



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**

REGION I
2100 RENAISSANCE BLVD., SUITE 100
KING OF PRUSSIA, PA 19406-2713

September 1, 2015

Mr. Robert Braun
President and Chief Nuclear Officer
PSEG Nuclear LLC – N09
P.O. Box 236
Hancocks Bridge, NJ 08038

SUBJECT: MID-CYCLE ASSESSMENT LETTER FOR SALEM NUCLEAR GENERATING STATION, UNIT NOS. 1 AND 2 (REPORT 05000272/2015005 AND 05000311/2015005)

Dear Mr. Braun:

On August 12, 2015, the U.S. Nuclear Regulatory Commission (NRC) completed its mid-cycle performance review of Salem Nuclear Generating Station, Unit Nos. 1 and 2 (Salem). The NRC reviewed the most recent quarterly performance indicators (PIs) in addition to inspection results and enforcement actions from July 1, 2014 through June 30, 2015. This letter informs you of the NRC's assessment of your facility during this period and its plans for future inspections at your facility.

The NRC determined the performance at Salem Unit 2 during the most recent quarter was within the Licensee Response Column of the NRC's Reactor Oversight Process (ROP) Action Matrix because all inspection findings had very low (i.e., green) safety significance, and all PIs indicated that your performance was within the nominal, expected range (i.e., green). Therefore, the NRC plans to conduct ROP baseline inspections at your facility.

The NRC determined the performance at Salem Unit 1 during the most recent quarter was within the Regulatory Response Column of the NRC's ROP Action Matrix because in the fourth quarter of 2014, the "Unplanned Scrams per 7,000 hours critical" PI crossed the green to white threshold, which moved Salem Unit 1 to the Regulatory Response Column from the Licensee Response Column. You were notified of this change to the ROP Action Matrix Column in the NRC Annual Assessment Letter 05000272/2014001, issued March 4, 2015 (ADAMS Accession No. ML15062A086). Although the above described PI returned to the nominal, expected range (i.e., green) in the second quarter of 2015, completion of the required supplemental inspection in accordance with Inspection Procedure (IP) 95001 "Supplemental Inspection for One or Two White Inputs in a Strategic Performance Area," is required to return Salem Unit 1 to the Licensee Response Column. On May 29, 2015, your staff notified the NRC of your readiness to conduct a supplemental inspection to review the actions taken to address the White PI described above. In response, the NRC conducted a supplemental inspection in accordance with IP 95001 during the week of July 20, 2015. The objectives of the IP 95001 inspection were to provide assurance that the root cause and contributing causes of risk significant performance issues were understood, the extent of condition and extent of cause were understood, and the corrective actions were sufficient to address the root and contributing causes and prevent recurrence. As of the date of this letter, the IP 95001 inspection report and assessment follow up letter have not been issued. The NRC will notify you of the results of this inspection via a separate inspection report which will be publically available.

The enclosed inspection plan lists the inspections scheduled through June 30, 2017. Routine inspections performed by resident inspectors are not included in the inspection plan. The inspections listed during the second half of the inspection plan are tentative and may be revised at the end-of-cycle performance review. The NRC provides the inspection plan to allow for the resolution of any scheduling conflicts and personnel availability issues. The NRC will contact you as soon as possible to discuss changes to the inspection plan should circumstances warrant any changes. This inspection plan does not include security related inspections, which will be sent via separate, non-publicly available correspondence.

In addition to baseline inspections, the NRC will conduct Inspection Procedure (IP) 60855.1, "Operation of an Independent Spent Fuel Storage Installation at Operating Plants." Additionally, the NRC will conduct IP 71003, "Post-Approval Site Inspection For License Renewal," to verify the license conditions added as part of the renewed operating license, regulatory commitments, selected aging management programs (AMPs), and time limited aging analyses (TLAAs) are implemented and/or completed in accordance with 10 CFR Part 54. As discussed below, the NRC will also perform Temporary Instruction (TI) 2515-191, "Inspection of the Implementation of Mitigation Strategies and Spent Fuel Pool Instrumentation Orders and Emergency Preparedness Communication/Staffing/Multi-Unit Dose Assessment Plans."

In response to the accident at Fukushima, the Commission issued Order EA-12-049, "Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events," which requires licensees to develop, implement, and maintain guidance and strategies to maintain or restore core cooling, containment, and spent fuel pool cooling capabilities following a beyond-design-basis external event. Additionally, the Commission issued Order EA-12-051, "Order Modifying Licenses with Regard to Reliable Spent Fuel Pool Instrumentation," which requires licensees to have a reliable means of remotely monitoring wide-range Spent Fuel Pool levels to support effective prioritization of event mitigation and recovery actions in the event of a beyond-design-basis external event. The NRC is conducting audits of licensee efforts towards compliance with these Orders. The on-site portion of the audit has been completed at Salem Units 1 and 2, and the information gathered will aid staff in development of the Final Safety Evaluation for the site. After the NRC staff receives the Final Compliance letter for the site, the Final Safety Evaluation will be issued. Then, the NRC staff will confirm through inspections the full implementation of the orders mentioned above by performing TI 2515-191, "Inspection of the Implementation of Mitigation Strategies and Spent Fuel Pool Instrumentation Orders and Emergency Preparedness Communication/Staffing/Multi-Unit Dose Assessment Plans."

From July 1, 2014 through June 30, 2015, the NRC issued two Severity Level IV traditional enforcement violations associated with impeding the regulatory process (one) and deliberate misconduct (one). Therefore, the NRC plans to conduct Inspection Procedure 92702, "Follow-up on Corrective Actions for Violations and Deviations," to follow-up on these violations.

In accordance with Title 10 of the *Code of Federal Regulations* (10 CFR) 2.390 of the NRC's "Rules of Practice," a copy of this letter 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). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> (the Public Electronic Reading Room).

R. Braun

-3-

Please contact Glenn Dentel at (610) 337-5233 with any questions you have regarding this letter.

Sincerely,

/RA/

Michael L. Scott, Director
Division of Reactor Projects

Docket Nos. 50-272, 50 311
License Nos. DPR 70, DPR 75

Enclosure: Salem Inspection/Activity Plan

cc w/encl: Distribution via ListServ

Please contact Glenn Dentel at (610) 337-5233 with any questions you have regarding this letter.

Sincerely,

/RA/

Michael L. Scott, Director
Division of Reactor Projects

Docket Nos. 50-272, 50 311
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ADAMS Accession No.: **ML15229A044**

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| <input checked="" type="checkbox"/> SUNSI Review | | <input checked="" type="checkbox"/> Non-Sensitive <input type="checkbox"/> Sensitive | | <input checked="" type="checkbox"/> Publicly Available <input type="checkbox"/> Non-Publicly Available | |
| OFFICE | RI/DRP | RI/DRP | RI/DRP | RI/DRP | |
| NAME | PFinney/MSD per email | MDraxton/ MSD | GDentel/ GTD | MScott/ MLS | |
| DATE | 08/24 /15 | 08/25 /15 | 08/25 /15 | 08/ 31/15 | |

OFFICIAL RECORD COPY

Salem
Inspection / Activity Plan
07/01/2015 - 06/30/2017

| Unit Number | Planned Dates | | Inspection Activity | Title | No. of Staff on Site |
|-------------|---------------|------------|---|---|----------------------|
| | Start | End | | | |
| | | | EP - EP PROGRAM INSPECTION | | 2 |
| 1, 2 | 07/13/2015 | 07/17/2015 | IP 7111402 | Alert and Notification System Testing | |
| 1, 2 | 07/13/2015 | 07/17/2015 | IP 7111403 | Emergency Preparedness Organization Staffing and Augmentation System | |
| 1, 2 | 07/13/2015 | 07/17/2015 | IP 7111405 | Correction of Emergency Preparedness Weaknesses and Deficiencies | |
| | | | 95001 - SUPPLEMENTAL INSPECTION FOR WHITE PI | | 2 |
| 1 | 07/20/2015 | 07/24/2015 | IP 95001 | Supplemental Inspection for One or Two White Inputs in a Strategic Performance Area | |
| | | | 71003 - UNIT 1 LR COMMITMENT INSPECTION PHASE II | | 5 |
| 1 | 07/20/2015 | 07/24/2015 | IP 71003 | Post-Approval Site Inspection for License Renewal | |
| 1 | 08/03/2015 | 08/07/2015 | IP 71003 | Post-Approval Site Inspection for License Renewal | |
| | | | 7111111B - REQUAL INSP W/ P/F RESULTS | | 2 |
| 1, 2 | 09/07/2015 | 09/11/2015 | IP 7111111B | Licensed Operator Requalification Program | |
| | | | ISFSI - ISFSI LOADING INSPECTION | | 2 |
| 1, 2 | 07/27/2015 | 07/31/2015 | IP 60855 | Operation Of An ISFSI | |
| 1, 2 | 07/27/2015 | 07/31/2015 | IP 60855.1 | Operation of an Independent Spent Fuel Storage Installation at Operating Plants | |
| | | | 12/14EXM - INITIAL OL EXAM | | 4 |
| 1 | 11/16/2015 | 11/20/2015 | U01910 | FY16 - SALEM INITIAL OPERATOR LICENSING EXAM | |
| 1 | 12/14/2015 | 12/24/2015 | U01910 | FY16 - SALEM INITIAL OPERATOR LICENSING EXAM | |
| | | | 71124 - RADIATION PROTECTION | | 1 |
| 1, 2 | 10/05/2015 | 10/09/2015 | IP 71124.01 | Radiological Hazard Assessment and Exposure Controls | |
| 1, 2 | 10/05/2015 | 10/09/2015 | IP 71124.02 | Occupational ALARA Planning and Controls | |
| 2 | 10/05/2015 | 10/09/2015 | IP 71124.03 | In-Plant Airborne Radioactivity Control and Mitigation | |
| 1, 2 | 10/05/2015 | 10/09/2015 | IP 71124.04 | Occupational Dose Assessment | |
| 1, 2 | 10/05/2015 | 10/09/2015 | IP 71124.05 | Radiation Monitoring Instrumentation | |
| | | | 71124.08 - RADWASTE | | 1 |
| 1, 2 | 10/19/2015 | 10/23/2015 | IP 71124.08 | Radioactive Solid Waste Processing and Radioactive Material Handling, Storage, and Transportation | |
| | | | 7111108P - U2 INSERVICE INSPECTION | | 1 |
| 2 | 11/02/2015 | 11/13/2015 | IP 7111108P | Inservice Inspection Activities - PWR | |
| | | | 71124 - RADIATION PROTECTION | | 1 |
| 2 | 11/02/2015 | 11/06/2015 | IP 71124.01 | Radiological Hazard Assessment and Exposure Controls | |
| 2 | 11/02/2015 | 11/06/2015 | IP 71124.02 | Occupational ALARA Planning and Controls | |
| 2 | 11/02/2015 | 11/06/2015 | IP 71124.03 | In-Plant Airborne Radioactivity Control and Mitigation | |
| 2 | 11/02/2015 | 11/06/2015 | IP 71124.04 | Occupational Dose Assessment | |
| 2 | 11/02/2015 | 11/06/2015 | IP 71124.05 | Radiation Monitoring Instrumentation | |

This report does not include INPO and OUTAGE activities.
This report shows only on-site and announced inspection procedures.

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|---|---------------|------------|---------------------|--|----------------------|
| | Start | End | | | |
| 71124 - RADIATION PROTECTION | | | | | 1 |
| 1, 2 | 11/16/2015 | 11/20/2015 | IP 71124.01 | Radiological Hazard Assessment and Exposure Controls | |
| 1, 2 | 11/16/2015 | 11/20/2015 | IP 71124.02 | Occupational ALARA Planning and Controls | |
| 1, 2 | 11/16/2015 | 11/20/2015 | IP 71124.03 | In-Plant Airborne Radioactivity Control and Mitigation | |
| 1, 2 | 11/16/2015 | 11/20/2015 | IP 71124.04 | Occupational Dose Assessment | |
| 1, 2 | 11/16/2015 | 11/20/2015 | IP 71124.05 | Radiation Monitoring Instrumentation | |
| 1, 2 | 11/16/2015 | 11/20/2015 | IP 71151 | Performance Indicator Verification | |
| 71124 - RADIATION PROTECTION | | | | | 1 |
| 1, 2 | 03/07/2016 | 03/11/2016 | IP 71124.01 | Radiological Hazard Assessment and Exposure Controls | |
| 1, 2 | 03/07/2016 | 03/11/2016 | IP 71124.02 | Occupational ALARA Planning and Controls | |
| 1, 2 | 03/07/2016 | 03/11/2016 | IP 71124.03 | In-Plant Airborne Radioactivity Control and Mitigation | |
| 1, 2 | 03/07/2016 | 03/11/2016 | IP 71124.04 | Occupational Dose Assessment | |
| 1, 2 | 03/07/2016 | 03/11/2016 | IP 71124.05 | Radiation Monitoring Instrumentation | |
| EP - EP EXERCISE EVALUATION | | | | | 4 |
| 1, 2 | 05/16/2016 | 05/20/2016 | IP 7111401 | Exercise Evaluation | |
| 71124 - RADIATION PROTECTION | | | | | 1 |
| 1 | 04/11/2016 | 04/15/2016 | IP 71124.01 | Radiological Hazard Assessment and Exposure Controls | |
| 1 | 04/11/2016 | 04/15/2016 | IP 71124.02 | Occupational ALARA Planning and Controls | |
| 1 | 04/11/2016 | 04/15/2016 | IP 71124.03 | In-Plant Airborne Radioactivity Control and Mitigation | |
| 1 | 04/11/2016 | 04/15/2016 | IP 71124.04 | Occupational Dose Assessment | |
| 1 | 04/11/2016 | 04/15/2016 | IP 71124.05 | Radiation Monitoring Instrumentation | |
| 71003 - U1 LR COMMITMENTS - OUTAGE | | | | | 1 |
| 1 | 04/18/2016 | 04/22/2016 | IP 71003 | Post-Approval Site Inspection for License Renewal | |
| ISI - U1 INSERVICE INSPECTION | | | | | 1 |
| 1 | 04/18/2016 | 04/29/2016 | IP 7111108P | Inservice Inspection Activities - PWR | |
| 71124 - RADIATION PROTECTION | | | | | 1 |
| 1, 2 | 05/16/2016 | 05/20/2016 | IP 71124.01 | Radiological Hazard Assessment and Exposure Controls | |
| 1, 2 | 05/16/2016 | 05/20/2016 | IP 71124.02 | Occupational ALARA Planning and Controls | |
| 1, 2 | 05/16/2016 | 05/20/2016 | IP 71124.03 | In-Plant Airborne Radioactivity Control and Mitigation | |
| 1, 2 | 05/16/2016 | 05/20/2016 | IP 71124.04 | Occupational Dose Assessment | |
| 1, 2 | 05/16/2016 | 05/20/2016 | IP 71124.05 | Radiation Monitoring Instrumentation | |
| 71124 - ENVIRONMENTAL | | | | | 1 |
| 1 | 06/06/2016 | 06/10/2016 | IP 71124.07 | Radiological Environmental Monitoring Program | |

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|-------------|---------------|------------|---|---|----------------------|
| | Start | End | | | |
| | | | 711117T - MODS INSPECTION | | 3 |
| 1, 2 | 07/18/2016 | 07/22/2016 | IP 711117T | Evaluations of Changes, Tests, and Experiments and Permanent Plant Modifications | |
| 1, 2 | 08/01/2016 | 08/05/2016 | IP 711117T | Evaluations of Changes, Tests, and Experiments and Permanent Plant Modifications | |
| | | | EXM12/12 - SALEM INITIAL EXAMINATION | | 4 |
| 1 | 11/14/2016 | 11/18/2016 | U01930 | FY17-SALEM INITIAL OPERATOR LICENSING EXAM | |
| 1 | 12/12/2016 | 12/23/2016 | U01930 | FY17-SALEM INITIAL OPERATOR LICENSING EXAM | |
| | | | 71124 - RADIATION PROTECTION | | 1 |
| 1, 2 | 08/08/2016 | 08/12/2016 | IP 71124.01 | Radiological Hazard Assessment and Exposure Controls | |
| 1, 2 | 08/08/2016 | 08/12/2016 | IP 71124.03 | In-Plant Airborne Radioactivity Control and Mitigation | |
| 1, 2 | 08/08/2016 | 08/12/2016 | IP 71124.04 | Occupational Dose Assessment | |
| 1, 2 | 08/08/2016 | 08/12/2016 | IP 71124.05 | Radiation Monitoring Instrumentation | |
| | | | 71124 - RADIATION PROTECTION | | 1 |
| 1, 2 | 11/07/2016 | 11/11/2016 | IP 71124.01 | Radiological Hazard Assessment and Exposure Controls | |
| 1, 2 | 11/07/2016 | 11/11/2016 | IP 71124.02 | Occupational ALARA Planning and Controls | |
| 1, 2 | 11/07/2016 | 11/11/2016 | IP 71124.04 | Occupational Dose Assessment | |
| 1, 2 | 11/07/2016 | 11/11/2016 | IP 71151-OR01 | Occupational Exposure Control Effectiveness | |
| 1, 2 | 11/07/2016 | 11/11/2016 | IP 71151-PR01 | RETS/ODCM Radiological Effluent Occurrences | |
| | | | 711107T - TRIENNIAL HEAT SINK | | 1 |
| 1, 2 | 11/14/2016 | 11/18/2016 | IP 7111107T | Heat Sink Performance | |
| | | | TI-191 - FUKUSHIMA LESSONS-LEARNED | | 1 |
| 1, 2 | 11/14/2016 | 11/18/2016 | IP 2515/191 | Inspection of Licensee's Responses to Order EA-12-049, EA-12-051 & EP Info Request March 12, 2012 | |
| | | | 71124 - RADIATION PROTECTION | | 1 |
| 1, 2 | 04/03/2017 | 04/07/2017 | IP 71124.01 | Radiological Hazard Assessment and Exposure Controls | |
| 1, 2 | 04/03/2017 | 04/07/2017 | IP 71124.02 | Occupational ALARA Planning and Controls | |
| 2 | 04/03/2017 | 04/07/2017 | IP 71124.03 | In-Plant Airborne Radioactivity Control and Mitigation | |
| 2 | 04/03/2017 | 04/07/2017 | IP 71124.04 | Occupational Dose Assessment | |
| 1, 2 | 04/03/2017 | 04/07/2017 | IP 71124.05 | Radiation Monitoring Instrumentation | |
| | | | 7111108P - U2 INSERVICE INSPECTION | | 1 |
| 2 | 04/24/2017 | 05/05/2017 | IP 7111108P | Inservice Inspection Activities - PWR | |
| | | | 71124 - RADIATION PROTECTION | | 1 |
| 1, 2 | 05/01/2017 | 05/05/2017 | IP 71124.01 | Radiological Hazard Assessment and Exposure Controls | |
| 1, 2 | 05/01/2017 | 05/05/2017 | IP 71124.02 | Occupational ALARA Planning and Controls | |
| 2 | 05/01/2017 | 05/05/2017 | IP 71124.03 | In-Plant Airborne Radioactivity Control and Mitigation | |

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|---|---------------|------------|---------------------|---|----------------------|
| | Start | End | | | |
| 71124 - RADIATION PROTECTION | | | | | 1 |
| 1, 2 | 05/01/2017 | 05/05/2017 | IP 71124.04 | Occupational Dose Assessment | |
| 1, 2 | 05/01/2017 | 05/05/2017 | IP 71124.05 | Radiation Monitoring Instrumentation | |
| 71152B - PI&R BIENNIAL | | | | | 2 |
| 1, 2 | 05/22/2017 | 05/26/2017 | IP 71152B | Problem Identification and Resolution | |
| 1, 2 | 06/05/2017 | 06/09/2017 | IP 71152B | Problem Identification and Resolution | |
| 71124 - RADIOACTIVE EFFLUENTS | | | | | 1 |
| 1, 2 | 06/12/2017 | 06/16/2017 | IP 71124.05 | Radiation Monitoring Instrumentation | |
| 1, 2 | 06/12/2017 | 06/16/2017 | IP 71124.06 | Radioactive Gaseous and Liquid Effluent Treatment | |
| CDBI - COMPONENT DESIGN BASIS INSPECTION | | | | | 6 |
| 1, 2 | 06/12/2017 | 06/16/2017 | IP 7111121 | Component Design Bases Inspection | |
| 1, 2 | 06/26/2017 | 06/30/2017 | IP 7111121 | Component Design Bases Inspection | |

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