



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

September 15, 2015

Mr. Scott Batson
Vice President
Oconee Nuclear Station
Duke Energy Corporation
7800 Rochester Highway
Seneca, SC 29672

**SUBJECT: OCONEE NUCLEAR STATION - NOTIFICATION OF INSPECTION AND
REQUEST FOR INFORMATION**

Dear Mr. Batson:

From October 19–23, 2015, and November 2–6, 2015, the U.S. Nuclear Regulatory Commission (NRC) will perform a baseline Occupational and Public Radiation Safety inspection at the Oconee Nuclear Station, (NRC Inspection Procedures (IPs) 71124.01, Radiological Hazard Assessment and Exposure Controls; 71124.02, Occupational ALARA Planning and Controls; 71124.03, In-Plant Airborne Radioactivity Control and Mitigation; 71124.04, Occupational Dose Assessment; 71125.05, Radiation Monitoring Instrumentation; and 71151, Performance Indicator Verification (Occupational and Public Radiation Safety Cornerstones). Experience has shown that this inspection is resource-intensive for both the NRC inspectors and your staff. In order to minimize the impact to your onsite resources and to ensure a productive inspection, we have enclosed a request for documents needed for this inspection. It is important that all of these documents are up-to-date, and complete, in order to minimize the number of additional documents requested during the preparation, and/or the onsite portions of the inspection.

We have discussed the schedule for these inspection activities with your staff, and understand that our regulatory contact for this inspection will be Judy Smith, 864-885-4309, of your organization. The inspector has requested that the subject material be made available to the NRC staff by October 12, 2015. If there are any questions about this inspection or the material requested, please contact the lead inspector Jonathan Rivera at 404-997-4646, or at (jonathan.rivera@nrc.gov).

This letter does not contain new or amended information collection requirements subject to the Paperwork Reduction Act of 1995 (44 U.S.C. 3501 et seq.). Existing information collection requirements were approved by the Office of Management and Budget, under control numbers 3150-0044, 3150-0014, 3150-0011, and 3150-0008. The NRC may not conduct or sponsor, and a person is not required to respond to, a request for information or an information collection requirement unless the requesting document displays a currently valid Office of Management and Budget control number.

In accordance with Title 10 of the *Code of Federal Regulations* (10 CFR) 2.390, "Public inspections, exemptions, requests for withholding," of the NRC's "Agency Rules of Practice and Procedure," a copy of this letter, and its Enclosure, will be available electronically for public inspection in the NRC Public Document Room, or from the Publicly Available Records (PARS) component of NRC's Agencywide Documents Access and Management System (ADAMS); accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

Sincerely,

/RA/

Brian R. Bonser, Chief
Plant Support Branch 1
Division of Reactor Safety

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

Enclosure:
Pre-Inspection Document Request

cc: Distribution via Listserv

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OFFICE	RII:DRS/PSB1	RII:DRS/PSB1					
SIGNATURE	JXR1	BRB1					
NAME	J. Rivera	B. Bonser					
DATE	9/ 14 /2015	9/ 15 /2015					
E-MAIL COPY	YES NO	YES NO					

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Pre-Inspection Document Request

Occupational and Public Radiation Safety Cornerstones

Licensee: Oconee Nuclear Station
Docket Numbers: 50-269, 50-270, and 50-287
Inspection Dates: October 19–23, 2015
November 2–6, 2015

Inspection Procedures to be performed:

71124.01	Radiological Hazard Assessment and Exposure Controls
71124.02	Occupational ALARA Planning and Controls
71124.03	In-Plant Airborne Radioactivity Control and Mitigation
71124.04	Occupational Dose Assessment
71125.05	Radiation Monitoring Instrumentation
71151	Performance Indicator Verification (Occupational and Public Radiation Safety cornerstones)

Documentation is requested from May 2014 to the present for Inspection Procedures (IPs) 71124.01 and 71151, and from October 2013 for IPs 71124.02, 71124.03, 71124.04, and 71124.05.

We would prefer as much of the information as possible in electronic form. An index to the CD or shared drive contents is also helpful. For those items requesting a list of documents/areas, the inspectors will select documents/areas from the list for onsite review. If any of the requested information is too burdensome to provide electronically or as hard copies, simply indicate that the requested material is available for onsite review by the inspectors.

If you have any questions, please call Jonathan Rivera at 404-997-4646. Thank you in advance for all of your efforts in putting together this material.

General Information Request

- Telephone numbers of contacts in the areas to be inspected.
- Plant and Radiation Protection organizational charts.
- List of radiation protection procedures related to the inspection procedures to be performed.
- Most recent dry active waste (DAW) 10 CFR Part 61 analytical results.
- Corrective Action Program procedures.
- Procedure(s) for identifying, notification, tracking, and correcting performance indicators (PIs) occurrences.
- List of all PI hits and copies of associated corrective action reports for Occupational Exposure Control Effectiveness and Radiological Effluent Technical Specifications/Offsite Dose Calculation Manual (RETS/ODCM) Radiological Effluent Occurrences.
- Audits and self-assessments performed that encompass the areas to be inspected.

Enclosure

71124.01: Radiological Hazard Assessment and Exposure Controls

- Site and corporate procedures associated with the access control program. Procedures should include:
 - Radiological surveys, postings, and radiation control barricades
 - Security and control of high radiation sources/objects stored in pools
 - Radiation Work Permits (RWPs)
 - Radiological Job-Coverage
 - Controlling access to High Radiation Areas (HRAs), High Dose Rate High Radiation Areas (HDR-HRAs), and Very High Radiation Areas (VHRAs)
 - Key controls for all HRAs
 - Radioactive material (RAM) control, including contamination and hot particles
- List of the 10 most exposure-significant work areas within radiation areas, HRAs (<1R/hr), or airborne radioactivity areas in the plant. This may include areas with low dose rates, but high collective dose. Identify any HRAs with significant dose gradients (factor of five or more), including underwater diving activities.
- List of Locked High Radiation Areas (LHRAs), HDR-HRAs (>25 rem in one hour @ 30 cm), and VHRAs. Include areas with the potential to become a LHRA during routine operations or outages.
- List of nationally tracked sources and any change-of-ownership transactions.
- List of sealed sources stored onsite.
- List of non-fuel items stored in the spent fuel pool.
- Independent Spent Fuel Storage Installation (ISFSI)-related information:
 - Procedures associated with the ISFSI facility. Procedures should include:
 - Radiological surveys, postings, and radiation control barricades
 - Environmental monitoring; including Thermoluminescent Dosimeter (TLDs)
 - Loading of casks
 - Routine activities
 - Radiation surveys of the ISFSI since the last inspection.
 - As low as reasonably achievable (ALARA) reviews and planning and associated RWPs for cask loading activities.
 - Environmental monitoring results for the ISFSI (e.g., TLDs).
 - Radiological records for the loading of casks since the last inspection.
 - Records of ISFSI contamination incidents since the last inspection.

- List of corrective action reports related to the ISFSI with respect to radiation protection (i.e., access controls, ALARA, contamination, radiation levels) since the last inspection.
- List of corrective action reports generated since the last inspection related to access controls, including the following:
 - Access controls, including HRA radiological incidents
 - Radiological events caused by radiation worker errors
 - Radiological events caused by radiation protection technician errors
- Available for onsite review during inspection:
 - Elevation maps with most recent operating and outage radiation survey levels
 - RWP's for the top five dose rate areas or tasks

71124.02: As Low As Reasonably Achievable Planning and Controls

- Site and corporate procedures associated with maintaining site dose ALARA, including those involving ALARA work activities. These procedures should include:
 - ALARA program implementation, including ALARA committee activities and ALARA planning, briefing, and reviews
 - RWP preparation and worker compliance
 - Processes used to estimate and track work activity specific exposures
 - Making changes to dose estimates during task performance
 - Work controls
 - Engineering controls
 - Exposure mitigation requirements
- Most recent annual ALARA report.
- Refueling outage ALARA reports for the last two outages.
- Annual ALARA goals for 2014 and 2015, and the methodology utilized to make the projections.
- ALARA trending point data for last two outages.
- List of top five dose jobs for the upcoming refueling outage and ALARA planning packages (including dose estimates, work-hour estimates, special health physics (HP) controls, and dose reduction initiatives).
- List of temporary shielding requests generated for the upcoming refueling outage.
- ALARA Committee activity summaries (e.g., meeting minutes) for the last four plant ALARA Committee meetings.
- Outline of the source term reduction strategic plan.

- List of corrective action reports generated since the last inspection related to the ALARA program, including the following:
 - ALARA planning
 - Post-job review identified problems
 - Radiation worker practices
 - Occurrences where the collective exposure was greater than intended dose determined to be ALARA for the individual work activities
- Available for onsite review during the inspection:
 - Records of personnel monitored for radiation exposure that show the total effective dose equivalent (TEDE) to date for each person (If possible, sort individuals by work group.)

71124.03: In-Plant Airborne Radioactivity Control and Mitigation

- Site and corporate procedures/manuals associated with airborne radiation monitoring instrumentation and respiratory protection. Procedures/manuals should include:
 - Operation, calibration, and maintenance of air-sampling instrumentation, including set-point determination (e.g., low-vols, high vols, goosenecks, AMS 4s)
 - Calibration and maintenance of portable instruments
 - Actions to be taken when air-sampling instrumentation is found to be significantly out of tolerance/calibration
 - Issuance and use of respiratory protective equipment (emphasis on SCBA and air-supplied equipment)
 - Training, including fit-testing, for use of self-contained breathing apparatus (SCBA) and supplied-air systems
 - SCBA maintenance activities, including vital components (i.e., regulators)
 - Determination/verification of Grade D air for SCBA
- Two most recent calibrations for the following continuous air monitor (CAM) equipment:
 - Control Room Ventilation
- Records of certification of air quality for equipment used to provide breathing air for air-supplied respirators and SCBA bottles since the last inspection.
- List of corrective action reports generated since the last inspection involving radiation monitoring and protective equipment deficiencies, including the following:
 - Continuous air monitors
 - Respiratory protection equipment and program implementation
- Available for onsite review by inspector during inspection:
 - Inventory, inspection, and maintenance records for SCBA equipment
 - Training records, including fit-testing, for SCBA-qualified individuals

- Training records/certification for individuals qualified to perform maintenance on vital components (e.g., regulators) on SCBA

71124.04: Occupational Dose Assessment

- Procedures related to occupational dose assessment (e.g., external dose monitoring, dosimetry issuance and use, guidance for multi-badging, personnel contamination events, storage/care of personal dosimeters, use of electronic dosimeters (EDs), *in-vivo* and *in-vitro* internal dose assessment, quality control (QC) for whole body counter (WBC), use of passive monitoring if applicable, declared pregnant workers).
- National Voluntary Laboratory Accreditation Program (NVLAP) accreditation documentation for current dosimetry used by site.
- List of all positive WBCs, in vitro, or air-sampling analyses which resulted in an assigned committed effective dose equivalent (CEDE) equal to or exceeding 10 millirem since the last inspection. *[Note: Only a listing should be provided without names for use by the inspectors to select a sample of issues for in-depth review during the onsite inspection.]*
- List of all personnel contamination events (PCEs) identified since the last inspection. *[Note: Only a listing should be provided for use by the inspectors to select a sample of issues for in-depth review during the onsite inspection. If the list cannot be provided without personally identifiable information, please omit it from the CD, and provide it separately on paper after we arrive onsite.]*
- List of corrective action reports generated since the last inspection related to internal or external dosimetry issues and events.

71124.05: Radiation Monitoring Instrumentation

- Site and corporate procedures associated with radiation detection and monitoring instrumentation. Procedures should include:
 - Portable radiation survey instrument calibrations and source checks
 - ED calibration and use
 - WBC, personnel contamination monitor (PCM), portal monitor (PM), and small article monitor (SAM) calibrations and source checks
 - Area radiation monitor alarm setpoint values and setpoint bases, calibration, and source checks
 - Effluent monitor alarm setpoint bases and calculational methods
 - Collecting and analyzing high-range, post-accident iodine effluent samples
 - Maintenance and calibration/certification of calibration sources/range
- The last two calibration records for the following monitors:
 - (a) 3RIA-47, 48, 49 – Reactor Building Particulate, Iodine, and Gas
 - (b) 3RIA-32 – Aux. Bldg. Gas Monitor
 - (c) 3RIA-37, 38 – Waste Disposal Gas (Normal and High)
 - (d) 1RIA-43, 44, 45 – Unit Vent Particulates, Iodine, and Gas (Normal)
 - (e) 4RIA-45 – Radwaste Facility Vent (Normal)

- (f) Containment High Range Area Radiation Monitor for Unit 1 (Both Monitors)
 - (g) RIA-33 – Liquid Waste (Normal)
 - (h) WBC
 - (i) All whole body contamination monitors (ARGOS)
 - (j) All SAM monitors
 - (k) All PMs
 - (l) High Purity Germanium Detector No. 1
- Documentation for the radioactive sources used to calibrate the above requested monitors showing traceability to a national standard, National Institute of Standards and Technology (NIST), and traceability to the primary calibration, as applicable.
 - WBC calibration reports since October 2013 calibration/check source information, and WBC analysis library.
 - List of corrective action reports generated since last inspection related to radiation monitoring instrumentation, including the following:
 - Radiation survey instruments/calibrations
 - Radiation Monitoring System, including effluent monitors, process monitors, and area radiation monitors.
 - Chemistry count lab, including cross-check analysis and QC
 - WBC, PCMs, PMs, and SAMs

71151: Performance Indicator Verification

- Procedure(s) for identifying, notification, tracking, and correcting PI occurrences.
- Monthly PI reports since the last inspection, and copies of associated condition reports for any RETS/ODCM Radiological Effluent occurrences.
- Most recent liquid and gaseous permits showing year-to-date dose.
- List of all corrective action documents since the last inspection using keywords such as: HRA, LHRA, VHRA, unintended dose, unlocked door, RETS/ODCM, offsite dose, and effluent release, etc.
- List of all ED dose rate alarms > 1 R/hr and all ED dose alarms since the last inspection.

Inspector Contact Information:

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 404-997-4646
jonathan.rivera@nrc.gov

Mailing Address

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 Region II
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 Suite 1200
 Atlanta, GA 30303-1257

LIST OF ACRONYMS

ALARA	As Low As Reasonably Achievable
CAMs	Continuous Air Monitors
CEDE	Committed Effective Dose Equivalent
DAW	Dry Active Waste
EDs	Electronic Dosimeters
HDR	High Dose Rate
HP	Health Physics
HRAs	High Radiation Areas
IPs	Inspection Procedures
ISFSI	Independent Spent Fuel Storage Installation
LHRA	Locked High Radiation Area
NIST	National Institute of Standards and Technology
NVLAP	National Voluntary Laboratory Accreditation Program
ODCM	Offsite Dose Calculation Manual
PCEs	Personnel Containment Events
PCM	Personnel Contamination Monitor
PIs	Performance Indicators
PM	Personnel Monitor
QC	Quality Control
RAM	Radioactive Material
RETS/ODCM	Radiological Effluent Technical Specifications/Offsite Dose Calculation Manual
RWPs	Radiation Work Permits
SAM	Small Article Monitor
SCBA	Self-contained Breathing Apparatus
TEDE	Total Effective Dose Equivalent
TLDs	Thermoluminescent Dosimeters
VHRA	Very High Radiation Area
WBC	Whole Body Counter