



UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D.C. 20555-0001

June 22, 2012

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

SUBJECT: SUSQUEHANNA STEAM ELECTRIC STATION, UNITS 1 AND 2 – CLOSEOUT  
OF NRC BULLETIN 2011-01, "MITIGATING STRATEGIES"  
(TAC NOS. ME6941 AND ME6942)

Dear Mr. Rausch:

On May 11, 2011, the U.S. Nuclear Regulatory Commission (NRC) issued Bulletin 2011-01, "Mitigating Strategies,"<sup>1</sup> to all holders of operating licenses for nuclear power reactors, except those that have permanently ceased operation and have certified that fuel has been removed from the reactor vessel. The purpose of the bulletin was to obtain a comprehensive verification that licensees' mitigating strategies to maintain or restore core cooling, spent fuel cooling, and containment following a large explosion or fire were compliant with Title 10 of the *Code of Federal Regulations* (10 CFR) Section 50.54(hh)(2).

The bulletin required two sets of responses pursuant to the provisions of 10 CFR 50.54(f). PPL Susquehanna, LLC (PPL) provided its responses to the bulletin for Susquehanna Steam Electric Station, Units 1 and 2 (SSES) by letters dated June 9, 2011,<sup>2</sup> and July 11, 2011, as supplemented by letter dated December 9, 2011.<sup>3</sup>

The NRC staff has reviewed the information provided by PPL for SSES and concludes that the response to the bulletin is acceptable. As summarized in the enclosure, the NRC staff verified that PPL provided the information requested in the bulletin. The NRC staff has determined that no further information or actions under Bulletin 2011-01 are requested at this time.

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<sup>1</sup> Agencywide Documents Access and Management System (ADAMS) Accession No. ML111250360

<sup>2</sup> ADAMS Accession No. ML111610447

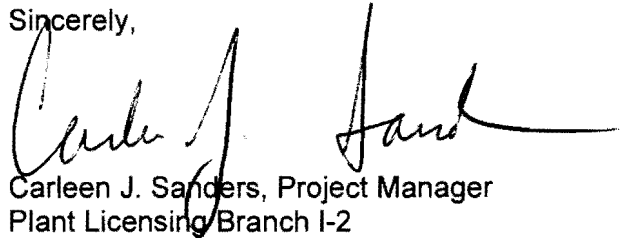
<sup>3</sup> ADAMS Accession No. ML111950014 and ADAMS Accession No. ML11356A213, respectively

T. Rausch

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If you have any questions, please contact me at 301-415-1603.

Sincerely,

A handwritten signature in black ink, appearing to read "Carleen J. Sanders", with a long horizontal flourish extending to the right.

Carleen J. Sanders, Project Manager  
Plant Licensing Branch I-2  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket Nos. 50-387 and 50-388

Enclosures:  
As stated

cc w/encls: Distribution via Listserv

REVIEW BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RESPONSE TO BULLETIN 2011-01

PPL SUSQUEHANNA, LLC

ALLEGHANY ELECTRIC COOPERATION, INC.

SUSQUEHANNA STEAM ELECTRIC STATION, UNITS 1 AND 2

DOCKET NUMBERS 50-387 AND 50-388

On May 11, 2011, the U.S. Nuclear Regulatory Commission (NRC) issued Bulletin 2011-01, 'Mitigating Strategies,'<sup>1</sup> to all holders of operating licenses for nuclear power reactors, except those that have permanently ceased operation and have certified that fuel has been removed from the reactor vessel. The bulletin required two sets of responses pursuant to the provisions of Title 10 of the *Code of Federal Regulations* (10 CFR) Section 50.54(f). The first set of responses was due 30 days after issuance of the bulletin. By letter dated June 9, 2011,<sup>2</sup> PPL Susquehanna, LLC (PPL) provided its response for Susquehanna Steam Electric Station, Units 1 and 2 (SSES) to this first set of questions (first response). The second set of responses was due 60 days after issuance of the bulletin. By letter dated July 11, 2011, as supplemented by letter dated December 9, 2011,<sup>3</sup> PPL provided its response to this second set of questions (second response and response to request for additional information (RAI), respectively) for SSES. As summarized below, the NRC staff has verified that PPL provided the information requested in the bulletin for SSES.

1.0 BACKGROUND

On February 25, 2002, the NRC issued EA-02-026, "Order for Interim Safeguards and Security Compensatory Measures" (ICM Order). Section B.5.b of the ICM Order required licensees to develop specific guidance and strategies to maintain or restore core cooling, containment, and spent fuel pool cooling capabilities using readily available resources (equipment and personnel) that can be effectively implemented under the circumstances associated with the loss of large areas of the plant due to explosions or fire.

By letter dated August 23, 2007,<sup>4</sup> the NRC staff issued its Safety Evaluation (SE) to document the final disposition of information submitted by PPL for SSES regarding Section B.5.b of the

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<sup>1</sup> Agencywide Documents Access and Management System (ADAMS) Accession No. ML111250360

<sup>2</sup> ADAMS Accession No. ML111610447

<sup>3</sup> ADAMS Accession No. ML111950014 and ADAMS Accession No. ML11356A213, respectively

<sup>4</sup> ADAMS Accession No. ML072330004

Enclosure

ICM Order. Along with the SE, the NRC staff issued a conforming license condition to incorporate the B.5.b mitigating strategies into the SSES licensing basis.

On March 27, 2009, the NRC issued 10 CFR 50.54(hh)(2) as a new rule, in order to capture the B.5.b mitigating strategies and related license conditions as regulatory requirements for both current and future licensees. At that time, licensee compliance with the conforming license conditions was sufficient to demonstrate compliance with 10 CFR 50.54(hh)(2) (74 FR 13926); therefore no further actions were required on the part of current licensees.

## 2.0 30-DAY REQUEST

In order to confirm continued compliance with 10 CFR 50.54(hh)(2), the bulletin requested that licensees address the following two questions within 30 days of issuing the bulletin:

1. Is the equipment necessary to execute the mitigating strategies, as described in your submittals to the NRC, available and capable of performing its intended function?
2. Are the guidance and strategies implemented capable of being executed considering the current configuration of your facility and current staffing and skill levels of the staff?

The NRC staff reviewed SSES's first response to determine if it had adequately addressed these questions. A summary of the NRC staffs review is provided below.

### 2.1 Question 1: Availability and Capability of Equipment

In its first response, PPL confirmed that equipment needed to execute the 10 CFR 50.54(hh)(2) mitigating strategies at SSES is available and capable of performing its intended function. The NRC staff verified that this confirmation covered equipment needed for each of the three phases of B.5.b mitigation strategies. Therefore, the NRC staff finds that PPL has adequately responded to Question 1 for SSES.

### 2.2 Question 2: Guidance and Strategies Can Be Executed

In its first response, PPL confirmed that the guidance and strategies implemented at SSES for 10 CFR 50.54(hh)(2) are capable of being executed considering the current facility configuration, staffing levels, and staffs skills. Since PPL has considered SSES's current facility configuration, staffing levels, and staffs skills, and confirmed that it can execute its implemented guidance and strategies, the NRC staff finds that PPL has adequately responded to Question 2 for SSES.

## 3.0 60-DAY REQUEST

The bulletin required a response to the following five questions within 60 days of issuing the bulletin:

1. Describe in detail the maintenance of equipment procured to support the strategies and guidance required by 10 CFR 50.54(hh)(2) in order to ensure that it is functional when needed.

2. Describe in detail the testing of equipment procured to support the strategies and guidance required by 10 CFR 50.54(hh)(2) in order to ensure that it will function when needed.
3. Describe in detail the controls for ensuring that the equipment is available when needed.
4. Describe in detail how configuration and guidance management is assured so that strategies remain feasible.
5. Describe in detail how you assure availability of offsite support.

The NRC staff reviewed PPL's second response to determine if it had adequately addressed these questions for SSES. The NRC staff also reviewed the August 23, 2007, SE to determine what equipment, training, and offsite resources at SSES were relied upon by NRC staff to conclude that PPL's actions would ensure compliance with Section B.5.b of the ICM Order and the conforming license condition. A summary of the NRC staff's review is provided below.

### 3.1 Questions 1 and 2: Maintenance and Testing of Equipment

Questions 1 and 2 of the 60-day request required licensees to describe in detail the maintenance and testing of equipment procured to support the strategies and guidance required by 10 CFR 50.54(hh)(2) in order to ensure that it is functional when needed. In its second response, PPL listed the equipment used to support the 10 CFR 50.54(hh)(2) mitigating strategies which receives maintenance or testing. For each item, PPL described the maintenance and testing performed, including the frequency and basis for the maintenance or testing activity.

The NRC staff verified that PPL listed equipment that typically requires maintenance or testing which was relied upon to make conclusions in the SE or commonly needed to implement the mitigating strategies. In its second response, PPL stated that the fire truck, portable power supply, and hoses receive maintenance or testing. PPL did not identify maintenance or testing of monitor nozzles, spray nozzles, or similar devices in its second response. In its RAI response, PPL stated nozzles, elbows, and spray assemblies are checked to be in good condition as part of its inventory process. In addition, nozzle sets with gaskets are inspected in conjunction with hydrostatic testing of hoses. In its RAI response, PPL described the testing and inventory of radios and phones. PPL described in its RAI response how it ensures that it has sufficient fuel for its pumper truck. PPL also identified other items that support the mitigating strategies that receive maintenance or testing.

The NRC staff verified that PPL described the process used for corrective actions and listed the testing performed to ensure that the strategies were initially feasible. PPL stated in its second response that its 10 CFR Part 50, Appendix B, corrective action program is used to document equipment failure, establish priorities, and perform trending.

Based upon the information above, the NRC staff finds that PPL has provided the information requested by Questions 1 and 2 for SSES.

### 3.2 Question 3: Controls on Equipment

Question 3 of the 60-day request required licensees to describe in detail the controls on equipment, such as inventory requirements, to ensure that the equipment is available when needed. A list of inventory deficiencies and associated corrective actions to prevent loss was also requested.

The NRC staff verified that PPL described its process for ensuring that B.5.b equipment will be available when needed. In its July 11 and December 9, 2011, responses, SSES identified equipment included in its inventory, the inventory frequency, storage requirements, and items verified. Items verified include proper quantity, location, and accessibility of equipment and controls on storage locations. PPL states that at the time of its second response, there were no outstanding inventory deficiencies that would render the strategies not viable.

The NRC staff verified that PPL inventoried equipment which were relied upon to make conclusions in the SE or commonly needed to implement the mitigating strategies. In its second response, PPL stated that procured non-permanently installed B.5.b equipment are inventoried at least annually in accordance with station procedures. The second response specifically states that the following items are included in the inventory: fire truck; portable power supplies; hoses; spray nozzles; adapters; and firefighter turnout gear. PPL also identified other items that support the mitigating strategies that are inventoried.

Based upon the information above, the NRC staff finds that PPL has provided the information requested by Question 3 for SSES.

### 3.3 Question 4: Configuration and Guidance Management

Question 4 of the 60-day request required licensees to describe in detail how configuration and guidance management is assured so that the strategies remain feasible.

The NRC staff verified that PPL described its measures to evaluate plant configuration changes for their effects on the mitigating strategies and to ensure its procedures are current. In its second response, PPL stated that plant configuration changes are procedurally evaluated against the licensing basis, which includes the B.5.b mitigating strategies. PPL states that the design change process requires a review of affected procedures and that procedure changes are validated to ensure that the B.5.b mitigating strategies remain viable.

The NRC staff verified that PPL described measures it has taken to validate the procedures or guidelines developed to support the mitigating strategies. In its second response, PPL identified testing in response to Question 2 that demonstrated the ability to execute some strategies. PPL also stated that "initially, mitigating strategies were validated by walkdowns, engineering evaluations and/or table top reviews" and they were similarly revalidated in 2011.

The NRC staff verified that PPL described the training program implemented in support of the mitigating strategies and how its effectiveness is evaluated. In its second response, PPL identified the implementing personnel, and the training they receive, for each of the mitigating strategies. PPL also identified the frequency with which each type of training is provided and the methods for evaluating training.

Based upon the information above, the NRC staff finds that PPL has provided the information requested by Question 4 for SSES.

#### 3.4 Question 5: Offsite Support

Question 5 of the 60-day request required licensees to describe in detail how offsite support availability is assured.

The NRC staff verified that PPL listed the offsite organizations it relies upon for emergency response, including a description of agreements and related training. The NRC staff compared the list of offsite organizations that PPL provided in its second response with the information relied upon to make conclusions in the SE. The NRC staff noted that the second response did not list any agreements for debris removal equipment and it did not list an agreement with the Scranton/Wilkes-Barre International Airport. In its RAI response, PPL stated that it has verbal agreements with four contractors to provide debris removal equipment. PPL also stated that it has a verbal agreement with the Scranton/Wilkes-Barre International Airport. PPL will pursue a memorandum of understanding with each of these organizations. PPL stated that it maintains letters of agreement or contracts with the offsite organizations listed in its second response, which are reviewed annually, and that these agreements were current at the time of its second response. PPL also described the training and site familiarization it provides to these offsite organizations.

Based upon the information above, the NRC staff finds that PPL has provided the information requested by Question 5 for SSES.

#### 4.0 CONCLUSION

As described above, the NRC staff has verified that PPL has provided the information requested in Bulletin 2011-01 for SSES. Specifically, PPL responded to each of the questions in the bulletin as requested. The NRC staff concludes that PPL has completed all of the requirements of the bulletin for SSES and no further information or actions under the bulletin are requested at this time.

T. Rausch

- 2 -

If you have any questions, please contact me at 301-415-1603.

Sincerely,

/RA/

Carleen J. Sanders, Project Manager  
Plant Licensing Branch I-2  
Division of Operating Reactor Licensing  
Office of Nuclear Reactor Regulation

Docket Nos. 50-387 and 50-388

Enclosures:  
As stated

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\*Memo dated \*\*via email

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NAME	CSanders	ABaxter *	KMorgan-Butler*	MKhanna	CSanders
Date	06/15/2012	06/14/12	04/17/2012	6/22/12	6/22/12

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