



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
REGION I  
2100 RENAISSANCE BLVD., SUITE 100  
KING OF PRUSSIA, PENNSYLVANIA 19406-2713

August 6, 2019

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

SUBJECT: SUSQUEHANNA STEAM ELECTRIC STATION, UNITS 1 AND 2 –  
TEMPORARY INSTRUCTION 2515/191 INSPECTION REPORT  
05000387/2019010 AND 05000388/2019010

Dear Mr. Berryman:

On June 28, 2019, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at Susquehanna Steam Electric Station, Units 1 and 2. On July 25, 2019, the NRC inspectors discussed the results of this inspection with Mr. Kevin Cimorelli, Site Vice President, and other members of your staff. The results of this inspection are documented in the enclosed report.

The NRC inspectors did not identify any finding or violation of more than minor significance.

This letter, its enclosure, and your response (if any) will be made available for public inspection and copying at <http://www.nrc.gov/reading-rm/adams.html> and at the NRC Public Document Room in accordance with 10 CFR 2.390, "Public Inspections, Exemptions, Requests for Withholding."

Sincerely,

*/RA/*

Matthew R. Young, Chief  
Technical Support and Administrative Team  
Division of Reactor Projects

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

Enclosure:  
As stated

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SUBJECT: SUSQUEHANNA STEAM ELECTRIC STATION, UNITS 1 AND 2 –  
 TEMPORARY INSTRUCTION 2515/191 INSPECTION REPORT  
 05000387/2019010 AND 05000388/2019010 DATED AUGUST 6, 2019

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**U.S. NUCLEAR REGULATORY COMMISSION  
Inspection Report**

Docket Numbers: 05000387 and 05000388

License Numbers: NPF-14 and NPF-22

Report Numbers: 05000387/2019010 and 05000388/2019010

Enterprise Identifier: I-2019-010-0021

Licensee: Susquehanna Nuclear, LLC

Facility: Susquehanna Steam Electric Station

Location: Berwick, PA

Inspection Dates: June 24, 2019 to June 28, 2019

Inspectors: A. Siwy, Resident Inspector (Team Lead)  
F. Arner, Senior Reactor Analyst  
P. Presby, Senior Operations Engineer

Approved By: Matthew R. Young, Chief  
Technical Support and Administrative Team  
Division of Reactor Projects

Enclosure

## **SUMMARY**

The U.S. Nuclear Regulatory Commission (NRC) continued monitoring the licensee's performance by conducting a Temporary Instruction (TI) 2515/191 inspection at Susquehanna Steam Electric Station, Units 1 and 2 in accordance with the Reactor Oversight Process. The Reactor Oversight Process is the NRC's program for overseeing the safe operation of commercial nuclear power reactors. Refer to <https://www.nrc.gov/reactors/operating/oversight.html> for more information.

### **List of Findings and Violations**

No findings or violations of more than minor significance were identified.

### **Additional Tracking Items**

None.

## INSPECTION SCOPES

Inspections were conducted using the appropriate portions of the inspection procedures (IPs) in effect at the beginning of the inspection unless otherwise noted. Currently approved IPs with their attached revision histories are located on the public website at <http://www.nrc.gov/reading-rm/doc-collections/insp-manual/inspection-procedure/index.html>. Samples were declared complete when the IP requirements most appropriate to the inspection activity were met consistent with Inspection Manual Chapter (IMC) 2515, "Light-Water Reactor Inspection Program - Operations Phase." The inspectors reviewed selected procedures and records, observed activities, and interviewed personnel to assess licensee performance and compliance with Commission rules and regulations, license conditions, site procedures, and standards.

## OTHER ACTIVITIES – TEMPORARY INSTRUCTIONS, INFREQUENT AND ABNORMAL

### 2515/191 - Inspection of Licensee's Responses to Order EA-12-049, EA-12-051 & Emergency Preparedness Info Request March 12, 2012 (1 Sample)

- (1) The inspectors verified plans for complying with NRC Orders EA-12-049, "Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events," (ADAMS Accession No. ML12056A045) and EA-12-051, "Order Modifying Licenses with Regard to Reliable Spent Fuel Pool Instrumentation," (ADAMS Accession No. ML12054A679) are in place and are being implemented by the licensee.

Additionally, the inspection verified implementation of staffing and communications information provided in response to the March 12, 2012, request for information letter (ADAMS Accession No. ML12053A340) and multi-unit dose assessment information provided per COMSECY-13-0010, "Schedule and Plans for Tier 2 Order on Emergency Preparedness for Japan Lessons Learned," dated March 27, 2013 (ADAMS Accession No. ML12339A262).

1. Based on samples selected for review, the inspectors verified that the licensee satisfactorily implemented appropriate elements of the Diverse and Flexible Coping Strategies (FLEX) as described in the plant specific submittals and the associated safety evaluation (ADAMS Accession No. ML18284A455) and determined that the licensee is in compliance with NRC Order EA-12-049, "Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events." The inspectors verified the licensee satisfactorily:
  - a. Developed and issued FLEX Support Guidelines (FSGs) to implement the FLEX strategies for postulated external events;
  - b. Integrated their FSGs into their existing plant procedures such that entry into and departure from the FSGs were clear when using existing plant procedures;
  - c. Protected FLEX equipment from site-specific hazards;
  - d. Developed and implemented adequate testing and maintenance of FLEX equipment to ensure their availability and capability;
  - e. Trained their staff to assure personnel proficiency in the mitigation of beyond-design basis events; and

- f. Developed the means to ensure the necessary off-site FLEX equipment would be available from off-site locations.
2. Based on samples selected for review, the inspectors verified that the licensee satisfactorily implemented appropriate elements of the FLEX strategy as described in the plant specific submittals and the associated safety evaluation and determined that the licensee is in compliance with NRC Order EA-12-051, "Order Modifying Licenses with Regard to Reliable Spent Fuel Pool Instrumentation." The inspectors verified the licensee satisfactorily:
  - a. Installed the spent fuel pool (SFP) instrumentation sensors, cabling, and power supplies to provide physical and electrical separation as described in the plant specific submittals and safety evaluation;
  - b. Installed the SFP instrumentation display in the location, environmental conditions, and accessibility as described in the plant specific submittals;
  - c. Trained their staff to assure personnel proficiency with the maintenance, testing, and use of the SFP instrumentation; and
  - d. Developed and issued procedures for maintenance, testing, and use of the reliable SFP instrumentation.
3. The inspectors reviewed information provided in the licensee's multi-unit dose submittal and in response to the NRC's March 12, 2012, request for information letter, and verified that the licensee satisfactorily implemented enhancements pertaining to Near-Term Task Force Recommendation 9.3 response to a large scale natural emergency event that results in an extended loss of all AC power to all site units and impedes access to the site. The inspectors verified the following:
  - a. The licensee satisfactorily implemented required staffing changes to support a multi-unit extended loss of AC power (ELAP) scenario;
  - b. Emergency preparedness communications equipment and facilities are sufficient for dealing with a multi-unit ELAP scenario; and
  - c. The licensee implemented multi-unit dose assessment capabilities (including releases from SFPs) using the licensee's site-specific dose assessment software and approach.

The inspectors verified that non-compliances with requirements, and standards identified during the inspection were entered into the licensee's corrective action program as appropriate.

This TI is considered closed.

## **INSPECTION RESULTS**

No findings were identified.

## **EXIT MEETINGS AND DEBRIEFS**

The inspectors verified no proprietary information was retained or documented in this report.

- On July 25, 2019, the inspectors presented the TI 2515/191 results to Mr. Kevin Cimorelli, Site Vice President, and other members of the licensee staff.
- On June 28, 2019, the inspectors presented the Debrief to Mr. Brad Berryman, Chief Nuclear Officer, and other members of the licensee staff.

**DOCUMENTS REVIEWED**

Inspection Procedure	Type	Designation	Description or Title	Revision or Date
2515/191	Calculations	EC-FLEX-0023	Portable Diesel Generator (0G505 - 0G510) Fuel Oil Temperature Response	0
	Corrective Action Documents Resulting from Inspection	AR-2019-08567, AR-2019-08659, CR-2019-08073, CR-2019-08457, CR-2019-08463, CR-2019-08482, CR-2019-08490, CR-2019-08516, CR-2019-08518, CR-2019-08575, CR-2019-08621, CR-2019-08631, CR-2019-08635, CR-2019-09449		
	Miscellaneous	MBDBE Program Document EP-1101	Diverse and Flexible Coping Strategies (FLEX), Hardened Containment Vent System (HCVS), and Spent Fuel Pool Instrumentation (SFPI) Program Document - Susquehanna SES	2
		ML18284A455	Susquehanna Steam Electric Station, Units 1 and 2 - Safety Evaluation Regarding Implementation of Mitigation Strategies and Reliable Spent Fuel Pool Instrumentation Related to Orders EA-12-049 and EA-12-051 (CAC NOS. MF0888, MF0889, MF0890, and MF0891; EPID NOS. L-2013-JLD-0021 and L-2013-JLD-0022)	11/07/2018
		PLA-7710	Susquehanna Seam Electric Station Report of Full Compliance with March 12, 2012 Commission Order Modifying Licenses with Regard to Requirements for Mitigation Strategies for Beyond-Design-Basis External Events (NRC Order EA-12-049)	06/26/2018
Sample No.	Laboratory Report	10/19/2018		



Inspection Procedure	Type	Designation	Description or Title	Revision or Date
		2018006423		
		Sample No. 2018006961	Laboratory Report	11/27/2018
		Sample No. 2018007555	Laboratory Report	12/21/2018
		Sample No. 2019000496	Laboratory Report	01/31/2019
		Sample No. 2019001536	Laboratory Report	03/12/2019
		Sample No. 2019001773	Laboratory Report	04/03/2019
		Sample No. 2019002264	Laboratory Report	05/03/2019
		Sample No. 2019002572	Laboratory Report	05/17/2019
		Sample No. 2019003090	Laboratory Report	06/06/2019
		Sample No. 2019003279	Laboratory Report	06/21/2019
		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	2
	Work Orders	2209661	Perform Monthly PM checks on 0P911 and 0P912	06/13/2019