

**Panfel, Jacob**

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**From:** Panfel, Jacob  
**Sent:** Thursday, February 01, 2018 3:34 PM  
**To:** 'robert.page@dominionenergy.com'  
**Subject:** North Anna RP NRC Document Request - March 2018  
**Attachments:** North Anna\_RP\_RFI\_2018002.pdf

**Follow Up Flag:** Follow up  
**Flag Status:** Flagged

Bob,

Per the previous communication with Bob Kellner, I understand you will be the licensing point of contact for the upcoming NRC Radiation Safety Inspection scheduled for the weeks of March 19<sup>th</sup> – 23<sup>rd</sup> and April 2<sup>nd</sup> – 6<sup>th</sup> 2018 at North Anna Power Station. Attached is the Initial Information Request with a Document Request List.

The NRC inspectors who will be on-site during the inspection are myself and Bob Kellner with Wade Loo joining us for the second week.

Please let me know that you received this request. If there are any questions about this inspection or the material requested, please don't hesitate to contact me either via email or phone.

Thanks,

Jacob

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North Anna Power Station  
Radiation Safety Baseline Inspection  
Initial Information Request  
Inspection Report: 2018002

During the weeks of March 19-23 and April 2-6, 2018, the Nuclear Regulatory Commission (NRC) will perform a baseline Radiation Safety Inspection at North Anna Power Station, (NRC Inspection Procedures 71124.01, 71124.02, 71124.03, 71124.04, 71124.05, and the 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 onsite resources and to ensure a productive inspection, we are requesting in advance 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 provided to the inspectors in CD/DVD format no later than March 10, 2018.

If there are any questions about this inspection or the material requested, please contact the lead inspector, Jacob Panfel, at [Jacob.Panfel@nrc.gov](mailto:Jacob.Panfel@nrc.gov) or (404) 997-4714, or the Engineering Branch 3 Branch 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," 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 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).

#### PAPERWORK REDUCTION ACT STATEMENT

This document 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.

#### PUBLIC PROTECTION NOTIFICATION

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.

### **Document Request List**

Licensee: North Anna Power Station

Docket Number(s): 05000338 and 339

Inspection Dates: March 19-23, 2018 and April 2-6, 2018

Documents Due to R-II by: **March 10, 2018**

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
71124.05	Radiation Monitoring Instrumentation
71151	Performance Indicator Verification

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**Note:** The current version of these documents is expected unless specified otherwise. Electronic media is preferred if readily available. 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. Pay particular attention to the date ranges for the items requested as they may change from item to item. If there are questions regarding the documents requested, or if the documents cannot be provided by the due date, please do not hesitate to contact the lead inspector.

Documentation for the inspection procedures from March 1, 2016 to the present is requested for all procedures, except 71124.01, which should be from September 1, 2017 to present, and 71151 which should be from August 1, 2017 to present. This reflects the last time these areas were inspected. We would prefer as much of the information as possible in electronic form. An index to the CD contents is also helpful. For those items requesting a list of documents/areas, the inspector will select documents/areas from the list for on-site review.

### **General and Miscellaneous Information**

- List of primary site contact(s) for each inspection area including name(s) and telephone numbers.
- List of radiation protection procedures, including title and number.
- Plant Management, Radiation Protection, and Chemistry organizational charts w/ contact numbers
- Outage schedule, including work activities to be conducted during the week(s) of the inspection

- Most recent DAW 10 CFR Part 61 analytical results and characterization of major radioactive waste streams (e.g. Dry Active Waste (DAW), filters, primary resin, etc.)
- Corrective Action Program procedure(s)
- List of all Performance Indicators (PIs) and copies of associated corrective action reports for Occupational Exposure Control Effectiveness and RETS/ODCM Radiological Effluent Occurrences since July 1, 2017.
- Audits and self-assessments performed since April 1, 2016 that encompass the areas of (1) the ALARA program and implementation, (2) respiratory protection, (3) airborne radioactivity, monitoring and/or mitigation-engineering controls, and (4) radiological monitoring instrumentation (portable, installed, and counting room instruments).

#### **71124.01 - Radiological Hazard Assessment and Exposure Controls**

(Last Inspected September 2017)

1. List of active Radiation Work Permits (RWPs), including outage RWPs, with their administrative limits, electronic dosimeter dose rate limit, and dose limit.
2. List of locations, or plant maps indicating the location, of all LHRAs and VHRAs. Include areas with the potential to become a LHRA during routine operations or outages.
3. Most recent survey of all Locked HRAs and VHRAs (as applicable).
4. The following Independent spent fuel storage installation (ISFSI) information:
  - Last two routine surveys of the facility
  - As low as reasonably achievable (ALARA) planning and reviews conducted for the last two moves.
5. 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.).
6. Procedures related to release of personnel and materials (e.g. release surveys, decontamination, guidance for alarm follow up, etc.).
7. List of Nationally Tracked Sources, change of ownership and copies of any National Source Tracking System transaction documentation (e.g., annual reconciliation).
8. Most recent sealed source inventory record.
9. List of all non-fuel items stored in spent fuel pool.
10. 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 September 1, 2017. *This should be a list of corrective action documents containing a CR number and brief description, not full CRs.*
11. All CRs related to Nationally Tracked Sources since September 1, 2017.

#### **71124.02 - ALARA Planning and Controls**

(Last Inspected March 2016)

1. 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
  - Radiation work permit 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
2. List of top five dose jobs for the upcoming refueling outage and ALARA planning packages (including dose estimates, work-hour estimates, special HP controls, and dose reduction initiatives).
  3. Most recent annual ALARA report and last two refueling outage reports.
  4. Annual ALARA goals for 2017 and 2018, and the methodology utilized to make the projections.
  5. ALARA Committee activity summaries (e.g. meeting minutes) discussing activities associated with the upcoming refueling outage.
  6. Outline of the source term reduction strategy. Information should include:
    - Historic trends and current status of plant source term
    - Factors that affect the source term
    - Activities employed to reduce the source term
    - Specific sources identified for reduction actions
    - Source term reduction evaluation
    - Results achieved since March 1, 2016.
  7. List of corrective action reports generated since March 1, 2016, 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
  8. Available for onsite review during the inspection:
    - ALARA planning packages for jobs to be performed during the outage
    - Temporary shielding requests generated for the outage
    - Completed ALARA packages (including post-job reviews) for the five work activities that were completed during the last outage that had the greatest collective dose, and/or presented significant radiological risk.

### **71124.03 - In-Plant Airborne Radioactivity Control and Mitigation**

(Last Inspected March 2016)

1. 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, etc.)
  - 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)
  - Total Effective Dose Equivalent-ALARA evaluation guidance
  - Training, including fit-testing, for use of SCBA and supplied-air systems
  - SCBA maintenance activities, including vital components (i.e. regulators)
  - Determination/verification of Grade D air for SCBA

2. Two most recent HEPA filter DOP and charcoal test results or the following ventilation systems:
  - Main Control Room
  - Containment Purge Ventilation Exhaust
3. Records of air quality certification for equipment used to provide breathing air for air-supplied respirators and SCBA bottles (air compressors and bottled breathing air) since March 1, 2016.
4. Documentation for last two surveillances performed on SCBA stored for emergency use.
5. List of corrective action reports generated since March 1, 2016 involving radiation monitoring and protective equipment deficiencies, including the following:
  - Continuous air monitors
  - Respiratory protection equipment and program implementation
6. 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
    - i. List of all licensed operators qualified to use SCBA
    - ii. List of all instrumentation and control personnel qualified to use SCBA
    - iii. List of all HP personnel qualified to use SCBA
  - Training records/certification for individuals qualified to perform maintenance on vital components (e.g. regulators) on SCBA

#### **71124.04: Occupational Dose Assessment**

(Last Inspected March 2016)

1. Site and corporate Procedures/Guidance Documents for external dose monitoring, i.e. dosimetry issuance and use. The documents should include:
  - Guidance for multi-badging; monitoring in steep/highly variable dose rate gradients
  - Personnel contamination events; storage/care of personal dosimeters; use of electronic dosimeters including evaluation of any biases identified relative to TLD monitoring
  - Internal dose assessment, i.e., both *in vivo* and *in vitro* bioassay and air sampling capabilities. The documents should include guidance for calibration/QC and use of whole body counter (WBC); release of contaminated individuals, use of passive monitoring as screening method for evaluations, and special *in vitro* sample collection and analysis, and actions for declared pregnant workers
2. NVLAP accreditation documentation for dosimetry used by the site in 2016, 2017, and current.
3. ISFSI perimeter area monitoring results (TLD data) since March 1, 2016.
4. List of all positive whole body count (WBC), *in vitro*, or air sampling analyses which resulted in an assigned CEDE equal to, or exceeding, 10 millirem since March 1, 2016. [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].
5. List of all personnel contamination events, dispersed contamination/discrete particles, identified since March 1, 2016. [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].
6. Copies of all audits, reviews, or evaluations conducted of vendor facilities, e.g., corporate or outside vendor or corporate facilities related to internal or external dosimetry issues generated since March 1, 2016.
7. List of Condition Reporting (CR) documents generated since March 1, 2016, for internal

or external dosimetry issues/events. *[Note: only titles and a summary statement should be provided for use by the inspectors to select a sample of issues for in-depth review].*

#### **71124.05 - Radiation Monitoring Instrumentation**

(Last Inspected March 2016)

1. Procedures/Guidance Documents for:
  - use of portable instrument calibrators (e.g. Shepherd calibrator)
  - calibration and functional test/source checks of portable radiation detection instrumentation
  - 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)
  - determination of set-points for Area Radiation Monitor (ARM), CAM, PCM, PM and SAM equipment
  - collection and analysis of high-range, post- accident effluent samples
  - QA program for count room instruments (e.g. laboratory inter-comparison data)
2. The last two calibration records for the following monitors:
  - 1-VG-RM-178-1&2            Process Vent - gas detector(s), normal and high ranges.
  - 1-SV-RM-221                Condenser Air Ejector
  - 1-RM-RMS-159              Containment Particulate Monitor
  - 1-RM-RMS-160              Containment Gas Monitor
  - 1-MS-RM-170/171/172    Main Steam Line Radiation Monitors
  - 1-RM-RMS-165/166        Containment High-Range Radiation Monitors (CHRRMS)
  - 1-RM-RMS-184/185/186   Technical Support Center Area Radiation Monitors
3. Documentation for the radioactive sources used to calibrate the instruments in item 2 above, including paperwork showing traceability to a National Institute of Standards & Technology standard and/or traceability to the primary calibration, as applicable
4. The last two surveillances performed on the Post-accident Sampling System, as applicable if it is still required in the plant technical specifications
5. The last two test records of the instrument calibrator (Shepherd validation testing/dose rate curves).
6. List of the portable instruments currently in service and available for use. Several will be selected for on-site review of the calibration records.
7. List of the following radiation monitors currently in service. Several will be selected for on-site review of the calibration records.
  - Portal Monitors used in Dosimetry for Passive Monitoring
  - SAMs at RCA exit point
  - Whole Body Contamination Monitors at RCA exit point
  - Portal Monitors at RCA exit point
  - Countroom High-purity Germanium and liquid scintillation systems
8. Documentation for the radioactive sources used to calibrate the monitors requested for item 7 above showing traceability to a national standard (NIST).
9. Chart or procedure listing any Emergency Action Level (EAL) value associated with installed or portable radiation monitoring instrument indication(s).
10. Latest system health report for the Radiation Monitoring system.
11. Copies of all audits, self-assessments, and/or reviews of vendor or corporate facilities, e.g., outside or corporate calibration laboratories, generated since March 1, 2016.

12. List of CRs generated since March 1, 2016, related to portable instruments, area monitors, CAMs, WBCs, and count room instruments. *This should be a list of corrective action documents containing a CR number and brief description, not full CRs.*

### **71151 – Performance Indicator (PI) Verification**

(Last Inspected July 2017)

1. Site procedures/manuals for gathering and reporting PI data.
2. Monthly/Quarterly PI reports since July 1, 2017, and copies of associated condition reports for any RETS/ODCM Radiological Effluent occurrences.
3. End of calendar year (CY) 2017 liquid and gaseous effluent release permits which specify the monthly, quarterly, and annual curies released by isotope, and associated public dose assessments.
4. List of all corrective action documents since July 1, 2017, using keywords such as: HRA, LHRA, VHRA, unintended dose, unlocked door, etc.
5. List of all electronic dosimeter (ED) dose rate alarms and ED dose alarms since July 1, 2017 which includes dose or dose rate alarm received, and the alarm setpoint(s).
6. List of all corrective action reports generated since July 1, 2017, using keywords abnormal/ unmonitored effluent release, etc.

### **Assistance Requested During On-Site Inspection**

- Identification of work activities available during the inspection for inspector observations, including notification of pre-job briefings, notification of risk significant work activities, and audio/visual surveillance for remote job coverage
- HP assistance in a walkdown of the ISFSI.
- Health physics assistance in plant walk-downs assessing access controls, e.g. verifying the posting and locking of entrances to high and very high radiation areas (HRA and VHRA), and SFP controls.
- Health physics assistance in plant walk-downs/job coverage of ongoing activities to assess access controls.

### **Inspector Contact Information:**

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