



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**  
REGION II

245 PEACHTREE CENTER AVENUE NE, SUITE 1200  
ATLANTA, GEORGIA 30303-1257

May 5, 2017

Steven D. Capps  
Duke Energy Carolinas, LLC  
McGuire Nuclear Station  
12700 Hagers Ferry Road  
Huntersville, NC 28078-8985

**SUBJECT: WILLIAM B. McGUIRE NUCLEAR PLANT – NOTIFICATION OF INSPECTION  
AND REQUEST FOR INFORMATION**

Dear Mr. Capps,

During the week of June 5 - 9, 2017, the U.S. Nuclear Regulatory Commission (NRC) will perform a baseline Radiation Safety Inspection at the McGuire Nuclear Station (NRC Inspection Procedures 71124.06, 71124.07, 71134.08 and 71151).

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 activity. It is important that all of these documents are up-to-date, and complete, thereby minimizing the number of additional documents requested during the preparation, and/or the onsite portions of the inspection. The NRC requests that these documents be provided to the inspectors no later than May 26, 2017.

We have discussed the schedule for these inspection activities with your staff, and understand that our regulatory contact for this inspection will be Joseph Hussey, Regulatory Affairs, of your organization. If there are any questions about this inspection or the material requested, please contact the lead inspector, Carmen Dykes at 404-997-1401, or the Plant Support Branch 1 Chief, Brian Bonser at 404-997-4653.

In accordance with Title 10 of the *Code of Federal Regulations* (10 CFR) 2.390, "Public inspections, exemptions, requests for withholding," 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 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>.

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

3150-0008, 3150-0011, 3150-0014, 3150-0044, and 3150-0135. 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.

Sincerely,

*/RA/*

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

Docket Nos. 50-369 and 50-370  
License Nos. NPF-9 and NPF-17

Enclosure:  
Pre-Inspection Document Request

cc: Distribution via Listserv

SUBJECT: WILLIAM B. MCGUIRE NUCLEAR PLANT – NOTIFICATION OF INSPECTION  
AND REQUEST FOR INFORMATION – DATED: May 5, 2017

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ADAMS:  Yes      ACCESSION NUMBER: \_\_\_\_\_       SUNSI REVIEW COMPLETE       FORM 665 ATTACHED

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## Pre-Inspection Document Request

### Occupational and Public Radiation Safety Cornerstone

Inspection Dates: June 5 - 9, 2017

Documents Due to Region II by: May 26, 2017

Licensee: McGuire Nuclear Station

Docket Number: 05000369, 370

Inspection Procedure: IP 71124.06 Radioactive Gaseous and Liquid Effluent Treatment  
IP 71124.07 Radiological Environmental Monitoring Program  
IP 71124.08 Radioactive Solid Waste Processing and Radioactive Material Handling, Storage, and Transportation  
IP 71151 Performance Indicator Verification

Lead Inspector & Mailing Address:

Carmen Dykes	U.S. Nuclear Regulatory Commission
Health Physicist	Region II
U.S. NRC Region II	ATTN: Carmen Dykes
404-997-4401	245 Peachtree Center Ave., N.E
<a href="mailto:Carmen.dykes@nrc.gov">Carmen.dykes@nrc.gov</a>	Suite 1200
	Atlanta, GA 30303

**Note:** The current version of these documents is expected unless specified otherwise. Electronic media (CDs, DVDs, FTP site) is preferred if readily available. *[Note do not provide data on USB or "flash" drives due to NRC IT security policies.]* Please organize the information as it is arranged below to the extent possible. Please note the date ranges for the items requested as they may change from item to item. If there are questions or if the documents cannot be provided by the due date, please do not hesitate to contact the lead inspector, Carmen Dykes at (404) 997-4101.

### Miscellaneous

1. List of primary contacts for each inspection area including names and telephone numbers
2. Plant Management, Radiation Protection, and Chemistry organizational charts w/ contact numbers.
3. List of radiation protection procedures, including title and number.
4. Corrective action program (CAP) procedures

Enclosure

71124.06 - Radioactive Gaseous and Liquid Effluent Treatment  
(Last Inspected June 2015)

1. Site and/or corporate procedures associated with implementing the effluents and the groundwater monitoring program. Procedures should include those that address:
  - a. Effluent sampling
  - b. Effluent monitor set-point determinations
  - c. Dose calculations
  - d. Groundwater monitoring and reporting of spills/leaks
  - e. Methodology for determining effluent stack/vent flow rates
2. Offsite Dose Calculation Manual (ODCM) and a list of changes made in the last revision.
3. Annual Radiological Effluent Releaser Reports (ARERRs) for calendar years (CYs) 2015 and 2016.
4. List of liquid and gaseous effluent monitors listed as out-of-service (OOS) for > 1 day since June 1, 2015, including any special reports submitted to the NRC as a result of effluent monitor operability.
5. List of all unmonitored spills, leaks, or unexpected liquid/gaseous discharges since June 1, 2015. If applicable, provide the Licensee Event Report (LER), event report, and/or special report.
6. List of non-radioactive systems that have become contaminated and any 10 CFR 50.59 evaluations performed, since June 1, 2015.
7. List of any changes to the effluent release points or effluent treatment systems, and associated 10 CFR 50.59 documentation since June 1, 2015.
8. Material condition surveillance records for effluent system components not readily accessible, including those inaccessible due to radiological conditions.
9. Effluent release permits for continuous gaseous, batch gaseous, continuous liquid, and/or batch liquid releases. Only provide permits for last releases within each category.
10. Results of inter-laboratory comparison program for the count lab since June 1 2015.
11. Last two surveillance results for the engineered safety feature (ESF) ventilation systems (e.g., system flow, HEPA, charcoal filter tests).
12. Groundwater monitoring results since June 1, 2015.
13. List of changes to the written groundwater monitoring program for identifying/controlling contaminated spills/leaks since June 1, 2015.
14. List of onsite surface water bodies (e.g., ponds, retention basins, lakes) that contain or potentially contain radioactivity.

15. List of CAP problem identification programs (PIPs) generated since June 1, 2015, related to liquid and gaseous effluent treatment and monitoring, unmonitored spills, leaks, or effluent discharges, or the groundwater monitoring program.
16. Audit and self-assessment documents generated since July 1, 2013, related to liquid and gaseous effluent treatment and monitoring, unmonitored spills, leaks, or effluent discharges, or the groundwater monitoring program.

71124.07 - Radiological Environmental Monitoring Program  
(Last Inspected June 2015)

1. Collection schedule for Radiological Environmental monitor Program (REMP) samples during the week of inspection.
2. Site and corporate procedures associated with radiological environmental monitoring, including:
  - a. Collection, preparation, and analysis of environmental samples including air, Thermoluminescent Dosimeter (TLD) stations, ground and surface water, sediment, vegetation, milk, fish, etc.
  - b. Calibration and maintenance of air and water sampling equipment.
  - c. Calibration and quality control (QC) activities for sample counting instruments.
  - d. Sampling and monitoring program to detect leaks from contaminated, or
  - e. potentially contaminated, systems, structures, or components (SSCs).
  - f. Calibration, operation, maintenance, and routine surveillances of meteorological monitoring instruments (wind speed & direction, air temperature, etc.).
3. Annual Radiological Environmental Operating Reports (AREORs) for CYs 2015 and 2016.
4. List of SSCs that contain, or could contain, licensed material for which there is a credible mechanism for the radioactive material (RAM) to reach ground water.
5. Summary of leaks and/or spills since June 1, 2015, (i.e. additions to the 10 CFR 50.75(g) file).
6. List of changes to the REMP (sample locations, sample frequency, type of samples, etc.) since June 1, 2015.
7. Calibration and maintenance records for REMP air and composite water samplers since June 1, 2015.
8. Inter-laboratory comparison program results since June 1, 2015, (in-house or vendor laboratory).
9. Last two calibration/surveillance/maintenance records for the meteorological monitoring instruments since June 1, 2015, (wind speed, wind direction, and air temperature).
10. Results of TLD environmental monitoring since the last inspection.

11. List of CAP PIPs generated since June 1, 2015, related to REMP. The data should include any reviews conducted of vendor activities and their facilities (e.g., environmental lab).
12. Audit and self-assessment documents generated since June 1, 2015, related to REMP. The data should include any reviews conducted of vendor activities and their facilities (e.g., environmental lab).

71124.08 - Radioactive Solid Waste Processing and Radioactive Material Handling, Storage, and Transportation

(Last Inspected 09/2015)

1. Provide Procedures/Guidance Documents describing licensee compliance with 10 CFR Parts 20, 61, and 71, and 49 CFR Parts 170-189. Procedures/manuals should include:
  - a. Solid and liquid radwaste processing procedures.
  - b. Procedure(s) for transferring radioactive waste resin and sludge discharges into shipping/disposal containers.
  - c. Waste stream mixing and/or sampling procedures, including:
    - i. waste concentration averaging;
    - ii. use of scaling factors and calculations used to account for difficult-to-measure radionuclides;
    - iii. ensuring waste stream composition data accounts for changing operational parameters.
  - d. Shipping/transportation procedures.
  - e. Cask loading and closure procedures (licensee and vendor) applicable to last three cask transports.
2. Provide a list of radioactive material (RAM) storage areas, including satellite radiological controlled areas (RCAs)
3. Provide Liquid and solid radwaste system diagrams and detailed system descriptions (e.g., information that might be contained in curricula for training new system engineers)
4. Provide the most recent radio-chemical sample analysis results (i.e., "10 CFR Part 61" analysis) for each of the radioactive waste streams (e.g., dry active waste (DAW), ion exchange resins, mechanical filters, and sludges and activated materials).
5. List and documentation of any changes made to the radioactive waste processing systems (liquid and solid) and/or the PCP since the September 2015, and associated 10 CFR 50.59 documentation, as appropriate.
6. Provide a log of RAM shipments (LSA I, II, III; SCO I, II, Type A, or Type B) since September 2015. (The inspectors will select three to five packages to review in detail.)
7. List of CAP NCRs (AR, CR, NCR, etc.) related to involving radioactive waste and RAM processing and/or transportation (e.g., keyword searches for RAM, shipping, radwaste, 10 Part 61, etc.) issued since September 2015. This should be a list of corrective action documents containing an (AR, CR, NCR, etc.) number and brief description, not full documents.

8. Available for onsite review during the inspection:
  - a. Site drawing(s) showing the location of all stored RAMs and all stored radioactive waste.
  - b. Plant drawings sufficient to permit the inspector to walkdown the liquid and solid radioactive waste processing systems, to verify current system configuration/operation agree with the descriptions contained in the Updated Final Safety Analysis Report and in the PCP.
  - c. Documentation describing the status of any radioactive waste process equipment that is not operational and/or is abandoned in place.
  - d. Information concerning the site's waste disposal volume and waste reduction program.
  - e. Training and qualification records for personnel responsible for radioactive waste.
  - f. Training curriculum and primary lesson plans for qualifying persons, including vendors, for radwaste processing, packaging, and making shipments of RAM and radioactive waste as specified by 49 CFR Part 172.

#### 71151 – Performance Indicator Verification

(Last inspected March 2016)

1. Monthly/Quarterly PI reports and copies of associated CAP documents, for Occupational Exposure Control Effectiveness and Radiological Effluent Technical Specifications/Offsite Dose Calculation Manual (RETS/ODCM) Radiological Effluent Occurrences since March 1, 2016.
2. Procedure(s) for identifying, notification of, tracking, and correcting PI occurrences.
3. Liquid and gaseous effluent release permits since March 1, 2016, which specify the quarterly and annual curies released by isotope and associated public dose assessments.
4. List of all CAP documents since March 1, 2016 using keywords such as high radiation area (HRA), locked high radiation area (LHRA), very high radiation area (VHRA), unintended dose, unlocked LHRA door, etc.
5. List of CAP documents since March 1, 2016, using keywords such as abnormal unmonitored effluent release, etc.
6. List of all electronic dosimeter (ED) dose rate alarms and all ED dose alarms since March 1, 2016
7. Audit and self-assessment documents generated since March 1, 2016, related to PIs



**LIST OF ACRONYMS**

ARs	Action Requests
CAP	Corrective Action Program
CRs	Condition Reports
DAW	Dry Active Waste
HP	Health Physics
HRA	High Radiation Area
LHRA	Locked High Radiation Area
NCRs	Nonconformance Reports
PCP	Process Control Program
RAM	Radioactive Material
RCAs	Radiological Controlled Areas
RWPs	Radiation Work Permits
VHRA	Very High Radiation Area