



**UNITED STATES  
NUCLEAR REGULATORY COMMISSION**

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

June 22, 2015

EA-15-022

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

**SUBJECT: FINAL SIGNIFICANCE DETERMINATION FOR A WHITE FINDING WITH  
ASSESSMENT FOLLOW-UP AND NOTICE OF VIOLATION [INSPECTION  
REPORT NO. 05000387/2015504 and 05000388/2015504] – SUSQUEHANNA  
STEAM ELECTRIC STATION UNITS 1 AND 2**

Dear Mr. Rausch:

This letter provides you the final significance determination of the preliminary White finding discussed in the U.S. Nuclear Regulatory Commission (NRC) letter dated April 16, 2015, which also enclosed Inspection Report No. 05000387/2015503 and 05000388/2015503 (ML15105A471)<sup>1</sup>. This letter also transmits the follow-up NRC assessment of Susquehanna Nuclear's <sup>2</sup> (Susquehanna's) performance at the Susquehanna Steam Electric Station (SSES), which supplements the NRC annual assessment letter issued on March 4, 2015 (ML15062A232).

The finding was identified through an NRC Problem Identification and Resolution Sample Inspection at SSES to review Susquehanna's evaluation of a concern related to emergency action level (EAL) declaration timeliness associated with the fission product barrier degradation EALs. The finding, which is described in detail in Inspection Report No. 05000387/2015503 and 05000388/2015503, involved Susquehanna's incorrect implementation of the 15-minute assessment, classification, and declaration period for a potential loss of Reactor Coolant System (RCS) barrier EAL. Specifically, Susquehanna interpreted the 15-minute assessment, classification, and declaration clock to start when operator actions were, or were expected to be, unsuccessful in isolating an RCS leak rather than upon exceeding the EAL thresholds. Susquehanna's interpretation of the 15-minute assessment, classification, and declaration period potentially degraded their ability to make a timely Site Area Emergency declaration for one postulated scenario involving an unisolable primary coolant system leak outside of primary containment. Susquehanna entered the issue into its corrective action program and implemented compensatory measures to address the issue and ensure timeliness in making event declarations.

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<sup>1</sup> Designation in parentheses refers to an Agency-wide Documents Access and Management System (ADAMS) accession number. Documents referenced in this letter are publicly-available using the accession number in ADAMS.

<sup>2</sup> Effective June 1, 2015, PPL Corporation, LLC is no longer an NRC licensee. The new licensee is Susquehanna Nuclear, LLC.

In the April 16, 2015, letter transmitting the NRC preliminary determination and the inspection report, the NRC offered Susquehanna the option to attend a regulatory conference, to reply in writing to provide its position on the facts and assumptions the NRC used to arrive at the finding and its safety significance, or to accept the finding as characterized in the inspection report.

In a letter dated May 15, 2015, (ML15135A493), Susquehanna provided a written response to NRC's preliminary determination. In the response, Susquehanna acknowledged the finding, but stated that the training and programs that were already in place prior to the finding would have ensured that the impact of the deficiency would have remained relatively minor. In addition, Susquehanna noted that the finding is associated with only one accident scenario: a primary coolant system leak outside primary containment, and inside the secondary containment. In the response, Susquehanna also noted a corrective action taken in response to the finding. Specifically, Susquehanna revised the EAL basis to clearly state that for a potential loss of RCS, the assessment of EAL entry conditions commences immediately when the emergency thresholds are exceeded. A summary of Susquehanna's position as provided in its May 15, 2015, letter, the NRC's response to the points raised in Susquehanna's letter, and the details of the NRC's conclusion on the safety significance of this issue, are provided in Enclosure 1.

After careful consideration of the information developed during the inspection and the additional information provided in your letter dated May 15, 2015, the NRC has concluded that the finding is appropriately characterized as White, a finding of low to moderate safety significance. You have 30 calendar days from the date of this letter to appeal the staff's determination of significance for the identified White finding. Such appeals will be considered to have merit only if they meet the criteria given in the NRC Inspection Manual Chapter 0609, Attachment 2. An appeal must be sent in writing to the Regional Administrator, Region I, 2100 Renaissance Boulevard, King of Prussia, PA 19406.

The NRC has also determined that the finding is a violation of Title 10 of the Code of Federal Regulations (10 CFR) 50.54(q), "Condition of Licenses," as cited in the Notice of Violation (Notice) in Enclosure 2. The circumstances surrounding the violation were described in detail in Inspection Report No. 05000387/2015503 and 05000388/2015503. In accordance with the NRC Enforcement Policy, the Notice is considered escalated enforcement action because it is associated with a White finding. You are required to respond to this letter and should follow the instructions specified in the enclosed Notice when preparing your response. If you have additional information that you believe the NRC should consider, you may provide it in your response to the Notice. The NRC review of your response to the Notice will also determine whether further enforcement action is necessary to ensure compliance with regulatory requirements.

With respect to the supplemental NRC assessment of Susquehanna's performance at SSES Units 1 and Unit 2, as a result of this White finding in the Emergency Preparedness Cornerstone, the NRC has assessed SSES Units 1 and 2 to be in the Regulatory Response column of the NRC Action Matrix, retroactive to the second calendar quarter of 2015. Therefore, we plan to conduct a supplemental inspection using Inspection Procedure 95001, "Supplemental 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 any performance issues are understood, the extent of condition is identified, and the corrective actions are sufficient to prevent recurrence.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter, its enclosures, and your response will be made available electronically for public inspection in the NRC Public Document Room located at NRC Headquarters in Rockville, MD, and from the NRC's Agency-wide Documents Access and Management System (ADAMS), accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html> . To the extent possible, your response should not include any personal privacy, proprietary, or safeguards information so that it can be made available to the Public without redaction.

Should you have any questions regarding this matter, please contact Mr. Anthony Dimitriadis, Chief, Division of Reactor Safety, Plant Support Branch 1, in Region I, at (610) 337-6953.

Sincerely,

***/RA/ Original Signed by:***

Daniel H. Dorman  
Regional Administrator

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

Enclosures: As stated

cc w/encl: Distribution via ListServ

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DATE	06/2/15	6/3/15	6/10/15	6/22/15	

\* See previous concurrence page

OFFICIAL RECORD COPY

Letter to T. Rausch from D. Dorman dated June 22, 2015

SUBJECT: FINAL SIGNIFICANCE DETERMINATION FOR A WHITE FINDING WITH  
ASSESSMENT FOLLOW-UP AND NOTICE OF VIOLATION [INSPECTION  
REPORT NO. 05000387/2015504 and 05000388/2015504] – SUSQUEHANNA  
STEAM ELECTRIC STATION UNITS 1 AND 2

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Region I OE Files (with concurrences)

ROPassessment Resource

ROPreports Resource

## ENCLOSURE 1

### NRC RESPONSE TO INFORMATION PROVIDED IN THE SUSQUEHANNA NUCLEAR, LLC (SUSQUEHANNA) LETTER DATED May 15, 2015

#### SUMMARY OF SUSQUEHANNA'S POSITION

In a May 15, 2015, letter, Susquehanna submitted "Susquehanna Steam Electric Station Response to the Preliminary White Finding in Inspection Report No. 05000387/2015503 and 05000388/2015503," (ML15135A493) for the NRC's review and consideration prior to reaching a final significance determination. Susquehanna acknowledged the finding, but stated that the training and programs that were already in place prior to the finding would have ensured that the impact of the deficiency would have remained relatively minor.

In support of this view, Susquehanna raised two points for NRC consideration. These points, and the NRC responses to each, are summarized below:

#### Susquehanna Point #1:

The preliminary finding relates to one specific accident type – a primary coolant system leak outside primary containment, and inside the secondary containment. The performance deficiency was not noted in any other accident scenarios.

#### NRC Response

The NRC agrees the preliminary White finding relates to one specific accident type, however, the Emergency Preparedness (EP) Significance Determination Process (SDP) does not determine significance based on the number of accident scenarios impacted. The EP SDP determines significance with regard to the impact on the accuracy and timeliness of an emergency classification level. Therefore, because the accident scenario affects a timely Site Area Emergency (SAE) declaration, as discussed in Inspection Report No. 05000387/2015503 and 05000388/2015503, the preliminary finding has a significance of low to moderate safety significance (White).

#### Susquehanna Point #2:

Susquehanna reviewed two years of historical operator performance at SSES for simulator scenarios involving a primary coolant system leak outside primary containment. Although Susquehanna procedures allowed completion of isolation actions prior to emergency declaration, in the majority of the scenarios involving this type of event, the operators took the proper mitigating action, correctly declared an emergency within 15 minutes of indication of the steam leak, and communicated with offsite agencies in less than 30 minutes.

#### NRC Response

Attachment 3, "Significance Determination Process Basis Document," to Appendix B, "Technical Basis for Emergency Preparedness Significance Determination Process," to Inspection Manual Chapter 0308, "Reactor Oversight Process (ROP) Basis Document," provides the technical basis for the EP SDP. The Technical Basis for the EP SDP states that the performance expectation is to "demonstrate that reasonable assurance exists such that the licensee can effectively implement its emergency plan to protect public health and safety adequately in the event of a radiological emergency." The Technical Basis also discusses the development of the EP SDP and the contribution of the risk-significant planning standard (RSPS) functions

provided in assessing risk. The preliminary finding is associated with RSPS 50.47(b)(4), Emergency Classification System.

The EP SDP defines the EAL classification process as: facility procedures; training; ERO staffing; system, instrumentation, or equipment; or other resources or capabilities necessary to complete a classification or declaration. For the preliminary finding described in Inspection Report No. 05000387/2015503 and 05000388/2015503, the EAL classification process was impacted because Susquehanna's procedures allowed operators to attempt to complete mitigating actions before starting the 15 minute clock to complete the classification or declaration. Although past performance indicates that the declarations have been made on time, the procedural guidance could have resulted in longer declaration times under different circumstances.

Therefore, the NRC determined that the potential for an untimely emergency declaration associated with an unisolable primary system leak outside of primary containment existed, and thus, the public could have been placed at a greater risk.

#### SUMMARY

The NRC staff reviewed Susquehanna's written response to the preliminary White Finding dated May 15, 2015. The NRC acknowledges and considered Susquehanna's viewpoint; however, the NRC staff's position is unchanged. The NRC regulations require, in part, that licensees establish and maintain the capability to assess, classify, and declare an emergency condition within 15-minutes after the availability of indications to plant operators that an emergency action level has been exceeded and shall promptly declare the emergency condition as soon as possible following identification of the appropriate emergency classification level. Licensees shall not construe these criteria as a grace period to attempt to restore plant conditions to avoid declaring an emergency action due to an EAL that has been exceeded. The EP SDP provides staff guidance on how delays in declarations that affect Site Area Emergencies and General Emergencies should be evaluated for risk significance. The NRC confirmed that the guidance was properly applied in this case.

Based upon the information provided, the NRC staff concluded that the issue should remain low to moderate safety significance (White).

ENCLOSURE 2  
NOTICE OF VIOLATION

Susquehanna Nuclear, LLC.  
Susquehanna Steam Electric Station

Docket Nos. 50-387, 50-388  
License Nos. NPF-14, NPF-22  
EA-15-022

During an NRC inspection conducted from January 12 – March 17, 2015, a violation of NRC requirements was identified. In accordance with the NRC Enforcement Policy, the violation is listed below:

10 CFR 50.54(q)(2), requires that a holder of a nuclear power reactor operating license under this part, shall follow and maintain the effectiveness of an emergency plan that meets the requirements in Appendix E of this part and the standards in 10 CFR 50.47(b) and 10 CFR 50, Appendix E.

10 CFR 50.47(b)(4), requires a standard emergency classification and action level scheme, the bases of which include facility system and effluent parameters, is in use by the nuclear facility licensee, and state and local response plans call for reliance on information provided by facility licensees for determinations of minimum initial offsite response measures.

Appendix E, Section IV.C.2, requires that by June 20, 2012, nuclear power reactor licensees shall establish and maintain the capability to assess, classify, and declare an emergency condition within 15-minutes after the availability of indications to plant operators that an emergency action level has been exceeded and shall promptly declare the emergency condition as soon as possible following identification of the appropriate emergency classification level. Licensees shall not construe these criteria as a grace period to attempt to restore plant conditions to avoid declaring an emergency action due to an EAL that has been exceeded.

Contrary to the above, as of June 20, 2012, Susquehanna Nuclear, LLC (Susquehanna) failed to maintain in effect an emergency plan that met the standards in 10 CFR 50.47(b)(4) and the requirements in 10 CFR 50, Appendix E, Section IV.C.2. Specifically, Susquehanna's interpretation of the 15-minute assessment and declaration period degraded their ability to make a timely Site Area Emergency (SAE) declaration for a potential loss of Reactor Coolant System (RCS) barrier emergency action level. Susquehanna interpreted the 15-minute assessment and declaration clock to start when operator actions were, or expected to be, unsuccessful in isolating an RCS leak. Susquehanna's incorrect interpretation of the 15-minute assessment and declaration period degraded its ability to make timely a SAE declaration.

This violation is associated with a White Significance Determination Process finding.

Pursuant to the provisions of 10 CFR 2.201, Susquehanna Nuclear, LLC is hereby required to submit a written statement or explanation to the U.S. Nuclear Regulatory Commission, ATTN: Document Control Desk, Washington, DC 20555-0001 with a copy to the Regional Administrator, Region I, and a copy to the NRC Resident Inspector at the Susquehanna Steam Electric Station, within 30 days of the date of the letter transmitting this Notice of Violation (Notice). This reply should be clearly marked as a "Reply to a Notice of Violation; EA-15-022"



and should include the following: (1) the reason for the violation, or, if contested, the basis for disputing the violation, (2) the corrective steps that have been taken and the results achieved, (3) the corrective steps that will be taken, and (4) the date when full compliance will be achieved. Your response may reference or include previous docketed correspondence, if the correspondence adequately addresses the required response. If an adequate reply is not received within the time specified in this Notice, an order or a Demand for Information may be issued as to why the license should not be modified, suspended, or revoked, or why such other action as may be proper should not be taken. Where good cause is shown, consideration will be given to extending the response time.

If you contest this enforcement action, you should also provide a copy of your response, with the basis for your denial, to the Director, Office of Enforcement, United States Nuclear Regulatory Commission, Washington, DC 20555-0001.

Because your response will be made available electronically for public inspection in the NRC Public Document Room or from the NRC's document system (ADAMS), accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html>, to the extent possible, it should not include any personal privacy, proprietary, or safeguards information so that it can be made available to the public without redaction. If personal privacy or proprietary information is necessary to provide an acceptable response, then please provide a bracketed copy of your response that identifies the information that should be protected and a redacted copy of your response that deletes such information. If you request withholding of such material, you must specifically identify the portions of your response that you seek to have withheld and provide in detail the bases for your claim of withholding (e.g., explain why the disclosure of information will create an unwarranted invasion of personal privacy or provide the information required by 10 CFR 2.390(b) to support a request for withholding confidential commercial or financial information). If safeguards information is necessary to provide an acceptable response, please provide the level of protection described in 10 CFR 73.21.

In accordance with 10 CFR 19.11, Susquehanna may be required to post this Notice within two working days of receipt.

Dated this 22<sup>nd</sup> day of June, 2015.