

February 20, 2008

Mr. Britt T. McKinney
Sr. 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 - ISSUANCE
OF AMENDMENT RE: APPENDIX J LEAKAGE TEST PROGRAM (TAC NOS.
MD6544 AND MD6545)

Dear Mr. McKinney:

The Commission has issued the enclosed Amendment No. 247 to Facility Operating License No. NPF-14 and Amendment No. 226 to Facility Operating License No. NPF-22 for the Susquehanna Steam Electric Station, Units 1 and 2 (SSES 1 and 2). The amendments consist of changes to the operating license in response to your application dated August 14, 2007, as supplemented by letter dated January 24, 2008.

The amendments add a new license condition to the SSES 1 and 2 operating license to permit the leakage-boundary and containment isolation valves in the Title 10 of the *Code of Federal Regulations* Part 50, Appendix J leakage test program, to be tested at the constant pressure power uprate (CPPU) peak calculated containment internal pressure (Pa) in accordance with the current scheduled test intervals rather than requiring all of the valves to be tested at the higher Pa prior to the implementation of the CPPU.

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

Sincerely,

/ra/

Richard V. Guzman, Senior Project Manager
Plant Licensing Branch I-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Docket Nos. 50-387 and 50-388

Enclosures:

1. Amendment No. 247 to License No. NPF-14
2. Amendment No. 226 to License No. NPF-22
3. Safety Evaluation

cc w/encls: See next page

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ADAMS Accession Numbers: Package/ML080500243; Amendment/ML080420443; Tech Specs:ML080500235

* SE inputs provided by memo. No substantive changes made.

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| OFFICE | LPLI-1/PM | LPLI-1/LA | DE/EEEB/BC | DE/EEEB/BC | OGC | LPLI-1/BC |
| NAME | RGuzman | SLittle | KManoly* | RDennig* | LSubin | MKowal |
| DATE | 2/19/08 | 2/19/08 | 02/06/08 SE DTD | 01/11/08 SE DTD | 2/14/08 | 2/20/08 |

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PPL SUSQUEHANNA, LLC
ALLEGHENY ELECTRIC COOPERATIVE, INC.
DOCKET NO. 50-387
SUSQUEHANNA STEAM ELECTRIC STATION, UNIT 1
AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 247
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 August 14, 2007, as supplemented on January 24, 2008, 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 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. 247 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

/ra/

Mark G. Kowal, Chief
Plant Licensing Branch I-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment:
Changes to the License

Date of Issuance: February 20, 2008

ATTACHMENT TO LICENSE AMENDMENT NO. 247

FACILITY OPERATING LICENSE NO. NPF-14

DOCKET NO. 50-387

Replace the following pages of the Facility Operating License with the attached revised pages. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

REMOVE

3
18
19

INSERT

3
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19

PPL SUSQUEHANNA, LLC
ALLEGHENY ELECTRIC COOPERATIVE, INC.
DOCKET NO. 50-388
SUSQUEHANNA STEAM ELECTRIC STATION, UNIT 2
AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 226
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 PPL Susquehanna, LLC, dated August 14, 2007, as supplemented on January 24, 2008, 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 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. 226 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

/ra/

Mark G. Kowal, Chief
Plant Licensing Branch I-1
Division of Operating Reactor Licensing
Office of Nuclear Reactor Regulation

Attachment:
Changes to the License

Date of Issuance: February 20, 2008

ATTACHMENT TO LICENSE AMENDMENT NO. 226

FACILITY OPERATING LICENSE NO. NPF-22

DOCKET NO. 50-388

Replace the following pages of the Facility Operating License with the attached revised pages. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

REMOVE

3

14

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INSERT

3

14

15

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO. 247 TO FACILITY OPERATING LICENSE NO. NPF-14
AND AMENDMENT NO. 226 TO 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 letter dated August 14, 2007, Agencywide Documents Access and Management System (ADAMS) Accession No. ML072400336, as supplemented by letter dated January 24, 2008 (ADAMS Accession No. ML080370230), PPL Susquehanna, LLC (PPL, the licensee), requested changes to the operating licenses for Susquehanna Steam Electric Station, Units 1 and 2 (SSES 1 and 2). The proposed changes would add a new license condition to the SSES 1 and 2 operating license to permit the leakage-boundary and containment isolation valves in the Title 10 of the *Code of Federal Regulations* (10 CFR) Part 50, Appendix J leakage test program, to be tested at the constant pressure power uprate (CPPU) peak calculated containment internal pressure (Pa) in accordance with the current scheduled test intervals rather than requiring all of the valves to be tested at the higher Pa prior to the implementation of the CPPU.

The supplemental letter dated January 24, 2008, 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 September 25, 2007 (72 FR 54479).

2.0 REGULATORY EVALUATION

The regulatory requirements and guidance which the NRC staff considered in its review of the application are as follows:

1. 10 CFR Section 50.54(o) and 10 CFR Part 50, Appendix J require containment leakage rate testing of the containment structure, penetrations and isolation valves at the peak calculated containment internal pressure related to the design-basis accident as specified in the Technical Specifications (TSs).
2. 10 CFR Part 50 Appendix J test requirements ensure that primary leakage through the containment, or systems and components penetrating the containment does not exceed allowable leakage rates specified in the TSs. Option B of Appendix J defines the performance-based requirements and criteria for periodic leakage rate test. Specifically,

10 CFR Part 50, Appendix J, Option B requires primary containment leakage testing and states, in part, that these test requirements ensure (a) leakage through these containments or systems and components penetrating these containments does not exceed allowable rates specified in the TSs and (b) integrity of the containment structure is maintained during its service life. 10 CFR Part 50, Appendix J, Option B also states that these tests must demonstrate that the sum of the leakage rates at accident pressure of Type B tests, and pathway leakage rates from Type C tests, is less than the performance criterion (La) with margin, as specified in the TSs. SSES 1 and 2 TSs 5.5.12, "Containment Leakage Rate Testing Program," requires that leakage rate testing be performed as required by 10 CFR Part 50, Appendix J, Option B, as modified by approved exemptions, and in accordance with the guidelines contained in Regulatory Guide (RG) 1.163, "Performance-Based Containment Leak-Test Program," dated September 1995.

3. Regulatory Guide 1.163 provides guidance on an acceptable performance-based leak test program, methods, procedures and analysis that may be used to comply with the performance-based Option B in Appendix J to 10 CFR Part 50.

3.0 TECHNICAL EVALUATION

3.1 Background

By letter dated, October 11, 2006, PPL submitted a request for approval of amendments to the SSES 1 and 2 operating licenses and TSs to increase in the maximum steady-state power level at SSES 1 and 2 from 3489 megawatts thermal (MWt) to 3952 MWt. The proposed CPPU (or extended power uprate (EPU)) would be an increase of approximately 13% above the current licensed thermal power. On January 30, 2008, the NRC approved the EPU license amendment request. Implementation of the EPU would increase the calculated peak containment pressure from 45 pounds-per-square inch gauge (psig) to 48.6 psig. By letter dated August 14, 2007, PPL requested a proposed amendment to the SSES 1 and 2 operating licenses to add a new license condition to the operating licenses to permit the leakage boundary and containment isolation valves in the 10 CFR Part 50 Appendix J, Option B leakage test program to be tested at the higher pressure in accordance with the current scheduled test intervals rather than requiring all of the valves to be tested at the higher pressure upon implementation of the CPPU.

3.2 Evaluation of the Proposed Changes

According to the licensee's supplement dated January 24, 2008, in response to staff's request for additional information (RAI) dated January 10, 2008 (ML080090181), the proposed license amendment does not affect the current scheduled test intervals, and all primary containment local leak rate tests (LLRTs) will be performed at the CPPU test pressure (48.6 psig) as they come due based on the current schedule.

The licensee states that Unit 1 and Unit 2 primary containment integrated leak rate test (ILRT) were successfully completed in April 2006 and April 2007, respectively, at or greater than the CPPU calculated peak containment internal pressure (Pa) of 48.6 psig. As shown in the licensee's supplemental response dated August 14, 2007, the ILRT test results (provided as in units of performance criterion (La*) for Units 1 and 2 are as follows:

| Test Results | Unit 1 | Unit 2 | Acceptance Criteria |
|--------------|------------|-----------|---------------------|
| As Found | 0.36851 La | 0.4162 La | ≤ 1.0 La |
| As Left | 0.2977 La | 0.3592 La | ≤ 0.75 La |

(*La (%/24 hours) represents the maximum allowable leakage rate at pressure Pa as specified for preoperational tests in the TSs or associated bases, and as specified for periodic tests in the operating license or combined license, including the TSs in any referenced design certification or manufactured reactor used at the facility).

The results of the ILRTs for both units show adequate margin when compared to the acceptance criteria limits.

In addition, the licensee’s supplemental response provided the leakage results (in standard cubic centimeters per minute (sccm) of LLRTs (Type B and Type C) for Units 1 and 2 as follows:

| Unit 1 LLRT | Unit 2 LLRT | Acceptance Criteria |
|-----------------------|-----------------------|-------------------------|
| 67,248 sccm (0.21 La) | 98,782 sccm (0.31 La) | 190,774.7 sccm (0.6 La) |

The results of the LLRTs for both Unit 1 and Unit 2 show adequate margin when compared to the acceptance criteria limit.

The licensee also stated in its supplemental response that during the Unit 2 2007 refueling outage, only 3 of 180 LLRTs (performed at the CPPU pressure of 48.6 psig) failed to pressurize compared to 4 of 85 LLRTs performed during Unit 2 2005 refueling outage at the lower pressure of 45 psig. This demonstrated that no appreciable change in the number of valves requiring repair/rework resulted due to the increased pressure. In addition, according to the licensee’s supplemental response, 18% of the Unit 1 LLRTs and 94% of the Unit 2 LLRTs have been performed at the CPPU pressure (48.6 psig). Following the Unit 1 spring 2008 refueling outage, a total of 37% of the Unit 1 LLRTs will be completed at the CPPU pressure (48.6 psig).

Based on (1) the available margins noted above for both SSES 1 and 2 ILRTs and LLRTs, (2) the percentage of LLRTs completed (or to be completed) at the CPPU pressure (94% for Unit 2 and 37% for Unit 1), and (3) the results of Unit 2 2005 and 2007 LLRTs, the NRC staff finds that there is reasonable assurance that leak-tightness of the containment will be maintained.

3.3 License Conditions

PPL proposed a license condition to the SSES 1 and 2 operating licenses in its application dated August 14, 2007. In response to the NRC staff’s RAI dated January 10, 2008, the license condition for SSES 1 and 2 were clarified as follows:

Those primary containment local leak rate program tests (Type B – leakage-boundary and Type C – containment isolation valves) as modified by approved exemptions, required by 10 CFR Part 50, Appendix J, Option B and Technical Specification 5.5.12, are not required to be performed at the CPPU peak calculated containment internal pressure of 48.6 psig until their next required performance.

3.4 Conclusion

The NRC staff reviewed the licensee's proposed amendment to add a new license condition to SSES 1 and 2 operating licenses. As indicated above, the staff finds that there is reasonable assurance that leak-tightness of the containment will be maintained based on (1) the available margins noted above for both SSES 1 and 2 ILRTs and LLRTs, (2) the percentage of LLRTs completed (or to be completed) at the CPPU pressure (94% for Unit 2 and 37% for Unit 1), and (3) the results of Unit 2 2005 and 2007 LLRTs.

4.0 STATE CONSULTATION

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

5.0 ENVIRONMENTAL CONSIDERATION

The amendment changes 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 amendment involves 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 amendment involves no significant hazards consideration, and there has been no public comment on such finding issued on September 25, 2007 (72 FR 54479). Accordingly, the amendment meets 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 amendment.

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) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributors: F. Farzam
B. Lee

Date: February 20, 2008