



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**  
REGION I  
2100 RENAISSANCE BOULEVARD, SUITE 100  
KING OF PRUSSIA, PA 19406-2713

November 19, 2018

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

**SUBJECT: SUSQUEHANNA STEAM ELECTRIC STATION – EVALUATED EMERGENCY  
PREPAREDNESS EXERCISE INSPECTION REPORT 05000387/2018501 AND  
05000388/2018501**

Dear Mr. Berryman:

On October 19, 2018, the U.S. Nuclear Regulatory Commission (NRC) completed an inspection at Susquehanna Steam Electric Station (SSES), Units 1 and 2. The NRC inspectors discussed the results of this inspection with you and members of your staff on October 30, 2018. The results of this inspection are documented in the enclosed report.

No NRC-identified or self-revealing findings were identified during this inspection. NRC inspectors documented one licensee-identified violation which was determined to be of very low safety significance in this report. The NRC is treating this violation as a non-cited violation (NCV) consistent with Section 2.3.2.a of the Enforcement Policy.

If you contest the violation or significance of the NCV, you should provide a response within 30 days of the date of this inspection report, with the basis for your denial, to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001; with copies to the Regional Administrator, Region I; the Director, Office of Enforcement; and the NRC Resident Inspector at SSES.

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 the NRC Public Document Room in accordance with 10 CFR 2.390, "Public Inspections, Exemptions, Requests for Withholding."

Sincerely,

*/RA/*

Raymond R. McKinley, Chief  
Plant Support Branch  
Division of Reactor Safety

Docket Numbers: 50-387 and 50-388  
License Numbers: NPF-14 and NPF-22

Enclosure:  
Inspection Report 05000387/2018501  
and 05000388/2018501

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T. Scardino, RAC Chair, FEMA Region III

SUBJECT: SUSQUEHANNA STEAM ELECTRIC STATION – EVALUATED EMERGENCY PREPAREDNESS EXERCISE INSPECTION REPORT 05000387/2018501 AND 05000388/2018501 DATED NOVEMBER 19, 2018

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

Docket Numbers: 50-387 and 50-388

License Numbers: NPF-14 and NPF-22

Report Numbers: 05000387/2018501 and 05000388/2018501

Enterprise Identifier: I-2018-501-0037

Licensee: Susquehanna Nuclear, LLC (Susquehanna)

Facility: Susquehanna Steam Electric Station, Units 1 and 2

Location: Berwick, Pennsylvania

Inspection Dates: October 15 – 19, 2018

Inspectors: J. Ambrosini, Senior Emergency Preparedness Inspector, Division of  
Reactor Safety (DRS)  
J. DeBoer, Emergency Preparedness Inspector, DRS  
P. Elkmann, Senior Emergency Preparedness Inspector, Region IV  
T. Setzer, Senior Project Engineer, Division of Reactor Projects

Approved By: Raymond R. McKinley, Chief  
Plant Support Branch  
Division of Reactor Safety

## SUMMARY

The U.S. Nuclear Regulatory Commission (NRC) continued monitoring Susquehanna's performance at Susquehanna Steam Electric Station, Units 1 and 2, by conducting an evaluated emergency preparedness exercise inspection 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. Licensee-identified non-cited violations are documented in the Inspection Results section of the report: IP 71114.01.

## INSPECTION SCOPE

The inspectors conducted the inspection using the appropriate portions of the inspection procedure in effect at the beginning of the inspection unless otherwise noted. Currently approved inspection procedures 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>. 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. The inspectors determined the following samples were complete when the inspection procedure requirements were met consistent with Inspection Manual Chapter 2515, "Light-Water Reactor Inspection Program - Operations Phase."

## REACTOR SAFETY

### 71114.01 - Exercise Evaluation (1 sample)

The inspectors evaluated the adequacy of Susquehanna's conduct of the exercise and its capability to assess staff performance via a formal critique process, as required by Title 10 of the *Code of Federal Regulations* (10 CFR) 50.47(b)(14). The exercise simulated an inadvertent high pressure coolant injection into the reactor vessel, the failure of main steam isolation valves to close, a loss of coolant accident inside containment, and a leak from the drywell into the reactor building.

### 71114.08 - Exercise Evaluation – Scenario Review (1 sample)

The inspectors reviewed and evaluated the proposed scenario for biennial emergency plan exercise on September 14.

### 71151 - Performance Indicator Verification (3 samples)

The inspectors verified licensee performance indicators submittals listed below for the period from July 2017 through June 2018.

- (1) Drill and Exercise Performance
- (2) Emergency Response Organization Drill Participation
- (3) Alert and Notification System

## INSPECTION RESULTS

| Licensee Identified Non-Cited Violation  | 71114.01 |
|--|----------|
| <p>This violation of very low safety significant was identified by the licensee and has been entered into the licensee corrective action program and is being treated as a non-cited violation, consistent with Section 2.3.2 of the Enforcement Policy.</p>   |          |
| <p>Violation: 10 CFR 50.54(q)(2) requires, in part, that a licensee shall follow and maintain the effectiveness of an emergency plan that meets the requirements in Appendix E to this Part and, for nuclear power reactor licensees, the planning standards of §50.47(b). 10 CFR 50.47(b)(4) requires, in part, that a standard emergency classification and action level (EAL) scheme is in use by the licensee.</p> |          |

Contrary to the above, from December 2016 to the present, Susquehanna did not have sufficient guidance contained in procedures to assess the availability of the main condenser to support the containment barrier such that a site area emergency would be consistently declared in a timely manner upon loss of two fission product barriers.

Significance/Severity Level: The inspectors assessed the significance of the finding using Inspection Manual Chapter 0609, Appendix B. The inspectors determined that this finding was similar to the example in Table 5.4-1, Significance Examples §50.47(b)(4), which states “[a]n EAL has been rendered ineffective such that any Site Area Emergency would not be declared for a particular off-normal event, but because of other EALs, an appropriate declaration could be made in a degraded manner (e.g., delayed).” Thus, the inspectors determined that the finding was of very low safety significance (Green).

Corrective Action Reference: CR-2018-14650

### **EXIT MEETINGS AND DEBRIEFS**

The inspectors verified no proprietary information was retained or documented in this report. On October 30, the inspectors presented the inspection results to Mr. Brad Berryman, Chief Nuclear Officer, and other members of the Susquehanna staff.

**DOCUMENTS REVIEWED****Section 1EP1: Exercise Evaluation**

SSES Emergency Preparedness Plan  
 SSES Emergency Preparedness Plan Implementing Procedures  
 SSES October 16, 2018 Evaluated Exercise Scenario Package  
 SSES Drill Reports 2016-2018

**Condition Reports**

|               |               |               |
|---------------|---------------|---------------|
| CR-2018-14563 | CR-2018-14571 | CR-2018-14646 |
| CR-2018-14564 | CR-2018-14574 | CR-2018-14650 |
| CR-2018-14567 | CR-2018-14580 | CR-2018-14677 |
| CR-2018-14569 | CR-2018-14593 | CR-2018-14678 |

**Section 1EP8: Exercise Evaluation – Scenario Review**

SSES Emergency Preparedness Plan  
 SSES Emergency Preparedness Plan Implementing Procedures  
 SSES October 16, 2018 Evaluated Exercise Scenario Package  
 SSES Drill Reports 2016-2018

**Section 4OA1: Performance Indicator (PI) Verification**

DEP PI data, July 2017 – June 2018  
 ERO Drill Participation PI data, July 2017 – June 2018  
 ANS Reliability PI data, July 2017 – June 2018