

August 17, 2005

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 AMENDMENTS RE: INCORPORATION OF TECHNICAL SPECIFICATION  
TASK FORCE (TSTF)-16 AND EDITORIAL CHANGES (TAC NOS. MC4429  
AND MC4430)

Dear Mr. McKinney:

The Nuclear Regulatory Commission has issued the enclosed Amendment No. 225 to Facility Operating License No. NPF-14 and Amendment No. 202 to Facility Operating License No. NPF-22 for the Susquehanna Steam Electric Station, Units 1 and 2 (SSES 1 and 2). These amendments are in response to your application dated September 8, 2004.

The amendments revise the SSES 1 and 2 Technical Specifications 3.8.7, "Distribution Systems-Operating," to add an action note to address the potential for deenergized Class 1E battery chargers, and corrects three unrelated editorial changes.

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

Sincerely,

**/RA/**

Richard V. Guzman, Project Manager, Section 1  
Project Directorate I  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Docket Nos. 50-387 and 50-388

Enclosures: 1. Amendment No. 225 to  
License No. NPF-14  
2. Amendment No. 202 to  
License No. NPF-22  
3. Safety Evaluation

cc w/encls: See next page

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Dear Mr. McKinney:

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Docket Nos. 50-387 and 50-388

Enclosures: 1. Amendment No. 225 to License No. NPF-14  
2. Amendment No. 202 to License No. NPF-22  
3. Safety Evaluation

DISTRIBUTION:

PUBLIC PDI-1 R/F RLaufer  
RGuzman M'OBrien OGC  
ACRS GHill (4) TBoyce  
NPatel MConcepcion-Robles  
RJenkins DLPM DPR MShanbaky,RI

cc w/encls: See next page

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

Accession No.: ML051880164

Package No.:

TSs:

|        |          |          |         |           |         |          |
|--------|----------|----------|---------|-----------|---------|----------|
| OFFICE | PDI-1/PM | PDI-2/LA | IROB/SC | EEIB/SC   | OGC     | PDI-1/SC |
| NAME   | RGuzman  | MO'Brien | TBoyce* | RJenkins* | MDuffy  | RLaufer  |
| DATE   | 7/29/05  | 8/16/05  | 1/12/05 | 5/26/05   | 8/08/05 | 8/16/05  |

OFFICIAL RECORD COPY

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cc:

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Berwick, PA 18603-0035

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Sierra Club  
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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. 225  
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 September 8, 2004, 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. 225 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

*/RA/*

Richard J. Laufer, Chief, Section 1  
Project Directorate I  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical  
Specifications

Date of Issuance: August 17, 2005

ATTACHMENT TO LICENSE AMENDMENT NO. 225

FACILITY OPERATING LICENSE NO. NPF-14

DOCKET NO. 50-387

Replace the following pages of the Appendix A Technical Specifications with the attached revised pages. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

REMOVE

TS/TOC -1  
TS/TOC -3  
TS/3.3-7  
TS/3.3-41  
TS/3.8-2  
TS/3.8-17  
TS/3.8-37  
TS/3.8-41

INSERT

TS/TOC -1  
TS/TOC -3  
TS/3.3-7  
TS/3/3-41  
TS/3.8-2  
TS/3.8-17  
TS/3.8-37  
TS/3.8-41

PPL SUSQUEHANNA, LLC

ALLEGHENY ELECTRIC COOPERATIVE, INC.

DOCKET NO. 50-388

SUSQUEHANNA STEAM ELECTRIC STATION, UNIT 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 202  
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 September 8, 2004, 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. 202 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

*/RA/*

Richard J. Laufer, Chief, Section 1  
Project Directorate I  
Division of Licensing Project Management  
Office of Nuclear Reactor Regulation

Attachment: Changes to the Technical  
Specifications

Date of Issuance: August 17, 2005

ATTACHMENT TO LICENSE AMENDMENT NO. 202

FACILITY OPERATING LICENSE NO. NPF-22

DOCKET NO. 50-388

Replace the following pages of the Appendix A Technical Specifications with the attached revised pages. The revised pages are identified by amendment number and contain marginal lines indicating the areas of change.

REMOVE

TS/TOC -1  
TS/TOC -3  
TS/3.3-7  
TS/3.3-42  
TS/3.8-2  
TS/3.8-19  
TS/3.8-44

INSERT

TS/TOC -1  
TS/TOC -3  
TS/3.3-7  
TS/3/3-42  
TS/3.8-2  
TS/3.8-19  
TS/3.8-44

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
RELATED TO AMENDMENT NO. 225 TO FACILITY OPERATING LICENSE NO. NPF-14  
AND AMENDMENT NO. 202 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 388

1.0 INTRODUCTION

By application dated September 8, 2004 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML042590559), PPL Susquehanna, LLC (PPL, the licensee), requested changes to the Technical Specifications (TSs) for Susquehanna Steam Electric Station, Units 1 and 2 (SSES 1 and 2).

The proposed changes would revise the SSES 1 and 2 TSs 3.8.7, "Distribution Systems-Operating," to add an action note to address the potential for deenergized Class 1E battery chargers, and corrects three unrelated editorial changes.

2.0 REGULATORY EVALUATION

The Nuclear Regulatory Commission (NRC) finds that PPL, in its September 8, 2004, submittal, identified the applicable regulatory requirements. The regulatory requirements and guidance which the NRC staff considered in its review of the application are as follows:

1. Title 10 of the *Code of Federal Regulations* (10 CFR) establishes the fundamental regulatory requirements with respect to the electric power distribution systems. Specifically, General Design Criterion (GDC) 17, "Electrical power systems," in Appendix A to Part 50, "General Design Criteria for Nuclear Power Plants," states, in part, that nuclear power plants must have onsite and offsite electric power systems to permit the functioning of structures, systems, and components that are important to safety. The onsite system is required to have sufficient independence, redundancy, and testability to perform its safety function, assuming a single failure. The offsite power system must be supplied by two physically independent circuits that are designed and located so as to minimize, to the extent practical, the likelihood of their simultaneous failure under operating and postulated accident and environmental conditions. In addition, this criterion requires provisions to minimize the probability of losing electric power from the remaining electric power supplies as a result of loss of power from the unit, the offsite transmission network, or the onsite power supplies.

2. GDC-18, "Inspection and testing of electric power systems," requires that electric power systems that are important to safety be designed to permit appropriate periodic inspection and testing.
3. Section 50.36, "Technical specifications," provides the regulatory requirements for the content required in a licensee's TSs. Section 50.36 states, in part, that the TSs will include SRs to assure that the quality of systems and components is maintained, that facility operation will be within safety limits, and that the limiting conditions for operation (LCO) will be met.

Specifically, 10 CFR 50.36(c)(2)(ii) sets forth four criteria to be used in determining whether an LCO is required to be included in the TSs. These criteria are as follows:

- (a) Installed instrumentation that is used to detect, and indicate in the control room, a significant abnormal degradation of the reactor coolant pressure boundary.
- (b) A process variable, design feature, or operating restriction that is an initial condition of a design-basis accident or transient analysis that either assumes the failure of or presents a challenge to the integrity of a fission product barrier.
- (c) A structure, system, or component that is part of the primary success path and which functions or actuates to mitigate a design-basis accident or transient that either assumes the failure of or presents a challenge to the integrity of a fission product barrier.
- (d) A structure, system or component which operating experience or probabilistic risk assessment has shown to be significant to public health and safety.

Existing LCOs and related surveillances included as TS requirements which satisfy any of the criteria stated above must be retained in the TSs, while those requirements that do not fall within or satisfy these criteria may be relocated to licensee-controlled documents.

### 3.0 TECHNICAL EVALUATION

#### 3.1 Background

The SSES 1 and 2 Class IE AC [alternating current] Electrical Distribution System consist of two offsite power sources and the onsite standby power sources. The onsite Class IE AC and DC [direct current] electrical power distribution system is divided into redundant and independent AC electrical power distribution subsystems and DC electrical power distribution subsystems. The safety-related AC distribution system consists of four 4.16 kV Engineered Safeguards System (ESS) busses each having a primary and alternate offsite source of power as well as an onsite diesel generator source that supports one 4.16 kV ESS bus in each unit. The DC electrical power system provides the AC emergency power system with control power. It also provides both motive and control power to selected safety-related equipment. Also,

these DC subsystems provide DC electrical power to inverters, which in turn power the AC vital buses. The AC and DC electrical power distribution systems are designed to provide sufficient capacity, capability, redundancy, and reliability to ensure the availability of necessary power to engineered safety features systems so that the fuel, Reactor Coolant System, and containment design limits are not exceeded.

### 3.2 PPL's Proposed Changes

In its letter dated September 8, 2004, PPL proposed the following changes to SSES 1 and 2 TSs:

1. Add a Note to Required Action A.1 to LCO 3.8.7 for the SSES 1 and 2 TSs. The Note states: "Enter applicable Conditions and Required Actions of LCO 3.8.4, "DC Sources-Operating," for DC source(s) made inoperable by inoperable power distribution subsystem(s). This will assure that upon loss of AC power to required battery chargers, the appropriate actions of TS 3.8.4 are entered.
2. Correct various pages of SSES 1 and 2 TS Section 3.8, "Electrical Power Systems," for editorial and format content. These changes establish consistency with other SSES 1 and 2 TS presentations of similar content and with the wording and format presented in NUREG-1433, "Standard Technical Specifications for General Electric Plants (BWR/4)," revision 2. The affected TSs are:
  - CUnit 1 and Unit 2 TS 3.8.2 Applicability statement format;
  - CUnit 1 and Unit 2 TS 3.8.7 Required Actions A.1 and B.1 revise "s" to "(s)";
  - CUnit 1 TS 3.8.7 Completion Times for Required Actions A.1 and B.1 remove extraneous periods; and
  - CUnit 1 TS 3.8.8 Applicability statement format.
3. Revise the one-time 10-day completion time allowance in LCO 3.8.1 Condition A for the replacement of Startup transformer No. T-10 for both SSES 1 and 2 TSs.
4. Correct typographical errors in both Unit 1 and Unit 2 TS 3.3.1.1 and 3.3.5.1. The changes are:
  - C in Table 3.3.1.1-1 for Function 1.b, revise SR 3.3.2.2.15 to SR 3.3.1.1.15.
  - C in the APT Note in TS 3.3.5.1 revise Function 3.f to Function 3.e.

### 3.3 NRC Staff Evaluation

#### 3.3.1 Proposed Change No. 1 - Revision of TS 3.8.7

This proposed change adds a note to Required Action A.1 for SSES Units 1 and 2 TS Section 3.8.7 stating: "Enter applicable Conditions and Required Actions of LCO 3.8.4, DC sources - operating, for DC source(s) made inoperable by inoperable AC electrical power distribution subsystems." This added requirement will address the potential for deenergized Class 1E battery chargers, which was identified by Technical Specification Task Force (TSTF) change TSTF-16 and incorporated into NUREG-1433, revision 2.

The AC electrical power distribution subsystems require the associated buses and electrical circuits, including any load centers, motor control centers, and distribution panels, to be energized to their proper voltages. OPERABLE DC electrical power distribution subsystems require the associated buses and distribution panels to be energized to their proper voltage from either the associated battery or charger. Any event that results in a loss of the AC bus supporting the battery chargers may result in loss of DC to that train and the eventual inoperability of the DC system. TS 3.8.7, Condition A, applies to one or more inoperable (i.e., deenergized) AC electrical power distribution subsystems and allows 8 hours to restore the inoperable subsystem. TS 3.8.7, Condition A, with its associated Note and Required Action A.1, ensures that the appropriate attention is given to restoring charging power to batteries (in accordance with the Actions of TS 3.8.4), as necessary, after a loss of any distribution subsystem.

Based on the review of the above change, the NRC staff agrees with the licensee that this change will ensure restoring charging power to the batteries after the loss of AC distribution systems and concludes that this change enhances the safe and reliable operation of the plant. In addition, the NRC staff finds that the proposed change maintains compliance with requirements governing the design and operation of the Electrical Power System, provides adequate assurance of system operability, is consistent with the TSTF-16, revision 2 recommendations, is consistent with NUREG-1433, revision 2, and, therefore, is acceptable.

### 3.3.2 Proposed Change No. 2

During the conversion to the Improved Technical Specifications several editorial and formatting errors occurred. The licensee made editorial and format changes on various pages of Unit 1 and Unit 2 TS Section 3.8, Electrical Power Systems. The corrections are consistent with NUREG-1433, revision 2. The affected TS Sections are:

- CUnit 1 and Unit 2 TS 3.8.2 Applicability statement format;
- CUnit 1 and Unit 2 TS 3.8.7 Required Actions A.1 and B.1 revise "s" to "(s)";
- CUnit 1 TS 3.8.7 Completion Times for Required Actions A.1 and B.1 remove extraneous periods; and
- CUnit 1 TS 3.8.8 Applicability statement format.

Based on the review of the above changes, the NRC staff concludes that these editorial and formatting corrections are administrative changes and do not affect the safe and reliable operation of the plant. Therefore, these proposed changes are acceptable.

### 3.3.3 Proposed Change No. 3

To provide adequate time for installing a replacement for startup transformer T-10, a one-time 10-day completion-time allowance was requested and granted by Amendment No. 214 and No. 189 for SSES 1 and 2, respectively (ADAMS Accession No. ML032830347). Startup transformer T-10 was replaced on October 18, 2003. The one-time allowance is therefore no longer applicable. PPL deleted this one-time allowance for both Unit 1 and Unit 2 LCO 3.8.1 Condition A and revised the corresponding TS bases section.

Based on the review of the above change, the NRC staff concludes that the deletion of a one-time completion-time allowance is an administrative change. The proposed change does not affect the safe and reliable operation of the plant. Therefore, the proposed change is acceptable.

#### 3.3.4 Proposed Change No. 4

Several typographical errors were introduced during the initial production of the Improved TSs (Table 3.3.1.1-1) and the production of an amendment to TS Section 3.3.5.1. PPL corrected these typographical errors as follows:

Cin Table 3.3.1.1-1 for Function 1.b, revised SR 3.3.2.2.15 to SR 3.3.1.1.15.

Cin TS Section 3.3.5.1 Note 2, revised Function 3.f to Function 3.e.

Based on the review of the above changes, the NRC staff concludes that these editorial and formatting corrections are administrative changes and do not affect the safe and reliable operation of the plant. Therefore, these proposed changes 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 and change surveillance requirements. 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 (70 FR 29798). 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) 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 Contributor: N. Patel  
M. Concepcion-Robles

Date: August 17, 2005

