



**UNITED STATES
NUCLEAR REGULATORY COMMISSION**
REGION I
475 ALLENDALE RD, STE 102
KING OF PRUSSIA, PENNSYLVANIA 19406-1415

March 11, 2025

Brad Berryman
Senior Vice President and Chief Nuclear Officer
Susquehanna Nuclear, LLC
769 Salem Blvd., NUCSB3
Berwick, PA 18603

SUBJECT: ANNUAL ASSESSMENT LETTER FOR SUSQUEHANNA STEAM ELECTRIC STATION, UNITS 1 AND 2 (REPORTS 05000387/2024006 AND 05000388/2024006)

Dear Brad Berryman:

The U.S. Nuclear Regulatory Commission (NRC) has completed its end-of-cycle performance assessment of Susquehanna Steam Electric Station (Susquehanna), Units 1 and 2, reviewing performance indicators (PIs), inspection results, and enforcement actions from January 1, 2024, through December 31, 2024. 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 concluded that overall performance at your facility preserved public health and safety. The baseline inspection program was completed at your facility as defined in Inspection Manual Chapter 2515, "Light-Water Reactor Inspection Program - Operations Phase."

The NRC determined the performance at Susquehanna, Units 1 and 2, during the most recent quarter was within the Regulatory Response Column (Column 2) of the NRC's Reactor Oversight Process (ROP) Action Matrix in Inspection Manual Chapter 0305, "Operating Assessment Program." This conclusion was based on a single inspection finding having low-to-moderate safety significance (i.e., White) in the Mitigating Systems cornerstone originating in the fourth quarter of 2024, and all PIs within the expected range (i.e., Green).

Therefore, in addition to ROP baseline inspections, the NRC plans to conduct a supplemental inspection in accordance with Inspection Procedure 95001, "Supplemental Inspection Response to Action Matrix Column 2 (Regulatory Response) Inputs." This inspection procedure is conducted to provide assurance that the root and contributing causes of risk significant performance issues are understood, the extent of condition and the extent of cause are identified, and the corrective actions are prompt and sufficient to prevent recurrence. This inspection will be scheduled when you notify the NRC of your readiness.

The enclosed inspection plan lists the inspections scheduled through December 31, 2026. The NRC provides the inspection plan to allow for the resolution of any scheduling conflicts and personnel availability issues. Routine inspections performed by resident inspectors are not included in the inspection plan. The inspections listed during the last twelve months of the inspection plan are tentative and may be revised. The NRC will contact you as soon as possible to discuss changes to the inspection plan should circumstances warrant any changes.

In accordance with Title 10 of the *Code of Federal Regulations* 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 document 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 Sarah Elkhiamy at 610-337-6916 with any questions you have regarding this letter.

Sincerely,

Blake D. Welling, Director
Division of Operating Reactor Safety

Docket Nos. 05000387 and 05000388
License Nos. NPF-14 and NPF-22

Enclosure:
As stated

cc w/ encl: Distribution via LISTSERV

SUBJECT: ANNUAL ASSESSMENT LETTER FOR SUSQUEHANNA STEAM ELECTRIC STATION, UNITS 1 AND 2 (REPORTS 05000387/2024006 AND 05000388/2024006) DATED MARCH 11, 2025

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DOCUMENT NAME: <https://usnrc.sharepoint.com/teams/ROPAssessmentMeetings/Shared Documents/ROP-25 EOC Review/Branch 4/Susquehanna/Susquehanna ROP-25 Annual Assessment Letter.docx>

ADAMS ACCESSION NUMBER: ML25069A541

<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/DORS	RI/DORS	RI/DORS		
NAME	SHaney	SEIkhiamy	BWelling		
DATE	3/6/2025	3/7/2025	3/10/2025		

Site Inspection Activity Plan

Susquehanna

01/01/2025 - 12/31/2026

Unit	Start	End	Activity	CAC	Title	Staff Count
Inservice Inspection - Susquehanna Unit 2						1
2	3/31/2025	4/4/2025	IP 71111.08G	000701	Inservice Inspection Activities (BWR)	
RP - 71124.01 Rad Hazards						1
1,2	4/7/2025	4/11/2025	IP 71124.01	000725	Radiological Hazard Assessment and Exposure Controls	
2025 SQ Initial Operator Licensing Exam						4
1,2	6/2/2025	6/6/2025	OV	000956	FB-OR-Onsite Validation Of Initial License Examination (OV)	
1,2	7/21/2025	7/25/2025	EXAD	000500	FB-OR-Initial License Exam Administration (EXAD)	
Material Control and Accounting - Susquehanna						1
1,2	7/14/2025	7/18/2025	IP 71130.11	000742	Material Control and Accounting (MC&A)	
RP - 71124.07 REMP						1
1,2	7/28/2025	8/1/2025	IP 71124.07	000731	Radiological Environmental Monitoring Program	
Comprehensive Engineering Team Inspection - Susquehanna						7
1,2	8/25/2025	8/29/2025	IP 71111.21M	000713	Comprehensive Engineering Team Inspection	
1,2	9/8/2025	9/12/2025	IP 71111.21M	000713	Comprehensive Engineering Team Inspection	
ISFSI Loading Campaign - SQ						4
1,2	9/15/2025	9/19/2025	IP 60855	001001	Operation Of An ISFSI	
SQ Requal Inspection with P/F Results						2
1,2	9/22/2025	9/26/2025	IP 71111.11A	000703	Licensed Operator Requalification Program and Licensed Operator Performance	
1,2	9/22/2025	9/26/2025	IP 71111.11B	000704	Licensed Operator Requalification Program and Licensed Operator Performance	
RP - 71124.05 Instruments						1
1,2	10/20/2025	10/24/2025	IP 71124.05	000729	Radiation Monitoring Instrumentation	
EP Program Inspection - Susquehanna						1
1,2	10/27/2025	10/31/2025	IP 71114.02	000717	Alert and Notification System Testing	
1,2	10/27/2025	10/31/2025	IP 71114.03	000718	Emergency Response Organization Staffing and Augmentation System	
1,2	10/27/2025	10/31/2025	IP 71114.04	000719	Emergency Action Level and Emergency Plan Changes	
1,2	10/27/2025	10/31/2025	IP 71114.05	000720	Maintenance of Emergency Preparedness	
1,2	10/27/2025	10/31/2025	IP 71151	001397	Performance Indicator Verification	
Access Control, AA, FFD, Sec Plan Review, PI - Susq						3
1,2	11/3/2025	11/7/2025	IP 71130.01	000733	Access Authorization	
1,2	11/3/2025	11/7/2025	IP 71130.02	000734	Access Control	
1,2	11/3/2025	11/7/2025	IP 71130.08	000740	Fitness-For-Duty Program	
1,2	11/3/2025	11/7/2025	IP 71130.09	001656	Security Plan Changes	

Site Inspection Activity Plan

1,2	11/3/2025	11/7/2025	IP 71151	001338	Performance Indicator Verification	
RP - 71124.08 Rad Transportation PIV and 71151 PIV						1
1,2	11/17/2025	11/21/2025	IP 71124.08	000732	Radioactive Solid Waste Processing & Radioactive Material Handling, Storage, & Transportation	
1,2	11/17/2025	11/21/2025	IP 71151	000746	Performance Indicator Verification	
Age Related Degradation - Susquehanna						3
1,2	1/12/2026	1/16/2026	IP 71111.21N.04	001832	Age-Related Degradation	
1,2	1/26/2026	1/30/2026	IP 71111.21N.04	001832	Age-Related Degradation	
RP 71124.03 SQ						1
1,2	2/2/2026	2/6/2026	IP 71124.03	000727	In-Plant Airborne Radioactivity Control and Mitigation	
Inservice Inspection - Susquehanna Unit 1						1
1	3/30/2026	4/3/2026	IP 71111.08G	000701	Inservice Inspection Activities (BWR)	
RP 71124.01 SQ						1
1,2	4/6/2026	4/10/2026	IP 71124.01	000725	Radiological Hazard Assessment and Exposure Controls	
Sec - Access Control, Protective Strategy, TSR, SPR, PIs - Susq						4
1,2	5/11/2026	5/15/2026	IP 71130.02	000734	Access Control	
1,2	5/11/2026	5/15/2026	IP 71130.05	000737	Protective Strategy Evaluation	
1,2	5/11/2026	5/15/2026	IP 71130.09	001656	Security Plan Changes	
1,2	5/11/2026	5/15/2026	IP 71130.14	000743	Review of Power Reactor Target Sets	
1,2	5/11/2026	5/15/2026	IP 71151	001338	Performance Indicator Verification	
PI&R Biennial Team Inspection - Susquehanna						4
1,2	6/8/2026	6/12/2026	IP 71152B	000747	Problem Identification and Resolution	
1,2	6/22/2026	6/26/2026	IP 71152B	000747	Problem Identification and Resolution	
Cyber Security - Susquehanna						2
1,2	8/24/2026	8/28/2026	IP 71130.10	000741	Cybersecurity	
EP Exercise Inspection - Susquehanna						5
1,2	10/19/2026	10/23/2026	IP 71114.04	000719	Emergency Action Level and Emergency Plan Changes	
1,2	10/19/2026	10/23/2026	IP 71114.07	000722	Exercise Evaluation - Hostile Action (HA) Event	
1,2	10/19/2026	10/23/2026	IP 71151	001397	Performance Indicator Verification	
RP 71124.04 and PIV SQ						1
1,2	10/26/2026	10/30/2026	IP 71124.04	000728	Occupational Dose Assessment	
1,2	10/26/2026	10/30/2026	IP 71124.08	000732	Radioactive Solid Waste Processing & Radioactive Material Handling, Storage, & Transportation	