoring. The inspectors evaluated the licensee's ability to identify, characterize, prioritize, and resolve the identified issues in accordance with NSD -208. The inspectors also discussed the scope of the licensee's internal audit program and reviewed recent assessment results.

Documents reviewed are listed in the Attachment. The inspectors completed one sample.

b. Findings

No findings were identified.

2RS8 Radioactive Solid Waste Processing and Radioactive Material Handling, Storage, and Transportation

a. Inspection Scope

Radioactive Material Storage: During walk-downs of selected indoor and outdoor radioactive material storage areas to include the Radwaste Building, Interim Radwaste Building and Annex, and Warehouse 10, the inspectors observed the physical condition and labeling of storage containers and the posting of Radioactive Material Areas. The inspectors also reviewed licensee procedural guidance for storage and monitoring of radioactive material.

Waste Processing and Characterization: During inspector walk-downs, accessible sections of the liquid and solid radwaste processing systems were assessed for material condition and conformance with system design diagrams. Inspected equipment included radwaste storage tanks; resin transfer piping, resin and filter packaging components; and abandoned evaporator equipment. The inspectors discussed component function, processing system changes, and radwaste program implementation with cognizant licensee representatives.

The 2011 ARERR and radionuclide characterizations from 2010 - 2012 for each major waste stream were reviewed and discussed with cognizant licensee representatives. For primary resin, reactor coolant system filters, and Dry Active Waste the inspectors evaluated analyses for hard-to-detect nuclides, reviewed the use of scaling factors, and examined quality assurance comparison results between licensee waste stream characterizations and outside laboratory data. Waste stream mixing, concentration averaging, and waste form stabilization (dewatering) for resins and filters was evaluated and discussed with radwaste staff. The inspectors also reviewed the licensee's procedural guidance for monitoring changes in waste stream isotopic mixtures.

Transportation: The inspectors did not have any opportunities to observe shipping activities during the onsite inspection. However, the inspectors discussed with selected shipping representatives procedures regarding surveys, marking and placarding of shipping packages, and other related Department of Transportation (DOT) regulations. Selected shipping records were reviewed for consistency with licensee procedures and

compliance with NRC and DOT regulations. The inspectors reviewed emergency response information, DOT shipping package classification, waste classification, radiation survey results, and evaluated whether receiving licensees were authorized to accept the packages. Licensee procedures for opening and closing shipping casks were compared to recommended vendor protocols and Certificate of Compliance requirements.

Problem Identification and Resolution: The inspectors reviewed CAP documents in the areas of radwaste processing, material storage, and transportation. The inspectors evaluated the licensee's ability to identify and resolve the issues in accordance with procedure NSD 208. The inspectors also evaluated the scope of the licensee's internal audit program and reviewed recent assessment results.

Radwaste processing, radioactive material handling, and transportation activities were reviewed against the requirements contained in the licensee's Process Control Program, UFSAR Chapter 11, 10 CFR Part 20, 10 CFR Part 61, 10 CFR Part 71, and 49 CFR Parts 172-178. Licensee activities were also evaluated against guidance provided in the Branch Technical Position on Waste Classification (1983) and NUREG-1608, Categorizing and Transporting Low Specific Activity Materials and Surface Contaminated Objects. Documents reviewed are listed in the Attachment. The inspectors completed one sample.

b. Findings

No findings were identified.

4. OTHER ACTIVITIES

4OA1 Performance Indicator (PI) Verification

a. Inspection Scope

The inspectors sampled licensee data to confirm the accuracy of reported PI data for the following eleven PIs. To determine the accuracy of the report PI elements, the reviewed data was assessed against PI definitions and guidance contained in Nuclear Energy Institute 99-02, Regulatory Assessment Indicator Guideline, Revision 6. Documents reviewed are listed in the Attachment.

Cornerstone: Mitigating System
- MSPI, Residual Heat Removal (3 units)
- MSPI, Heat Removal (3 units)

Cornerstone: Barrier Integrity
- RCS Leakage (3 units)

For the period of July 1, 2011, to June 30, 2012, the inspectors reviewed operating logs, train unavailability data, maintenance records, maintenance rule data, PIPs, Consolidated Derivation Entry reports and system health reports to verify the accuracy of the data reported for each PI.

Cornerstone: Occupational Radiation Safety

- Occupational Exposure Control Effectiveness

The inspectors reviewed PI data collected from November 2011 thru July 2012. For the reviewed period, the inspectors assessed CAP records to determine if High Radiation Area (HRA), Very HRA or unplanned exposures, resulting in TS or 10 CFR 20 non-conformances, had occurred during the review period. In addition, the inspectors reviewed selected personnel contamination event data, internal dose assessment results, and electronic dosimeter alarms for cumulative doses and/or dose rates exceeding established set-points.

Cornerstone: Public Radiation Safety

- Radiological Control Effluent Release Occurrences

The inspectors reviewed the PI from November 2011 thru July 2012. For the assessment period, the inspectors reviewed cumulative and projected doses to the public and PIP documents related to Radiological Effluent TS/ODCM issues. The inspectors also reviewed licensee procedural guidance for collecting and documenting PI data.

b. Findings

No findings were identified.

4OA2 Problem Identification and Resolution

Daily Screening of Corrective Action Reports: In accordance with Inspection Procedure (IP) 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 daily screening of items entered into the licensee's CAP. This review was accomplished by reviewing copies of PIPs, attending daily screening meetings, and accessing the licensee's computerized database.

Operator Workarounds: The inspectors reviewed the cumulative effects of deficiencies that constituted operator workarounds to determine whether or not they could: affect the reliability, availability, and potential for misoperation of a mitigating system; affect multiple mitigating systems; or affect the ability of operators to respond in a correct and timely manner to plant transients and accidents. The inspectors also assessed whether operator workarounds were being identified and entered into the licensee's corrective action program at an appropriate threshold.

Annual Sample: The inspectors reviewed the licensee's actions in response to FIN 05000269, 270, 287/2012002-04, which involved a failure to ensure that UFSAR credited flood protection measures were in place. The inspectors reviewed proposed actions to update design drawings that indicate which exterior walls were credited as flood barriers. The inspectors observed and reviewed corrective actions that were necessary to restore below grade penetrations to an acceptable configuration. Plant walkdowns were performed following review of completed work orders to ensure the penetrations were restored to the specified condition. Design specifications for the penetration sealants were reviewed to ensure the field installation was in accordance with the requirements. Documents reviewed are listed in the Attachment.

b. Findings

No findings were identified.

4OA3 Follow-up of Events and Notices of Enforcement Discretion

.1 (Closed) Licensee Event Report (LER) 05000269/2003-001-00, Design Oversight Results In Appendix R Control Cable Separation Issue

a. Inspection Scope

On August 4, 2003, the licensee submitted an LER documenting the discovery of an unanalyzed condition related to their fire protection program. Inspectors reviewed the facts of the subject LER, as well as the corrective actions taken by the licensee to determine if they were adequate. Inspectors also reviewed this finding against NRC enforcement guidance documents to determine to what extent enforcement discretion was applicable.

b. Findings

Introduction. The licensee identified a noncompliance with 10 CFR 50, Appendix R, Section III.G.3, for the failure to provide alternative shutdown capability for fires in certain areas whose protection of SSCs do not satisfy the guidelines of 10 CFR 50, Appendix R, Section III.G.2. The licensee had not considered the possibility of certain fire-induced hot shorts that could adversely impact the ability to achieve and maintain SSD.

Description. On August 4, 2003, the licensee submitted LER 2003-001-00, describing an unanalyzed condition due to cables being routed contrary to 10 CFR 50, Appendix R separation criteria. The licensee discovered that drawings indicated several hundred feet of cables used during normal shutdown from the main control room (MCR) were routed from the MCR to the SSF via the turbine building. The licensee had previously believed that the cables were routed via the auxiliary building. These cables provide normal control capability of the following valves for all three units:

- RC-5 & RC-6 (Pressurizer Sample Valves)
- RC-4 (Pressurizer PORV Isolation Valve)

- HP-3 & HP-4 (RCS Letdown Cooler Outlet Isolation Valves)
- HP-20 (RCP Seal Return Line Isolation Valve)

For the cables in question, the licensee discovered that a fire in the turbine building can cause fire damage to the cables prior to transfer of control to the SSF, and de-energization of the normal shutdown portion of the circuit. Fire damage to these cables could result in spurious operation that could bypass the valves' torque and limit switches in the open direction. Bypassing these switches could result in burning out the valves' actuating motor or over thrusting of the valve/actuator combination. These conditions would render the valves incapable of operating when necessary, after the SSF was placed in service. The failure of one or more of these valves could cause RCS leakage to exceed the capability of the reactor coolant make-up (RCMU) pump. This would result in the RCMU pump being unable to maintain RCS inventory. The licensee entered the condition into the CAP as PIP 12-05053 and implemented a roving fire watch for the affected fire area.

Analysis. Failure to provide alternative shutdown capability in accordance with 10 CFR 50, Appendix R, Section III.G.3, is a PD. This PD is more than minor because it is associated with the reactor safety mitigating system cornerstone attribute of protection against external events and adversely affects the cornerstone objective in that safe shutdown cables and equipment were not protected. Because this issue relates to fire protection and this existing identified noncompliance reasonably may have been resolved by compliance with 10 CFR 50.48(c), this issue is being dispositioned in accordance with Section 9.1, "Enforcement Discretion for Certain Fire Protection Issues (10 CFR 50.48)" of the NRC Enforcement Policy.

In order to verify that this non-compliance was not associated with a finding of high safety significance (Red), inspectors reviewed qualitative and quantitative risk analyses performed by the licensee. These risk evaluations took ignition source and target information from the Oconee fire probabilistic risk analysis to demonstrate that the significance of the non-compliance was less than Red (i.e. ΔCDF less than 1E-4/yr.). The inspectors noted that the values in the licensee's quantitative analysis were conservative in that they used bounding figures to determine certain fire ignition source frequencies. The inspectors performed walkdowns to verify key assumptions were applicable. The inspectors also performed a bounding risk calculation and independently determined that the risk of this issue, based solely on frequency, is less than Red. This calculation conservatively assumed no credit for any mitigation actions (i.e., detection, suppression, operator actions, etc.).

The inspectors determined that this non-compliance did not have a cross-cutting aspect because it did not represent current licensee performance.

Enforcement. 10 CFR 50.48(b)(1) requires, in part, that all nuclear power plants licensed to operate prior to January 1, 1979, must satisfy the applicable requirements of Appendix R, Section III.G. Section III.G.3 invokes Section III.L, which requires that isolation of associated circuits from safe shutdown equipment shall be such that a postulated fire involving associated circuits will not prevent safe shutdown. Contrary to

the above, from original plant startup to June 4, 2003, the licensee's alternative/dedicated post-fire SSD capability for a fire in the turbine building did not provide for isolation of associated circuits from safe shutdown equipment such that a postulated fire involving associated circuits would not prevent safe shutdown. The licensee discovered that a fire in the turbine building could cause spurious opening and failure of any one of six valves in the RCS and high pressure injection (HPI) system causing flow from the RCS to exceed the makeup capacity of the RCMU pump.

Because the licensee committed to adopt NFPA 805 and change their fire protection licensing bases to comply with 10 CFR 50.48(c), and this commitment was documented prior to December 31, 2005, the NRC is exercising enforcement and reactor oversight process discretion for this issue in accordance with the NRC Enforcement Policy, Section 9.1, "Enforcement Discretion for Certain Fire Protection Issues (10 CFR 50.48)" and Inspection Manual Chapter 0305. It was likely this issue would have been identified and addressed during the licensee's transition to NFPA 805, it was entered into the licensee's corrective action program, immediate corrective action and compensatory measures were taken, it was not likely to have been previously identified by routine licensee efforts, it was not willful, and the staff has determined that NRC response at a level for a Red finding is not necessary to assure public health and safety.

4OA5 Other Activities

.1 Quarterly Resident Inspector Observations of Security Personnel and Activities

a. 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. These quarterly resident inspector observations of security force personnel and activities did not constitute any additional inspection samples. Rather, they were considered an integral part of the inspectors' normal plant status reviews and inspection activities.

b. Findings

No findings were identified.

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

a. 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 were 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 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, were 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.

.3 Institute of Nuclear Power Operations (INPO) Plant Evaluation Peer Review Report Review

a. Inspection Scope

The inspectors reviewed the INPO Plant Evaluation Peer Review of the Oconee Nuclear Station conducted in July 2012. The inspectors reviewed the report to ensure that issues identified were consistent with the NRC perspectives of licensee performance and to determine if any significant safety issues were identified that required further NRC follow-up.

b. Findings

No findings were identified.

.4 (Closed) NRC Temporary Instruction (TI) 2515/177, Managing Gas Accumulation in Emergency Core Cooling, Decay Heat Removal, and Containment Spray Systems (NRC Generic Letter (GL) 2008-01)

a. Inspection Scope

The inspectors reviewed the implementation of the licensee's actions in response to GL 2008-01, Managing Gas Accumulation in Emergency Core Cooling, Decay Heat Removal, and Containment Spray Systems. The subject systems included the emergency core cooling system (HPI, low pressure injection), decay heat removal system, and reactor building spray system. The inspectors reviewed

- the licensing basis of the facility to verify that actions to address gas accumulation were consistent with the operability requirements of the subject systems
- the design of the subject systems to verify that actions taken to address gas accumulation were appropriate given the specifics of the functions, configurations, and capabilities of these systems
- the design and operation of the residual heat removal system to determine if flashing in suction lines would challenge system operability
- selected licensee analyses to verify that methodologies for predicting gas void accumulation, movement, and impact were appropriate
- selected test procedures and completed test results to verify that test procedures were appropriate to detect gas accumulations that could challenge subject systems
- specified testing frequencies to verify that the testing intervals had appropriately taken historical gas accumulation events as well as susceptibility to gas accumulation into account
- test programs and processes to verify that they were sensitive to precursors to gas accumulation
- corrective actions associated with gas accumulation in subject systems to verify that identified issues were being appropriately identified and corrected including the installation of additional vent valves
- the locations of selected vent valve installations to verify that the locations selected were appropriate based on piping configuration and pipe slopes

The inspectors performed walkdowns of subject systems to verify that the reviews and design verifications conducted by the licensee had drawn appropriate conclusions with respect to piping configurations and pipe slope which could result in gas accumulation susceptibility. Documents reviewed are listed in the Attachment.

b. Findings

No findings were identified.

4OA6 Management Meetings (Including Exit Meeting)

Exit Meeting Summary

On October 11, 2012, the resident inspectors presented the inspection results to Mr. Tom D. Ray and other members of licensee management. The inspectors verified that no proprietary information was retained by the inspectors or documented in this report.

ATTACHMENT: SUPPLEMENTARY INFORMATION

SUPPLEMENTARY INFORMATION

KEY POINTS OF CONTACT

Licensee
K. Alter, Regulatory Compliance Manager
S. Boggs, Emergency Services Coordinator
E. Burchfield, Engineering Manager
T. Cheslak; Oconee Fire Protection Engineer
P. Fisk; Superintendent of Operations
P. Gillespie, Site Vice President
R. Guy, Organization Effectiveness Manager
T. King, Security Manager
A. Lotfi, Duke - Construction
T. Patterson, Safety Assurance Manager
J. Pounds, OMP Tornado/HELB QA Oversight
T. Ray, Station Manager
F. Rickenbaker, OMP Manager
D. Robinson, Radiation Protection Manager
J. Smith, Regulatory Compliance
P. Street, Emergency Planning Manager

NRC
J. Boska, Project Manager, NRR

LIST OF REPORT ITEMS

Opened and Closed		
05000269, 270, 287/2012004-01	NCV	Failure to Maintain Accurate Pre-Fire Plans (1R05)
Closed		
05000269/2003-001-00	LER	Design Oversight Results In Appendix R Control Cable Separation Issue (4OA3)
2515/177	TI	Managing Gas Accumulation in Emergency Core Cooling, Decay Heat Removal, and Containment Spray Systems (NRC Generic letter (GL) 2008-01) (4OA5.4)
Discussed		
2515/187	TI	Inspection of Near-Term Task Force Recommendation 2.3 Flooding Walkdowns (4OA5.2)
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

Simple Equipment Alignment

Critical Activity Plan for EC91876; SSF Power from PSW (SSF outage required; Orange risk for planned 40 hours)

Protected Equipment Log for July 10, 2012 covering the equipment protected to support the SSF outage and installation of PSW power equipment

Section 1R05: Fire Protection

NSD 313, Control of Transient Fire Loads, Rev. 12

NSD 316, Fire Protection Impairment and Surveillance, Rev. 11

SD 3.2.14, Fire Protection Program Compensatory Measure Process, Rev. 0

SLC 16.9.6; Fire Detection Instrumentation

MP/0/A/1705/032, Fire Protection Equipment Inspection, Rev. 33

Fire Pre-plan, Zone 101,Unit 3 Cable Room, Room

Fire Pre-plan; Zones 98 – 101; Unit 3 East and West Penetration Rooms

Fire Pre-plan for the Keowee Hydro Station

Fire Pre-plan; Zones 52 – 57; Unit 1 / Unit 2 LPI and RBS pump rooms and hatch area

RP/0/B/1000/029, Fire Brigade Response, Rev. 16

PT/0/B/2000/050, Fire Drill- Performance and Evaluation, Rev. 0

PIP O-12-10482, A Shift 3rd Quarter Fire Drill

Section 1R11: Licensed Operator Requalification Program and Licensed Operator Performance

OP-OC-ASE-35, Active Simulator Exam, Rev. 7

OP/3/A/1102/004, Operation at Power, Rev. 115

PT/3/A/0290/003, Turbine Valve Movement, Rev. 15

PIP O-12-9339, OMP 1-18G implemented during a simulator session

Section 1R12: Maintenance Effectiveness

PIPs O-10-0825, -5352, -5376, -6619, -7830, -9440, -10665

PIPs O-11-1456, -1734, -2056, -3046, -3212, -3388, -3668, -8833, -8958, -10901, -12066, -12072, -12373, -14674, -14766, -15250

PIPs O-12-0710, -0973, -2379, -2954, -7981, -8217, -8948, -8985, -9907, -10058, -10084, -10087, -10143, -10209

Section 1R13: Maintenance Risk Assessments and Emergent Work Control

Critical Activity Plan for EC91876; SSF Power from PSW (SSF outage required; Orange risk for planned 40 hours)

EC 91876; SSF Power from PSW modification package

Section 1R15: Operability Determinations and Functionality Assessments

PIP O-12-6685, Found only 6 of 9 elements operating in the Unit 2, Bank 2, Group “D” Heaters

PIP O-12-10000, Changes made to the plant per PIPs O-11-8094 and O-12-2655 appear to not be in alignment with Engineering Change Process

PIP O-12-9955, Document the results of Hose Station Flow Testing as part of an extent of condition evaluation for the HPSW System Corrosion issue.

PIP O-12-5262, Erroneous Test Data found in PT/0/A/0250/024
TT/0/A/0250/010, SLC Fire Hose Station Flow Test, Rev. 1, completed 8/23/12 and 8/24/12
PT/0/A/0250/024, Fire Protection System Three Year Flow Test, Rev. 29, completed 2/24/09
Operating Experience Smart Sample (OpESS) 2012/02, Technical Specification Interpretation and Operability Determination, dated 01/06/2012
NSD-229, Evaluation and Reporting of Deviations and Noncompliance per 10 CFR Part 21, Rev. 5

Section 1R19: Post-Maintenance Testing
PT/2/A/0600/013, Motor Driven Emergency Feedwater Pump Test, Rev. 66
PT/1/A/0203/014, TSP Basket Verification, Rev. 5
PT/2/A/2200/011, KHU-2 Turbine Guide Bearing Oil System Surveillance, Rev. 11
PIP 12-9586, K2 Turbine Guide bearing Oil Pump DC point 3 (Motor Outboard Y Plane) Vibration Reading of 0.1487, in the Alert range
WO 01825320, K2 GBO Pump (DC): Replace Pump/Motor Assembly
PT/3/A/0600/013, Motor Driven Emergency Feedwater Pump Test, Rev. 61
WO 02055433, I/R 3FDW-352, Does Not Operate Properly
IP/1/A/0315/014 A, TXS RPS Interposing Relay Test and Control Rod Drive Breaker Trip Timing Test
WO 02050473, U-1 TXS/RPS Channel A, B, C, D CRD Breaker Test
PIP O-12-9117, 1A RPS Trouble Stat alarm was received while testing was being performed in 1D RPS Channel
PT/0/A/0600/021, Standby Shutdown Facility Diesel-Generator Operation, Rev. 15

Section 1R22: Surveillance Testing
PT/1/A/2200/018, KHU-1 Governor Pumping Units IST Surveillance, Rev. 12
WO 02042277, KHU 1 1A Gov Pumping Unit Routine IST Surveillance
KFD-105A-1.1, Flow Diagram of Governor Oil System, Rev. 5
PIP O-12-7981, 1A Governor Oil Pump failed to meet minimum shutoff pressure
WO 02047929, U3 EFW Initiation Pressure Switch Test
PT/1/A/0600/010, Reactor Coolant Leakage, Rev. 93

Section 2RS6: Radioactive Gases and Liquid Effluent Treatment
Procedures, Guidance Documents, and Manuals
Changes Made to Oconee Nuclear Station Units 1, 2 and 3, Offsite Dose Calculation Manual, (Rev. 51), January 2011
CP/0/A/5200/045, Liquid Waste Release from RWF, Rev. 3
CP/0/B/2005/023, Calculation of EC (Total) and EC (GS) {Gamma Spec}, Rev. 2
HP/0/B/1000/060 A, Waste Gas Decay Tank Sampling and Release Requirements, Rev.56
HP/0/B/1000/060 B, Reactor Containment Building Sampling and Release Rate Determination For Gaseous Purge, Rev. 58
HP/0/B/1000/060 D, Vent and Air Ejector Sampling, Rev.48
HP/0/B/1000/083, Cumulative Off-Site Dose from Liquid and Gaseous Effluents, Rev.12
HP/0/A/1008/005, RIA Setpoints, Rev. 9
Oconee Nuclear Station Units 1, 2 and 3, Offsite Dose Calculation Manual, Rev. 51
Oconee Nuclear Station Units 1, 2 and 3, Offsite Dose Calculation Manual, Rev. 52
PT/0/A/5001/003, Radwaste Regulatory Surveillance Requirements, Rev. 3
PT/0/A/5001/004, LWR Composite Sampling Procedure, Rev.1

RP Policy IV-06, Radioactive Effluent Control Requirements, Rev. 2
RP Policy V-01, Interlaboratory Cross Check Program, Rev. 2
RP Policy V-02, Quality Control of Count Room Instrumentation, Rev. 1
SH/0/B/2004/003, Determination and Documentation of 10CFR61 Radioactive Waste Classification and Waste Form Implementation Program Data, Rev. 0
SH/0/B/2007/003, Determination of Cumulative and Projected Offsite Dose from Effluents, Rev.0
SRPMP 9-2, Interlaboratory Cross Check Program, Rev. 0

Records and Data Reviewed
Ground Water Protection Initiative Tritium Summary Report, Oconee Ground Water, for the period 01/10/05 through 04/17/12, 05/22/12.
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