



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**

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

September 1, 2015

Mr. Timothy S. Rausch  
President and Chief Nuclear Officer  
Susquehanna Nuclear, LLC  
769 Salem Blvd., NUCSB3  
Berwick, PA 18603-0467

**SUBJECT: MID-CYCLE ASSESSMENT LETTER FOR SUSQUEHANNA STEAM  
ELECTRIC STATION, UNITS 1 AND 2 (REPORT 05000387/2015005  
AND 05000388/2015005)**

Dear Mr. Rausch:

On August 11, 2015, the U.S. Nuclear Regulatory Commission (NRC) completed its mid-cycle performance review of Susquehanna Steam Electric Station (Susquehanna) Units 1 and 2. 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 Susquehanna Units 1 and 2 during the most recent quarter was within the Regulatory Response Column of the NRC's Reactor Oversight Process (ROP) Action Matrix because of a White finding in the first quarter of 2015 under the Emergency Preparedness Cornerstone. The finding is described in detail in Inspection Report No. 05000387/2015503 and 05000388/2015503 (ADAMS Accession No. ML15105A471). It involved incorrect implementation of the 15-minute assessment, classification, and declaration period for a potential loss of reactor coolant system (RCS) barrier emergency action level. The final significance determination and follow-up assessment were documented in Inspection Report No. 05000387/2015504 and 05000388/2015504 (ML15173A297) issued on June 22, 2015. However, an erratum was issued on June 30, 2015 (ML15181A332), to correctly state that Susquehanna Units 1 and 2 were in the Regulatory Response column of the NRC Action Matrix, retroactive to the first calendar quarter of 2015.

In addition to ROP baseline inspections and as a result of the White finding in the Emergency Preparedness Cornerstone, the NRC plans to conduct a supplemental inspection in accordance with Inspection Procedure 95001, "Supplemental Inspection for One or Two White Inputs in a Strategic Performance Area," when your staff notifies us of their readiness for this inspection. This inspection is conducted to provide assurance that the root cause and contributing causes of risk-significant performance issues are understood, the extent of condition is identified, and the corrective actions are sufficient to prevent recurrence.

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. In addition to ROP baseline and supplemental

inspections, the NRC will perform Inspection Procedure (IP) 60855.1, "Operation of an Independent Spent Fuel Storage Installation (ISFSI) at Operating Plants." 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 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 onsite portion of the audit was completed at Susquehanna 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 performing 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 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).

Please contact Fred L. Bower, III at (610) 337-5200 with any questions you have regarding this letter.

Sincerely,

/RA/

Michael L. Scott, Director  
Division of Reactor Projects

Docket Nos. 50-387 and 50-388  
License Nos. NPF-14 and NPF-22

Enclosure: Inspection/Activity Plan

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DOC NAME: S:\ROP Assessment Meetings\ROP-16 Mid-Cycle Review\Branch 4\Susquehanna\SQ 2015 MC Letter Final.docx  
ADAMS Accession No. **ML15229A102**

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DATE	08/ 25 /15	08/ /15	08/25 /15	08/ 26 /15	

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**Susquehanna**  
**Inspection / Activity Plan**  
**07/01/2015 - 06/30/2017**

Unit Number	Planned Dates		Inspection Activity	Title	No. of Staff on Site
Start	End				
<b>8/17EXAM - INITIAL OL EXAM</b>					<b>3</b>
1	07/20/2015	07/24/2015	U01916	FY15-SUSQUEHANNA INITIAL OPERATOR LICENSING EXAM	
1	08/17/2015	08/28/2015	U01916	FY15-SUSQUEHANNA INITIAL OPERATOR LICENSING EXAM	
<b>71124.07 - RAD SAFETY INSPECTION</b>					<b>1</b>
1, 2	07/13/2015	07/17/2015	IP 71124.07	Radiological Environmental Monitoring Program	
1, 2	07/13/2015	07/17/2015	IP 71151	Performance Indicator Verification	
<b>71124 - RAD SAFETY INSPECTION</b>					<b>1</b>
1, 2	08/17/2015	08/21/2015	IP 71124.01	Radiological Hazard Assessment and Exposure Controls	
1, 2	08/17/2015	08/21/2015	IP 71124.02	Occupational ALARA Planning and Controls	
1, 2	08/17/2015	08/21/2015	IP 71124.03	In-Plant Airborne Radioactivity Control and Mitigation	
1, 2	08/17/2015	08/21/2015	IP 71124.04	Occupational Dose Assessment	
<b>MODS - PERMANENT PLANT MODIFICATIONS</b>					<b>3</b>
1, 2	08/31/2015	09/04/2015	IP 7111117T	Evaluations of Changes, Tests, and Experiments and Permanent Plant Modifications	
1, 2	09/14/2015	09/18/2015	IP 7111117T	Evaluations of Changes, Tests, and Experiments and Permanent Plant Modifications	
<b>711111B - REQUAL INSP W/ P/F RESULTS</b>					<b>2</b>
1, 2	11/02/2015	11/06/2015	IP 7111111B	Licensed Operator Requalification Program	
<b>71124 - RAD SAFETY INSP</b>					<b>1</b>
1, 2	10/12/2015	10/16/2015	IP 71124.01	Radiological Hazard Assessment and Exposure Controls	
1, 2	10/12/2015	10/16/2015	IP 71124.02	Occupational ALARA Planning and Controls	
1, 2	10/12/2015	10/16/2015	IP 71124.03	In-Plant Airborne Radioactivity Control and Mitigation	
1, 2	10/12/2015	10/16/2015	IP 71124.04	Occupational Dose Assessment	
1	10/12/2015	10/16/2015	IP 71151-OR01	Occupational Exposure Control Effectiveness	
<b>EP - EP PROGRAM INSPECTION</b>					<b>1</b>
1, 2	11/02/2015	11/06/2015	IP 7111402	Alert and Notification System Testing	
1, 2	11/02/2015	11/06/2015	IP 7111403	Emergency Preparedness Organization Staffing and Augmentation System	
1, 2	11/02/2015	11/06/2015	IP 7111405	Correction of Emergency Preparedness Weaknesses and Deficiencies	
<b>ISI - U1 INSERVICE INSPECTION</b>					<b>1</b>
1	03/21/2016	03/25/2016	IP 7111108G	Inservice Inspection Activities - BWR	
<b>RS1234PI - HP INSPECTION</b>					<b>1</b>
1, 2	03/28/2016	04/01/2016	IP 71124.01	Radiological Hazard Assessment and Exposure Controls	
1, 2	03/28/2016	04/01/2016	IP 71124.02	Occupational ALARA Planning and Controls	
1, 2	03/28/2016	04/01/2016	IP 71124.03	In-Plant Airborne Radioactivity Control and Mitigation	
1, 2	03/28/2016	04/01/2016	IP 71124.04	Occupational Dose Assessment	

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

**Susquehanna**  
**Inspection / Activity Plan**  
**07/01/2015 - 06/30/2017**

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Start	End				
			<b>71152B - PI&amp;R BIENNIAL</b>		<b>4</b>
1, 2	06/06/2016	06/10/2016	IP 71152B	Problem Identification and Resolution	
			<b>RS6PI - EFFLUENTS PUBLIC PI</b>		<b>1</b>
1, 2	06/13/2016	06/17/2016	IP 71124.06	Radioactive Gaseous and Liquid Effluent Treatment	
1, 2	06/13/2016	06/17/2016	IP 71151-PR01	RETS/ODCM Radiological Effluent Occurrences	
			<b>71152B - PI&amp;R BIENNIAL</b>		<b>4</b>
1, 2	06/20/2016	06/24/2016	IP 71152B	Problem Identification and Resolution	
			<b>11/14EXM - SUSQUEHANNA INITIAL EXAM</b>		<b>4</b>
1	10/17/2016	10/21/2016	U01931	FY17-SUSQUEHANNA INITIAL OPERATOR LICENSING EXAM	
1	11/14/2016	11/25/2016	U01931	FY17-SUSQUEHANNA INITIAL OPERATOR LICENSING EXAM	
			<b>ISFSI - ISFSI LOADING CAMPAIGN INSPECTION</b>		<b>1</b>
1, 2	08/12/2016	08/16/2016	IP 60855	Operation Of An ISFSI	
1, 2	08/12/2016	08/16/2016	IP 60855.1	Operation of an Independent Spent Fuel Storage Installation at Operating Plants	
			<b>EP - EP EXERCISE EVALUATION</b>		<b>4</b>
1, 2	10/17/2016	10/21/2016	IP 7111401	Exercise Evaluation	
			<b>RS5 - RP INSTRUMENTS</b>		<b>1</b>
1, 2	09/12/2016	09/16/2016	IP 71124.05	Radiation Monitoring Instrumentation	
			<b>7111121 - CDBI</b>		<b>1</b>
1, 2	09/19/2016	09/23/2016	IP 7111121	Component Design Bases Inspection	
1, 2	10/03/2016	10/07/2016	IP 7111121	Component Design Bases Inspection	
1, 2	10/17/2016	10/21/2016	IP 7111121	Component Design Bases Inspection	
			<b>RS1234 - HP INSPECTION</b>		<b>1</b>
1, 2	10/10/2016	10/14/2016	IP 71124.01	Radiological Hazard Assessment and Exposure Controls	
1, 2	10/10/2016	10/14/2016	IP 71124.02	Occupational ALARA Planning and Controls	
1, 2	10/10/2016	10/14/2016	IP 71124.03	In-Plant Airborne Radioactivity Control and Mitigation	
1, 2	10/10/2016	10/14/2016	IP 71124.04	Occupational Dose Assessment	
1	10/10/2016	10/14/2016	IP 71151-OR01	Occupational Exposure Control Effectiveness	
			<b>71124.08 - RADWASTE</b>		<b>1</b>
1, 2	10/17/2016	10/21/2016	IP 71124.08	Radioactive Solid Waste Processing and Radioactive Material Handling, Storage, and Transportation	
			<b>7111108G - U2 INSERVICE INSPECTION</b>		<b>1</b>
2	03/13/2017	03/17/2017	IP 7111108G	Inservice Inspection Activities - BWR	
			<b>RS1234 - HP INSPECTION</b>		<b>1</b>
1, 2	03/13/2017	03/17/2017	IP 71124.01	Radiological Hazard Assessment and Exposure Controls	

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	Start	End			
RS1234 - HP INSPECTION					1
1, 2	03/13/2017	03/17/2017	IP 71124.02	Occupational ALARA Planning and Controls	1
1, 2	03/13/2017	03/17/2017	IP 71124.03	In-Plant Airborne Radioactivity Control and Mitigation	

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