

June 26, 1997

Mr. Robert G. Byram
Senior Vice President-Nuclear
Pennsylvania Power and Light Company
2 North Ninth Street
Allentown, PA 18101

SUBJECT: SUSQUEHANNA STEAM ELECTRIC STATION, UNITS 1 AND 2 (TAC NOS. M96305 AND M96306)

Dear Mr. Byram:

The Commission has issued the enclosed Amendment No. 166 to Facility Operating License No. NPF-14 and Amendment No. 140 to Facility Operating License No. NPF-22 for the Susquehanna Steam Electric Station, Units 1 and 2. This amendment consists of changes to the Technical Specifications (TSs) in response to your application dated June 10, 1996 as supplemented on July 25, 1996.

These amendments change the differential temperature Technical Specifications allowable values and trip setpoints for the reactor water cleanup system penetration room steam leak detection function.

A copy of our Safety Evaluation is also enclosed. Notice of Issuance will be included in the Commission's Biweekly Federal Register Notice.

Sincerely,
/s/

Chester Poslusny, Senior Project Manager
Project Directorate I-2
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Docket Nos. 50-387/388

- Enclosures: 1. Amendment No. 166 to License No. NPF-14
- 2. Amendment No. 140 to License No. NPF-22
- 3. Safety Evaluation

cc w/encls: See next page

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OFFICE	PDI-2/LA	PDI-2/PM	SCSB	BC:TSB	OGC	PDI-2/D
NAME	MO'Brien	CPoslusny:rb	CBerlinger	CGrimes	<i>WLong</i>	JStolz
DATE	5/30/97	5/30/97	6/2/97		6/19/97	6/24/97

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DOCUMENT NAME: SU96305.AMD

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

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Mr. Robert G. Byram
Senior Vice President-Nuclear
Pennsylvania Power and Light Company
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Allentown, PA 18101

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Sincerely,

A handwritten signature in cursive script that reads "Chester Poslusny".

Chester Poslusny, Senior Project Manager
Project Directorate I-2
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Docket Nos. 50-387/388

Enclosures: 1. Amendment No. 166 to
License No. NPF-14
2. Amendment No. 140 to
License No. NPF-22
3. Safety Evaluation

cc w/encls: See next page

Mr. Robert G. Byram
Pennsylvania Power & Light Company

Susquehanna Steam Electric Station,
Units 1 & 2

cc:

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Berwick, PA 18603



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

PENNSYLVANIA POWER & LIGHT COMPANY

ALLEGHENY ELECTRIC COOPERATIVE, INC.

DOCKET NO. 50-387

SUSQUEHANNA STEAM ELECTRIC STATION, UNIT 1

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No. 166
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 the Pennsylvania Power & Light Company, dated June 10, 1996, as supplemented on July 25, 1996, 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.

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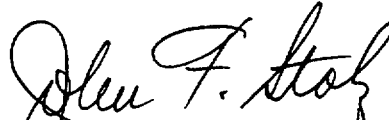
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment and paragraph 2.C.(2) of the Facility Operating License No. NPF-14 is hereby amended to read as follows:

(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 166 and the Environmental Protection Plan contained in Appendix B, are hereby incorporated in the license. PP&L 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 is to be implemented within 30 days after its date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



John F. Stolz, Director
Project Directorate I-2
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: June 26, 1997

ATTACHMENT TO LICENSE AMENDMENT NO.166

FACILITY OPERATING LICENSE NO. NPF-14

DOCKET NO. 50-387

Replace the following pages of the Appendix A Technical Specifications with enclosed pages. The revised pages are identified by Amendment number and contain vertical lines indicating the area of change.

REMOVE

3/4 3-18

3/4 3-20

INSERT

3/4 3-18

3/4 3-20

TABLE 3.3.2-2 (Continued)		
ISOLATION ACTUATION INSTRUMENTATION SETPOINTS		
TRIP FUNCTION	TRIP SETPOINT	ALLOWABLE VALUE
MAIN STEAM LINE ISOLATION (Continued)		
e. Condenser Vacuum-Low	≥ 9.0 inches Hg vacuum	≥ 8.8 inches Hg vacuum
f. Reactor Building Main Steam Line Tunnel Temperature-High	≤ 177°F**	≤ 184°F**
g. Reactor Building Main Steam Line Tunnel Δ Temperature-High	≤ 99°F**	≤ 108°F**
h. Manual Initiation	NA	NA
i. Turbine Building Main Steam Line Tunnel Temperature-High	≤ 197°F**	≤ 200°F**
4. REACTOR WATER CLEANUP SYSTEM ISOLATION		
a. RWCU Δ Flow-High	≤ 60 gpm	≤ 80 gpm
b. RWCU Area Temperature-High	≤ 147°F or 131°F#	≤ 154°F or 137°F#
c. RWCU/Area Ventilation Δ Temperature-High	≤ 69°F	≤ 72°F
d. SLCS Initiation	NA	NA
e. Reactor Vessel Water Level-Low Low, Level 2	≥ -38 inches*	≥ -45 inches
f. RWCU Flow-High	≤ 462 gpm	≤ 472 gpm
g. Manual Initiation	NA	NA
5. REACTOR CORE ISOLATION COOLING SYSTEM ISOLATION		
a. RCIC Steam Line Δ Pressure-High	≤ 188" H ₂ O	≤ 193" H ₂ O
b. RCIC Steam Supply Pressure-Low	≥ 60 psig	≥ 53 psig
c. RCIC Turbine Exhaust Diaphragm Pressure-High	≤ 10.0 psig	≤ 20.0 psig

TABLE 3.3.2-2 (Continued)		
ISOLATION ACTUATION INSTRUMENTATION SETPOINTS		
TRIP FUNCTION	TRIP SETPOINT	ALLOWABLE VALUE
h. HPCI Pipe Routing Area Δ Temperature-High	$\leq 89^{\circ}\text{F}##$	$\leq 98^{\circ}\text{F}##$
i. Manual Initiation	NA	NA
j. Drywell Pressure-High	≤ 1.72 psig	≤ 1.88 psig
7. RHR SYSTEM SHUTDOWN COOLING/HEAD SPRAY MODE ISOLATION		
a. Reactor Vessel Water Level-Low, Level 3	≥ 13.0 inches*	≥ 11.5 inches
b. Reactor Vessel (RHR Cut-in Permissive) Pressure-High	≤ 98 psig	≤ 108 psig
c. RHR Flow-High	$\leq 25,000$ gpm	$\leq 26,000$ gpm
d. Manual Initiation	NA	NA
e. Drywell Pressure-High	≤ 1.72 psig	≤ 1.88 psig
<p>* See Bases Figure B 3/4 3-1.</p> <p>** Initial value. Final value to be determined based on Power Uprate startup testing. Any required change to this value shall be submitted to the Commission within 90 days of test completion.</p> <p># Lower setpoints for TSH-G33-1N600 E, F.</p> <p>## 15 minutes time delay.</p>		



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

PENNSYLVANIA POWER & LIGHT COMPANY

ALLEGHENY ELECTRIC COOPERATIVE, INC.

DOCKET NO. 50-388

SUSQUEHANNA STEAM ELECTRIC STATION, UNIT 2

AMENDMENT TO FACILITY OPERATING LICENSE

Amendment No.140
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 Pennsylvania Power & Light Company, dated June 10, 1996, as supplemented on July 25, 1996, 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.

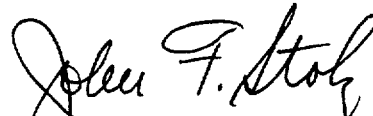
2. Accordingly, the license is amended by changes to the Technical Specifications as indicated in the attachment to this license amendment and paragraph 2.C.(2) of the Facility Operating License No. NPF-22 is hereby amended to read as follows:

(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A, as revised through Amendment No. 140 and the Environmental Protection Plan contained in Appendix B, are hereby incorporated in the license. PP&L 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 is to be implemented within 30 days after its date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION



John F. Stolz, Director
Project Directorate I/2
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: June 26, 1997

ATTACHMENT TO LICENSE AMENDMENT NO. 140

FACILITY OPERATING LICENSE NO. NPF-22

DOCKET NO. 50-388

Replace the following pages of the Appendix A Technical Specifications with enclosed pages. The revised pages are identified by Amendment number and contain vertical lines indicating the area of change.

REMOVE

3/4 3-18

3/4 3-20

INSERT

3/4 3-18

3/4 3-20

TABLE 3.3.2-2 (Continued)		
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TRIP FUNCTION	TRIP SETPOINT	ALLOWABLE VALUE
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e. Condenser Vacuum-Low	≥ 9.0 inches Hg vacuum	≥ 8.8 inches Hg vacuum
f. Reactor Building Main Steam Line Tunnel Temperature-High	≤ 177°F	≤ 184°F
g. Reactor Building Main Steam Line Tunnel Δ Temperature-High	≤ 99°F	≤ 108°F
h. Manual Initiation	NA	NA
i. Turbine Building Main Steam Line Tunnel Temperature-High	≤ 197°F	≤ 200°F
4. REACTOR WATER CLEANUP SYSTEM ISOLATION		
a. RWCU Δ Flow-High	≤ 60 gpm	≤ 80 gpm
b. RWCU Area Temperature-High	≤ 147°F or 131°F#	≤ 154°F or 137°F#
c. RWCU/Area Ventilation Δ Temperature-High	≤ 69°F	≤ 72°F
d. SLCS Initiation	NA	NA
e. Reactor Vessel Water Level-Low Low, Level 2	≥ -38 inches*	≥ -45 inches
f1. RWCU Flow-High	≤ 462 gpm	≤ 472 gpm
f2. Non-Regenerative Heat Exchanger Discharge Temperature - High	≤ 144°F	≤ 150°F
g. Manual Initiation	NA	NA
5. REACTOR CORE ISOLATION COOLING SYSTEM ISOLATION		
a. RCIC Steam Line Δ Pressure-High	≤ 138" H ₂ O	≤ 143" H ₂ O
b. RCIC Steam Supply Pressure-Low	≥ 60 psig	≥ 53 psig
c. RCIC Turbine Exhaust Diaphragm Pressure-High	≤ 10.0 psig	≤ 20.0 psig

TABLE 3.3.2-2 (Continued)		
ISOLATION ACTUATION INSTRUMENTATION SETPOINTS		
TRIP FUNCTION	TRIP SETPOINT	ALLOWABLE VALUE
7. RHR SYSTEM SHUTDOWN COOLING/HEAD SPRAY MODE ISOLATION		
a. Reactor Vessel Water Level-Low, Level 3	≥ 13.0 inches*	≥ 11.5 inches
b. Reactor Vessel (RHR Cut-in Permissive) Pressure-High	≤ 98 psig	≤ 108 psig
c. RHR Flow-High	≤ 25,000 gpm	≤ 26,000 gpm
d. Manual Initiation	NA	NA
e. Drywell Pressure-High	≤ 1.72 psig	≤ 1.88 psig
* See Bases Figure B 3/4 3-1.		
** Initial value. Final value to be determined based on Power Uprate startup testing. Any required change to this value shall be submitted to the Commission within 90 days of test completion.		
# Lower setpoints for TSH-G33-2N600 E, F.		
## 15 minutes time delay.		



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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION
RELATED TO AMENDMENT NO.166TO FACILITY OPERATING LICENSE NO. NPF-14

AMENDMENT NO. 140 TO FACILITY OPERATING LICENSE NO. NPF-22

PENNSYLVANIA POWER & LIGHT COMPANY

ALLEGHENY ELECTRIC COOPERATIVE, INC.

SUSQUEHANNA STEAM ELECTRIC STATION, UNITS 1 AND 2

DOCKET NOS. 50-387 AND 388

1.0 INTRODUCTION

By letter dated June 10, 1996, as supplemented on July 25, 1996, the Pennsylvania Power and Light Company (the licensee) submitted a request for changes to the Susquehanna Steam Electric Station (SSES), Units 1 and 2, Technical Specifications (TSs). The requested changes would change the differential temperature Technical Specifications allowable values and trip setpoints for the reactor water cleanup system (RWCU) penetration room steam leak detection function.

2.0 DISCUSSION AND EVALUATION

RWCU equipment spaces located outside the primary containment are provided with isolation instrumentation to detect reactor coolant piping breaks. Several means of break detection are employed, one of which is the compartment high differential temperature function. This instrumentation system senses the ventilation supply air temperature (cold leg) and exhaust air temperature (hot leg) to determine if a high differential temperature exists, an indication of steam discharge into the compartment airflow. The RWCU compartment high temperature isolation function is not needed for reactor protection but is provided as a radiological protection feature. Typically, the high differential temperature instruments are designed, and setpoints selected, to be capable of detecting the smallest possible leak without incurring spurious actuation due to the ventilation system and other transients. For RWCU lines in RWCU compartments, a 25 gpm leak has historically been considered an appropriate heat source for use in analyses to determine the temperature difference to be sensed. This specific leakage detection capability is specified in General Electric design specifications and accepted by the staff as a licensing basis requirement for SSES and similar facilities.

The licensee has experienced spurious RWCU isolations in the past, and as corrective action, requested instrument setpoint changes (approved in Amendments 123/90) and made ventilation system louver adjustments (Reference: subject of violations 387/88-15-01 and 388/88-18-01). To improve leakage detection system performance, an RWCU isolation system design basis and setpoint review was performed by the licensee to determine what should be the plant specific appropriate differential temperature instrument setpoints. The review included a reanalysis of the temperature rise that would occur in the RWCU Pump Room, RWCU Heat Exchanger Room, and RWCU Penetration Room should a 25 gpm leak occur. (These rooms are separate subcompartments of the contiguous RWCU Area, and are connected by open archways.) The analysis was performed using the licensee's COTTAP (Compartment Transient Temperature Analysis Program) code, a thermal-hydraulic analysis code used by the licensee to analyze secondary containment pressure and temperature transients due to high energy line breaks and other events. (A detailed description of the COTTAP code was published in "Nuclear Technology," April 1991.) The licensee using COTTAP calculated the temperature rise of each subcompartment ventilation airflow resulting from a 25 gpm RWCU system line break. Appropriate margins for drift and error were then applied to the delta-T to determine the proposed new TS limits.

Based on the licensee's reanalysis, the RWCU leakage detection system, using the proposed new setpoints developed in accordance with Regulatory Guide 1.105, Revision 2 (1986), will be capable of initiating RWCU System isolation in the event of a 25 gpm line break. Specifically in Table 3.2 of the TSs the following changes have been proposed:

The RWCU/Area Ventilation Delta Temperature - High trip setpoint has been changed to < 69 degrees F, and the allowable value would be changed to < 72 degrees F.

With these changes, the level of sensitivity of the RWCU/Area Ventilation Delta Temperature will be consistent with the leakage detection system design basis and radiological dose analysis assumptions. The proposed setpoint changes are therefore acceptable.

3.0 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.

4.0 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 (61 FR 64389). Accordingly, the amendments meet 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.

5.0 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: W. Long

Date: June 26, 1997