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

February 26, 2014

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 - ISSUANCE OF AMENDMENTS REGARDING CHANGE TO ALLOW ONLY ONE MANUAL TRIP SYSTEM TO BE OPERABLE FOR THE RESIDUAL HEAT REMOVAL SHUTDOWN COOLING SYSTEM IN MODES 4 AND 5 (TAC NOS. MF1953 AND MF1954)

Dear Mr. Rausch:

The Commission has issued the enclosed Amendment No. 259 to Renewed Facility Operating License No. NPF-14, and Amendment No. 240 to Renewed Facility Operating License No. NPF-22 for the Susquehanna Steam Electric Station, Units 1 and 2. These amendments consist of changes to the Renewed Facility Operating Licenses in response to your application dated, June 6, 2013, as supplemented by letter dated December 4, 2013.

These amendments change Technical Specification (TS) 3.3.6.1, "Primary Containment Isolation Instrumentation," to add a footnote to Function 6.c. in TS Table 3.3.6.1-1, allowing only one Trip System to be operable in MODES 4 and 5 for the Manual Initiation Function for Shutdown Cooling System Isolation.

A copy of our safety evaluation is also enclosed. Notice of Issuance will be included in the Commission's next regular Biweekly *Federal Register* Notice.

Sincerely,

Jeffrey A. Whited, 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:
1. Amendment No. 259 to License No. NPF-14
2. Amendment No. 240 to License No. NPF-22
3. Safety Evaluation

cc w/encls: Distribution via Listserv

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

PPL SUSQUEHANNA, LLC

ALLEGHENY ELECTRIC COOPERATIVE, INC.

DOCKET NO. 50-387

SUSQUEHANNA STEAM ELECTRIC STATION, UNIT 1

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No.259
Renewed License No. NPF-14

1. The Nuclear Regulatory Commission (the Commission or the NRC) having found that:

   A. The application for the amendment filed by PPL Susquehanna, LLC, dated June 6, 2013, as supplemented by letter dated December 4, 2013, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's regulations set forth in 10 CFR Chapter I;

   B. The facility will operate in conformity with the application, the provisions of the Act, and the regulations of the Commission;

   C. There is reasonable assurance: (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations set forth in 10 CFR Chapter I;

   D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and

   E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment and paragraph 2.C.(2) of Renewed Facility Operating License No. NPF-14 is hereby amended to read as follows:

   (2) Technical Specifications and Environmental Protection Plan

   The Technical Specifications contained in Appendix A, as revised through Amendment No. 259, and the Environmental Protection Plan contained in Appendix B are hereby incorporated in the license. PPL Susquehanna, LLC shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This license amendment is effective as of its date of issuance and shall be implemented within 30 days.

FOR THE NUCLEAR REGULATORY COMMISSION

Meena Khanna, Chief
Plant Licensing Branch I-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment:
Changes to the License and
Technical Specifications

Date of Issuance: February 26, 2014

ATTACHMENT TO LICENSE AMENDMENT NO. 259

RENEWED FACILITY OPERATING LICENSE NO. NPF-14

DOCKET NO. 50-387

Replace the following page of the Renewed Facility Operating License with the attached revised page. The revised page is identified by amendment number and contains marginal lines indicating the areas of change.

REMOVE	INSERT
Page 3	Page 3

Replace the following page of the Appendix A Technical Specifications with the attached revised page. The revised page is identified by amendment number and contains marginal lines indicating the areas of change.

REMOVE	INSERT
TS/3.3-62	TS/3.3-62

(3) PPL Susquehanna, LLC, pursuant to the Act and 10 CFR Parts 30,40, and 70, to receive, possess, and use at any time any byproduct, source and special nuclear material as sealed neutron sources for reactor startup, sealed neutron sources for reactor instrumentation and radiation monitoring equipment calibration, and as fission detectors in amounts as required;

(4) PPL Susquehanna, LLC, pursuant to the Act and 10 CFR Parts 30, 40, and 70 to receive, possess, and use in amounts as required any byproduct, source or special nuclear material without restriction to chemical or physical form, for sample analysis or instrument calibration or associated with radioactive apparatus or components; and

(5) PPL Susquehanna, LLC, pursuant to the Act and 10 CFR Parts 30,40, and 70 to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of the facility.

C. This license shall be deemed to contain and is subject to the conditions specified in the Commission's regulations set forth in 10 CFR Chapter I and is subject to all applicable provisions of the Act and to the rules, regulations and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified or incorporated below:

(1) Maximum Power Level

PPL Susquehanna, LLC is authorized to operate the facility at reactor core power levels not in excess of 3952 megawatts thermal in accordance with the conditions specified herein. The preoperational tests, startup tests and other items identified in License Conditions 2.C.(36), 2.C.(37), 2.C.(38), and 2.C.(39) to this license shall be completed as specified.

(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 259 and the Environmental Protection Plan contained in Appendix B are hereby incorporated in the license. PPL Susquehanna, LLC shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

For Surveillance Requirements (SRs) that are new in Amendment 178 to Facility Operating License No. NPF-14, the first performance is due at the end of the first surveillance interval that begins at implementation of Amendment 178. For SRs that existed prior to Amendment 178, including SRs with modified acceptance criteria and SRs whose frequency of performance is being extended, the first performance is due at the end of the first surveillance interval that begins on the date the Surveillance was last performed prior to implementation of Amendment 178.

Table 3.3.6.1-1 (page 6 of 6)
Primary Containment Isolation Instrumentation

	FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION C.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
6.	Shutdown Cooling System Isolation					
	a. Reactor Steam Dome Pressure - High	1,2,3	1	F	SR 3.3.6.1.2 SR 3.3.6.1.3 SR 3.3.6.1.5	≤ 108 psig
	b. Reactor Vessel Water Level - Low, Level 3	3,4,5	2(c)	J	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.3 SR 3.3.6.1.5	≥ 11.5 inches
	c. Manual Initiation	3,4,5	1(c)	G	SR 3.3.6.1.5	NA
7.	Traversing Incore Probe Isolation					
	a. Reactor Vessel Water Level - Low, Level 3	1,2,3	2	G	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.3 SR 3.3.6.1.5	≥ 11.5 inches
	b. Drywell Pressure - High	1,2,3	2	G	SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.5	≤ 1.88 psig

(c) Only one trip system required in MODES 4 and 5 when RHR Shutdown Cooling System integrity maintained.

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PPL SUSQUEHANNA, LLC

ALLEGHENY ELECTRIC COOPERATIVE, INC.

DOCKET NO. 50-388

SUSQUEHANNA STEAM ELECTRIC STATION, UNIT 2

AMENDMENT TO RENEWED FACILITY OPERATING LICENSE

Amendment No. 240
Renewed License No. NPF-22

1. The Nuclear Regulatory Commission (the Commission or the NRC) having found that:

   A. The application for the amendment filed by the PPL Susquehanna, LLC, dated June 6, 2013, as supplemented by letter dated December 4, 2013, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's regulations set forth in 10 CFR Chapter I;

   B. The facility will operate in conformity with the application, the provisions of the Act, and the regulations of the Commission;

   C. There is reasonable assurance: (i) that the activities authorized by this amendment can be conducted without endangering the health and safety of the public, and (ii) that such activities will be conducted in compliance with the Commission's regulations set forth in 10 CFR Chapter I;

   D. The issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public; and

   E. The issuance of this amendment is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied.

2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment and paragraph 2.C.(2) of the Renewed Facility Operating License No. NPF-22 is hereby amended to read as follows:

(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 240, and the Environmental Protection Plan contained in Appendix B, are hereby incorporated in the license. PPL Susquehanna, LLC shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This license amendment is effective as of its date of issuance and shall be implemented within 30 days.

FOR THE NUCLEAR REGULATORY COMMISSION

Meena Khanna, Chief
Plant Licensing Branch I-2
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment:
Changes to the License and
Technical Specifications

Date of Issuance: February 26, 2014

ATTACHMENT TO LICENSE AMENDMENT NO. 240

RENEWED FACILITY OPERATING LICENSE NO. NPF-22

DOCKET NO. 50-388

Replace the following page of the Renewed Facility Operating License with the attached revised page. The revised page is identified by amendment number and contains marginal lines indicating the areas of change.

REMOVE	INSERT
Page 3	Page 3

Replace the following page of the Appendix A Technical Specifications with the attached revised page. The revised page is identified by amendment number and contains marginal lines indicating the areas of change.

REMOVE	INSERT
TS/3.3-62	TS/3.3-62

(3) PPL Susquehanna, LLC, pursuant to the Act and 10 CFR Parts 30, 40, and 70, to receive, possess, and use at any time any byproduct, source and special nuclear material as sealed neutron sources for reactor startup, sealed neutron sources for reactor instrumentation and radiation monitoring equipment calibration, and as fission detectors in amounts as required;

(4) PPL Susquehanna, LLC, pursuant to the Act and 10 CFR Parts 30, 40, and 70, to receive, possess, and use in amounts as required any byproduct, source or special nuclear material without restriction to chemical or physical form, for sample analysis or instrument calibration or associated with radioactive apparatus or components; and

(5) PPL Susquehanna, LLC, pursuant to the Act and 10 CFR Parts 30, 40, and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of the facility.

C. This license shall be deemed to contain and is subject to the conditions specified in the Commission's regulations set forth in 10 CFR Chapter I and is subject to all applicable provisions of the Act and to the rules, regulations and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified or incorporated below:

(1) Maximum Power Level

PPL Susquehanna, LLC is authorized to operate the facility at reactor core power levels not in excess of 3952 megawatts thermal in accordance with the conditions specified herein. The preoperational test, startup tests and other items identified in License Conditions 2.C.(20), 2.C.(21), 2.C.(22), and 2.C.(23) to this license shall be completed as specified.

(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 240, and the Environmental Protection Plan contained in Appendix B, are hereby incorporated in the license. PPL Susquehanna, LLC shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

For Surveillance Requirements (SRs) that are new in Amendment 151 to Facility Operating License No. NPF-22, the first performance is due at the end of the first surveillance interval that begins at implementation of Amendment 151. For SRs that existed prior to Amendment 151, including SRs with modified acceptance criteria and SRs whose frequency of performance is being extended, the first performance is due at the end of the first surveillance interval that begins on the date the Surveillance was last performed prior to implementation of Amendment 151.

Table 3.3.6.1-1 (page 6 of 6)
Primary Containment Isolation Instrumentation

	FUNCTION	APPLICABLE MODES OR OTHER SPECIFIED CONDITIONS	REQUIRED CHANNELS PER TRIP SYSTEM	CONDITIONS REFERENCED FROM REQUIRED ACTION C.1	SURVEILLANCE REQUIREMENTS	ALLOWABLE VALUE
6.	Shutdown Cooling System Isolation					
	a. Reactor Steam Dome Pressure - High	1,2,3	1	F	SR 3.3.6.1.2 SR 3.3.6.1.3 SR 3.3.6.1.5	≤ 108 psig
	b. Reactor Vessel Water Level - Low, Level 3	3,4,5	2(c)	J	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.3 SR 3.3.6.1.5	≥ 11.5 inches
	c. Manual Initiation	3,4,5	1(c)	G	SR 3.3.6.1.5	NA
7.	Traversing Incore Probe Isolation					
	a. Reactor Vessel Water Level - Low, Level 3	1,2,3	2	G	SR 3.3.6.1.1 SR 3.3.6.1.2 SR 3.3.6.1.3 SR 3.3.6.1.5	≥ 11.5 inches
	b. Drywell Pressure - High	1,2,3	2	G	SR 3.3.6.1.2 SR 3.3.6.1.4 SR 3.3.6.1.5	≤ 1.88 psig

(c) Only one trip system required in MODES 4 and 5 when RHR Shutdown Cooling System integrity maintained.

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 259 TO RENEWED FACILITY OPERATING LICENSE NO. NPF-14 AND

AMENDMENT NO. 240 TO RENEWED FACILITY OPERATING LICENSE NO. NPF-22

PPL SUSQUEHANNA, LLC

ALLEGHENY ELECTRIC COOPERATIVE, INC.

SUSQUEHANNA STEAM ELECTRIC STATION, UNITS 1 AND 2

DOCKET NOS. 50-387 AND 50-388

1.0 INTRODUCTION

By application dated June 6, 2013,[1] as supplemented by letter dated December 4, 2013,[2] PPL Susquehanna, LLC (the licensee) requested changes to the Technical Specifications (TSs) for Susquehanna Steam Electric Station, Units 1 and 2 (SSES).

The amendments proposed to change TS 3.3.6.1, "Primary Containment Isolation Instrumentation," to add a footnote to Function 6.c. in TS Table 3.3.6.1-1. This change would allow only one Trip System to be operable in MODES 4 and 5 for the Manual Initiation Function for Shutdown Cooling System Isolation.

The supplemental letter dated December 4, 2013, provided additional information that clarified the application, did not expand the scope of the application as originally noticed, and did not change the Nuclear Regulatory Commission (NRC) staff's original proposed no significant hazards consideration determination as published in the *Federal Register* on December 10, 2013 (78 FR 74184).

2.0 REGULATORY EVALUATION

2.1 Regulatory Requirements and Guidance

The regulations in Title 10 of the *Code of Federal Regulations* Part 50, Section 50.36 (10 CFR 50.36), establish the regulatory requirements related to the content of the TSs. Pursuant to 10 CFR 50.36, TSs are required to include items in the following five specific categories: (1) safety limits, limiting safety system settings, and limiting control settings;

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[1] Agencywide Documents Access and Management System (ADAMS) Accession No. ML13157A172.
[2] ADAMS Accession No. ML13340A774.

Enclosure

(2) limiting conditions for operation (LCOs); (3) surveillance requirements (SRs); (4) design features; and (5) administrative controls. The regulation does not specify the particular requirements to be included in a plant's TSs.

As discussed in 10 CFR 50.36(c)(2), LCOs are the lowest functional capability or performance level of equipment required for safe operation of the facility. When LCOs are not met, the licensee shall shut down the reactor or follow any remedial action permitted by the TSs until the LCOs can be met.

In general, there are two classes of changes to TSs: (1) changes needed to reflect contents of the design basis (TSs are derived from the design basis), and (2) voluntary changes to take advantage of the evolution in policy and guidance as to the required content and preferred format of TSs. The proposed amendment relates to the first class of change, namely, a change that is necessary to reflect the contents of the design basis.

The NRC staff considered the General Design Criteria (GDC), Criterion 34, "Residual heat removal," in Appendix A to 10 CFR Part 50, "General Design Criteria for Nuclear Power Plants," in its review of the proposed amendment. Criterion 34 states that:

> A system to remove residual heat shall be provided. The system safety function shall be to transfer fission product decay heat and other residual heat from the reactor core at a rate such that specified acceptable fuel design limits and the design conditions of the reactor coolant pressure boundary are not exceeded.
>
> Suitable redundancy in components and features, and suitable interconnections, leak detection, and isolation capabilities shall be provided to assure that for onsite electric power system operation (assuming offsite power is not available) and for offsite electric power system operation (assuming onsite power is not available) the system safety function can be accomplished, assuming a single failure.

The NRC staff also considered GDC 55, "Reactor coolant pressure boundary penetrating containment," in its review of the proposed amendment. The licensee confirmed the applicability of GDC 55 to the proposed amendment as stated in Section 5.2 of the enclosure to the licensee's letter dated June 6, 2013:

> The reactor coolant pressure boundary (as defined in [10 CFR 50], Section 50.2) consists of the reactor pressure vessel, pressure retaining appurtenances attached to the vessel, valves and pipes which extend from the reactor pressure vessel up to and including the outermost containment isolation valve. The lines of the reactor coolant pressure boundary which penetrate the containment have suitable isolation valves capable of isolating the containment thereby precluding any significant release of radioactivity. Similarly for lines which do not penetrate the containment but which form a portion of the reactor coolant pressure boundary, the design ensures that isolation of the reactor coolant pressure boundary can be achieved.

In Section 3.1 of the SSES Updated Final Safety Analysis Report (UFSAR), the licensee discusses compliance with the GDC in Appendix A to 10 CFR Part 50, and does not identify any deviations from GDC 34 or 55.

In determining the acceptability of the proposed amendment, the NRC staff used plant-specific licensing basis information, as well as the accumulation of NRC generically-approved guidance in the improved Standard Technical Specifications (STS), specifically, NUREG-1433, "Standard Technical Specifications, Revision 4, General Electric BWR/4 Plants," dated April 2012.[3]

2.2 Equipment Description

As discussed in Section 5.4.7.1.1.1, "Residual Heat Removal [RHR] Mode (Shutdown Cooling Mode)," of the SSES UFSAR:

> The function design basis of the shutdown cooling mode is to have the capability to remove heat from the reactor primary system so that the reactor coolant temperature can be reduced to 125°F after reactor shutdown, once the main condenser can no longer be used as effective heat sink.
>
> With one loop in service the shutdown cooling mode of the RHR System is capable of cooling the reactor cooling system to 200[°F] within 24 hours after shutdown. If normal shutdown cooling can not be established, the alternative shutdown cooling systems described in section 15.2.9 are capable of acceptable shutdown heat removal.

As discussed in Section 4, "Technical Analysis," in the enclosure to the licensee's application dated June 6, 2013, the licensee stated:

> The design of the manual initiation function for the RHR Shutdown Cooling System Isolation are two trip systems each consisting of a push button which introduce signals to the isolation logic for each of the isolation valves. There is no specific FSAR safety analysis that takes credit for this function. In addition, Reactor Vessel Water Level-Low, Level 3 automatic isolation function is not directly assumed in safety analysis because a break of the RHR Shutdown Cooling System is bounded by breaks in the recirculation system and the main steam lines.

3.0 TECHNICAL EVALUATION

3.1 Background

The licensee provided the following background information concerning the proposed amendment in Sections 3 and 4 of the enclosure to its application dated June 6, 2013:

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[3] ADAMS Accession Nos. ML12104A192 and ML12104A193.

The proposed change is necessary in order not to isolate RHR Shutdown Cooling System in MODES 4 and 5 should a manual isolation Trip System be inoperable and the integrity of the RHR Shutdown Cooling System is intact. RHR Shutdown Cooling primarily operates in MODES 4 and 5. With the loss of a manual isolation Trip System, the alternate shutdown path using SRVs [safety relief valves] and the Core Spray System would have to be implemented. The change would allow maintenance on a Trip System or power supply without isolating RHR Shutdown Cooling . . .

The manual isolation function of the RHR Shutdown Cooling is not a required function in the STS. During the conversion to STS this function was added to the listing of the primary containment isolation instrumentation in Technical Specification Table 3.3.6.1-1 in both units. The addition of this function was justified as a change needed to ensure that the STS account for the design and/or the design is accurately and completely described in the bases. At the time of the conversion, Footnote (c) was applicable to the manual isolation function and should have been applied.

The addition of Footnote (c) to the manual isolation function will eliminate an unnecessary isolation of the Shutdown Cooling System in the MODES when the system is needed to maintain reactor vessel water temperature should one trip system become inoperable. The addition of the footnote would make the requirements for the RHR Shutdown Cooling System isolation consistent.

3.2 Licensee's Proposed TS Changes

As discussed in Section 2 of the enclosure to the licensee's application dated June 6, 2013, the amendments would add footnote (c) which states, "Only one trip system required in MODES 4 and 5 when RHR Shutdown Cooling System integrity maintained" to Function 6.c. in the SSES Units 1 and 2 TS Table 3.3.6.1-1.

Attachment 2 to the licensee's application dated June 6, 2013, provided revised TS Bases pages to be implemented with the associated TS changes. These pages were provided for information only and will be revised by the licensee in accordance with the TS Bases Control Program.

3.3 NRC Staff Evaluation

3.3.1 Licensee Response to Loss of Shutdown Cooling System Integrity Request for Additional Information

The NRC staff requested that the licensee describe the response to a loss of shutdown cooling system integrity, assuming the loss occurs when operating in a mode where TS 3.3.6.1 applies, in a Request for Additional Information (RAI) sent by letter dated November 13, 2013.[4] By letter dated December 4, 2013, the licensee answered the RAI and stated, in part, that:

[4] ADAMS Accession No. ML13305A891.

> The [RHR] Shutdown Cooling System (SDC) is required to be operable in Modes 3, 4, and 5. Various isolation instrumentation is required to be operable in Modes 1 through 5. If the integrity of the RHR SDC were to be lost in any Mode, PPL's Off-Normal Procedures and Emergency Operating Procedures require the operators to isolate the leak through manual or automatic actions . . .

Licensee procedures such as "Flooding in Reactor Building," and "Secondary Containment Control," were identified that addressed isolating the leak, reactor building flooding, and, if needed, providing an alternative method of cooling the core. In such cases, the RHR SDC isolation instrumentation would not be solely relied upon to isolate the leak. Therefore, the NRC staff finds the answer to this RAI to be acceptable.

3.3.2 Evaluation of Proposed TS Changes

Footnote (c) to Item 6.b., "Shutdown Cooling System Isolation, Reactor Vessel Water Level – Low, Level 3," for Modes 3, 4, and 5 in Table 3.3.6.1-1 of the SSES TS and the STS states, "Only one trip system required in MODES 4 and 5 when RHR Shutdown Cooling integrity maintained."

The Bases section B 3.3.6.1A, "Primary Containment Isolation Instrumentation (Without Setpoint Control Program)," of the STS (NUREG-1433) states, in part, that;

> The isolation signals generated by the primary containment isolation instrumentation are implicitly assumed in the safety analyses ... to initiate closure of valves to limit offsite doses.... The OPERABILITY of the primary containment instrumentation is dependent on the OPERABILITY of the individual instrumentation channel Functions specified in Table 3.3.6.1-1. Each Function must have a required number of OPERABLE channels, with their setpoints within the specified Allowable Values, where appropriate.

The Bases Item 6.b, "Reactor Vessel Water Level - Low, Level 3, Low RPV water level, bases," of the STS states, in part, that;

> Should RPV water level decrease too far, fuel damage could result. Therefore, isolation of some reactor vessel interfaces occurs to begin isolating the potential sources of a break. The Reactor Vessel Water Level - Low, Level 3 Function associated with RHR Shutdown Cooling System isolation is not directly assumed in safety analyses because a break of the RHR Shutdown Cooling System is bounded by breaks of the recirculation and MSL [main steam line]. The RHR Shutdown Cooling System isolation on Level 3 supports actions to ensure that the RPV water level does not drop below the top of the active fuel during a vessel draindown event caused by a leak (e.g., pipe break or inadvertent valve opening) in the RHR Shutdown Cooling System.
>
> Reactor Vessel Water Level - Low, Level 3 signals are initiated from four level transmitters that sense the difference between the pressure due to a constant

column of water (reference leg) and the pressure due to the actual water level (variable leg) in the vessel. Four channels (two channels per trip system) of the Reactor Vessel Water Level - Low, Level 3 Function are available and are required to be OPERABLE to ensure that no single instrument failure can preclude the isolation function. As noted (footnote (c) to Table 3.3.6.1-1), only two channels of the Reactor Vessel Water Level - Low, Level 3 Function are required to be OPERABLE in MODES 4 and 5 (and must input into the same trip system), provided the RHR Shutdown Cooling System integrity is maintained. System integrity is maintained provided the piping is intact and no maintenance is being performed that has the potential for draining the reactor vessel through the system.

The Reactor Vessel Water Level - Low, Level 3 Allowable Value was chosen to be the same as the RPS [reactor protection system] Reactor Vessel Water Level - Low, Level 3 Allowable Value (LCO 3.3.1.1), since the capability to cool the fuel may be threatened.

The Reactor Vessel Water Level - Low, Level 3 Function is only required to be OPERABLE in MODES 3, 4, and 5 to prevent this potential flow path from lowering the reactor vessel level to the top of the fuel. In MODES 1 and 2, another isolation (i.e., Reactor Steam Dome Pressure - High) and administrative controls ensure that this flow path remains isolated to prevent unexpected loss of inventory via this flow path.

Section 6.c., "Manual Initiation," of the SSES Units 1 and 2 TS Bases, as provided in Attachment 2 to the licensee's applications, states, in part, that:

The Manual Initiation push button channels introduce signals to RHR Shutdown Cooling System isolation logic that is redundant to the automatic protective instrumentation and provide manual isolation capability. There is no specific FSAR safety analysis that takes credit for this Function. It is retained for overall redundancy and diversity of the isolation function as required by the NRC in the plant licensing basis. . .

Two channels of the Manual Initiation Function are available and are required to be OPERABLE in MODES 3, 4, and 5, since these are the MODES in which the RHR Shutdown Cooling System Isolation automatic Function are required to be OPERABLE.

Because the purpose of the Manual Initiation Function is to introduce signals that are redundant to the automatic protective instrumentation outlined in Function 6.b, the purpose of Function 6.c. is similar to that of Function 6.b. Therefore, only one trip system of the Manual Initiation should be required to be operable, provided that the RHR SDC System integrity is maintained, as is allowed in Function 6.b. As noted in the licensee's application, Function 6.c is not located in the STS. Adding Footnote (c) to Function 6.c. would allow for maintenance to be performed on a Trip System without the unnecessary isolation of RHR SDC, as is allowed for in Function 6.b. The addition of Footnote (c) to Function 6.c. does not affect the operation of the RHR SDC

System, or how the RHR SDC System meets the requirements of GDCs 34 and 55. Furthermore, the addition of Footnote (c) to Function 6.c. meets the requirements of 10 CFR 50.36. Therefore, the NRC staff concludes that the proposed changes to the TSs are acceptable.

3.3.3 Technical Evaluation Conclusion

Based on the NRC staff's evaluation in Sections 3.3.1 and 3.3.2 above, the staff concludes that the proposed amendments are acceptable.

4.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Pennsylvania State official was notified of the proposed issuance of the amendments. The State official had no comments.

5.0 ENVIRONMENTAL CONSIDERATION

The amendments change a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The NRC staff has determined that the amendments involve no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendments involve no significant hazards consideration, and there has been no public comment on such finding (78 FR 74184). Accordingly, the amendments meet the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendments.

6.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) there is reasonable assurance that such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendments will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributors: W. Lyon
J. Whited

Date: February 26, 2014

February 26, 2014

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 - ISSUANCE OF AMENDMENTS REGARDING CHANGE TO ALLOW ONLY ONE MANUAL TRIP SYSTEM TO BE OPERABLE FOR THE RESIDUAL HEAT REMOVAL SHUTDOWN COOLING SYSTEM IN MODES 4 AND 5 (TAC NOS. MF1953 AND MF1954)

Dear Mr. Rausch:

The Commission has issued the enclosed Amendment No. 259 to Renewed Facility Operating License No. NPF-14, and Amendment No. 240 to Renewed Facility Operating License No. NPF-22 for the Susquehanna Steam Electric Station, Units 1 and 2. These amendments consist of changes to the Renewed Facility Operating Licenses in response to your application dated, June 6, 2013, as supplemented by letter dated December 4, 2013.

These amendments change Technical Specification (TS) 3.3.6.1, "Primary Containment Isolation Instrumentation," to add a footnote to Function 6.c. in TS Table 3.3.6.1-1, allowing only one Trip System to be operable in MODES 4 and 5 for the Manual Initiation Function for Shutdown Cooling System Isolation.

A copy of our safety evaluation is also enclosed. Notice of Issuance will be included in the Commission's next regular Biweekly *Federal Register* Notice.

Sincerely,
/ra/
Jeffrey A. Whited, 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:
1. Amendment No. 259 to License No. NPF-14
2. Amendment No. 240 to License No. NPF-22
3. Safety Evaluation

cc w/encls: Distribution via Listserv

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