



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

April 24, 2014

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

SUBJECT: NORTH ANNA POWER STATION, UNITS 1 AND 2 - PLAN FOR THE ONSITE  
AUDIT REGARDING IMPLEMENTATION OF MITIGATING STRATEGIES AND  
RELIABLE SPENT FUEL INSTRUMENTATION RELATED TO ORDERS EA-12-  
049 AND EA-12-051 (TAC NOS. MF0998, MF0999, MF0986, AND MF0987)

Dear Mr. Heacock:

On March 12, 2012, the U.S. Nuclear Regulatory Commission (NRC) issued Order EA-12-049, "Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond Design-Basis External Events" and Order EA-12-051, "Order to Modify Licenses With Regard To Reliable Spent Fuel Pool Instrumentation," (Agencywide Documents Access and Management System (ADAMS) Accession Nos. ML12054A736 and ML12054A679 respectively). The orders require holders of operating reactor licenses and construction permits issued under Title 10 of the *Code of Federal Regulations* Part 50 to submit for review, Overall Integrated Plans (OIPs) including descriptions of how compliance with the requirements of Attachment 2 of each order will be achieved.

By letter dated February 28, 2013 (ADAMS Accession No. ML13063A182), Virginia Electric and Power Company (Dominion, the licensee) submitted its OIP for North Anna Power Station, Units 1 and 2 (North Anna) in response to Order EA-12-049. By letters dated April 30, 2013, August 23, 2013, and February 27, 2014 (ADAMS Accession Nos. ML13126A207, ML13242A012, and ML14069A012 respectively), Dominion submitted a supplement and its first two six-month updates to the OIP. By letter dated August 28, 2013 (ADAMS Accession No. ML13234A503), the NRC notified all licensees and construction permit holders that the staff is conducting audits of their responses to Order EA-12-049 in accordance with NRC Office of Nuclear Reactor Regulation (NRR) Instruction LIC-111, "Regulatory Audits" (ADAMS Accession No. ML082900195). This audit process led to the issuance of the North Anna interim staff evaluation (ISE) and audit report (ADAMS Accession No. ML13338A448) and continues with in-office and onsite portions of this audit.

By letter dated February 28, 2013 (ADAMS Accession No. ML13063A017), Dominion submitted its OIP for North Anna in response to Order EA-12-051. By email dated May 28, 2013 (ADAMS Accession No. ML13177A194), the NRC staff sent a request for additional information (RAI) to the licensee. By letters dated July 2, 2013, August 23, 2013, and February 27, 2014 (ADAMS Accession Nos. ML13190A310, ML13242A015, and ML14069A009 respectively), Dominion submitted its RAI responses and first two six-month updates to the OIP. The NRC staff's review to date led to the issuance of the North Anna interim staff evaluation (ISE) and request for additional information dated November 1, 2013 (ADAMS Accession No. ML13281A648). By letter dated March 26, 2014 (ADAMS Accession No. ML14083A620), the NRC notified all

D. Heacock

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licensees and construction permit holders that the staff is conducting in-office and onsite audits of their responses to Order EA-12-051 in accordance with NRC NRR Office Instruction LIC-111 as discussed above.

The ongoing audit process, to include the in-office and onsite portions, allows the staff to assess whether it has enough information to make a safety evaluation of the Integrated Plans. The audit allows the staff to review open and confirmatory items from the mitigation strategies ISE, RAI responses from the spent fuel pool instrumentation ISE, the licensee's integrated plans, and other audit questions. Additionally, the staff gains a better understanding of submitted information, identifies additional information necessary for the licensee to supplement its plan, and identifies any staff potential concerns. The audit's onsite portion will occur prior to declarations of compliance for the first unit at each site.

This document outlines the on-site audit process that occurs after ISE issuance as licensees provide new or updated information via periodic updates, update audit information on e-portals, provide preliminary Overall Program Documents/Final Integrated Plans, and continue in-office audit communications with staff while proceeding towards compliance with the orders.

The staff plans to conduct an onsite audit at North Anna in accordance with the enclosed audit plan from May 19-22, 2014.

If you have any questions, please contact me at 301-415-5430 or by e-mail at [james.polickoski@nrc.gov](mailto:james.polickoski@nrc.gov).

Sincerely,



James Polickoski, Project Manager  
Project Management Branch  
Mitigating Strategies Directorate  
Office of Nuclear Reactor Regulation

Docket Nos.: 50-338 and 50-339

Enclosure:  
Audit plan

cc w/encl: Distribution via Listserv

**Audit Plan  
North Anna Power Station, Units 1 and 2**

**BACKGROUND AND AUDIT BASIS**

On March 12, 2012, the U.S. Nuclear Regulatory Commission (NRC) issued Order EA-12-049, "Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond Design-Basis External Events" and Order EA-12-051, "Order to Modify Licenses With Regard To Reliable Spent Fuel Pool Instrumentation," (Agencywide Documents Access and Management System (ADAMS) Accession Nos. ML12054A736 and ML12054A679 respectively). Order EA-12-049 directs licensees to develop, implement, and maintain guidance and strategies to maintain or restore core cooling, containment, and spent fuel pool (SFP) cooling capabilities in the event of a beyond-design-basis external event (BDBEE). Order EA-12-051 requires, in part, that all operating reactor sites have a reliable means of remotely monitoring wide-range SFP levels to support effective prioritization of event mitigation and recovery actions in the event of a BDBEE. The orders require holders of operating reactor licenses and construction permits issued under Title 10 of the *Code of Federal Regulations* Part 50 to submit for review, Overall Integrated Plans (OIPs) including descriptions of how compliance with the requirements of Attachment 2 of each order will be achieved.

By letter dated February 28, 2013 (ADAMS Accession No. ML13063A182), Virginia Electric and Power Company (Dominion, the licensee) submitted its OIP for North Anna Power Station, Units 1 and 2 (North Anna) in response to Order EA-12-049. By letters dated April 30, 2013, August 23, 2013, and February 27, 2014 (ADAMS Accession Nos. ML13126A207, ML13242A012, and ML14069A012 respectively), Dominion submitted a supplement and its first two six-month updates to the OIP. By letter dated August 28, 2013 (ADAMS Accession No. ML13234A503), the NRC notified all licensees and construction permit holders that the staff is conducting audits of their responses to Order EA-12-049 in accordance with NRC Office of Nuclear Reactor Regulation (NRR) Instruction LIC-111, "Regulatory Audits" (ADAMS Accession No. ML082900195). The purpose of the staff's audit is to determine the extent to which the licensees are proceeding on a path towards successful implementation of the actions needed to achieve full compliance with the order. This audit process led to the issuance of the North Anna interim staff evaluation (ISE) and audit report (ADAMS Accession No. ML13338A448) and continues with in-office and onsite portions of this audit.

By letter dated February 28, 2013 (ADAMS Accession No. ML13063A017), Dominion submitted its OIP for North Anna in response to Order EA-12-051. By email dated May 28, 2013 (ADAMS Accession No. ML13177A194), the NRC staff sent a request for additional information (RAI) to the licensee. By letters dated July 2, 2013, August 23, 2013, and February 27, 2014 (ADAMS Accession Nos. ML13190A310, ML13242A015, and ML14069A009 respectively), Dominion submitted its RAI responses and first two six-month updates to the OIP. The NRC staff's review to date led to the issuance of the North Anna interim staff evaluation (ISE) and request for additional information dated November 1, 2013 (ADAMS Accession No. ML13281A648). By letter dated March 26, 2014 (ADAMS Accession No. ML14083A620), the NRC notified all licensees and construction permit holders that the staff is conducting in-office and onsite audits of their responses to Order EA-12-051 in accordance with NRC NRR Office Instruction LIC-111 as discussed above.

Enclosure

The ongoing audit process, to include the in-office and onsite portions, allows the staff to assess whether it has enough information to make a safety evaluation of the Integrated Plans. The audit allows the staff to review open and confirmatory items from the mitigation strategies ISE, RAI responses from the spent fuel pool instrumentation (SFPI) ISE, the licensee's integrated plans, and other audit questions. Additionally, the staff gains a better understanding of submitted information, identifies additional information necessary for the licensee to supplement its plan, and identifies any staff potential concerns. The audit's onsite portion will occur prior to declarations of compliance for the first unit at each site.

This document outlines the on-site audit process that occurs after ISE issuance as licensees provide new or updated information via periodic updates, update audit information on e-portals, provide preliminary Overall Program Documents (OPDs)/Final Integrated Plans (FIPs), and continue in-office audit communications with staff while proceeding towards compliance with the orders.

Following the licensee's declarations of order compliance, the NRC staff will evaluate the OIPs as supplemented, the resulting site-specific OPDs/FIPs, and, as appropriate, other licensee submittals based on the requirements in the orders. For Order EA-12-049, the staff will make a safety determination regarding order compliance using the Nuclear Energy Institute (NEI) developed guidance document NEI 12-06, "Diverse and Flexible Coping Strategies (FLEX) Implementation Guide" issued in August, 2012 (ADAMS Accession No. ML12242A378), as endorsed by NRC interim staff guidance (ISG) JLD-ISG-2012-01 "Compliance with Order EA-12-049, 'Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events'" (ADAMS Accession No. ML12229A174). For Order EA-12-051, the staff will make a safety determination regarding order compliance using the NEI developed guidance document NEI 12-02, "Industry Guidance for Compliance with NRC Order EA-12-051, 'To Modify Licenses with Regard to Reliable Spent Fuel Pool Instrumentation'" (ADAMS Accession No. ML12240A307), as endorsed, with exceptions and clarifications, by NRC ISG JLD-ISG-2012-03 "Compliance with Order EA-12-051, 'Reliable Spent Fuel Pool Instrumentation'" (ADAMS Accession No. ML12221A339) as providing one acceptable means of meeting the order requirements. Should the licensee propose an alternative strategy or other method deviating from the guidance, as endorsed, for compliance, additional staff review will be required to evaluate the alternative strategy in reference to the applicable order.

#### AUDIT SCOPE

As discussed, onsite audits will be performed per NRR Office Instruction LIC-111, "Regulatory Audits," to support the development of safety evaluations. Site-specific OIPs and OPDs/FIPs rely on equipment and procedures that apply to all units at a site, therefore, audits will be planned to support the "first unit at each site." On-site audits for subsequent units at a site will be on an as-needed basis.

The purpose of the audits is to obtain and review information responsive to the North Anna OIPs, as supplemented, open and confirmatory items from the mitigation strategies ISE, RAI responses from the SFPI ISE, and to observe and gain a better understanding of the basis for the site's overall programs to ensure the licensee is on the correct path for compliance with the Mitigation Strategies and Spent Fuel Instrumentation orders. These may include, but are not limited to:

- Onsite review and discussion for the basis and approach for detailed analysis and calculations (Orders EA-12-049, EA-12-051);
- Walk-throughs of strategies and laydown of equipment to assess feasibility, timing, and effectiveness of a given mitigating strategy or integration of several strategies (Order EA-12-049);
- Storage, protection, access, and deployment feasibility and practicality for onsite portable equipment (Order EA-12-049);
- Evaluation of staging, access, and deployment of offsite resources to include Regional Response Center (RRC) provided equipment (Order EA-12-049); and
- Review dimensions and sizing of the SFP area, placement of the SFP level instrumentation, and applicable mounting methods and design criteria (Order EA-12-051).

#### NRC AUDIT TEAM

<b>Title</b>	<b>Team Member</b>
Team Lead	Steve Campbell
Project Manager	James Polickoski
Technical Support	John Lehning
Technical Support	Michael Levine
Technical Support	Matthew McConnell
Technical Support	Josh Miller
Technical Support	Darrell Murdock
Technical Support	Carla Roque-Cruz

#### NRC AUDIT TEAM – SUPPLEMENTAL MEMBERS

<b>Title</b>	<b>Team Member</b>
Branch Chief	Sheena Whaley
Senior Resident Inspector	Gregory Kolcum
Project Manager	Jason Paige

#### LOGISTICS

The audit will be conducted onsite at North Anna on May 19-22, 2014. Entrance and exit briefings will be held with the licensee at the beginning and end of the audit, respectively, as well as daily briefings of team activities. Additional details will be addressed over the phone. A more detailed schedule is provided below.

A private conference room is requested for NRC audit team use with access to audit documentation upon arrival and as needed.

## DELIVERABLES

An audit report/summary will be issued to the licensee within 45 days from the end of the audit.

## INFORMATION NEEDS

- Materials/documentation provided in responses to open or confirmatory items and RAIs in the North Anna ISEs;
- OPD/FIP (current version), operator procedures, operator training plans, RRC (SAFER) playbook; and
- Materials/documentation for staff audit questions and/or licensee OIP identified open items as listed in the Part 2 table below

To provide supplemental input to the ongoing audit of documents submitted to the NRC and made available via e-portal, the onsite audit will have three components: 1) a review of the overall mitigating strategies for the site, including, if needed, walk-throughs of strategies and equipment laydown of select portions; 2) a review of material relating to open or confirmatory items and RAIs from the ISEs, staff audit questions, and licensee open items; and 3) additional specific issues requested by NRC technical reviewers related to preparation of a safety evaluation. Each part is described in more detail below:

### Part 1 - Overall Mitigating Strategies and Program Review:

During the onsite audit, please be prepared to conduct a tabletop discussion of the site's integrated mitigating strategies and SFP instrumentation compliance program. This discussion should address the individual components of the plans, as well as the integrated implementation of the strategies including a timeline. The licensee team presenting this should include necessary representatives from site management, engineering, training, and operations that were responsible for program development, and will be responsible for training and execution.

Following the tabletop discussion, please be prepared to conduct walk-throughs of procedures and demonstrations of equipment as deemed necessary by NRC audit team members. Include representatives from engineering and operations that will be responsible for training and execution. At this time we expect, at a minimum, to walk-through the items below. Based on the tabletop presentations and audit activities, this list may change.

**WALK-THROUGH LIST:**

1. Walk-through a sample of strategies that will be delineated by specific NRC technical staff audit team members
2. Walk-through of portable (FLEX) diesel generator (DG) procedures, to include power supply pathways, areas where manual actions are required, and electrical isolation
3. Walk-through of building access procedures, to include any unique access control devices
4. Strategy walk-through of transfer routes from staging and storage areas to deployment locations for both onsite and offsite equipment
5. Strategy walk-through for core cooling and reactor coolant system (RCS) inventory, to include portable pumping equipment, flow paths, and water storage locations and the related reactor systems analysis and calculations
6. Walk-through of communications enhancements
7. Walk-through of SFP area, SFP instrumentation locations, and related equipment mounting areas

**Part 2 – Specific Technical Review Items:**

During the visit, the following audit items will be addressed from the North Anna ISEs (open items (OI), confirmatory items (CI), and SFPI RAIs; North Anna audit question list (AQ); licensee OIP, as supplemented, open items; and draft safety evaluation (SE) additional questions. Please provide documents or demonstrations as needed to respond to each item.

<b>Audit Item Reference</b>	<b>Item Description</b>
ISE OI 3.2.1.2.B	Demonstration of the acceptability of the use of the FlowServe N-9000 seals with the Abeyance feature and validation of an acceptable leakage rate for these seals.
ISE OI 3.2.1.8.A	Boron mixing - Address the clarifications in alignment with the NRC endorsement letter dated January 8, 2014 (ADAMS Accession No. ML13276A183) of the Pressurized-Water Reactor Owners Group submitted position paper, dated August 15, 2013 (ADAMS Accession No. ML13235A135 (non-public for proprietary reasons)) for the development of an adequate model for determining the mixing of boric acid in the reactor coolant system during natural circulation with the potential for two-phase flow conditions.
ISE CI 3.1.1.1.A AQ #1 LIC OIP #6/19	Storage & Protection of FLEX equipment – Confirm final design of FLEX storage structure conforms to NEI 12-06, Sections 5.3.1, 6.2.3.1, 7.3.1, and 8.3.1 for storage considerations for the hazards applicable to North Anna.
ISE CI 3.1.1.3.A AQ #2/44 LIC OIP OI #7	Procedural Interface Considerations (Seismic) – Confirm FLEX support guidelines, provide operators with direction on how to establish alternate monitoring and control capabilities.

Audit Item Reference	Item Description
ISE CI 3.1.1.4.A LIC OIP OI#19	Off-Site Resources – Confirm RRC local staging area, evaluation of access routes, and method of transportation to the site.
ISE CI 3.1.5.2.A	Address considerations for any manual actions required by plant personnel in high temperature conditions as recommended in NEI 12-06, Section 9.3.2. Discuss effects of high temperatures on any manual action performed by plant personnel and any applicable contingencies and any related procedural changes or enhancements.
ISE CI 3.2.1.1.A SE #7	Provide adequate basis that calculations performed with the NOTRUMP code (e.g., those in WCAP-17601-P, WCAP-17792-P) are adequate to demonstrate that criteria associated with the analysis of an extended loss of alternating current power (ELAP) event (e.g., avoidance of reflux cooling, promotion of boric acid mixing) are satisfied. NRC staff confirmatory analysis suggests that the need for implementing certain mitigating strategies for providing core cooling and adequate shutdown margin may occur sooner than predicted in NOTRUMP simulations.
ISE CI 3.2.1.1.B	Confirm the generic analysis in Section 5.2.1 of WCAP-17601-P is applicable or bounding with respect to North Anna for an appropriate figure of merit for defining entry into the reflux condensation cooling mode.
ISE CI 3.2.1.1.C	Confirm the consistency of the margin imposed to prevent accumulator nitrogen injection with the cooldown terminus assumed in WCAP-17601-P.
ISE CI 3.2.1.2.C	(1) Confirm that stresses resulting from a cooldown of the RCS will not result in the failure of seal materials. (2) As applicable, confirm that reestablishing cooling to the seals will not result in increased leakage due to thermal shock.
ISE CI 3.2.1.8.B	Review calculations demonstrating adequate shutdown margin for North Anna in ELAP scenarios with and without seal leakage.
ISE CI 3.2.1.8.C	Confirm shutdown margin calculations will be verified to remain bounding for future operating cycles and clarify the method that will be used to make this determination.
ISE CI 3.2.1.9A ISE CI 3.2.1.9B AQ #24 LIC OIP OI#5/19	Confirm sufficient beyond design basis (BDB) RCS Injection Pumps are provided to conform to the spare capability (N+1) guidance of NEI 12-06, Section 3.2.2 to include calculations documenting that the auxiliary feedwater supply, SFP makeup, and RCS inventory hydraulic analysis demonstrate the pumps have adequate capacity for the strategies they support.
ISE CI 3.2.4.2.A AQ #51 LIC OIP OI #13	Ventilation – Equipment Cooling – Review the ventilation strategy and related analysis and calculations.
ISE CI 3.2.4.2.B AQ #47/48/51	Confirm the adequacy of the battery room ventilation provided in the context of an ELAP to include hydrogen mitigation.
ISE CI 3.2.4.4.A LIC OIP OI #17	Verify the lighting study validates the adequacy of supplemental lighting and the adequacy and practicality of using portable lighting to perform FLEX strategy actions.
ISE CI 3.2.4.4.B AQ #25 LIC OIP OI #18	Communications – Confirm the licensee’s proposed enhancements and interim measures to the site’s communications systems and that they have been completed.
ISE CI 3.2.4.8.A AQ #22/46	Electrical Power Sources – Confirm load calculations for the phase 2 and 3 FLEX generators will support supplied loads.



Audit Item Reference	Item Description
ISE CI 3.2.4.9.A LIC OIP OI #16/19	Fuel Supplies – Confirm the adequacy of the fuel consumption evaluation. Confirm that the procedural guidance governing re-fueling strategies addresses: (a) how the quality of the fuel oil and gasoline supplies will be controlled in order to ensure proper diesel or gasoline-powered FLEX equipment operation, (b) available sources of gasoline and how those sources will be protected to ensure availability following a BDB event, and (c) if the onsite fuel capacity provides an indefinite supply of fuel or if the RRC is capable of providing an indefinite, ongoing supply of fuel (both diesel and gasoline).
AQ #20 LIC OIP OI #19	On page three of the licensee's submittal, the licensee states that the current flood analysis for Unit 3 is applicable according to NEI 12-06. The staff request that the licensee clarify whether all of the information regarding external flooding in the submittal is derived from the most recent flood analysis (i.e., Unit 3 flood analysis).
AQ #42	Utilizing full-size diagrams and strategy walkdowns, describe how electrical isolation will be maintained such that: (a) Class 1E equipment is protected from faults in portable/FLEX equipment, and (b) multiple sources do not attempt to power electrical buses.
AQ #44 LIC OIP OI #3/15	Provide a detailed discussion on the loads that will be shed from the direct current (dc) bus, the equipment location (or location where the required action needs to be taken), and the required operator actions needed to be performed and the time to complete each action. In your response, explain which functions are lost as a result of shedding each load and discuss any impact on defense in depth and redundancy.
AQ #49	Provide full-size Single Line Diagrams showing the proposed connections of Phase 2 and 3 electrical equipment. Show protection information (breaker, relay, etc.) and rating of the equipment on the Single Line Diagrams.
LIC OIP OI #9	Provide and review the draft overall program document and/or final integrated plan that will be developed to maintain the FLEX strategies and their bases and provide configuration control and change management for the FLEX Program.
LIC OIP OI #10	Confirm Dominion Nuclear Training Program revisions to assure personnel proficiency in the mitigation of BDB events is developed and maintained and that these programs and controls will be developed and implemented in accordance with the Systematic Approach to Training (SAT).
LIC OIP OI #14	Confirm modifications for the installation of N-9000 RCP seals in 2 of 3 RCPs in each unit.
SFPI RAI #2	Provide a clearly labeled sketch or marked-up plant drawing of the plan view of the SFP area, depicting the SFP inside dimensions, the planned locations/placement of the primary and back-up SFP level sensor, and the proposed routing of the cables that will extend from these sensors toward the location of the read-out/display device.

Audit Item Reference	Item Description
SFPI RAI #3	<p>Provide the following:</p> <p>a) The design criteria that will be used to estimate the total loading on the mounting device(s), including static weight loads and dynamic loads. Describe the methodology that will be used to estimate the total loading, inclusive of design basis maximum seismic loads and the hydrodynamic loads that could result from pool sloshing or other effects that could accompany such seismic forces.</p> <p>b) A description of the manner in which the level sensor will be attached to the refueling floor and/or other support structures for each planned point of attachment of the probe assembly. Indicate in a schematic the portions of the level sensor that will serve as points of attachment for mechanical/mounting or electrical connections.</p> <p>c) A description of the manner by which the mechanical connections will attach the level instrument to permanent SFP structures so as to support the level sensor assembly.</p>
SE #1	<p>The licensee's second six-month update dated February 27, 2014 (as discussed earlier) informed the NRC of a strategy change in section 4.a. to pre-stage the portable 120/240VAC DGs. Confirm this strategy change ensures the equipment is reasonably protected and meets the intent of NEI 12-06 to include walkdowns of the pre-staging area.</p>
SE #2	<p>Confirm the service water (SW) reservoir can be utilized in the strategy as an indefinite water source; the make-up water source for the SW reservoir; and the seismic qualification of the dam forming the lake if the lake is utilized as a strategy water source.</p>
SE #3	<p>WCAP-17792-P - Provide a detailed discussion on the applicability to North Anna of the recommendations in WCAP-17792-P to vent the RCS while makeup is being provided for the mitigating strategies involving RCS makeup and boration. This discussion should include if the North Anna strategy includes venting the RCS, methods of venting, vent operations criteria, related fluid dynamics analysis, involved instrumentation, and related parameter thresholds.</p>
SE #4	<p>NSAL-14-1 - On February 10, 2014, Westinghouse issued Nuclear Safety Advisory Letter (NSAL)-14-1, informing licensees of plants with standard Westinghouse RCP seals that 21 gpm may not be a conservative leakage rate for ELAP analysis. This value had been previously used in the ELAP analysis referenced by many Westinghouse Pressurized-Water Reactors, including the generic reference analysis in WCAP-17601-P. Therefore, please clarify whether the assumption of 21 gpm of seal leakage per RCP (at 550 degrees F, 2250 psia) remains valid in light of the issues identified in NSAL-14-1. In so doing, please identify the specifics of the seal leak off line design and #1 seal faceplate material relative to the categories in NSAL-14-1 and identify the corresponding presumed leakage rate from NSAL-14-1 that is deemed applicable.</p>
SE #5	<p>RVLIS - Clarify whether the reactor vessel level instrumentation system (RVLIS) indication provides a measure of collapsed level that can be used with Figures 3.3-1 through 3.3-3 of WCAP-17792-P. If the RVLIS system does not provide an indication of collapsed level, then clarify how the required timing for RCS makeup will be determined and provide justification.</p>

Audit Item Reference	Item Description
SE #6	Time to reflux cooling - Please clarify whether procedural guidance for the timing of providing makeup to the reactor coolant system is based on analysis in WCAP-17792-P, pages 3-10 through 3-16. If so, provide adequate justification for basing the timing of primary makeup on the assumption that reactor coolant pump seal leakage rates that are less than the maximum expected value under ELAP conditions will not increase.

Part 3 – Specific Topics for Discussion:

1. Draft of North Anna OPD/FIP
2. Reactor systems analyses to include a discussion of applicability to WCAP-17601-P, boron mixing, WCAP-17792-P, and Nuclear Safety Advisory Letter (NSAL) 14-1
3. Training
4. Portable (FLEX) equipment maintenance and testing
5. RRC (SAFER) playbook

### **Proposed Schedule**

#### **Onsite Day 1, Monday, May 19, 2014 [Innsbrook office]**

1300 Check in at site; Badging  
1400 Entrance meeting  
1415 Dominion Presentation  
1715 NRC Audit Team meeting  
1730 Team lead daily debrief/next day planning with licensee

#### **Onsite Day 2, Tuesday, May 20, 2014 [Innsbrook office]**

0800 NRC Audit Team Activities:

- Technical area break-out discussions between NRC and Dominion staff in the areas of reactor systems, electrical, balance-of-plant/structures, SFPI, and others
- Review documents relating to open or confirmatory items, RAIs, codes, analyses, etc.

1200 Lunch  
1300 Continue NRC Audit Team Activities  
1600 NRC Audit Team meeting  
1630 Team lead daily debrief/next day planning with licensee

#### **Onsite Day 3, Wednesday, May 21, 2014 [North Anna site]**

0800 Check in at site; meet with Senior Resident/Resident  
0900 NRC Audit Team Activities:

- Review documents relating to open or confirmatory items, RAIs, codes, analyses, etc.
- Mitigating Strategies/SFPI walk-throughs with licensee

1200 Lunch  
1300 Continue NRC Audit Team Activities

1530 NRC Audit Team meeting

1600 NRC/Licensee pre-exit meeting

**Onsite Day 4, Thursday, May 22, 2014** [North Anna site/Innsbrook office]

0800 Close-out of onsite NRC Audit Team Activities

1030 NRC/Licensee exit meeting

1100 Audit closeout/departure

licensees and construction permit holders that the staff is conducting in-office and onsite audits of their responses to Order EA-12-051 in accordance with NRC NRR Office Instruction LIC-111 as discussed above.

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The staff plans to conduct an onsite audit at North Anna in accordance with the enclosed audit plan from May 19-22, 2014.

If you have any questions, please contact me at 301-415-5430 or by e-mail at james.polickoski@nrc.gov.

Sincerely,  
/RA/

James Polickoski, Project Manager  
Project Management Branch  
Mitigating Strategies Directorate  
Office of Nuclear Reactor Regulation

Docket Nos.: 50-338 and 50-339

Enclosure:  
Audit plan

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JPolickoski, NRR/MSD

JBowen, NRR/MSD

SCampbell, NRR/DIRS

**ADAMS Accession No. ML14112A302**

\* via email

OFFICE	NRR/DIRS/IPAB/AET*	NRR/MSD/LA	NRR/MSD/MESB/BC*	NRR/MSD/MRSB/BC
NAME	SCampbell	SLent	SBailey	SWhaley
DATE	04/22/2014	04/22/2014	04/23/2014	04/24/2014
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NAME	JBowen	JPolickoski		
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