March 29, 1993

Docket Nos. 50-387
and 50-388

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

Dear Mr. Byram:

SUBJECT: ADDITION OF DEGRADED VOLTAGE PROTECTION FOR DIESEL GENERATOR E AUXILIARIES, SUSQUEHANNA STEAM ELECTRIC STATION, UNITS 1 AND 2 (PLA-3885) (TAC NOS. M85129 AND M85130)

The Commission has issued the enclosed Amendment No. 124 to Facility Operating License No. NPF-14 and Amendment No. 94 to Facility Operating License No. NPF-22 for the Susquehanna Steam Electric Station, Units 1 and 2. These amendments are in response to your letter dated December 8, 1992.

These amendments revise the Technical Specifications to reflect your proposed modification to add an undervoltage scheme to the Diesel Generator E auxiliaries.

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

Sincerely, Original signed by
Richard J. Clark

Richard J. Clark, Senior Project Manager
Project Directorate I-2
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Enclosures:
1. Amendment No. 124 to License No. NPF-14
2. Amendment No. 94 to License No. NPF-22
3. Safety Evaluation

cc w/enclosures:
See next page

DISTRIBUTION:

Docket File	MO'Brien(2)	CGrimes, 11E21	JWhite, RGN-I
NRC & Local PDRs	RClark(2)	CBerlinger	
PDI-2 Reading	OGC	ACRS(10)	
SVarga	DHagan, 3206	OPA	
JCalvo	GHill(4), P1-22	OC/LFMB	
CMiller	Wanda Jones, P-370	EWenzinger, RGN-I	

*Previously Concurred

OFC	:PDI-2/LA	:PDI-2/PM	:EELB*	:OGC*	:PDI-2/D	:
NAME	:MO'Brien	:RClark	:CBerlinger	:CBarth	:CMiller	:
DATE	:3/29/93	:03/29/93	:03/10/93	:03/25/93	:3/29/93	:

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and 50-388

Mr. Robert G. Byram
Senior Vice President-Nuclear
Pennsylvania Power and Light Company
2 North Ninth Street
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*Previously Concurred

OFC	:PDI-2/LA	:PDI-2/PM	:EELB*	:OGC*	:PDI-2/D	:
NAME	:MO'Brien	:RClark	:CBerlinger	:CBarth	:CMiller	:
DATE	:3/29/93	:03/29/93	:03/10/93	:03/25/93	:3/29/93	:

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

March 29, 1993

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and 50-388

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Senior Vice President-Nuclear
Pennsylvania Power and Light Company
2 North Ninth Street
Allentown, Pennsylvania 18101

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The Commission has issued the enclosed Amendment No. 124 to Facility Operating License No. NPF-14 and Amendment No. 94 to Facility Operating License No. NPF-22 for the Susquehanna Steam Electric Station, Units 1 and 2. These amendments are in response to your letter dated December 8, 1992.

These amendments revise the Technical Specifications to reflect your proposed modification to add an undervoltage scheme to the Diesel Generator E auxiliaries.

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

Sincerely,

Richard J. Clark, Senior Project Manager
Project Directorate I-2
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

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2. Amendment No. 94 to License No. NPF-22
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cc w/enclosures:
See next page

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

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. 124
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 December 8, 1992, 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. 124 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 upon completion of the installation of the undervoltage scheme currently scheduled to be installed during Diesel Generator E outage in April 1993.

FOR THE NUCLEAR REGULATORY COMMISSION

Charles L. Miller

Charles L. Miller, 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: March 29, 1993

ATTACHMENT TO LICENSE AMENDMENT NO. 124

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. The overleaf pages are provided to maintain document completeness.*

REMOVE	INSERT
3/4 3-29	3/4 3-29
3/4 3-29a	3/4 3-29a
3/4 3-30	3/4 3-30
-	-
3/4 3-31	3/4 3-31*
3/4 3-32	3/4 3-32
3/4 3-33	3/4 3-33
3/4 3-34	3/4 3-34*
3/4 3-35	3/4 3-35
3/4 3-36	3/4 3-36*

TABLE 3.3.3-1 (Continued)

EMERGENCY CORE COOLING SYSTEM ACTUATION INSTRUMENTATION

TRIP FUNCTION	MINIMUM OPERABLE CHANNELS PER TRIP SYSTEM	APPLICABLE OPERATIONAL CONDITIONS	ACTION
4. AUTOMATIC DEPRESSURIZATION SYSTEM ##			
a. Reactor Vessel Water Level - Low Low Low, Level 1	2(f)	1, 2, 3	30
b. Drywell Pressure - High	2(f)	1, 2, 3	30
c. ADS Timer	1(f)	1, 2, 3	31
d. Core Spray Pump Discharge Pressure - High (Permissive)	2(d)(f)	1, 2, 3	31
e. RHR LPCI Mode Pump Discharge Pressure - High (Permissive)	2(d)(e)(f)	1, 2, 3	31
f. Reactor Vessel Water Level - Low, Level 3 (Permissive)	1(f)	1, 2, 3	31
g. ADS Drywell Pressure Bypass Timer	2(f)	1, 2, 3	31
h. Manual Inhibit	1	1, 2, 3	33
i. Manual Initiation	1/valve	1, 2, 3	33

	TOTAL NO. OF CHANNELS	CHANNELS TO TRIP	MINIMUM CHANNELS OPERABLE	APPLICABLE OPERATIONAL CONDITIONS	ACTION
5. LOSS OF POWER					
a. 4.16 kv ESS Bus Under-voltage (Loss of Voltage, < 20%)	1/bus	1/bus	1/bus	1, 2, 3, 4**, 5**	35
b. 4.16 kv ESS Bus Under-voltage (Degraded Voltage, < 65%)	2/bus	2/bus	2/bus	1, 2, 3, 4**, 5**	36
c. 4.16 kv ESS Bus Under-voltage (Degraded Voltage, < 93%)	2/bus	2/bus	2/bus	1, 2, 3, 4**, 5**	36
d. 480V ESS Bus 0B565 Under-voltage (Degraded Voltage, < 65%) ###	2/bus	1/bus	2/bus	1, 2, 3, 4**, 5**	36
e. 480V ESS Bus 0B565 Under-voltage (Degraded Voltage, < 92%) ###	2/bus	2/bus	2/bus	1, 2, 3, 4**, 5**	36

See footnotes on next page.

TABLE 3.3.3-1 (Continued)

EMERGENCY CORE COOLING SYSTEM ACTUATION INSTRUMENTATION

(a) A channel may be placed in an inoperable status for up to 2 hours for required surveillance without placing the trip system in the tripped condition provided at least one OPERABLE channel in the same trip system is monitoring that parameter.

(b) One trip system. Provides signal to HPCI pump suction valves only.

(c) Two out of two logic.

(d) Either 4d or 4e must be satisfied. The ACTION is required to be taken only if neither is satisfied. A channel is not OPERABLE unless its associated pump is OPERABLE per Specification 3.5.1.

(e) Within an ADS Trip System there are two logic subsystems, each of which contains an overall pump permissive. At least one channel associated with each of these overall pump permissives shall be OPERABLE.

(f) A channel may be placed in an inoperable status for up to 2 hours for required surveillance testing provided that all channels in the other trip system are OPERABLE.

* When the system is required to be OPERABLE per Specification 3.5.2

\# Not required to be OPERABLE when reactor steam dome pressure is less than or equal to 150 psig.

** Required when ESF equipment is required to be OPERABLE.

\#\# Not required to be OPERABLE when reactor steam dome pressure is less than or equal to 100 psig.

\#\#\# Required to be OPERABLE only when Diesel Generator E is either aligned to the Class 1E system or not aligned to the Class 1E system but operating on the Test Facility.

TABLE 3.3.3-1 (Continued)

EMERGENCY CORE COOLING SYSTEM ACTUATION INSTRUMENTATION

ACTION STATEMENTS

ACTION 30 - With the number of OPERABLE channels less than required by the Minimum OPERABLE Channels per Trip System requirement:

a. For one trip system, place the inoperable trip system in the tripped condition within 1 hour or declare the associated ECCS inoperable.

b. For both trip systems, declare the associated ECCS inoperable.

ACTION 31 - With the number of OPERABLE channels less than required by the Minimum OPERABLE Channels per Trip Function requirement, declare the associated ECCS inoperable.

ACTION 32 - With the number of OPERABLE channels less than required by the Minimum OPERABLE Channels per Trip System requirement, place the inoperable channel in the tripped condition within 1 hour.

ACTION 33 - With the number of OPERABLE channels less than required by the Minimum OPERABLE Channels per Trip Function requirement, restore the inoperable channel to OPERABLE status within 8 hours or declare the associated ECCS inoperable.

ACTION 34 - With the number of OPERABLE channels less than required by the Minimum OPERABLE Channels per Trip System requirement, place at least one inoperable channel in the tripped condition within 1 hour or declare the HPCI system inoperable.

ACTION 35 - With the number of OPERABLE channels less than the Total Number of Channels, declare the associated emergency diesel generator inoperable and take the ACTION required by Specification 3.8.1.1 or 3.8.1.2, as appropriate.

ACTION 36 - a) With the number of OPERABLE channels one less than the Total Number of Channels, place the inoperable channel in the tripped condition within 1 hour; operation may then continue until performance of the next required CHANNEL FUNCTIONAL TEST.

b) With both channels inoperable on a 4.16Kv ESS bus, declare the associated 4.16Kv ESS bus inoperable, and take the ACTION required by Specification 3.8.3.1 or 3.8.3.2 as appropriate.

c) With both channels inoperable on the 480V ESS Bus 0B565, declare the 480V ESS Bus 0B565 not energized;

(1) For the Diesel Generator E aligned to the Class 1E system, take the ACTION required by Specification 3.8.3.1 or 3.8.3.2 as appropriate

(2) For the Diesel Generator E not aligned to the Class 1E system, declare the Diesel Generator E 125 Volt DC distribution system load group not energized and take the ACTION required by Specification 3.8.3.1 or 3.8.3.2 as appropriate.

EMERGENCY CORE COOLING SYSTEM ACTUATION INSTRUMENTATION SETPOINTS

TRIP FUNCTION	TRIP SETPOINT	ALLOWABLE VALUE
1. CORE SPRAY SYSTEM		
a. Reactor Vessel Water Level - Low Low Low, Level 1	≥-129 inches*	≥-136 inches
b. Drywell Pressure - High	≤ 1.72 psig	≤ 1.88 psig
c. Reactor Vessel Steam Dome Pressure - Low	≥ 436 psig, decreasing	≥ 416 psig, decreasing
d. Manual Initiation	NA	NA
2. LOW PRESSURE COOLANT INJECTION MODE OF RHR SYSTEM		
a. Reactor Vessel Water Level - Low Low Low, Level 1	≥-129 inches*	≥-136 inches
b. Drywell Pressure - High	≤ 1.72 psig	≤ 1.88 psig
c. Reactor Vessel Steam Dome Pressure - Low		
1) System Initiation	≥436 psig, decreasing	≥416 psig, decreasing
2) Recirculation Discharge Valve Closure	≥236 psig, decreasing	≥216 psig, decreasing
d. Manual Initiation	NA	NA
3. HIGH PRESSURE COOLANT INJECTION SYSTEM		
a. Reactor Vessel Water Level - Low Low, Level 2	≥-38 inches*	≥ -45 inches
b. Drywell Pressure - High	≤ 1.72 psig	≤ 1.88 psig
c. Condensate Storage Tank Level - Low	≥ 36.0 inches above tank bottom	≥ 36.0 inches above tank bottom
d. Reactor Vessel Water Level - High, Level 8	≤ 54 inches	≤ 55.5 inches
e. Suppression Pool Water Level - High	≤ 23 feet 9 inches	≤ 24 feet
f. Manual Initiation	NA	NA

TABLE 3.3.3-2 (Continued)

EMERGENCY CORE COOLING SYSTEM ACTUATION INSTRUMENTATION SETPOINTS

TRIP FUNCTION	TRIP SETPOINT	ALLOWABLE VALUE
4. AUTOMATIC DEPRESSURIZATION SYSTEM		
a. Reactor Vessel Water Level - Low Low Low, Level 1	≥ 129 inches*	≥ 136 inches
b. Drywell Pressure - High	≤ 1.72 psig	≤ 1.88 psig
c. ADS Timer	≤ 102 seconds	≤ 114 seconds
d. Core Spray Pump Discharge Pressure - High	145 ± 10 psig	145 ± 20 psig
e. RHR LPCI Mode Pump Discharge Pressure - High	125 ± 4 psig	125 ± 10 psig
f. Reactor Vessel Water Level - Low, Level 3	≥ 13 inches	≥ 11.5 inches
g. ADS Drywell Pressure Bypass Timer	≤ 420 seconds	≤ 450 seconds
h. Manual Inhibit	NA	NA
i. Manual Initiation	NA	NA
5. LOSS OF POWER		
a. 4.16 kv ESS Bus Undervoltage (Loss of Voltage, < 20%)	a. 4.16 kv Basis - 840 ± 16.8 volts b. 120 v Basis - 24 ± 0.48 volts c. 0.5 ± 0.1 second time delay	840 ± 59.6 volts 24 ± 1.7 volts 0.5 ± 0.1 second time delay
b. 4.16 kv ESS Bus Undervoltage (Degraded Voltage, < 65%)	a. 4.16 kv Basis - 2695 ± 53.9 volts b. 120 v Basis - 77 ± 1.54 volts c. 3.0 ± 0.3 second time delay	2695 ± 191.3 volts 77 ± 5.5 volts 3 ± 0.3 second time delay
c. 4.16 kv ESS Bus Undervoltage (Degraded Voltage, < 93%)	a. 4.16 kv Basis - 3868 ± 38.7 volts b. 120 v Basis - 110.5 ± 1.10 volts c. 5 minute ± 30 second time delay without LOCA 10 ± 1.0 second time delay with LOCA	3868 + 67, - 67 volts 110.5 + 1.91 - 1.91 volts 5 minutes ± 30 second time delay without LOCA 10 ± 1.0 second time delay with LOCA
d. 480V ESS Bus 0B565 Undervoltage (Degraded Voltage, < 65%)	a. 480V Basis - 312 ± 3.1 volts b. 120V Basis - 78 ± .8 volts c. 5 ± .5 second time delay	312 + 5.4, - 5.4 volts 78 + 1.35, - 1.35 volts 5 ± .5 second time delay
e. 480V ESS Bus 0B565 Undervoltage (Degraded Voltage, < 92%)	a. 480V Basis - 442 ± 4.4 volts b. 120V Basis - 110.4 ± 1.10 volts c. 10 ± 1 second time delay	442 + 7.6, - 7.6 volts 110.4 + 1.91, -1.91 volts 10 ± 1 second time delay

* See Bases Figure B 3/4 3-1.

TABLE 3.3.3-3

EMERGENCY CORE COOLING SYSTEM RESPONSE TIMES

TRIP FUNCTION	RESPONSE TIME (seconds)
1. CORE SPRAY SYSTEM	
a. Reactor Vessel Water Level - Low Low Low, Level 1	≤ 27
b. Drywell Pressure - High	≤ 27
c. Reactor Vessel Steam Dome Pressure - Low	≤ 27
d. Manual Initiation	NA
2. LOW PRESSURE COOLANT INJECTION MODE OF RHR SYSTEM	
a. Reactor Vessel Water Level - Low Low Low, Level 1	≤ 40
b. Drywell Pressure - High	≤ 40
c. Reactor Vessel Steam Dome Pressure - Low	
1) System Initiation	≤ 40
2) Recirculation Discharge Valve Closure	≤ 40
d. Manual Initiation	NA
3. HIGH PRESSURE COOLANT INJECTION SYSTEM	
a. Reactor Vessel Water Level - Low Low, Level 2	≤ 30
b. Drywell Pressure - High	≤ 30
c. Condensate Storage Tank Level - Low	NA
d. Reactor Vessel Water Level - High, Level 8	NA
e. Suppression Pool Water Level - High	NA
f. Manual Initiation	NA
4. AUTOMATIC DEPRESSURIZATION SYSTEM	
a. Reactor Vessel Water Level - Low Low Low, Level 1	NA
b. Drywell Pressure - High	NA
c. ADS Timer	NA
d. Core Spray Pump Discharge Pressure - High	NA
e. RHR LPCI Mode Pump Discharge Pressure - High	NA
f. Reactor Vessel Water Level - Low, Level 3	NA
g. ADS Drywell Pressure Bypass Timer	NA
h. Manual Inhibit	NA
i. Manual Initiation	NA
5. LOSS OF POWER	
a. 4.16 kV ESS Bus Undervoltage (Loss of Voltage < 20%)	NA
b. 4.16 kV ESS Bus Undervoltage (Degraded Voltage < 65%)	NA
c. 4.16 kV ESS Bus Undervoltage (Degraded Voltage < 93%)	NA
d. 480V ESS Bus 0B565 (Degraded Voltage < 65%)	NA
e. 480V ESS Bus 0B565 (Degraded Voltage < 92%)	NA

TABLE 4.3.3.1-1

EMERGENCY CORE COOLING SYSTEM ACTUATION INSTRUMENTATION SURVEILLANCE REQUIREMENTS

TRIP FUNCTION	CHANNEL CHECK	CHANNEL FUNCTIONAL TEST	CHANNEL CALIBRATION	OPERATIONAL CONDITIONS FOR WHICH SURVEILLANCE REQUIRED
1. CORE SPRAY SYSTEM				
a. Reactor Vessel Water Level - Low Low Low, Level 1	S	M	R	1, 2, 3, 4*, 5*
b. Drywell Pressure - High	NA	M	Q	1, 2, 3
c. Reactor Vessel Steam Dome Pressure - Low	NA	M	Q	1, 2, 3, 4*, 5*
d. Manual Initiation	NA	R	NA	1, 2, 3, 4*, 5*
2. LOW PRESSURE COOLANT INJECTION MODE OF RHR SYSTEM				
a. Reactor Vessel Water Level - Low Low Low, Level 1	S	M	R	1, 2, 3, 4*, 5*
b. Drywell Pressure - High	NA	M	Q	1, 2, 3
c. Reactor Vessel Steam Dome Pressure - Low				
1) System Initiation	NA	M	Q	1, 2, 3, 4*, 5*
2) Recirculation Discharge Valve Closure	NA	M	Q	1, 2, 3, 4*, 5*
d. Manual Initiation	NA	R	NA	1, 2, 3, 4*, 5*
3. HIGH PRESSURE COOLANT INJECTION SYSTEM#				
a. Reactor Vessel Water Level - Low Low, Level 2	S	M	R	1, 2, 3
b. Drywell Pressure - High	NA	M	Q	1, 2, 3
c. Condensate Storage Tank Level - Low	NA	M	Q	1, 2, 3
d. Suppression Pool Water Level - High	NA	M	Q	1, 2, 3
e. Reactor Vessel Water Level - High, Level 8	NA	M	Q	1, 2, 3
f Manual Initiation	NA		NA	1, 2, 3

TABLE 4.3.3.1-1 (Continued)

EMERGENCY CORE COOLING SYSTEM ACTUATION INSTRUMENTATION SURVEILLANCE REQUIREMENTS

TRIP FUNCTION	CHANNEL CHECK	CHANNEL FUNCTIONAL TEST	CHANNEL CALIBRATION	OPERATIONAL CONDITIONS FOR WHICH SURVEILLANCE REQUIRED
4. AUTOMATIC DEPRESSURIZATON SYSTEM ##				
a. Reactor Vessel Water Level - Low Low Low, Level 1	S	M	R	1, 2, 3
b. Drywell Pressure - High	NA	M	Q	1, 2, 3
c. ADS Timer	NA	M	Q	1, 2, 3
d. Core Spray Pump Discharge Pressure - High	NA	M	Q	1, 2, 3
e. RHR LPCI Mode Pump Discharge Pressure - High	NA	M	Q	1, 2, 3
f. Reactor Vessel Water Level - Low, Level 3	S	M	R	1, 2, 3
g. ADS Drywell Pressure Bypass Timer	NA	M	Q	1, 2, 3
h. Manual Inhibit	NA	R	NA	1, 2, 3
i. Manual Initiation	NA	R	NA	1, 2, 3
5. LOSS OF POWER				
a. 4.16 kv ESS Bus Undervoltage (Loss of Voltage)	NA	NA	R	1, 2, 3, 4**, 5**
b. 4.16 kv ESS Bus Undervoltage (Degraded Voltage)	S	M	R	1, 2, 3, 4**, 5**
c. 4.16 kv ESS Bus Undervoltage (Degraded Voltage)	S	M	R	1, 2, 3, 4**, 5**
d. 480V ESS Bus 0B565 Undervoltage (Degraded Voltage < 65%)###	S	M	R	1, 2, 3, 4**, 5**
e. 480V ESS Bus 0B565 Undervoltage (Degraded Voltage < 92%)###	S	M	R	1, 2, 3, 4**, 5**

* When the system is required to be OPERABLE, after being manually realigned, as applicable, per Specification 3.5.2.
** Required OPERABLE when ESF equipment is required to be OPERABLE.
\# Not required to be OPERABLE when reactor steam dome pressure is less than or equal to 150 psig.
Not required to be OPERABLE when reactor steam dome pressure is less than or equal to 100 psig.
Required to be OPERABLE only when Diesel Generator E is either aligned to the Class 1E system or not aligned to the Class 1E system but operating on the Test Facility.

3/4.3.4 RECIRCULATION PUMP TRIP ACTUATION INSTRUMENTATION

ATWS RECIRCULATION PUMP TRIP SYSTEM INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.4.1 The anticipated transient without scram recirculation pump trip (ATWS-RPT) system instrumentation channels shown in Table 3.3.4.1-1 shall be OPERABLE with their trip setpoints set consistent with values shown in the Trip Setpoint column of Table 3.3.4.1-2.

APPLICABILITY: OPERATIONAL CONDITION 1.

ACTION:

a. With an ATWS recirculation pump trip system instrumentation channel trip setpoint less conservative than the value shown in the Allowable Values column of Table 3.3.4.1-2, declare the channel inoperable until the channel is restored to OPERABLE status with its trip setpoint adjusted consistent with the Trip Setpoint value.

b. With the number of OPERABLE channels one less than required by the Minimum OPERABLE channels per Trip System requirement for one or both trip systems, place the inoperable channel(s) in the tripped condition within one hour.

c. With the number of OPERABLE channels two or more less than required by the Minimum OPERABLE Channels per Trip System requirement for one trip system and:

   1. If the inoperable channels consist of one reactor vessel water level channel and one reactor vessel pressure channel, place both inoperable channels in the tripped condition within one hour.

   2. If the inoperable channels include two reactor vessel water level channels or two reactor vessel pressure channels, declare the trip system inoperable.

d. With one trip system inoperable, restore the inoperable trip system to OPERABLE status within 72 hours or be in at least STARTUP within the next 6 hours.

e. With both trip systems inoperable, restore at least one trip system to OPERABLE status within one hour or be in at least STARTUP within the next 6 hours.

SURVEILLANCE REQUIREMENTS

4.3.4.1.1 Each ATWS recirculation pump instrumentation channel shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK, CHANNEL FUNCTIONAL TEST and CHANNEL CALIBRATION operations at the frequencies shown in Table 4.3.4.1-1.

4.3.4.1.2 LOGIC SYSTEM FUNCTIONAL TESTS and simulated automatic operation of all channels shall be performed at least once per 18 months.

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

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. 94
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 December 8, 1992, 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. 94 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 upon completion of the installation of the undervoltage scheme currently scheduled to be installed during Diesel Generator E outage in April 1993.

FOR THE NUCLEAR REGULATORY COMMISSION

Charles L. Miller

Charles L. Miller, 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: March 29, 1993

ATTACHMENT TO LICENSE AMENDMENT NO. 94

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. The overleaf pages are provided to maintain document completeness.*

REMOVE	INSERT
3/4 3-29	3/4 3-29
3/4 3-29a	3/4 3-29a
3/4 3-30	3/4 3-30
-	-
3/4 3-31	3/4 3-31*
3/4 3-32	3/4 3-32
3/4 3-33	3/4 3-33
3/4 3-34	3/4 3-34*
3/4 3-35	3/4 3-35
3/4 3-36	3/4 3-36*

TABLE 3.3.3-1 (Continued)

EMERGENCY CORE COOLING SYSTEM ACTUATION INSTRUMENTATION

TRIP FUNCTION	MINIMUM OPERABLE CHANNELS PER TRIP SYSTEM	APPLICABLE OPERATIONAL CONDITIONS	ACTION
4. AUTOMATIC DEPRESSURIZATION SYSTEM ##			
a. Reactor Vessel Water Level - Low Low Low, Level 1	2(f)	1, 2, 3	30
b. Drywell Pressure - High	2(f)	1, 2, 3	30
c. ADS Timer	1(f)	1, 2, 3	31
d. Core Spray Pump Discharge Pressure - High (Permissive)	2(d)(f)	1, 2, 3	31
e. RHR LPCI Mode Pump Discharge Pressure - High (Permissive)	2(d)(e)(f)	1, 2, 3	31
f. Reactor Vessel Water Level - Low, Level 3 (Permissive)	1(f)	1, 2, 3	31
g. ADS Drywell Pressure Bypass Timer	2(f)	1, 2, 3	31
h. Manual Inhibit	1	1, 2, 3	33
i. Manual Initiation	1/valve	1, 2, 3	33

	TOTAL NO. OF CHANNELS	CHANNELS TO TRIP	MINIMUM CHANNELS OPERABLE	APPLICABLE OPERATIONAL CONDITIONS	ACTION
5. LOSS OF POWER					
a. 4.16 kv ESS Bus Under-voltage (Loss of Voltage, < 20%)	1/bus	1/bus	1/bus	1, 2, 3, 4**, 5**	35
b. 4.16 kv ESS Bus Under-voltage (Degraded Voltage, < 65%)	2/bus	2/bus	2/bus	1, 2, 3, 4**, 5**	36
c. 4.16 kv ESS Bus Under-voltage (Degraded Voltage, < 93%)	2/bus	2/bus	2/bus	1, 2, 3, 4**, 5**	36
d. 480V ESS Bus 0B565 Under-voltage (Degraded Voltage, < 65%) ###	2/bus	1/bus	2/bus	1, 2, 3, 4**, 5**	36
e. 480V ESS Bus 0B565 Under-voltage (Degraded Voltage, < 92%) ###	2/bus	2/bus	2/bus	1, 2, 3, 4**, 5**	36

See footnotes on next page.

TABLE 3.3.3-1 (Continued)

EMERGENCY CORE COOLING SYSTEM ACTUATION INSTRUMENTATION

(a) A channel may be placed in an inoperable status for up to 2 hours for required surveillance without placing the trip system in the tripped condition provided at least one OPERABLE channel in the same trip system is monitoring that parameter.

(b) One trip system. Provides signal to HPCI pump suction valves only.

(c) Two out of two logic.

(d) Either 4d or 4e must be satisfied. The ACTION is required to be taken only if neither is satisfied. A channel is not OPERABLE unless its associated pump is OPERABLE per Specification 3.5.1.

(e) Within an ADS Trip System there are two logic subsystems, each of which contains an overall pump permissive. At least one channel associated with each of these overall pump permissives shall be OPERABLE.

(f) A channel may be placed in an inoperable status for up to 2 hours for required surveillance testing provided that all channels in the other trip system are OPERABLE.

* When the system is required to be OPERABLE per Specification 3.5.2

\# Not required to be OPERABLE when reactor steam dome pressure is less than or equal to 150 psig.

** Required when ESF equipment is required to be OPERABLE.

\#\# Not required to be OPERABLE when reactor steam dome pressure is less than or equal to 100 psig.

\#\#\# Required to be OPERABLE only when Diesel Generator E is either aligned to the Class 1E system or not aligned to the Class 1E system but operating on the Test Facility.

TABLE 3.3.3-1 (Continued)

EMERGENCY CORE COOLING SYSTEM ACTUATION INSTRUMENTATION

ACTION STATEMENTS

ACTION 30 - With the number of OPERABLE channels less than required by the Minimum OPERABLE Channels per Trip System requirement:

a. For one trip system, place the inoperable trip system in the tripped condition within 1 hour or declare the associated ECCS inoperable.

b. For both trip systems, declare the associated ECCS inoperable.

ACTION 31 - With the number of OPERABLE channels less than required by the Minimum OPERABLE Channels per Trip System requirement, declare the associated ECCS inoperable.

ACTION 32 - With the number of OPERABLE channels less than required by the Minimum OPERABLE Channels per Trip System requirement, place the inoperable channel in the tripped condition within 1 hour.

ACTION 33 - With the number of OPERABLE channels less than required by the Minimum OPERABLE Channels per Trip System requirement, restore the inoperable channel to OPERABLE status within 8 hours or declare the associated ECCS inoperable.

ACTION 34 - With the number of OPERABLE channels less than required by the Minimum OPERABLE Channels per Trip System requirement, place at least one inoperable channel in the tripped condition within 1 hour or declare the HPCI system inoperable.

ACTION 35 - With the number of OPERABLE channels less than the Total Number of Channels, declare the associated emergency diesel generator inoperable and take the ACTION required by Specification 3.8.1.1 or 3.8.1.2, as appropriate.

ACTION 36 - a) With the number of OPERABLE channels one less than the Total Number of Channels, place the inoperable channel in the tripped condition within 1 hour; operation may then continue until performance of the next required CHANNEL FUNCTIONAL TEST.

b) With both channels inoperable on a 4.16Kv ESS bus, declare the associated 4.16Kv ESS bus inoperable, and take the ACTION required by Specification 3.8.3.1 or 3.8.3.2 as appropriate.

c) With both channels inoperable on the 480V ESS Bus 0B565, declare the 480V ESS Bus 0B565 not energized;

(1) For the Diesel Generator E aligned to the Class 1E system, take the ACTION required by Specification 3.8.3.1 or 3.8.3.2 as appropriate

(2) For the Diesel Generator E not aligned to the Class 1E system, declare the Diesel Generator E 125 Volt DC distribution system load group not energized and take the ACTION required by Specification 3.8.3.1 or 3.8.3.2 as appropriate.

EMERGENCY CORE COOLING SYSTEM ACTUATION INSTRUMENTATION SETPOINTS

TRIP FUNCTION	TRIP SETPOINT	ALLOWABLE VALUE
1. CORE SPRAY SYSTEM		
a. Reactor Vessel Water Level - Low Low Low, Level 1	≥ -129 inches*	≥ -136 inches
b. Drywell Pressure - High	≤ 1.72 psig	≤ 1.88 psig
c. Reactor Vessel Steam Dome Pressure - Low	≥ 436 psig, decreasing	≥ 416 psig, decreasing
d. Manual Initiation	NA	NA
2. LOW PRESSURE COOLANT INJECTION MODE OF RHR SYSTEM		
a. Reactor Vessel Water Level - Low Low Low, Level 1	≥ -129 inches*	≥ -136 inches
b. Drywell Pressure - High	≤ 1.72 psig	≤ 1.88 psig
c. Reactor Vessel Steam Dome Pressure - Low		
1) System Initiation	≥ 436 psig, decreasing	≥ 416 psig, decreasing
2) Recirculation Discharge Valve Closure	≥ 236 psig, decreasing	≥ 216 psig, decreasing
d. Manual Initiation	NA	NA
3. HIGH PRESSURE COOLANT INJECTION SYSTEM		
a. Reactor Vessel Water Level - Low Low, Level 2	≥ -38 inches*	≥ -45 inches
b. Drywell Pressure - High	≤ 1.72 psig	≤ 1.88 psig
c. Condensate Storage Tank Level - Low	≥ 36.0 inches above tank bottom	≥ 36.0 inches above tank bottom
d. Reactor Vessel Water Level - High, Level 8	≤ 54 inches	≤ 55.5 inches
e. Suppression Pool Water Level - High	≤ 23 feet 9 inches	≤ 24 feet
f. Manual Initiation	NA	NA

TABLE 3.3.3-2 (Continued)

EMERGENCY CORE COOLING SYSTEM ACTUATION INSTRUMENTATION SETPOINTS

TRIP FUNCTION	TRIP SETPOINT	ALLOWABLE VALUE
4. AUTOMATIC DEPRESSURIZATION SYSTEM		
a. Reactor Vessel Water Level - Low Low Low, Level 1	≥ -129 inches*	≥ -136 inches
b. Drywell Pressure - High	≤ 1.72 psig	≤ 1.88 psig
c. ADS Timer	≤ 102 seconds	≤ 114 seconds
d. Core Spray Pump Discharge Pressure - High	145 ± 10 psig	145 ± 20 psig
e. RHR LPCI Mode Pump Discharge Pressure - High	125 ± 4 psig	125 ± 10 psig
f. Reactor Vessel Water Level - Low, Level 3	≥ 13 inches	≥ 11.5 inches
g. ADS Drywell Pressure Bypass Timer	≤ 420 seconds	≤ 450 seconds
h. Manual Inhibit	NA	NA
i. Manual Initiation	NA	NA
5. LOSS OF POWER		
a. 4.16 kv ESS Bus Undervoltage (Loss of Voltage, < 20%)	a. 4.16 kv Basis - 840 ± 16.8 volts b. 120 v Basis - 24 ± 0.48 volts c. 0.5 ± 0.1 second time delay	840 ± 59.6 volts 24 ± 1.7 volts 0.5 ± 0.1 second time delay
b. 4.16 kv ESS Bus Undervoltage (Degraded Voltage, < 65%)	a. 4.16 kv Basis - 2695 ± 53.9 volts b. 120 v Basis - 77 ± 1.54 volts c. 3.0 ± 0.3 second time delay	2695 ± 191.3 volts 77 ± 5.5 volts 3 ± 0.3 second time delay
c. 4.16 kv ESS Bus Undervoltage (Degraded Voltage, < 93%)	a. 4.16 kv Basis - 3868 ± 38.7 volts b. 120 v Basis - 110.5 ± 1.10 volts c. 5 minute ± 30 second time delay without LOCA 10 ± 1.0 second time delay with LOCA	3868 + 67, - 67 volts 110.5 + 1.91 - 1.91 volts 5 minutes ± 30 second time delay without LOCA 10 ± 1.0 second time delay with LOCA
d. 480V ESS Bus 0B565 Undervoltage (Degraded Voltage, < 65%)	a. 480V Basis - 312 ± 3.1 volts b. 120V Basis - 78 ± .8 volts c. 5 ± .5 second time delay	312 + 5.4, - 5.4 volts 78 + 1.35, - 1.35 volts 5 ± .5 second time delay
e. 480V ESS Bus 0B565 Undervoltage (Degraded Voltage, < 92%)	a. 480V Basis - 442 ± 4.4 volts b. 120V Basis - 110.4 ± 1.10 volts c. 10 ± 1 second time delay	442 + 7.6, - 7.6 volts 110.4 + 1.91, -1.91 volts 10 ± 1 second time delay

* See Bases Figure B 3/4 3-1.

TABLE 3.3.3-3

EMERGENCY CORE COOLING SYSTEM RESPONSE TIMES

TRIP FUNCTION	RESPONSE TIME (seconds)
1. CORE SPRAY SYSTEM	
a. Reactor Vessel Water Level - Low Low Low, Level 1	≤ 27
b. Drywell Pressure - High	≤ 27
c. Reactor Vessel Steam Dome Pressure - Low	≤ 27
d. Manual Initiation	NA
2. LOW PRESSURE COOLANT INJECTION MODE OF RHR SYSTEM	
a. Reactor Vessel Water Level - Low Low Low, Level 1	≤ 40
b. Drywell Pressure - High	≤ 40
c. Reactor Vessel Steam Dome Pressure - Low	
1) System Initiation	≤ 40
2) Recirculation Discharge Valve Closure	≤ 40
d. Manual Initiation	NA
3. HIGH PRESSURE COOLANT INJECTION SYSTEM	
a. Reactor Vessel Water Level - Low Low, Level 2	≤ 30
b. Drywell Pressure - High	≤ 30
c. Condensate Storage Tank Level - Low	NA
d. Reactor Vessel Water Level - High, Level 8	NA
e. Suppression Pool Water Level - High	NA
f. Manual Initiation	NA
4. AUTOMATIC DEPRESSURIZATION SYSTEM	
a. Reactor Vessel Water Level - Low Low Low, Level 1	NA
b. Drywell Pressure - High	NA
c. ADS Timer	NA
d. Core Spray Pump Discharge Pressure - High	NA
e. RHR LPCI Mode Pump Discharge Pressure - High	NA
f. Reactor Vessel Water Level - Low, Level 3	NA
g. ADS Drywell Pressure Bypass Timer	NA
h. Manual Inhibit	NA
i. Manual Initiation	NA
5. LOSS OF POWER	
a. 4.16 kV ESS Bus Undervoltage (Loss of Voltage < 20%)	NA
b. 4.16 kV ESS Bus Undervoltage (Degraded Voltage < 65%)	NA
c. 4.16 kV ESS Bus Undervoltage (Degraded Voltage < 93%)	NA
d. 480V ESS Bus 0B565 (Degraded Voltage < 65%)	NA
e. 480V ESS Bus 0B565 (Degraded Voltage < 92%)	NA

TABLE 4.3.3.1-1

EMERGENCY CORE COOLING SYSTEM ACTUATION INSTRUMENTATION SURVEILLANCE REQUIREMENTS

TRIP FUNCTION	CHANNEL CHECK	CHANNEL FUNCTIONAL TEST	CHANNEL CALIBRATION	OPERATIONAL CONDITIONS FOR WHICH SURVEILLANCE REQUIRED
1. CORE SPRAY SYSTEM				
a. Reactor Vessel Water Level - Low Low Low, Level 1	S	M	R	1, 2, 3, 4*, 5*
b. Drywell Pressure - High	NA	M	Q	1, 2, 3
c. Reactor Vessel Steam Dome Pressure - Low	NA	M	Q	1, 2, 3, 4*, 5*
d. Manual Initiation	NA	R	NA	1, 2, 3, 4*, 5*
2. LOW PRESSURE COOLANT INJECTION MODE OF RHR SYSTEM				
a. Reactor Vessel Water Level - Low Low Low, Level 1	S	M	R	1, 2, 3, 4*, 5*
b. Drywell Pressure - High	NA	M	Q	1, 2, 3
c. Reactor Vessel Steam Dome Pressure - Low				
1) System Initiation	NA	M	Q	1, 2, 3, 4*, 5*
2) Recirculation Discharge Valve Closure	NA	M	Q	1, 2, 3, 4*, 5*
d. Manual Initiation	NA	R	NA	1, 2, 3, 4*, 5*
3. HIGH PRESSURE COOLANT INJECTION SYSTEM#				
a. Reactor Vessel Water Level - Low Low, Level 2	S	M	R	1, 2, 3
b. Drywell Pressure - High	NA	M	Q	1, 2, 3
c. Condensate Storage Tank Level - Low	NA	M	Q	1, 2, 3
d. Suppression Pool Water Level - High	NA	M	Q	1, 2, 3
e. Reactor Vessel Water Level - High, Level 8	NA	M	Q	1, 2, 3
f. Manual Initiation	NA	R	NA	1, 2, 3

TABLE 4.3.3.1-1 (Continued)

EMERGENCY CORE COOLING SYSTEM ACTUATION INSTRUMENTATION SURVEILLANCE REQUIREMENTS

TRIP FUNCTION	CHANNEL CHECK	CHANNEL FUNCTIONAL TEST	CHANNEL CALIBRATION	OPERATIONAL CONDITIONS FOR WHICH SURVEILLANCE REQUIRED
4. AUTOMATIC DEPRESSURIZATON SYSTEM ##				
a. Reactor Vessel Water Level - Low Low Low, Level 1	S	M	R	1, 2, 3
b. Drywell Pressure - High	NA	M	Q	1, 2, 3
c. ADS Timer	NA	M	Q	1, 2, 3
d. Core Spray Pump Discharge Pressure - High	NA	M	Q	1, 2, 3
e. RHR LPCI Mode Pump Discharge Pressure - High	NA	M	Q	1, 2, 3
f. Reactor Vessel Water Level - Low, Level 3	S	M	R	1, 2, 3
g. ADS Drywell Pressure Bypass Timer	NA	M	Q	1, 2, 3
h. Manual Inhibit	NA	R	NA	1, 2, 3
i. Manual Initiation	NA	R	NA	1, 2, 3
5. LOSS OF POWER				
a. 4.16 kv ESS Bus Undervoltage (Loss of Voltage)	NA	NA	R	1, 2, 3, 4**, 5**
b. 4.16 kv ESS Bus Undervoltage (Degraded Voltage)	S	M	R	1, 2, 3, 4**, 5**
c. 4.16 kv ESS Bus Undervoltage (Degraded Voltage)	S	M	R	1, 2, 3, 4**, 5**
d. 480V ESS Bus 0B565 Undervoltage (Degraded Voltage < 65%)###	S	M	R	1, 2, 3, 4**, 5**
e. 480V ESS Bus 0B565 Undervoltage (Degraded Voltage < 92%)###	S	M	R	1, 2, 3, 4**, 5**

* When the system is required to be OPERABLE, after being manually realigned, as applicable, per Specification 3.5.2.
** Required OPERABLE when ESF equipment is required to be OPERABLE.
# Not required to be OPERABLE when reactor steam dome pressure is less than or equal to 150 psig.
Not required to be OPERABLE when reactor steam dome pressure is less than or equal to 100 psig.
Required to be OPERABLE only when Diesel Generator E is either aligned to the Class 1E system or not aligned to the Class 1E system but operating on the Test Facility.

3/4.3.4 RECIRCULATION PUMP TRIP ACTUATION INSTRUMENTATION

ATWS RECIRCULATION PUMP TRIP SYSTEM INSTRUMENTATION

LIMITING CONDITION FOR OPERATION

3.3.4.1 The anticipated transient without scram recirculation pump trip (ATWS-RPT) system instrumentation channels shown in Table 3.3.4.1-1 shall be OPERABLE with their trip setpoints set consistent with values shown in the Trip Setpoint column of Table 3.3.4.1-2.

APPLICABILITY: OPERATIONAL CONDITION 1.

ACTION:

a. With an ATWS recirculation pump trip system instrumentation channel trip setpoint less conservative than the value shown in the Allowable Values column of Table 3.3.4.1-2, declare the channel inoperable until the channel is restored to OPERABLE status with its trip setpoint adjusted consistent with the Trip Setpoint value.

b. With the number of OPERABLE channels one less than required by the Minimum OPERABLE channels per Trip System requirement for one or both trip systems, place the inoperable channel(s) in the tripped condition within one hour.

c. With the number of OPERABLE channels two or more less than required by the Minimum OPERABLE Channels per Trip System requirement for one trip system and:

   1. If the inoperable channels consist of one reactor vessel water level channel and one reactor vessel pressure channel, place both inoperable channels in the tripped condition within one hour.

   2. If the inoperable channels include two reactor vessel water level channels or two reactor vessel pressure channels, declare the trip system inoperable.

d. With one trip system inoperable, restore the inoperable trip system to OPERABLE status within 72 hours or be in at least STARTUP within the next 6 hours.

e. With both trip systems inoperable, restore at least one trip system to OPERABLE status within one hour or be in at least STARTUP within the next 6 hours.

SURVEILLANCE REQUIREMENTS

4.3.4.1.1 Each ATWS recirculation pump instrumentation channel shall be demonstrated OPERABLE by the performance of the CHANNEL CHECK, CHANNEL FUNCTIONAL TEST and CHANNEL CALIBRATION operations at the frequencies shown in Table 4.3.4.1-1.

4.3.4.1.2 LOGIC SYSTEM FUNCTIONAL TESTS and simulated automatic operation of all channels shall be performed at least once per 18 months.

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

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 124 TO FACILITY OPERATING LICENSE NO. NPF-14

AMENDMENT NO. 94 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 December 8, 1992, the Pennsylvania Power and Light Company and Allegheny Electric Cooperative, Inc. (the licensees) submitted a request for changes to the Susquehanna Steam Electric Station (SSES), Units 1 and 2, Technical Specifications (TS). The requested changes would reflect a modification which Pennsylvania Power and Light Company (PP&L) is proposing to install in April 1993 to add an undervoltage scheme to the Diesel Generator E auxiliaries.

2.0 BACKGROUND

SSES has five diesel generators, designated A, B, C, D, and E. The standby power supply for SSES is described in Section 8.3.1.4 of the Final Safety Analysis Report (FSAR). The diesel generators are shared by the two units. Diesel generators A, B, C, and D are normally assigned to the safety-related load groups. The Diesel Generator E is a diesel generator which can be substituted for any of the Diesel Generators, A, B, C, or D, without violating independency of the redundant Class 1 E load groups. All of the auxiliaries required to support the operation of the Diesel Generator E are supplied from the Class 1E 480 V Motor Control Center (MCC) OB565. MCC OB565 is normally supplied offsite power from Startup Bus 20 through the 13.2kV-480V transformer OX556 and an automatic transfer switch OTAS556. An alternate offsite supply is from Startup Bus 10 through 13.2kV-480V transformer OX555 and switch OTAS556. The non-Class 1E Automatic Transfer Switch OATS556 transfers to the alternate offsite supply when the normal supply voltage is below 70 percent (336 VAC) for 3.0 seconds provided the alternate supply voltage is above 87.1 percent (418 VAC). If the transfer switch transfers to the alternate power supply, the switch automatically transfers back to the normal power supply if the normal supply voltage is above 87.1 percent for 5 minutes. All of the controls and voltage sensing for the automatic transfer switch are non-Class 1E.

In addition to the offsite power supplies from the automatic transfer switch OATS556, MCC OB565 can be supplied power from the Diesel Generator E 4.16kV-480V transformer OX565 provided Diesel Generator E is operating. If the voltage on the MCC OB565 bus is sustained below 30 percent and the automatic transfer switch OATS556 operation has not corrected the bus voltage above 30 percent, the undervoltage protection scheme on the bus OB565 initiates a bus transfer after 5 seconds from the offsite power source of the transfer switch OATS556 to the onsite power source of the transformer OX565 if the Diesel Generator E is operating. If the Diesel Generator E is not operating, no transfer occurs.

The Diesel Generator E has two modes of operation. When aligned for standby automatic operation the Diesel Generator E is substituted for one of the other diesel generators and performs the same functions as the substituted diesel generator. When not aligned, the Diesel Generator E is operated through the Test Facility Transformer OX207 in order to perform surveillance testing.

During preparation for an Electrical Distribution System Functional Inspection, the licensee discovered that the undervoltage protection scheme on the Diesel Generator E MCC OB565 bus does not transfer the MCC from the offsite power source to the Diesel Generator E power source for single phasing of the offsite power source or sustained degraded bus voltage below 90 percent and above 30 percent when the Diesel Generator E power source is available.

3.0 EVALUATION

The proposed modification is to install a new undervoltage protection scheme on the Diesel Generator E MCC OB565 bus as follows:

1. Replace the 30 percent undervoltage relays (ITE Type 27D) on MCC OB565 bus with similar degraded voltage relays (ABB Type 27N) having new setpoints of 65 percent voltage and time delay of 5 seconds.

2. Add degraded voltage relays (ABB Type 27N) on MCC OB565 bus having relay setpoints of 92 percent voltage and time delay of 7 seconds.

3. Add an alarm circuit from the new 92 percent degraded voltage relays to the existing bus undervoltage alarm circuit for MCC OB565.

The proposed changes to the TSs would add additional requirements to Tables 3.3.3-1, 3.3.3-2, 3.3.3-3, and 4.3.3-1 with respect to the 480V degraded voltage relays.

The operability of the undervoltage protection scheme on the MCC OB565 bus is presently not governed explicitly by either of the Unit 1 or Unit 2 TSs. The operability of the Class 1E 4.16 kV bus undervoltage protection scheme is governed by TS Section 3/4.3.3, entitled Emergency Core Cooling Actuation Instrumentation, with Tables 3.3.3-1, 3.3.3-2, and 3.3.3-3 establishing the required number of operable channels, the setpoints and response times. Since MCC OB565 is required to support operation of the Diesel Generator E when either aligned for standby automatic operation or not aligned but operating on

the test facility, the bases which govern operability of the Class 1E 4.16kV bus undervoltage protection is also applicable to the MCC OB565 bus degraded voltage protection. The bases for operability of the Class 1E 4.16 kV bus undervoltage protection is to ensure that the Emergency Core Cooling System Actuation Instrumentation can provide the initiating actions to mitigate the consequences of accidents that are beyond the ability of the operator to control. Tables 3.3.3-1, 3.3.3-2, and 3.3.3-3 form the bases to ensure the effectiveness of the instrumentation used to initiate the actions.

The proposed changes add to Section 3/4.3.3 the required number of operable channels and the conditions for operability (Table 3.3.3-1), the setpoints (Table 3.3.3-2) and the response times (Table 3.3.3-3) of the new degraded voltage protection scheme on the MCC OB565 bus.

The installation of a new undervoltage protection scheme on the Diesel Generator E MCC OB565 bus has no effect on the Diesel Generator E start time in response to a Loss of Offsite Power (LOOP), a Loss of Coolant Accident (LOCA), or a LOCA/LOOP condition. All of the components and their controls which initiate the Diesel Generator E start and control operation of the Diesel Generator are supplied from the Diesel Generator E 125 VDC Battery OD595 through Distribution Panel OD597. The loads supplied from the MCC OB565 bus are required to support the operation of the diesel generator E.

The proposed action does not change the safety function of any of the affected components. The addition of a new degraded voltage protection scheme to the Diesel Generator E MCC OB565 bus is to ensure that diesel generator E auxiliaries can maintain the diesel generator in an operable status when aligned for standby automatic operation. When the Diesel Generator E is not operating, the undervoltage protection scheme notifies the main control room that an unacceptable voltage condition occurred on the bus. When the Diesel Generator E is operating, the scheme automatically initiates a transfer scheme to correct the voltage condition.

We have reviewed the licensee's analyses and evaluation of the proposed 480V degraded voltage scheme and find it acceptable. We have also reviewed the proposed revisions to the TSs to reflect the modifications and find them acceptable.

On page 3/4 3-32 for both units, the word "vessel" was added to line 4.a. with the licensee's concurrence to read "reactor vessel water level" so as to be consistent with wording in other sections of the TSs. This is solely a clarifying administrative addition and does not change any requirements in the TSs. Likewise, it does not change the initial proposed no significant hazards consideration determination.

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 (58 FR 8775). 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.

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.

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