

March 29, 2005

Mr. Bryce L. Shriver  
President-PPL Generation  
and Chief Nuclear Officer  
PPL Susquehanna, LLC  
Two North Ninth Street, GENTW15  
Allentown, PA 18101-1179

SUBJECT: SUSQUEHANNA STEAM ELECTRIC STATION, UNITS 1 AND 2 - ISSUANCE  
OF AMENDMENTS RE: ADS-LPCI DISCHARGE PRESSURE, TS 3.3.5.1-1,  
FUNCTION 4.f AND 5.f (TAC NOS. MC2376 AND MC2377)

Dear Mr. Shriver:

The Nuclear Regulatory Commission has issued the enclosed Amendment No. 220 to Facility Operating License No. NPF-14 and Amendment No. 196 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 March 4, 2004.

The amendments revise the SSES 1 and 2 Technical Specifications Table 3.3.5.1-1 to clarify that four low-pressure coolant injection pump discharge pressure-high channels are required for each automatic depressurization system trip function.

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. 220 to  
License No. NPF-14  
2. Amendment No. 196 to  
License No. NPF-22  
3. Safety Evaluation

cc w/encls: See next page

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- 3. Safety Evaluation

DISTRIBUTION:

PDI-1 R/F	GMatakas,	RGN-1
ACRS	RGuzman	OGC
PUBLIC	M'O'Brien	GHill (4)
DLPM DPR	RLaufer	TBoyce

cc w/encls: See next page

Accession No.: ML050880028

Package No.:

TSs:

OFFICE	PDI-1/PM	PDI-2/LA	OGC	PDI-1/SC
NAME	RGuzman	MO'Brien	JHull	RLaufer
DATE	2/28/05	3/15/05	3/23/05	3/24/05

OFFICIAL RECORD COPY

Susquehanna Steam Electric Station, Unit Nos. 1 and 2

cc:

Britt T. McKinney  
Vice President - Nuclear Site Operations  
PPL Susquehanna, LLC  
769 Salem Blvd., NUCSB3  
Berwick, PA 18603-0467

Robert A. Saccone  
General Manager - Nuclear Operations  
PPL Susquehanna, LLC  
769 Salem Blvd., NUCSB3  
Berwick, PA 18603-0467

Aloysius J. Wrape, III  
General Manager - Performance  
Improvement and Oversight  
PPL Susquehanna, LLC  
Two North Ninth Street, GENPL4  
Allentown, PA 18101-1179

Terry L. Harpster  
General Manager - Plant Support  
PPL Susquehanna, LLC  
769 Salem Blvd., NUCSA4  
Berwick, PA 18603-0467

Gregory F. Ruppert  
General Manager - Nuclear Engineering  
PPL Susquehanna, LLC  
769 Salem Blvd., NUCSB3  
Berwick, PA 18603-0467

Rocco R. Sgarro  
Manager - Nuclear Regulatory Affairs  
PPL Susquehanna, LLC  
Two North Ninth Street, GENPL4  
Allentown, PA 18101-1179

Walter E. Morrissey  
Supervising Engineer  
Nuclear Regulatory Affairs  
PPL Susquehanna, LLC  
769 Salem Blvd., NUCSA4  
Berwick, PA 18603-0467

Michael H. Crowthers  
Supervising Engineer  
Nuclear Regulatory Affairs  
PPL Susquehanna, LLC  
Two North Ninth Street, GENPL4  
Allentown, PA 18101-1179

Dale F. Roth  
Manager - Quality Assurance  
PPL Susquehanna, LLC  
769 Salem Blvd., NUCSB2  
Berwick, PA 18603-0467

Luis A. Ramos  
Community Relations Manager,  
Susquehanna  
PPL Susquehanna, LLC  
634 Salem Blvd., SSO  
Berwick, PA 18603-0467

Bryan A. Snapp, Esq  
Assoc. General Counsel  
PPL Services Corporation  
Two North Ninth Street, GENTW3  
Allentown, PA 18101-1179

Supervisor - Document Control Services  
PPL Susquehanna, LLC  
Two North Ninth Street, GENPL4  
Allentown, PA 18101-1179

Richard W. Osborne  
Allegheny Electric Cooperative, Inc.  
212 Locust Street  
P.O. Box 1266  
Harrisburg, PA 17108-1266

Director - Bureau of Radiation Protection  
Pennsylvania Department of  
Environmental Protection  
P.O. Box 8469  
Harrisburg, PA 17105-8469

Susquehanna Steam Electric Station, Unit Nos. 1 and 2

cc:

Senior Resident Inspector  
U.S. Nuclear Regulatory Commission  
P.O. Box 35, NUCSA4  
Berwick, PA 18603-0035

Regional Administrator, Region 1  
U.S. Nuclear Regulatory Commission  
475 Allendale Road  
King of Prussia, PA 19406

Board of Supervisors  
Salem Township  
P.O. Box 405  
Berwick, PA 18603-0035

Dr. Judith Johnsrud  
National Energy Committee  
Sierra Club  
443 Orlando Avenue  
State College, PA 16803

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

Amendment No. 220  
License No. NPF-14

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for the amendment filed by PPL Susquehanna, LLC (PPL, the licensee), dated March 4, 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. 220 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: March 29, 2005

ATTACHMENT TO LICENSE AMENDMENT NO. 220

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 contains marginal lines indicating the areas of changes.

REMOVE  
TS / 3.3-46  
3.3-47

INSERT  
TS / 3.3-46  
TS / 3.3-47

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

Amendment No. 196  
License No. NPF-22

1. The Nuclear Regulatory Commission (the Commission) has found that:
  - A. The application for the amendment filed by PPL Susquehanna, LLC (PPL, the licensee), dated March 4, 2004, complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's rules and 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. 196 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: March 29, 2005

ATTACHMENT TO LICENSE AMENDMENT NO. 196

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 contains marginal lines indicating the areas of changes.

REMOVE

TS / 3.3-46

TS / 3.3-47

INSERT

TS / 3.3-46

TS / 3.3-47

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION  
RELATED TO AMENDMENT NO. 220 TO FACILITY OPERATING LICENSE NO. NPF-14  
AND AMENDMENT NO. 196 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 March 4, 2004 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML040710865), 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 by changing Table 3.3.5.1-1 to clarify that four low-pressure coolant injection (LPCI) pump discharge pressure-high channels are required for each automatic depressurization system (ADS) trip function.

## 2.0 REGULATORY EVALUATION

The Nuclear Regulatory Commission (NRC) finds that PPL, in its March 4, 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 reactivity control systems. Specifically, General Design Criterion (GDC) 13, "Instrumentation and control," states, in part, that instrumentation shall be provided to monitor variables and systems over their anticipated ranges for normal operation, for anticipated operational occurrences, and for accident conditions as appropriate to assure adequate safety.
2. 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 surveillance requirements 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.

### 3.0 TECHNICAL EVALUATION

#### 3.1 Background

The ADS control system is designed to reduce reactor vessel pressure during a loss-of-coolant accident in which the high-pressure coolant injection system is not available so that the core spray (CS) system or LPCI system can inject water into the reactor vessel. ADS monitors the discharge pressures of the four LPCI pumps and the four CS pumps. Each ADS trip system receives a discharge pressure permissive either from: (a) both CS pumps in the division or (b) from either of the two LPCI pumps in the associated division. The signals are used as a permissive for ADS actuation, indicating that there is a source of core coolant available once the ADS has depressurized the vessel. With operation of both CS pumps or one of the two LPCI pumps in a division, sufficient flow is available to permit automatic depressurization.

The SSES 1 and 2 bases for TS 3.3.5.1 describe that the ADS pressure permissive logic for CS has one pressure channel for each pump. Since it takes both CS pumps associated with that ADS Division (2-of-2 logic) to provide the permissive, the "Required Number of Channels Per Function" is specified as "2." Each LPCI pump has two pressure channels arranged in a 2-of-2 logic (for each pump) to provide the ADS permissive. As such, the current requirements stating "2" required channels is interpreted as "2 per pump." With two pumps supporting each division, as described in the bases, this presentation requires all "4" channels to be operable. These bases and the supporting intent are based on the amendment request associated with conversion to the Improved Standard TSs, Amendment Nos. 178 (Unit 1) and 151 (Unit 2) (Reference 1).

On January 31, 1985, PPL requested an Amendment (Reference 2) that was the basis for approval of TS Amendments Nos. 44 for Unit 1 and 11 for Unit 2 (Reference 3). These amendments provided the requirement for the minimum required channels per trip system in Table 3.3.3-1 for the ADS-LPCI pressure permissive as "2", and included a footnote allowance to have either residual heat removal (RHR) pump satisfy the requirement. Amendments Nos. 44 and 11 also approved requirements which allowed for two CS pump discharge pressure channels to satisfy the required ADS logic channels. As such, Amendments Nos. 44 and 11 requirements stating "2" required channels were interpreted for CS as "2 per loop" (one for each pump in that loop supporting one Division of ADS). For RHR, the interpretation was "2 per pump" with two pumps supporting each Division. Footnotes provided with this amendment allowed for only 1-CS or 1-RHR pump to meet the minimum requirements.

Amendments Nos. 178 for Unit 1 and 151 for Unit 2 (Reference 1) approved a more restrictive operability requirement by requiring all channels to be operable. In the Improved TS (ITS) Table 3.3.5.1-1, the required number of ADS-LPCI pressure permissive channels continued to reflect "2" for each trip system. However, the bases and documentation associated with the ITS conversion clearly relates the intent to require both the channels for both LPCI pumps for each ADS trip system, which is all four channels in each trip system.

#### 3.2 Proposed Change

The proposed editorial change revises SSES 1 and 2 TSs, Section 3.3.5.1, "Emergency Core Cooling System (ECCS) Instrumentation," specifically Table 3.3.5.1-1, Functions 4.f and 5.f, "Low Pressure Coolant Injection Pump Discharge Pressure - High," for ADS trip systems A and

B. The "Required Channels Per Function" is revised from "2" to "4." For each ADS trip system the LPCI function is applied to each LPCI pump. Therefore, to satisfy the operability requirements, each LPCI pump must have the "2" discharge pressure permissive channels associated with that trip system operable. As such, the requirement stating "2" required channels is interpreted as "2 per pump" with two pumps supporting each trip system, for a total of four channels required for each trip system.

### 3.3 Conclusion

Based on the results of the review, the NRC staff finds the proposed editorial changes to TS Table 3.3.5.1-1 acceptable. The proposed changes will more clearly present the requirement that is consistent with the typical definition of "channel" (e.g., each discharge pressure sensor is part of a unique "channel"), minimizing the potential for misinterpretation and operator error in implementation of the requirements. The TS Actions for inoperable channels apply consistently to any number of inoperable channels and are not impacted by this change. Since there is no change in the actual channels required operable, this is an editorial change only.

### 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 (69 FR 22881). 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.

### 7.0 REFERENCES

1. V. Nerses, NRC, letter to R. G. Byram, PP&L, "Susquehanna Steam Electric Station, Units 1 and 2 (TAC NOS. M96327 and M96328)," (Amendment Nos. 178 and 151), dated July 30, 1998 (ADAMS Accession No. ML010160119).

2. PLA-2401, N. W. Curtis, PP&L, letter to USNRC, "Susquehanna Steam Electric Station Proposed Amendments 61 to NPF-14 and 15 to NPF-22," dated January 31, 1985.
3. W. R. Butler, NRC, letter to N. W. Curtis, PP&L, "Amendment Nos. 44 and 11 to Facility Operating License NPF-22, Susquehanna Steam Electric Station, Units 1 and 2," dated May 15, 1985.

Principal Contributor: J. Kim

Date: March 29, 2005