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

December 8, 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 RE: LOW PRESSURE SAFETY LIMIT AND REFERENCE CHANGES (TAC NOS. MF0410 AND MF0411)

Dear Mr. Rausch:

The Commission has issued the enclosed Amendment No. 261 to Renewed Facility Operating License No. NPF-14, and Amendment No. 242 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 December 19, 2012, as supplemented by letter dated September 25, 2014.

These amendments change Technical Specification 2.1.1, "Reactor Core SLs [Safety Limits]," to reflect a revised Low Pressure Safety Limit.

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. 261 to Renewed License No. NPF-14
2. Amendment No. 242 to Renewed License No. NPF-22
3. Safety Evaluation

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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.261
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 December 19, 2012, as supplemented by letter dated September 25, 2014, 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. 261, 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 60 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 Technical Specifications
and Renewed Facility Operating License

Date of Issuance: December 8, 2014

ATTACHMENT TO LICENSE AMENDMENT NO. 261

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/2.0-1	TS/2.0-1

(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. 261 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.

2.0 SAFETY LIMITS (SLs)

2.1 SLs

2.1.1 Reactor Core SLs

2.1.1.1 With the reactor steam dome pressure < 557 psig or core flow < 10 million lbm/hr:

THERMAL POWER shall be ≤ 23% RTP.

2.1.1.2 With the reactor steam dome pressure ≥ 557 psig and core flow ≥ 10 million lbm/hr:

MCPR shall be ≥ 1.09 for two recirculation loop operation or ≥ 1.12 for single recirculation loop operation.

2.1.1.3 Reactor vessel water level shall be greater than the top of active irradiated fuel.

2.1.2 Reactor Coolant System Pressure SL

Reactor steam dome pressure shall be ≤ 1325 psig.

2.2 SL Violations

With any SL violation, the following actions shall be completed within 2 hours:

2.2.1 Restore compliance with all SLs; and

2.2.2 Insert all insertable control rods.

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

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. 242
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 December 19, 2012, as supplemented by letter dated September 25, 2014, 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. 242, 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 60 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 Technical Specifications
and Renewed Facility Operating License

Date of Issuance: December 8, 2014

ATTACHMENT TO LICENSE AMENDMENT NO. 242

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/2.0-1	TS/2.0-1

(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. 242, 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.

2.0 SAFETY LIMITS (SLs)

2.1 SLs

2.1.1 Reactor Core SLs

2.1.1.1 With the reactor steam dome pressure < 557 psig or core flow < 10 million lbm/hr:

THERMAL POWER shall be ≤ 23% RTP.

2.1.1.2 With the reactor steam dome pressure ≥ 557 psig and core flow ≥ 10 million lbm/hr:

MCPR shall be ≥ 1.08 for two recirculation loop operation or ≥ 1.11 for single recirculation loop operation.

2.1.1.3 Reactor vessel water level shall be greater than the top of active irradiated fuel.

2.1.2 Reactor Coolant System Pressure SL

Reactor steam dome pressure shall be ≤ 1325 psig.

2.2 SL Violations

With any SL violation, the following actions shall be completed within 2 hours:

2.2.1 Restore compliance with all SLs; and

2.2.2 Insert all insertable control rods.

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 261 TO RENEWED FACILITY OPERATING

LICENSE NO. NPF-14 AND AMENDMENT NO. 242

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 December 19, 2012 (Reference 1), as supplemented by letter dated September 25, 2014 (Reference 2), PPL Susquehanna, LLC (PPL, the licensee) submitted a license amendment request (LAR), proposing changes to the Technical Specifications (TSs) for Susquehanna Steam Electric Station, Units 1 and 2 (SSES 1 and 2).

The amendments propose to reduce the reactor steam dome pressure specified within TS 2.1.1, "Reactor Core SLs [Safety Limits]." This change resolves a condition reported by General Electric (GE) in accordance with Title 10 of the *Code of Federal Regulations* (10 CFR) Part 21, "Reporting of Defects and Noncompliance," concerning a potential for SSES to momentarily violate TS 2.1.1.1 and 2.1.1.2 during a Pressure Regulator Failure Maximum Demand (Open) Pressure Regulator Failure Open (PRFO) transient.

The supplemental letter dated September 25, 2014, 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 April 2, 2013 (78 FR 19754).

2.0 REGULATORY EVALUATION

Listed below are the regulatory requirements and guidance documents the NRC staff considered in its review of the proposed amendments:

The regulations in 10 CFR 50.36, "Technical Specifications," provide the regulatory requirements for the content required in the TSs. The regulations in 10 CFR 50.36(c)(1)(i)(A) state, in part, that:

> Safety limits for nuclear reactors are limits upon important process variables that are found to be necessary to reasonably protect the integrity of certain of the physical barriers that guard against the uncontrolled release of radioactivity. If any safety limit is exceeded, the reactor must be shut down. The licensee shall notify the Commission, review the matter, and record the results of the review, including the cause of the condition and the basis for corrective action taken to preclude recurrence. Operation must not be resumed until authorized by the Commission.

Compliance with the fuel licensing criteria of 10 CFR 50 Appendix A, "General Design Criteria" (GDC) 10, "Reactor Design," is achieved by preventing the violation of fuel design limits. GDC 10 states, in part, that:

> The reactor core and associated coolant, control, and protection systems shall be designed with appropriate margin to assure that specified acceptable fuel design limits [SAFDLs] are not exceeded during any condition of normal operation, including the effects of anticipated operational occurrences.

NUREG-0800, "Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants," (Reference 3) provides guidance on the acceptability of the reactivity control systems, the reactor core, and fuel system design. Specifically, Section 4.2, "Fuel System Design," specifies all fuel damage criteria for evaluation of whether fuel designs meet the SAFDLs. Section 4.4, "Thermal and Hydraulic Design," provides guidance on the review of thermal-hydraulic design in meeting the requirement of GDC 10 and the fuel design criteria established in Section 4.2. It states that the Critical Power Ratio (CPR) is to be established such that at least 99.9 percent of fuel rods in the core would not be expected to experience departure from nucleate boiling or onset of transition boiling (OTB) during normal operation or anticipated operational occurrences (AOOs).

3.0 TECHNICAL EVALUATION

3.1 Background

In 2005, General Electric (GE) submitted a 10 CFR Part 21 notification, SC05-03, "Potential to Exceed Low Pressure Technical Specification Safety Limit," to the NRC (Reference 4). This Part 21 notification identified that when applying newer computer analysis codes, a PRFO transient could result in a condition where the reactor steam dome pressure has the potential to momentarily decrease below 785 psig (pounds per square inch gauge) while Rated Thermal Power (RTP) was above the plant-specific thermal power limit specified in Technical Specification 2.1.1.1, (23% RTP for SSES 1 and 2), violating Reactor Core Safety Limit 2.1.1.1. Initially, the Boiling Water Reactor Owners Group (BWROG) attempted to resolve the Part 21 issue. On July 18, 2006, the TS Task Force (TSTF) and the BWROG submitted TSTF-495, Revision 0, "Bases Change to Address GE Part 21 SC05-03" (Reference 5), proposing a modification to the "Applicable Safety Analysis" portion of the Reactor Core Safety Limit TS Bases (B 2.1.1). This change proposed to clarify that the safety limit was considered not to apply to momentary depressurization transients. In the NRC Safety Evaluation (SE) for

TSTF-495, dated August 27, 2007 (Reference 6), the NRC staff stated that although the technical arguments presented in TSTF-495 had some merit, the staff found the proposed change not acceptable because it would set a precedent which could lead to erosion of safety margins protected by Safety Limits. The NRC staff further stated in the SE that from a regulatory standpoint, the proposed change to the TS Bases was also not acceptable. Consequently, in April 2012, the BWROG discontinued the effort to resolve the issue generically and recommended that plants lower their Low Pressure Safety Limit to meet the lower range of their critical power correlation on a plant-specific basis.

Some advanced fuel designs have an NRC approved critical power correlation with a lower-bound pressure significantly below the 785 psig reactor steam dome pressure, as specified in TS Reactor Core Safety Limits 2.1.1.1 and 2.1.1.2. The licensee proposes to utilize this fact and reduce the reactor steam dome pressure, consistent with the NRC approved lower-bound pressure for the critical power correlation for the ATRIUM-10 fuel design currently comprising the SSES 1 and 2 cores. ATRIUM-10 fuel utilizes the Siemens Power Corporation B (SPCB) critical power correlation with an approved pressure range from 571.4 to 1432.2 psia (pounds per square inch absolute) (Reference 7). Revising the reactor steam dome pressure specified in Reactor Core Safety Limits 2.1.1.1 and 2.1.1.2 to 557 psig, which is equal to 571.4 psia, resolves this 10 CFR Part 21 condition concerning the potential to violate a safety limit during a PRFO transient.

3.2 Licensee's Proposed TS Changes

As discussed in Section 2 of the enclosure to the licensee's application dated December 19, 2012, the amendments would revise the reactor steam dome pressure value in TS 2.1.1.1 and 2.1.1.2 from 785 psig to 557 psig, to reflect that the SPCB correlation is valid for critical power calculations at pressures ≥ 571.4 psia.

Specifically, the licensee requested to change TS 2.1.1.1, which currently reads:

> With the reactor steam dome pressure < 785 psig or core flow < 10 million lbm/hr:
>
> THERMAL POWER shall be ≤ 23% RTP.

To read:

> With the reactor steam dome pressure < 557 psig or core flow < 10 million lbm/hr:
>
> THERMAL POWER shall be ≤ 23% RTP.

The licensee also requested to change TS 2.1.1.2, which currently reads:

> With the reactor steam dome pressure ≥ 785 psig and core flow ≥ 10 million lbm/hr:
>
> MCPR shall be ≥ 1.09 for two recirculation loop operation or ≥ 1.12 for single recirculation loop operation.

To read:

> With the reactor steam dome pressure ≥ 557 psig and core flow ≥ 10 million lbm/hr:
>
> MCPR shall be ≥ 1.09 for two recirculation loop operation or ≥ 1.12 for single recirculation loop operation.

Attachment 2 to the licensee's application dated December 19, 2012, 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.

In its LAR application, the licensee stated that SSES uses AREVA's NRC approved critical power correlation, SPCB, for Minimum Critical Power Ration (MCPR) Safety Limit determination, reload licensing analyses, and MCPR monitoring. SPCB is currently included in the list of analytical methods used to determine the core operating limits, located in TS 5.6.5, "CORE OPERATING LIMITS REPORT (COLR)." SPCB is approved for CPR calculations by the NRC for reactor pressures > 556.7 psig, which is equal to 571.4 psia - 14.7 psia. Since the intent of TS 2.1.1.1 is to prevent the operation in a region where the CPR calculation is invalid, the reactor pressure in TS 2.1.1.1 may be lowered to 557 psig. In its supplemental letter dated September 25, 2014, to provide additional information in response to the staff's questions, the licensee confirmed that SSES does not have any Lead Use Assemblies in Unit 1 or Unit 2, and that AREVA ATRIUM-10 fuel will be utilized in Unit 2 in 2015, and Unit 1 in 2016.

Each fuel vendor has developed correlations valid over specified pressure and flow ranges (mass flow rates) that are approved by the NRC. These critical power correlations have become increasingly fuel-design dependent as advanced fuel designs evolved. This has resulted in an extension of the NRC approved pressure range to lower pressures as additional test data became available to demonstrate the validity of revised or new correlations for performance of critical power calculations. The critical power correlations for some advanced fuel designs have received NRC approval for a lower pressure ranges than that previously approved. The lower-bound of the extended pressure ranges for these advanced fuel designs can be used to establish a lower reactor steam dome pressure than the 785 psig value currently specified in Reactor Core Safety Limits 2.1.1.1 and 2.1.1.2. The licensee proposes to utilize the fact that the ATRIUM-10 fuel comprising the SSES 1 and 2 cores utilize critical power correlation that have an approved pressure range from 571.4 to 1432.2 psia. Therefore, a wider pressure range is available for transients to demonstrate compliance with MCPR limits. Thus, the proposed change offers a greater pressure margin for a PRFO transient than what is currently available.

In its 10 CFR Part 21 report letter, GE concluded that fuel cladding integrity is not threatened because during the PRFO, the CPR increases during depressurization so that the initial CPR is the limiting CPR condition during the entire transient, and that the conditions that exceed the low pressure TS safety limit exist for only a few seconds. Nevertheless, GE considered the PRFO to be a known AOO that could contribute to the exceedance of a safety limit. While this condition had been determined to not involve an actual safety hazard, the potential for violation

of a Reactor Core SL had been identified, and restoration to comply with the safety limit is required for the PRFO event.

3.3 NRC Staff Evaluation

The NRC staff determined that revising the Reactor Core SLs 2.1.1.1 and 2.1.1.2 reactor steam dome pressure from 785 to 557 psig resolves the reported 10 CFR Part 21 condition concerning the potential to violate Reactor Core Safety Limit 2.1.1.1 during a PRFO transient. TS SLs are specified to ensure that SAFDLS are not exceeded during steady state operation, normal operational transients, and AOOs. The Reactor Core SLs are set such that fuel cladding integrity is maintained and no significant fuel damage is calculated to occur due to OTB if the SLs are not exceeded. The staff concluded that reactor depressurization transients, such as PRFO, are non-limiting for fuel cladding integrity and that the proposed change in TS 2.1.1.2 will have no negative impact on the MCPR core operating limits.

The NRC staff confirmed that the SPCB critical power correlation for ATRIUM-10 fuel was approved for performance of critical power calculations from 571.4 to 1432.2 psia. As a result, the staff concluded that the proposed change to the Reactor Core SLs continues to ensure that a valid CPR calculation is performed for the AOOs, as described in the UFSAR, including the PRFO transient; and that with the value of 557 psig proposed for the reactor steam dome pressure would not result in a violation of Reactor Core SL 2.1.1.1 during a PRFO transient.

Furthermore, the proposed change will continue to provide protection during startup conditions to ensure that operation at less than 557 psig or less than 10 million lbm/hr core flow, while greater than 23% RTP would not occur. Since this approach follows, and is consistent with, the method that the reactor steam dome pressure has been established, and valid CPR calculations will continue to be performed, it is a safe and appropriate method to address the 10 CFR Part 21 condition, and therefore, acceptable. If the plant transitions to different fuel design(s), then the licensee should reevaluate the critical power correlation to determine whether NRC approval is required to change the TS SLs. As long as the lower bound of the fuel's CPR correlation is less than the reactor steam dome pressure, as specified in the TS Reactor Core SLs, no TS change is required. If the lower bound of the fuel design(s) CPR correlation is not less than the TS specified value, a license amendment would be required.

The NRC staff evaluated the proposed changes against the applicable regulatory requirements and acceptance criteria. The staff concluded that as long as the core pressure and flow are within the range of validity of the specified CPR correlation (SPCB correlations for SSES), the proposed reactor steam dome pressure change to Reactor Core SLs 2.1.1.1 and 2.1.1.2 will continue to ensure that 99.9 percent of the fuel rods in the core are not expected to experience OTB. This satisfies the regulatory requirements regarding acceptable fuel design limits and continues to assure that the underlying criteria of the SL is met consistent with GDC 10 and 10 CFR 50.36(c)(1)(i)(A).

Based on the evaluation above, the NRC 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 19754). 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.

7.0 REFERENCES

1. Letter from J. Helsel (PPL) to USNRC, "Susquehanna Steam Electric Station Proposed Amendment No. 312 to Unit 1 License NPF-14 and Proposed Amendment No. 284 to Unit 2 License NPF-22: Low Pressure Safety Limit and Reference Changes," December 19, 2012. (Agencywide Documents Access and Management System (ADAMS) Accession No. ML12355A351).

2. Letter from J.A. Franke (PPL) to USNRC, "Susquehanna Steam Electric Station Response to Request for Additional Information on the Low-Pressure Safety Limit License Amendment Request," September 25, 2014. (ADAMS Accession No. ML14268A510).

3. NUREG-0800, "Standard Review Plan for the Review of Safety Analysis Reports for Nuclear Power Plants. LWR [light-water reactor] Edition" (ADAMS Accession No. ML052340514).

4. GE letter to the USNRC, GENE SC05-03, "10 CFR 21 Reportable Condition Notification: Potential to Exceed Low Pressure Technical Specification Safety Limit," March 29, 2005. (ADAMS Accession No. ML050950428).

5. Technical Specifications Task Force letter (TSTF-06-20) transmitting TSTF-495, Revision 0, "Bases Change to Address GE Part 21 SC05-03," July 18, 2006. (ADAMS Accession No. ML061990227).

6. Denial of TSTF-495, Revision 0, "Bases Change to Address GE Part 21 SC05-03," (TAC No. MD2672), August 27, 2007 (ADAMS Accession No. ML072340113).

7. Letter from Ronnie L. Gardner (AREVA) to USNRC, Response to a Request for Additional Information regarding ANP-10298(P), "ACE/ATRIUM 10XM Critical Power Correlation." September 16, 2009. (ADAMS Accession Nos. ML092610100, and ML092610101).

Principal Contributor: Muhammad Razzaque

Date: December 8, 2014

December 8, 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 RE: LOW PRESSURE SAFETY LIMIT AND REFERENCE CHANGES (TAC NOS. MF0410 AND MF0411)

Dear Mr. Rausch:

The Commission has issued the enclosed Amendment No. 261 to Renewed Facility Operating License No. NPF-14, and Amendment No. 242 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 December 19, 2012, as supplemented by letter dated September 25, 2014.

These amendments change Technical Specification 2.1.1, "Reactor Core SLs [Safety Limits]," to reflect a revised Low Pressure Safety Limit.

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

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