



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

August 31, 2011

Mr. David A. Heacock  
President and Chief Nuclear Officer  
Virginia Electric and Power Company  
Innsbrook Technical Center  
5000 Dominion Boulevard  
Glen Allen, VA 23060-6711

**SUBJECT: RADIATION PROTECTION INSPECTION – SURRY POWER STATION**

Dear Mr. Heacock:

On October 3-14, 2011, the NRC will perform a baseline Radiation Safety Inspection at Surry Power Station, (NRC Inspection Procedures 71124.01, 71124.04, 71124.05, 71124.06, 71124.07, 71124.08, and Radiation Safety Sections of 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 on-site resources and to ensure a productive inspection, we have enclosed a request for documents needed for this activity. The NRC requests that these documents be provided to the inspectors no later than September 16, 2011.

We have discussed the schedule for these inspection activities with your staff and understand that our regulatory contact for this inspection will be Barry Garber of your organization. If there are any questions about this inspection or the material requested, please contact the lead inspector, Ruben Hamilton, at (404) 997-4672, or the Plant Support Branch 1 Chief, Brian Bonser, at (404) 997-4653.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter and its enclosure will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC web site at <http://www.nrc.gov>.

Sincerely,

*/RA/*

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

Docket No.: 50-280, 50-281  
License No.: DPR-32, DPR-37

Enclosure:  
Document Request List

cc w/encl.: (See page 2)

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DATE	08/30/2011	08/30/2011					
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Enclosure

cc w/encl:

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## Document Request List

Inspection Dates:	October 3-14, 2011
Inspection Procedures:	IP 71124.01 Radiological Hazard Assessment and Exposure Controls
	IP 71124.04 Occupational Dose Assessment
	IP 71124.05 Radiation Monitoring Instrumentation
	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

**Note:** The current version of these documents is expected unless specified otherwise. Electronic media is preferred if readily available (The preferred file format is Word, or searchable “.pdf” files on CDROM). *Note that the inspectors cannot accept data provided on USB or “flash” drives due to NRC IT security policies.* Please organize the information as it is arranged below to the extent possible. Experience has shown that a poorly organized CD leads to a less efficient inspection and places additional burden on licensee staff. *Please do not provide records that contain personally identifiable information such as names with social security numbers as those can be reviewed on-site without risking compromise of personal identity information.* If there are questions regarding the documents requested, please do not hesitate to contact the lead inspector.

### General Information Request

1. Plant Management, Radiation Protection, and Chemistry organizational charts w/ contact numbers.
2. Electronic copy of relevant UFSAR chapters (e.g. site description, radwaste program, and radiation protection).
3. Corrective Action Program procedures.
4. Procedures for gathering and reporting NRC Performance Indicator data.
5. 2009, and 2010 Annual Radioactive Effluent Reports.
6. 2009, and 2010 Annual Radiological Environmental Operating Reports.
7. 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, etc.).

Enclosure

71124.01 - Radiological Hazard Assessment and Exposure Controls

1. List of active RWPs.
2. Latest survey of all Locked HRAs and VHRA's (as applicable).
3. Latest survey of ISFSI areas.
4. Procedures related to HP controls (e.g. Posting, labeling, surveys, RWPs, contamination control, HRA/LHRA/VHRA control, key control, control of divers, special controls during fuel offload, hot spots, etc.).
5. Procedures related to release of personnel and materials (e.g. release surveys, decontamination, guidance for alarm follow up, etc.).
6. List of Nationally Tracked Sources and any change-of-ownership transactions.
7. List of all non-fuel items stored in spent fuel pool.
8. All self-assessments and audits covering HP controls since January 2010.
9. LIST of CRs related to HP controls where the cause was listed as human performance (radworker error) or human performance (HP technician error) issued since January 2010. *This should be a list of corrective action documents containing an CR number and brief description, not full CRs.*
10. All CRs related to Nationally Tracked Sources since January 1, 2010.

71124.04 – Occupational Dose Assessment

1. 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, *in-vivo* and *in-vitro* internal dose assessment, QC for whole body counter, use of passive monitoring if applicable, declared pregnant workers).
2. NVLAP accreditation documentation for current dosimetry used by site.
3. LIST of all positive whole body counts, in vitro, or air-sampling analyses which resulted in an assigned CEDE equal to or exceeding 10 millirem since January 2010. *[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].*
4. List of all personnel contamination events identified since January 2010. *[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 on site.].*
5. All audits and self-assessments of the dosimetry program (including audits of the lab that processes site dosimetry) since January 2010.

Enclosure

6. LIST of CRs generated since January 2010, for internal or external dosimetry issues/events. *This should be a list of corrective action documents containing a CR number and brief description, not full CRs.*

#### 71124.05 - Radiation Monitoring Instrumentation

1. Procedures/Guidance Documents for:
  - a. use of portable instrument calibrators (e.g. Shepherd calibrator).
  - b. calibration and functional test/source checks of portable radiation detection instrumentation.
  - c. calibration and functional tests of small article monitor (SAM), personnel contamination monitor (PCM), portal monitor (PM), whole body counting (WBC) equipment; and continuous air monitors (CAMs).
  - d. determination of set-points for Area Radiation Monitor (ARM), CAM, PCM, PM and SAM equipment.
  - e. collection and analysis of high-range, post accident effluent samples.
  - f. QA program for count room instruments.
2. The last two calibration records for the following monitors:
  - a. 1-GW-RM-101/102                      Process Vent Particulate and Gas Monitors.
  - b. 1-RRM-RE-100                        RF Vent Particulate.
  - c. 1-RRM-RE-101                        RF Vent Gas.
  - d. 1-RRM-RE-131                        Liquid Waste Disposal.
  - e. 1-CH-RM-118                         Reactor Coolant Letdown High Range.
  - f. 1/ 2-RM-RM-127/227 & 128/228    Containment High Range Area Radiation Monitor.
  - g. 1-RM-RM-157                         Main Control Room Area Radiation Monitor.
  - h. All personnel contamination and tool monitors at RCA exit point.
  - i. Count room high-purity Ge detector no. 1.
  - j. Count room liquid scintillation detector no. 1.
3. Certificates for the sources used to calibrate the above requested monitors showing traceability to a national standard (NIST), as applicable.
4. The last two test records of the portable instrument calibrator (Shepherd validation testing).
5. Copies of all audits, self-assessments, and/or reviews of area and personnel monitoring equipment and portable radiation survey instruments generated since January 2010. The records should include any reviews conducted of vendor facilities, e.g., outside calibration laboratories, as applicable.
6. List of CRs generated since January 2010, related to portable instruments, effluent and area monitors, CAMs, RCA release point monitors, WBCs, and count room instruments. *This should be a summary list of corrective action documents containing a CR number and brief description, not full CRs.*

#### 71124.06 - Radioactive Gaseous and Liquid Effluent Treatment

1. Offsite Dose Calculation Manual (ODCM) and a list of changes made since the last revision

2. Procedures/Guidance Documents for:
  - a. collection, analysis, release and dose evaluations for gaseous and liquid effluents.
  - b. groundwater monitoring program.
  - c. determination of rad monitor set-points for main plant gaseous and liquid effluent discharge pathways.
3. List of changes made to radioactive effluent processing systems since January 2010.
4. List of any non-radioactive systems that have become contaminated since January 2010.
5. List of any unmonitored, unplanned, or otherwise abnormal gaseous or liquid releases since January 2010.
6. List of 10 CFR 50.75(g) entries made since January 2010.
7. List of liquid and gaseous effluent monitors listed as out-of-service (OOS) since January 2010.
8. Groundwater monitoring results since January 2010.
9. Inter-laboratory comparison program results (for onsite count lab) since January 2010.
10. Results of last 2 filtration system (HEPA/Charcoal) surveillances for gaseous effluent pathways.
11. All audits, self-assessments, and/or reviews of the radioactive effluent monitoring program since January 2010. Include any reviews conducted of vendor activities and their facilities, as applicable.
12. List of CRs generated since January 2010, because of gaseous and liquid effluent processing and/or ODCM related activities. *This should be a list of corrective action documents containing a CR number and brief description, not full CRs.*

71124.07 - Radiological Environmental Monitoring Program (REMP)

1. Procedures/Guidance Documents for:
  - a. collection and analysis of environmental samples.
  - b. calibration and maintenance of REMP air and/or water samplers.
  - c. calibration of meteorological monitoring instruments (wind speed & direction, air temperature, etc.).
  - d. periodic meteorological instrumentation surveillance requirements.
2. Calibration records for REMP air and water sampling equipment (as applicable) since January 2010.
3. Last two calibration records for each meteorological monitoring instrument on the primary tower (wind speed & direction and air temperature).
4. Inter-laboratory comparison program results (environmental lab) since January 2010.

5. Copies of latest audits, self-assessments, and/or reviews of REMP activities. The data should include any reviews conducted of vendor activities and their facilities (e.g. environmental lab).
6. List of systems, structures, or components (SSCs), identified as credible mechanism(s) having the potential for release of licensed material to the groundwater environs.
7. List of changes to the REMP (sample locations, sample frequency, type of samples, etc.) since January 2010.
8. List of CRs generated as a result of REMP activities since January 2010. *This should be a list of corrective action documents containing a CR number and brief description, not full CRs.*

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

1. Site and corporate procedures/manuals 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 (1) waste concentration averaging, (2) use of scaling factors and calculations used to account for difficult-to-measure radionuclides, and (3) 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.
  - f. Process Control Program (PCP).
2. List and documentation of any changes made to the radioactive waste processing systems (liquid and solid) and/or the PCP since the last inspection and associated 10 CFR Part 50.59 documentation as appropriate.
3. Copies of applicable transport cask Certificate of Compliance for the last three transport cask shipments.
4. Training and qualification records for personnel responsible for radioactive waste processing and radioactive material shipment preparation activities.
5. Copy of the Radioactive Shipping Log for the last 12 months (The inspector will select transportation shipping packages for review during the inspection.).
6. List of corrective action reports generated since the last inspection involving radioactive waste and radioactive material/waste transportation.



7. Available for onsite review during the inspection:

- a. Site drawing(s) showing the location of all stored radioactive materials and all stored radioactive waste.
- b. Plant drawings sufficient to permit the inspector to walk-down the liquid and solid radioactive waste processing systems to verify current system configuration/operation agree with the descriptions contained in the UFSAR 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 curriculum and primary lesson plans for qualifying persons, including vendors, for radwaste processing, packaging, and making shipments of radioactive materials and radioactive waste as specified by 49 CFR 172.

71151: Performance Indicator (PI) Verification

1. Monthly PI reports since January 1, 2010, and copies of associated condition reports for any RETS/ODCM Radiological Effluent occurrences.
2. Liquid and gaseous effluent release permits which specify the monthly, quarterly, and annual curies released by isotope and associated public dose assessments since January 1, 2010.
3. List of all corrective action documents since January 1, 2010, using keywords such as: HRA, LHRA, VHRA, unintended dose, unlocked door, etc.
4. List of all electronic dosimeter (ED) dose rate alarms > 1 R/hr and all ED dose alarms since January 2010.