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

April 16, 2015

EA-15-22

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

SUBJECT: SUSQUEHANNA STEAM ELECTRIC STATION UNITS 1 AND 2 – PROBLEM IDENTIFICATION AND RESOLUTION SAMPLE INSPECTION REPORT 05000387/2015503 AND 05000388/2015503 WITH PRELIMINARY WHITE FINDING

Dear Mr. Rausch:

On March 17, 2015, the U.S. Nuclear Regulatory Commission (NRC) completed an annual problem identification and resolution sample inspection at your Susquehanna Steam Electric Station, Units 1 and 2. The enclosed inspection report documents the inspection results, which were discussed on March 18, 2015, with Mr. Robert Franssen, Plant Manager, and other members of your staff.

The inspection examined activities conducted under your licenses as they relate to safety and compliance with the Commission's rules and regulations and with the conditions of your licenses. The inspectors reviewed selected procedures and records and interviewed personnel.

The enclosed inspection report discusses a Unit 1 and 2 finding that has preliminarily been determined to be White, a finding with low to moderate safety significance, which may require additional inspections, regulatory actions, and oversight. As described in Section 4OA2 of the enclosed report, the finding is associated with an apparent violation of Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50.54(q)(2), which requires a licensee to follow and maintain an emergency plan which meets the requirements of 10 CFR 50.47(b), and 10 CFR Part 50, Appendix E. Contrary to this requirement, as of June 20, 2012, PPL Susquehanna (PPL) failed to establish an effective Susquehanna Steam Electric Station (Susquehanna) Emergency Plan to ensure that a timely event declaration would be made for an unisolable primary system leak outside of primary containment. Specifically, PPL's interpretation of the 15-minute assessment and classification period degraded their ability to make timely Alert or Site Area Emergency declarations in certain cases. This potential delay in declaration of an Alert or Site Area Emergency could have impacted the ability of off-site response organizations to implement timely actions to protect the public during a radiological emergency. This issue is not an immediate safety concern because PPL implemented compensatory measures to address this concern and ensure timeliness in making event declarations.

The finding was assessed, using the NRC's Emergency Preparedness Significance Determination Process (SDP). The basis for the NRC's preliminary significance determination is described in the enclosed report. Because the finding is also an apparent violation of NRC requirements, it is being considered for escalated enforcement action in accordance with the Enforcement Policy, which appears on the NRC's Web site at http://www.nrc.gov/about-nrc/regulatory/enforcement/enforce-pol.html.

The NRC will inform you, in writing, when the final significance has been determined. We intend to complete and issue our final safety significance determination within 90 days from the date of this letter. The NRC's SDP is designed to encourage an open dialogue between your staff and the NRC; however, the dialogue should not affect the timeliness of our final determination.

We believe that we have sufficient information to make a final significance determination. However, before we make a final decision, we are providing you an opportunity to provide your perspective on this matter, including the significance, causes, and corrective actions, as well as any other information that you believe the NRC should take into consideration. Accordingly, you may notify us of your decision within 10 days to: (1) request a regulatory conference to meet with the NRC and provide your views in person; (2) submit your position on the finding in writing; or (3) accept the finding as characterized in the enclosed inspection report.

If you choose to request a regulatory conference, the meeting should be held in the NRC Region I office within 30 days of the date of this letter, and will be open for public observation. The NRC will issue a public meeting notice and a press release to announce the date and time of the conference. We encourage you to submit supporting documentation at least one week prior to the conference in an effort to make the conference more efficient and effective. If you choose to provide a written response, it should be sent to the NRC within 30 days of the date of this letter. You should clearly mark the response as "Response to Preliminary White Finding in Inspection Report No. 05000387 and 05000388/2015503; EA-15-22," and send it 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 Senior Resident Inspector at Susquehanna.

You may also elect to accept the finding as characterized in this letter and the inspection report, in which case the NRC will proceed with its regulatory decision. However, if you choose not to request a regulatory conference or to submit a written response, you will not be allowed to appeal the NRC's final significance determination.

Please contact Anthony Dimitriadis at (610) 337-6953 within 10 days from the issue date of this letter to notify the NRC of your intentions. If we have not heard from you within 10 days, we will continue with our significance determination and enforcement decision. Because the NRC has not made a final determination in this matter, no notice of violation is being issued for this inspection finding at this time. In addition, please be advised that the number and characterization of the apparent violation may change based on further NRC review.

In accordance with 10 CFR 2.390, “Public Inspections, Exemptions, Requests for Withholding,” of the NRC’s “Rules of Practice,” a copy of this letter and its enclosure and your response (if any) will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records component of the NRC’s document system, 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).

Sincerely,

/RA/

Raymond K. Lorson
Director
Division of Reactor Safety

Docket Nos.: 50-387, 50-388
License Nos.: NPF-14, NPF-22

Enclosure:
NRC Inspection Report Nos. 05000387/2015503
and 05000388/2015503
w/Attachment: Supplementary Information

cc w/encl: Distribution via ListServ

cc w/encl:
R. Flinn, Jr., Director, PA Emergency
Management Agency (PEMA) and
Office of Homeland Security Advisor
T. Scardino, RAC Chair, FEMA Region III

In accordance with 10 CFR 2.390, "Public Inspections, Exemptions, Requests for Withholding," of the NRC's "Rules of Practice," a copy of this letter and its enclosure and your response (if any) will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records component of the NRC's document system, 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).

Sincerely,

/RA/

Raymond K. Lorson
Director
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U.S. NUCLEAR REGULATORY COMMISSION

REGION I

Docket Nos.:	50-387, 50-388
License Nos.:	NPF-14, NPF-22
Report Nos.:	05000387/2015503 and 05000388/2015503
Licensee:	PPL Susquehanna, LLC (PPL)
Facility:	Susquehanna Steam Electric Station, Units 1 and 2
Location:	Berwick, Pennsylvania
Dates:	January 12 – March 17, 2015
Inspectors:	E. Burket, Emergency Preparedness Inspector, Division of Reactor Safety (DRS), Region I (Lead) J. Greives, Senior Resident Inspector, Susquehanna
Approved By:	Anthony Dimitriadis, Chief Plant Support Branch 1 Division of Reactor Safety

SUMMARY

IR 05000387/2015503, 05000388/2015503; 1/12/2015-3/17/2015; Susquehanna Steam Electric Station, Units 1 and 2; Problem Identification and Resolution.

This report covers an announced inspection conducted by one Region I-based inspector and one senior resident inspector. The inspectors identified a preliminary low to moderate safety significance (White) finding with an apparent violation. The significance of most findings is indicated by their color (i.e., greater than Green, or Green, White, Yellow, Red) and determined using Inspection Manual Chapter (IMC) 0609, "Significance Determination Process (SDP)," dated June 2, 2011. Cross-cutting aspects are determined using IMC 0310, "Aspects Within the Cross-Cutting Areas," dated December 19, 2013. All violations of NRC requirements are dispositioned in accordance with the NRC's Enforcement Policy, dated February 4, 2015. The NRC's program for overseeing the safe operation of commercial nuclear power reactors is described in NUREG-1649, "Reactor Oversight Process," Revision 5.

Cornerstone: Emergency Preparedness

Preliminary White: The inspectors identified an apparent violation of Title 10 of the *Code of Federal Regulations* (10 CFR) 50.54(q)(2), which preliminarily has been determined to be of low to moderate safety significance (White). Specifically, 10 CFR 50.54(q)(2) requires a licensee to follow and maintain an emergency plan which meets the requirements of 10 CFR 50.47(b), and 10 CFR Part 50, Appendix E. Contrary to this requirement, as of June 20, 2012, PPL Susquehanna (PPL) failed to establish an effective Susquehanna Steam Electric Station (Susquehanna) Emergency Plan to ensure that a timely event declaration would be made for an unisolable primary system leak outside of primary containment. Specifically, PPL's interpretation of the 15-minute assessment and classification period degraded their ability to make timely Alert or Site Area Emergency declarations in certain cases. This potential delay in declaration of an Alert or Site Area Emergency could have impacted the ability of off-site response organizations to implement timely actions to protect the public during a radiological emergency.

The inspectors determined the incorrect interpretation of the 15-minute assessment and declaration period was a performance deficiency that was within PPL's ability to foresee and correct and should have been prevented. Using IMC 0612, Appendix B, "Issue Screening," the performance deficiency was determined to be more than minor because it was associated with the ERO performance attribute of the emergency preparedness (EP) Cornerstone and affected the cornerstone objective to ensure that the licensee was capable of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency. Specifically, the finding could impact the declaration timeliness of an emergency associated with a degraded fission product barrier. The inspectors utilized IMC 0609, Appendix B, "Emergency Preparedness Significance Determination Process," to determine the significance of the finding. The finding is associated with the emergency classification planning standard and is considered a risk significant planning standard (RSPS) function. This finding impacts the following required RSPS function: 10 CFR 50.47(b)(4), "Emergency Classification System." The inspectors utilized the SDP to compare the finding with the examples in Section 5.4, "10 CFR 50.47(b)(4), Emergency Classification System," to evaluate the significance of this finding. Using Table 5.4-1, "Significance Examples §50.47(b)(4)," the inspectors determined that the finding matched an example of a degraded RSPS function, which would be assessed as White.

Specifically, the example states that the finding would be assessed as White if the emergency action level (EAL) classification process is not capable of classifying a general emergency or a Site Area Emergency within 15-minutes or declaring the emergency promptly once the appropriate classification level is determined.

The inspectors determined that the cross-cutting aspect that contributed most to the root cause is P.5, “Operating Experience: The organization systematically and effectively collects, evaluates, and implements relevant internal and external operating experience in a timely manner.” Specifically, PPL did not perform a thorough review of operating experience during and after implementing the new EP rule to ensure all Susquehanna EAL thresholds were being evaluated in accordance with the NRC’s emergency declaration timeliness requirement in the regulation. (Section 4OA2)

REPORT DETAILS

1. OTHER ACTIVITIES

Cornerstone: Emergency Preparedness (EP)

4OA2 Problem Identification and Resolution (71152 – 1 Sample)

.1 Annual Sample: Emergency Action Level Declaration Timeliness

a. Inspection Scope

The inspectors performed an in-depth review of PPL Susquehanna's (PPL) evaluation of a concern identified by the NRC regarding emergency action level (EAL) declaration timeliness associated with the fission product barrier degradation EALs. In October 2014, during a review of drill scenarios in support of a Drill Evaluation inspection, the inspectors identified a concern associated with how PPL determines the start of the 15-minute clock for emergency assessment and declaration at Susquehanna for a scenario involving a potential loss of the reactor coolant system (RCS) barrier. PPL documented this concern in the corrective action program as CR-2014-34697.

The inspectors reviewed drill reports, the EALs and EAL basis document, emergency response organization (ERO) emergency action level classification lesson plans, and emergency operating procedures (EOP). The inspectors also performed an in-office review of two position papers describing PPL's position regarding the concern. Additionally, the inspectors interviewed the EP staff and senior reactor operators.

b. Findings and Observations

Introduction: The inspectors identified an apparent violation of 10 CFR 50.54(q)(2), which preliminarily has been determined to be of low to moderate safety significance (White). Specifically, 10 CFR 50.54(q)(2) requires a licensee to follow and maintain an emergency plan that meets the planning standards of 50.47(b) and the requirements of 10 CFR Part 50, Appendix E. PPL failed to establish an effective Susquehanna Steam Electric Station Emergency Plan to ensure that a timely event declaration would be made for an unisolable primary system leak outside of primary containment.

Description: As a result of the November 2011, emergency preparedness rulemaking, Appendix E, Section IV.C.2 of 10 CFR Part 50 was revised to state, in part, that by June 20, 2012, 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. The statements of consideration

(76 FR 72584, November 23, 2011) associated with the rulemaking explain that "the NRC considers the 15-minute criterion to commence when plant instrumentation, plant alarms, computer displays, or incoming verbal reports that correspond to an EAL become available to any plant operator."

When evaluating the potential for a degradation of one or more of the fission product barriers (i.e., fuel clad, reactor coolant system, or primary containment), Susquehanna ERO personnel utilize Table F, Fission Product Barrier Degradation, in the EALs. The Table is organized with the fission product barriers across the top and the parameter (i.e., drywell pressure, reactor coolant activity level, etc.) being evaluated on the left side. The fission product barriers are annotated with numbers (i.e., 1 for fuel clad, 2 for RCS, and 3 for primary containment) and the parameters with lower case letters (i.e., c for RCS leak rate or containment isolation failure or breach/bypass). The second EAL (2.c.2) in the potential loss of RCS barrier column in Table F states, "unisolable primary system leakage outside primary containment as indicated by: any reactor building area exceeds max normal reactor building temperature (or radiation) limit per Table F-1 (Table F-2)." Therefore, this EAL threshold can be satisfied by a reactor building (RB) temperature or radiation limit exceeding its maximum normal value. However, Susquehanna's basis document for this particular EAL has a statement that says, "if the actions taken by EO-000-104 are not successful in isolating the leak or are not expected to be successful, then this entry condition is met." EO-000-104 is an EOP for secondary containment control. Therefore, PPL interpreted the 15-minute assessment and declaration clock to start when operator actions were, or expected to be, unsuccessful in isolating an RCS leak. The inspectors reviewed drill documentation, and interviewed EP staff and senior reactor operators to determine how the ERO was being trained to make event declarations for the potential loss of RCS barrier. Susquehanna's EALs define an Alert as any loss or any potential loss of either the fuel clad or RCS. Therefore, an Alert declaration would be appropriate if the EAL threshold for a potential loss of RCS barrier is exceeded. Susquehanna's EALs define a Site Area Emergency (SAE) as any loss or potential loss of any two barriers. Therefore, if the EAL threshold criterion would be satisfied for a potential loss of RCS barrier and the fuel or containment barrier was also challenged, it is expected the ERO would evaluate the need to escalate to an SAE.

The wording in the third EAL (3.c.3) in Table F associated with a loss of the primary containment barrier was identical to the wording in EAL 2.c.2, with the exception of the word "safe" in place of "norm," therefore; the inspectors also reviewed PPL's implementation of that EAL. Specifically, EAL 3.c.3 associated with a loss of the primary containment barrier in Table F stated, "unisolable primary system leakage outside primary containment as indicated by: any reactor building areas exceed max safe reactor building temperature (or radiation) limits per Table F-3 (Table F-4)." The basis for this EAL (3.c.3) in Table F stated, "an unisolable leak that is indicated by exceeding Max Safe alarm setpoints, escalates to a Site Area Emergency because the RCS barrier EAL [2.c.2] is also exceeded." Therefore, the inspectors had a concern that if it was not recognized that a potential loss of the RCS barrier existed, there could be an impact to declaring an SAE in a timely manner if a max safe alarm setpoint was exceeded. By design, 12 of the 21 RB areas listed in Table F-3, "max safe reactor building temperatures," in the EALs have isolation valves which receive automatic isolation signals at the maximum safe temperature limit. Additionally, the automatic isolation

valves for the high pressure coolant injection (HPCI)/reactor core isolation cooling (RCIC) pipe routing area are designed with a 15 minute delay. This is to allow time for operators to determine which system was leaking and to avoid isolating both systems when only one was leaking. There were no automatic isolation valves associated with the remaining areas listed in the Table F-4, “max safe reactor building radiation monitors” limits.

The inspectors interviewed EP staff responsible for training ERO members who indicated that for the potential loss of RCS barrier, the control room ERO personnel were trained to not consider the EAL threshold met unless the actions taken in EO-00-104 were unsuccessful in isolating the leak. Additionally, the EP staff indicated that for the loss of primary containment barrier, control room ERO personnel were trained not to consider the EAL threshold as met unless the isolation was unsuccessful or expected to be unsuccessful. The inspectors concluded that training the ERO in this manner was inconsistent with NRC requirements and had the potential to degrade the timeliness of an event declaration. The inspectors interviewed shift managers (SM) to determine how they were being trained to implement the potential loss of RCS barrier and loss of primary containment barrier EALs. The SMs indicated that the EAL threshold was not met for the potential loss of RCS barrier until actions taken were unsuccessful in isolating the leak after receiving a maximum normal temperature indication. The SMs also indicated they would implement the loss of primary containment barrier EAL similarly to the potential loss of RCS barrier EAL for those areas which did not have automatic isolations. Specifically, they would not consider the declaration time to start until it had been determined that the primary system leak was unisolable. The inspectors concluded the statements made by the SM were consistent with the statements made by the EP training staff.

The inspectors reviewed evaluator logs from licensed operator requalification evaluations for selected drills conducted on 1/9/15, 1/23/15, and 1/30/15, and determined that the information provided in the interviews was supported by actual ERO performance in drills and subsequent drill participant interviews with the evaluators. In all three scenarios, a maximum normal temperature alarm was received in the HPCI/RCIC pipe routing area, the EAL threshold for a loss of RCS barrier was exceeded when drywell pressure exceeded 1.72 psig, and a potential loss of the fuel clad barrier EAL threshold was exceeded when reactor pressure vessel level dropped below negative 161 inches.

For the January 9, 2015, drill, at 0818, a HPCI/RCIC pipe routing area maximum normal temperature alarm was received. The SM declared an SAE at 0832. PPL determined the SAE declaration was timely because it was determined at 0831 that actions taken to isolate the leak would be unsuccessful, and the emergency declaration was made a minute later. The SM for the drill stated the SAE was declared based on the belief that both the HPCI and RCIC systems were unisolable, and that the trigger for the SAE would be when actions taken as directed by EO-000-104 were unsuccessful in isolating the leak. The inspectors agreed that the declaration was made in a timely manner (i.e., 14 minutes after indication the EAL threshold was exceeded), but disagreed with the clock declaration start time of 0831. Additionally, the SM’s statement was consistent

with the information provided during the interviews and had the actions taken longer to attempt to isolate the leak, a potential existed for the declaration to be made in a non-timely or degraded manner.

For the January 23, 2015, drill, at 0807, the HPCI/RCIC pipe routing area maximum normal temperature alarm was received, followed by a report of a loud steam noise from the pipe routing area at 0814, and drywell pressure exceeding 1.72 psig at 0816. A maximum safe temperature limit was exceeded at 0822. HPCI was isolated at 0835 and reactor level indicated negative 204" at 0854. The SM declared an Alert at 0816. The SM declared an SAE at 0856. PPL determined the SAE declaration to be a failure because it was not timely since it was not declared within 15 minutes after receiving the maximum safe temperature indication. The SM stated that he declared the Alert because the maximum normal temperature was exceeded and RCIC isolation was unsuccessful, but that he did not declare an SAE after exceeding a maximum safe temperature limit because he did not believe the HPCI leak was unisolable. The inspectors agreed that the SAE declaration was a failure. However, the inspectors noted that the SM's statements were consistent with the information provided in the interviews (i.e., that in some cases, the 15-minute assessment and declaration clock for a loss of primary containment does not start with indication of a maximum safe limit being exceeded).

For the January 30, 2015, drill, the maximum normal temperature was exceeded at 0811, drywell pressure exceeded 1.72 psig at 0833, and the HPCI leak was isolated at 0837. The SM declared an Alert at 0846 based on drywell pressure (loss of RCS barrier), and he declared an SAE at 0905 based on reactor vessel level (potential loss of fuel clad barrier). PPL determined both of these declarations to be successful (i.e., accurate and timely), however, the Alert declaration exceeded the 15-minute declaration time that commenced at 0811. The inspectors concluded that the information provided in interviews was consistent with the drill performance, and that the EAL declaration start time was being interpreted incorrectly per regulations for the potential loss of RCS barrier, and, at times, the loss of primary containment barrier. Therefore, the inspectors determined that the capability to declare an SAE in a timely manner was potentially impacted by the delayed recognition that the EAL criteria had been satisfied for a degraded RCS barrier.

PPL provided a position paper stating that the EAL threshold criterion was satisfied after attempts to isolate the leak are unsuccessful and that it would be inappropriate to assume an unisolable leak occurred because there were elevated temperatures or radiation readings, without confirmation as described in EO-00-104. The NRC agrees that it would be inappropriate to declare an emergency based solely on an alarm indication without confirming the validity of the alarm. However, the statements of consideration for the EP rule state that, "validation or confirmation of plant indications, or reports to the plant operators, is to be accomplished within the 15-minute period as part of the assessment."

PPL provided an additional position paper stating that because of the wording in the EAL basis, no emergency classification level above an Alert would have been affected. PPL stated that a leak is assumed to be isolable until the operators reach the point in which

EO-00-104 is not successful in isolating the leak for the cases when temperature and/or radiation readings are still below safe levels, but it is assumed to be unisolable until it is isolated in the cases when temperatures and radiation levels exceed maximum safe levels. The position paper also stated that the EAL entry time for an unisolable leak is either when EO-00-104 is unsuccessful in isolating the leak when temperature and/or radiation levels are above maximum normal but below the maximum safe levels or it is when the temperature or radiation levels are above maximum safe levels. The inspectors determined this was inconsistent with the information provided during the EP training staff and SM interviews. The inspectors questioned whether this differing philosophy for these two similarly worded (i.e., normal vs. safe) EALs contributed to the apparent inconsistent responses between the EP training staff and SM interviews, and PPL's position paper. Specifically, following the January 23, 2015, drill, the SM stated he did not declare an SAE at the maximum safe level because he did not believe the leak was unisolable. The inspectors recognized that the SM's performance was considered a failure by PPL for the drill. However, the SM's response was consistent with the responses from the EP training staff and SMs during the interviews, and highlighted a disconnect between the position paper and how the ERO was trained to implement their EAL scheme. Therefore, the inspectors determined PPL did not establish appropriate measures to provide high confidence that an Alert or SAE would be declared in a timely manner at all times for an unisolable primary system leak outside of primary containment.

The current EAL scheme in use at PPL was approved by the NRC in July 2004. Section 1.1, Classification/Declaration Guidance, of EP-RM-004, EAL Classification Basis, states, "the 15-minutes commences from the first availability of a plant indication or receipt of a report of an off-normal condition by plant operators. If classifications and declarations are performed away from where the alarms, indications, and reports are first received, all delays incurred in transferring information to the appropriate Emergency Response Facility must be included within the 15 minute criterion. Validation or confirmation of plant indications or reports to the plant operators is to be accomplished within the 15-minute period as part of the assessment." Therefore, PPL's guidance for overall EAL implementation is consistent with the NRC's expectation of the 15-minute assessment and declaration clock start, which had been communicated via generic means prior to being added to the regulations. However, the basis for EAL 2.c.2, potential loss of RCS barrier, is inconsistent with regulations. In 2009, the NRC notified the industry of the proposed EP rule (NRC-2008-0122/RIN: 3150-AI10), which included the emergency declaration timeliness requirement. The backfit analysis performed for the proposed rule determined that these changes would constitute a substantial increase in EP and would be justified in view of this increased protection of the public health and safety, and therefore, licensees would be required to update their practices to meet the new requirements. Between the time the rule was proposed and published in November 2011, the industry was informed of the rule changes by means of publically available implementing guidance and numerous public meetings. Additionally, the industry was given until June 20, 2012, to evaluate their individual EAL schemes and make changes, as necessary, to come into compliance and implement the regulation.

Analysis: The incorrect implementation of the 15-minute assessment and declaration period for the potential loss of RCS barrier EAL was a performance deficiency that was

within PPL's ability to foresee and correct and should have been prevented. Using Inspection Manaual Chapter (IMC) 0612, Appendix B (issue date: 9/7/12), "Issue Screening," the performance deficiency was determined to be more than minor because it is associated with the ERO performance attribute of the EP Cornerstone and affected the cornerstone objective to ensure that the licensee was capable of implementing adequate measures to protect the health and safety of the public in the event of a radiological emergency. Specifically, the finding could impact the declaration timeliness of an emergency at the Alert and SAE levels.

The inspectors utilized IMC 0609, Appendix B (issue date: 9/23/14), "Emergency Preparedness Significance Determination Process," to determine the significance of the finding. The finding is associated with the emergency classification planning standard and is considered a RSPS function. This finding impacts the following required RSPS function: 10 CFR 50.47(b)(4), "Emergency Classification System." The inspectors were directed by the SDP to compare the finding with the examples in Section 5.4, "10 CFR 50.47(b)(4), Emergency Classification System," to evaluate the significance of this finding. Using Table 5.4-1, "Significance Examples §50.47(b)(4)," the inspectors determined that the finding matched an example of a degraded RSPS function, which would be assessed as White. Specifically, the example states that the finding would be assessed White if the EAL classification process is not capable of classifying a general emergency or a Site Area Emergency within 15-minutes or declaring the emergency promptly once the appropriate classification level is determined. The table has a footnote that states the EAL classification process includes facility procedures; training; ERO staffing; system, instrumentation, or equipment; or other resources or capabilities necessary to complete a classification or declaration. In this case, the finding involved PPL's implementation of the 15-minute declaration start time and affects the Alert and SAE classifications and is supported by the EAL basis document and ERO training. This is a preliminary significance and the safety characterization is not yet finalized. This issue is not an immediate safety concern because PPL implemented compensatory measures to address this concern and ensure timeliness in making event declarations.

The inspectors determined the cause of the finding has a cross-cutting aspect in the area of Problem Identification and Resolution, Operating Experience, because PPL did not systematically and effectively collect, evaluate, and implement relevant internal and external operating experience in a timely manner. Specifically, PPL did not appropriately perform a thorough review of operating experience during and after implementing the new EP rule to ensure all Susquehanna EAL thresholds were being evaluated in accordance with the NRC's emergency declaration timeliness requirement in the regulation. [P.5]

Enforcement: 10 CFR 50.54(q)(2) requires, in part, that the licensee shall follow and maintain the effectiveness of an emergency plan that meets the requirements in Appendix E to this part and the planning standards of 10 CFR 50.47(b).

10 CFR 50.47(b)(4) requires that 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.

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 this requirement, as of June 20, 2012, PPL failed to establish an effective Susquehanna Steam Electric Station Emergency Plan to ensure that a timely event declaration would be made for an unisolable primary system leak outside of primary containment. Specifically, PPL's interpretation of the 15-minute assessment and classification period degraded their ability to make timely Alert or SAE declarations in certain cases. This potential delay in declaration of an Alert or SAE could have impacted the ability of off-site response organizations to implement timely actions to protect the public during a radiological emergency. PPL has documented this in their corrective action program as CR-2015-09088. This issue is being characterized as an apparent violation in accordance with the NRC's Enforcement Policy, and its final significance will be dispositioned in separate future correspondence. **(AV 05000387 and 388/2015503-01, Failure to Maintain a Standard EAL Scheme)**

4OA6 Meetings, Including Exit

On March 18, 2015, the inspectors exited and presented the inspection results to Mr. Robert Franssen, Plant Manager, and other members of the PPL staff. The inspectors verified that no proprietary information was retained by the inspectors or documented in this report.

ATTACHMENT

SUPPLEMENTAL INFORMATION

KEY POINTS OF CONTACT

PPL Personnel
R. Franssen, Plant Manager
S. Davis, Manager, Nuclear Emergency Planning
J. Grisewood, Manager, Nuclear Regulatory Affairs

LIST OF ITEMS OPENED, CLOSED, AND DISCUSSED

05000387/388/2015503-01	AV	Failure to Maintain a Standard EAL Scheme

LIST OF DOCUMENTS REVIEWED

Section 4OA2: Problem Identification and Resolution

Miscellaneous
Blue Team Full-Scale Drill Package 7/24/14
EP012, EAL Classification Emergency Preparedness Training, dated 5/8/14
Licensed Operator Requalification Drill Packages, 6/9/14, 6/16/14, 6/30/14, 6/23/14, 7/7/14, 7/16/14, 1/9/15, 1/16/15, 1/23/15, 1/30/15, and 2/13/15
Susquehanna Steam Electric Station Emergency Plan, Revision 55
Position paper, Additional Information to Support PPL Susquehanna RCS Potential Loss Trigger Time, February, 2015
Position paper, Trigger Time for Potential Loss of RCS, December, 2014

Procedures
EP-RM-004, EAL Classification Bases, Revision 2
EO-000-104, Secondary Containment Control, Revision 11

Condition Reports
CR-2014-34697
CR-1641934

LIST OF ACRONYMS

ADAMS	Agencywide Documents Access and Management System
AV	Apparent Violation
CFR	Code of Federal Regulations
DRS	Division of Reactor Safety
EAL	Emergency Action Level
EOP	Emergency Operating Procedure
EP	Emergency Preparedness
ERO	Emergency Response Organization
HPCI	High Pressure Coolant Injection
IMC	Inspection Manual Chapter
NRC	Nuclear Regulatory Commission
PPL	PPL Susquehanna, LLC
RB	Reactor Building
RCIC	Reactor Core Isolation Cooling
RCS	Reactor Coolant System
RSPS	Risk Significant Planning Standard
SAE	Site Area Emergency
SDP	Significance Determination Process
SM	Shift Manager
SSES	Susquehanna Steam Electric Station