Docket Nos.: 50-387
and 50-388

FEB 0 8 1985

Mr. Norman W. Curtis
Vice President
Engineering and Construction - Nuclear
Pennsylvania Power and Light Company
2 North Ninth Street
Allentwon, Pennsylvania 18101

Dear Mr. Curtis:

SUBJECT: AMENDMENT NOS. 31 AND 7 TO FACILITY OPERATING LICENSE NOS. NPF-14 AND NPF-22, SUSQUEHANNA STEAM ELECTRIC STATION, UNITS 1 AND 2 RESPECTIVELY

The Nuclear Regulatory Commission has issued the enclosed Amendment Nos. 31 and 7 to Facility Operating License Nos. NPF-14 and NPF-22 for the Susquehanna Steam Electric Station, Units 1 and 2 respectively. These amendments are in response to your letter dated December 6, 1984. These amendments revise the Susquehanna Unit 1 and Unit 2 Technical Specifications to allow common DC 125-volt battery loads to be supported by the Unit 1 or Unit 2 batteries. Previously, only Unit 1, 125-volt batteries were able to support these common loads.

A copy of the related safety evaluation supporting Amendment Nos. 31 and 7 to Facility Operating License Nos. NPF-14 and NPF-22 is enclosed.

Sincerely,

Original signed by:

A. Schwencer, Chief
Licensing Branch No. 2
Division of Licensing

Enclosures:
1. Amendment No. 31 to NPF-14
2. Amendment No. 7 to NPF-22
3. Safety Evaluation

cc w/enclosures:
See next page

Don't issue until 2/8 and come back to me because any comment or petition

JS 2/4

DL:LB#2	DL:LB#2	DL:LB#2	OELD	~~AD/L:DL~~
EHylton	MCampagnone:pob	ASchwencer	J Goldberg	TNovak
1/15/85	1/24/85	1/24/85	1/24/85	1/24/85

subject to clearing with SECY open comment period expires 2/7/85

8503080005 850208
PDR ADOCK 05000387
P PDR

3. This amendment is effective as of the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

Original Signed By:

A. Schwencer, Chief
Licensing Branch No. 2
Division of Licensing

Enclosure:
Changes to the Technical
Specifications

Date of Issuance: FEB 08 1985

DL:LB#2	DL:LB#2	DL:LB#2	OELD	DL:AD/L
EHylton	MJCampagnone:pob	ASchwencer	J. Goldberg	TNovak
1/24/85	1/24/85	1/24/85	1/29/85	1/26/85

subject to checking with SECY after comment period expires on 2/7/85

3. This amendment is effective as of the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

Original signed by:

A. Schwencer, Chief
Licensing Branch No. 2
Division of Licensing

Enclosure:
Changes to the Technical
Specifications

Date of Issuance: FEB 08 1985

DL:LB#2	DL:LB#2	DL:LB#2	OELD	DL:AD/L
EHylton	MJCampagnone:pob	ASchwencer	J. Goldberg	TNovak
1/29/85	1/28/85	1/24/85	1/29/85	1/6/85

subject to clearing w/ SECY after comment period expires 1/7/85

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

FEB 08 1985

Docket Nos.: 50-387
and 50-388

Mr. Norman W. Curtis
Vice President
Engineering and Construction - Nuclear
Pennsylvania Power and Light Company
2 North Ninth Street
Allentwon, Pennsylvania 18101

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A copy of the related safety evaluation supporting Amendment Nos. 31 and 7 to Facility Operating License Nos. NPF-14 and NPF-22 is enclosed.

Sincerely,

A. Schwencer

A. Schwencer, Chief
Licensing Branch No. 2
Division of Licensing

Enclosures:
1. Amendment No. 31 to NPF-14
2. Amendment No. 7 to NPF-22
3. Safety Evaluation

cc w/enclosures:
See next page

Susquehanna

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Susquehanna

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Attn: Coordinator, State Clearinghouse
P O. Box 1323
Harrisburg, Pennsylvania 17120

Mr. Bruce Thomas, President
Board of Supervisors
R. D. #1
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U. S. Environmental Protection Agency
Attn: EIS Coordinator
Region III Office
Curtis Building
6th and Walnut Streets
Philadelphia, Pennsylvania 19106

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. 31
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 6, 1984, 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. 31 , and the Environmental Protection Plan contained in Appendix B, are hereby incorporated in the license. The licensee shall operate the facilities in accordance with the Technical Specifications and the Environmental Protection Plan.

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PDR ADOCK 05000387
P PDR

3. This amendment is effective as of the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

A. Schwencer

A. Schwencer, Chief
Licensing Branch No. 2
Division of Licensing

Enclosure:
Changes to the Technical
Specifications

Date of Issuance: FEB 08 1985

ENCLOSURE TO LICENSE AMENDMENT NO. 31
FACILITY OPERATING LICENSE NO. NPF-14
DOCKET NO. 50-387

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

REMOVE	INSERT
3/4 8-9	3/4 8-9
3/4 8-10	3/4 8-10
3/4 8-11	3/4 8-11
3/4 8-12	3/4 8-12
3/4 8-13	3/4 8-13
3/4 8-14	3/4 8-14
3/4 8-15	3/4 8-15
3/4 8-16	3/4 8-16
3/4 8-17	3/4 8-17
3/4 8-18	3/4 8-18
— — —	3/4 8-18a
3/4 8-19	3/4 8-19
3/4 8-20	3/4 8-20
3/4 8-21	3/4 8-21
3/4 8-22	3/4 8-22

LIMITING CONDITION FOR OPERATION

3.8.1.2 As a minimum, the following A.C. electrical power sources shall be OPERABLE:

a. One circuit between the offsite transmission network and the onsite Class 1E distribution system, and

b. Two diesel generators with:

1. An engine mounted day fuel tank containing a minimum of 325 gallons of fuel.

2. A fuel storage system containing a minimum of 47,570 gallons of fuel.

3. A fuel transfer pump.

APPLICABILITY: OPERATIONAL CONDITIONS 4, 5 and *.

ACTION:

a. With less than the above required A.C. electrical power sources OPERABLE, suspend CORE ALTERATIONS, handling of irradiated fuel in the secondary containment, operations with a potential for draining the reactor vessel and crane operations over the spent fuel pool when fuel assemblies are stored therein. In addition, when in OPERATIONAL CONDITION 5 with the water level less than 22 feet above the reactor pressure vessel flange, immediately initiate corrective action to restore the required power sources to OPERABLE status as soon as practical.

b. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.8.1.2 At least the above required A.C. electrical power sources shall be demonstrated OPERABLE per Surveillance Requirements 4.8.1.1.1, 4.8.1.1.2 and 4.8.1.1.3, except for the requirement of 4.8.1.1.2.a.5.

*When handling irradiated fuel in the secondary containment.

3/4.8.2 D.C. SOURCES

D.C. SOURCES - OPERATING

LIMITING CONDITION FOR OPERATION

3.8.2.1 As a minimum, the following D.C. electrical power sources shall be OPERABLE:

a. Division I, consisting of:

1. Load group Channel "A" power source consisting of:
   a) 125 volt DC battery bank — 1D610, 2D610*
   b) Full capacity charger — 1D613, 2D613*
2. Load group Channel "C" power source consisting of:
   a) 125 volt DC battery bank — 1D630, 2D630*
   b) Full capacity charger — 1D633,2D633*
3. Load group "I" power source consisting of:
   a) 250 volt DC battery — 1D650
   b) Half-capacity chargers — 1D653A, 1D653B
4. Load group "I" power source consisting of:
   a) ± 24 volt DC battery bank — 1D670
   b) Two half-capacity chargers — 1D673, 1D674

b. Division II, consisting of:

1. Load group Channel "B" power source consisting of:
   a) 125 volt DC battery bank — 1D620, 2D620*
   b) Full capacity charger — 1D623, 2D623*
2. Load group Channel "D" power source consisting of:
   a) 125 volt DC battery bank — 1D640, 2D640*
   b) Full capacity charger — 1D643, 2D643*
3. Load group "II" power source consisting of:
   a) 250 volt DC battery bank — 1D660
   b) Full capacity charger — 1D663
4. Load group "II" power source consisting of:
   a) ± 24 volt DC battery bank — 1D680
   b) Two half-capacity chargers — 1D683, 1D684

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, and 3

ACTION:

a. With one of the above required Unit 1 125 volt or 250 volt DC load group battery banks inoperable, restore the inoperable battery bank to OPERABLE status within 2 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

b. With one or more of the above required Unit 2 125-volt DC load group battery banks inoperable, within 2 hours either:

   1. Restore the inoperable battery bank(s) to OPERABLE status, or

*Not required to be OPERABLE when the requirements of ACTION b have been satisfied.

LIMITING CONDITION FOR OPERATION (Continued)

ACTION: (Continued)

2. Transfer the Unit 1 and common loads aligned to the inoperable Unit 2 battery bank(s) to the corresponding Unit 1 battery bank(s).

Otherwise, declare the Unit 1 and common loads aligned to the inoperable Unit 2 battery bank(s) inoperable and take the ACTION required by the applicable Specification(s).

c. With the Unit 1 loads associated with one or more of the above required Unit 1 125-volt DC load group battery bank(s) aligned to the corresponding Unit 2 load group battery bank(s), realign the Unit 1 loads to the Unit 1 battery bank(s) within 72 hours after restoring the Unit 1 battery bank(s) to OPERABLE status; otherwise, declare the Unit 1 loads aligned to the Unit 2 battery bank(s) inoperable and take the ACTION required by the applicable Specification(s).

d. With one of the above required ± 24 volt DC load group battery banks inoperable, declare the associated equipment inoperable and take the ACTION required by the applicable Specification(s).

e. With one of the above required chargers inoperable, demonstrate the OPERABILITY of its associated battery bank by performing Surveillance Requirement 4.8.2.1.a.1 within 1 hour and at least once per 8 hours thereafter. If any Category A limit in Table 4.8.2.1-1 is not met, declare the battery inoperable.

SURVEILLANCE REQUIREMENTS

4.8.2.1 Each of the above required ± 24-volt, 125-volt and 250-volt batteries and chargers shall be demonstrated OPERABLE:

a. At least once per 7 days by verifying that:

1. The parameters in Table 4.8.2.1-1 meet the Category A limits, and
2. Total battery terminal voltage is greater than or equal to 26, 129, 258-volts on float charge.

b. At least once per 92 days and within 7 days after a battery discharge with battery terminal voltage below 22, 110 or 220 volts, as applicable, or battery overcharge with battery terminal voltage above 30, 150 or 300 volts, as applicable, by verifying that:

1. The parameters in Table 4.8.2.1-1 meet the Category B limits,
2. There is no visible corrosion at either terminals or connectors, or the connection resistance of these items is less than 150×10^{-6} ohm, and
3. The average electrolyte temperature of 4, 10 or 20, as applicable, of connected cells for the 24, 125 and 250 volt batteries is above 60°F.

SURVEILLANCE REQUIREMENTS (Continued)

c. At least once per 18 months by verifying that:

1. The cells, cell plates and battery racks show no visual indication of physical damage or abnormal deterioration,

2. The cell-to-cell and terminal connections are clean, tight, free of corrosion and coated with anti-corrosion material,

3. The resistance of each cell-to-cell and terminal connection of each 125-volt and 250-volt battery is less than or equal to 150×10^{-6} ohm, and

4. The battery charger, for at least 4 hours, will supply at least:

a) For the ± 24-volt batteries, 25 amperes at a minimum of 25.7 volts.

b) For the 125-volt batteries, 100 amperes at a minimum of 127.8 volts.

c) For the 250-volt batteries, 300 amperes at a minimum of 255.6 volts.

d. At least once per 18 months, during shutdown, by verifying that either:

1. The battery capacity is adequate to supply and maintain in OPERABLE status all of the actual emergency loads for the design duty cycle when the battery is subjected to a battery service test, or

2. The battery capacity is adequate to supply a dummy load of the following profile, which is verified to be greater than the actual emergency loads, while maintaining the battery terminal voltage greater than or equal to ± 21, 105 or 210 volts, as applicable.

a) For ± 24-volt battery banks 1D670, 1D670-1, 1D680 and 1D680-1, 9.37 amperes for the entire 4 hour test.

b) For 125-volt batteries:

1) Channel A battery 1D612:
325 amperes for 60 seconds
107 amperes for the remainder of the 4 hour test

2) Channel "B" battery 1D622:
323 amperes for 60 seconds
105 amperes for the remainder of the 4 hour test

3) Channel "C" battery 1D632:
340 amperes for 60 seconds
121 amperes for the remainder of the 4 hour test

4) Channel "D" battery 1D642:
323 amperes for 60 seconds
104 amperes for the remainder of the 4 hour test.

5) Channel "A" battery 2D612:
   328 amperes for 60 seconds
   112 amperes for the remainder of the 4 hour test.
6) Channel "B" battery 2D622:
   326 amperes for 60 seconds
   110 amperes for the remainder of the 4 hour test.
7) Channel "C" battery 2D632:
   343 amperes for 60 seconds
   128 amperes for the remainder of the 4 hour test.
8) Channel "D" battery 2D642:
   326 amperes for 60 seconds
   111 amperes for the remainder of the 4 hour test.

c) For 250-volt batteries:

1) Battery bank 1D650:

1091	amperes for	60	seconds
567	amperes for	29.0	minutes
113	amperes for	60.0	minutes
24	amperes for	150.0	minutes

2) Battery bank 1D660:

1314	amperes for	60	seconds
465	amperes for	60	seconds
365	amperes for	28.0	minutes
323	amperes for	15.0	minutes
185	amperes for	195.0	minutes

e. At least once per 60 months, during shutdown, by verifying that the battery capacity is at least 80% of the manufacturer's rating when subjected to a performance discharge test. Once per 60 month interval, this performance discharge test may be performed in lieu of the battery service test.

f. Annual performance discharge tests of battery capacity shall be given to any battery that shows signs of degradation or has reached 85% of the service life expected for the application. Degradation is indicated when the battery capacity drops more than 10% of rated capacity from its average on previous performance tests, or is below 90% of the manufacturer's rating.

TABLE 4.8.2.1-1

BATTERY SURVEILLANCE REQUIREMENTS

Parameter	CATEGORY A(1)	CATEGORY B(2)	
	Limits for each designated pilot cell	Limits for each connected cell	Allowable(3) value for each connected cell
Electrolyte Level	>Minimum level indication mark, and ≤ ¼" above maximum level indication mark	>Minimum level indication mark, and ≤ ¼" above maximum level indication mark	Above top of plates, and not overflowing
Float Voltage	> 2.13 volts	≥ 2.13 volts(c)	> 2.07 volts
Specific Gravity(a)	≥ 1.200(b)	≥ 1.195(b) Average of all connected cells > 1.205(b)	Not more than .020 below the average of all connected cells Average of all connected cells ≥ 1.195(b)

(a) Corrected for electrolyte temperature and level.
(b) Or battery charging current is less than 0.01, 0.1 and 0.25 amperes for the ±24, 125 and 250 volt batteries, respectively, when on float charge.
(c) May be corrected for average electrolyte temperature.
(1) For any Category A parameter(s) outside the limit(s) shown, the battery may be considered OPERABLE provided that within 24 hours all the Category B measurements are taken and found to be within their allowable values, and provided all Category A and B parameter(s) are restored to within limits within the next 6 days.
(2) For any Category B parameter(s) outside the limit(s) shown, the battery may be considered OPERABLE provided that the Category B parameters are within their allowable values and provided the Category B parameter(s) are restored to within limits within 7 days.
(3) Any Category B parameter not within its allowable value indicates an inoperable battery.

LIMITING CONDITION FOR OPERATION

3.8.2.2 As a minimum, Division I or Division II of the D.C. electrical power sources shall be OPERABLE with:

a. Division I consisting of:

1. Load group Channel "A" power source, consisting of:
   a) 125 volt DC battery bank — 1D610, 2D610**
   b) Full capacity charger — 1D613,2D613**

2. Load group Channel "C" power source, consisting of:
   a) 125 volt DC battery bank — 1D630, 2D630**
   b) Full capacity charger — 1D633, 2D633**

3. Load group "I" power source, consisting of:
   a) 250 volt DC battery bank — 1D650
   b) Half-capacity chargers — 1D653A, 1D653B

4. Load group "I" power source, consisting of:
   a) ± 24 volt DC battery bank — 1D670
   b) Two half-capacity chargers — 1D673, 1D674

b. Division II consisting of:

1. Load group Channel "B" power source, consisting of:
   a) 125 volt DC battery bank — 1D620, 2D620**
   b) Full capacity charger — 1D623, 2D623**

2. Load group Channel "D" power source, consisting of:
   a) 125 volt DC battery bank — 1D640, 2D640**
   b) Full capacity charger — 1D643, 2D643**

3. Load group "II" power source, consisting of:
   a) 250 volt DC battery bank — 1D660
   b) Full capacity charger — 1D663

4. Load group "II" power source, consisting of:
   a) ± 24 volt DC battery bank — 1D680
   b) Two half-capacity chargers — 1D683, 1D684

APPLICABILITY: OPERATIONAL CONDITIONS 4, 5, and *.

ACTION:

a. With less than the above required Unit 1 125 volt and/or 250 volt DC load group battery banks OPERABLE, suspend CORE ALTERATIONS, handling of irradiated fuel in the secondary containment and operations with a potential for draining the reactor vessel.

b. With less than the above required Unit 2 125-volt DC load group battery banks OPERABLE, either:

*When handling irradiated fuel in the secondary containment.
**Not required to be OPERABLE when the requirements of ACTION b have been satisfied.

ACTION: (Continued)

1. Suspend CORE ALTERATIONS, handling of irradiated fuel in the secondary containment and operations with a potential for draining the reactor vessel, or

2. Transfer the Unit 1 and common loads aligned to the inoperable Unit 2 battery bank(s) to the corresponding Unit 1 battery bank(s).

Otherwise, declare the Unit 1 and common loads aligned to the inoperable Unit 2 battery bank(s) inoperable and take the ACTION required by the applicable Specification(s).

c. With the Unit 1 loads associated with one or more of the above required Unit 1 125-volt DC load group battery bank(s) aligned to the corresponding Unit 2 load group battery bank(s), realign the Unit 1 loads to the Unit 1 battery bank(s) within 72 hours after restoring the Unit 1 battery bank to OPERABLE status; otherwise, declare the Unit 1 loads aligned to the Unit 2 battery bank(s) inoperable and take the ACTION required by the applicable Specification(s).

d. With the above required ± 24 volt D.C. load group battery banks inoperable, declare the associated equipment inoperable and take the ACTION required by the applicable Specification(s).

e. With the above required charger(s) inoperable, demonstrate the OPERABILITY of the associated battery by performing Surveillance Requirement 4.8.2.1.a.1 within one hour and at least once per 8 hours thereafter. If any Category A limit in Table 4.8.2.1-1 is not met, declare the battery inoperable.

f. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.8.2.2 At least the above required battery and charger shall be demonstrated OPERABLE per Surveillance Requirement 4.8.2.1.

DISTRIBUTION - OPERATING

LIMITING CONDITION FOR OPERATION

3.8.3.1 The following power distribution system divisions shall be energized with tie breakers open both between redundant buses within the unit and between units at the same station:

a.	A.C. power distribution:	
1.	Division I, consisting of:	
a)	Load group Channel "A", consisting of:	
1)	4160 volt A.C. switchgear bus	1A201
2)	480 volt A.C. load center	1B210
3)	480 volt A.C. motor control center	0B516
b)	Load group Channel "C", consisting of:	
1)	4160 volt A.C. switchgear bus	1A203
2)	480 volt A.C. load center	1B230
3)	480 volt A.C. motor control center	0B536
c)	Load group 480 volt A.C. motor control centers	0B517, 0B136 1B216, 1B236 1B217, 1B237 1B219
d)	Load group 208/120 volt A.C. instrument panels	1Y216, 1Y236
2.	Division II, consisting of:	
a)	Load group Channel"B", consisting of:	
1)	4160 volt A.C. switchgear bus	1A202
2)	480 volt A.C. load center	1B220
3)	480 volt A.C. motor control center	0B526
b)	Load group Channel "D", consisting of:	
1)	4160 volt A.C. switchgear bus	1A204
2)	480 volt A.C. load center	1B240
3)	480 volt A.C. motor control center	0B546
c)	Load group 480 volt A.C. motor control centers	0B527, 0B146 1B226, 1B246 1B227, 1B247 1B229
d)	Load group 208/120 volt A.C. instrument panels	1Y226, 1Y246
b.	D.C. power distribution:	
1.	Division I, consisting of:	
a)	Load group Channel "A", consisting of:	
1)	125 volt DC buses	1D612, 2D612,* 1D614, 2D614*
2)	Fuse box	1D611, 2D611*
b)	Load group Channel "C", consisting of:	
1)	125 volt DC buses	1D632, 2D632* 1D634, 2D634*
2)	Fuse box	1D631, 2D631*
c)	Load group "I", consisting of:	
1)	250 volt DC buses	1D652, 1D254
2)	Fuse box	1D651

*Not required to be OPERABLE when the requirements of ACTION c have been satisfied.

LIMITING CONDITION FOR OPERATION (Continued)

ACTION: (Continued)

D.C. power distribution: (Continued)

d) Load group "I", consisting of:	
1) ± 24 volt DC buses	1D672
2) Fuse box	1D671
2. Division II, consisting of:	
a) Load group Channel "B" consisting of:	
1) 125 volt DC buses	1D622, 2D622* 1D624, 2D624*
2) Fuse box	1D621, 2D621*
b) Load group Channel "D" consisting of:	
1) 125 volt DC buses	1D642, 2D642* 1D644, 2D644*
2) Fuse box	1D641, 2D641*
c) Load group "II" consisting of:	
1) 250 volt DC buses	1D662, 1D264, 1D274
2) Fuse box	1D661
d) Load group "II" consisting of:	
1) ± 24 volt DC buses	1D682
2) Fuse box	1D681

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2 and 3.

ACTION:

a. With one of the above required A.C. distribution system load groups not energized, re-energize the load group within 8 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

b. With one of the above required Unit 1 D.C. distribution system load groups not energized, re-energize the load group within 2 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

c. With one or more of the above required Unit 2 D.C. distribution system load groups not energized, within 2 hours either:

1. Reenergize the load group(s), or

2. Transfer the Unit 1 and common loads aligned to the deenergized Unit 2 load group(s) to the corresponding Unit 1 load group(s).

Otherwise, declare the Unit 1 and common loads aligned to the deenergized Unit 2 load group(s) inoperable and take the ACTION required by the applicable Specification(s).

*Not required to be OPERABLE when the requirements of ACTION c have been satisfied.

LIMITING CONDITION FOR OPERATION (Continued)

d. With the Unit 1 loads associated with one or more of the above required Unit 1 125-volt D.C. load group(s) aligned to the corresponding Unit 2 load group(s), realign the Unit 1 loads to the Unit 1 load group(s) within 72 hours after restoring the Unit 1 load group(s) to OPERABLE status; otherwise, declare the Unit 1 loads aligned to the Unit 2 load group(s) inoperable and take the ACTION required by the applicable Specification(s).

SURVEILLANCE REQUIREMENTS

4.8.3.1 Each of the above required power distribution system load groups shall be determined energized at least once per 7 days by verifying correct breaker alignment and voltage on the busses/MCCs/panels.

LIMITING CONDITION FOR OPERATION

3.8.3.2 As a minimum, the following power distribution system divisions shall be energized:

a. For A.C. power distribution, Division I or Division II with:

1. Division I consisting of:

a) Load group Channel "A", consisting of:

1) 4160 volt A.C. switchgear bus	1A201
2) 480 volt A.C. load center	1B210
3) 480 volt A.C. motor control center	0B516

b) Load group Channel "C", consisting of:

1) 4160 volt A.C. switchgear bus	1A203
2) 480 volt A.C. load center	1B230
3) 480 volt A.C. motor control center	0B536

c) Load group 480 volt A.C. motor control centers	0B517, 0B136 1B216, 1B236 1B217, 1B237 1B219
d) Load group 208/120 volt A.C. instrument panels	1Y216, 1Y236

2. Division II consisting of:

a) Load group Channel "B", consisting of:

1) 4160 volt A.C. switchgear bus	1A202
2) 480 volt A.C. load center	1B220
3) 480 volt A.C. motor control center	0B526

b) Load group Channel "D", consisting of:

1) 4160 volt A.C. switchgear bus	1A204
2) 480 volt A.C. load center	1B240
3) 480 volt A.C. motor control center	0B546

c) Load group 480 volt A.C. motor control centers	0B527, 0B146 1B226, 1B246 1B227, 1B247 1B229
d) Load group 208/120 volt A.C. instrument panels	1Y226, 1Y246

LIMITING CONDITION FOR OPERATION (Continued)

b. For D.C. power distribution, Division I or Division 2, with:

1. Division I consisting of:

a) Load group Channel "A", consisting of:
1) 125 volt DC buses — 1D612, 2D612**, 1D614, 2D614**
2) Fuse box — 1D611, 2D611**

b) Load group Channel "C", consisting of:
1) 125 volt DC buses — 1D632, 2D632**, 1D634, 2D634**
2) Fuse box — 1D631, 2D631**

c) Load group "I", consisting of:
1) 250 volt DC buses — 1D652, 1D254
2) Fuse box — 1D651

d) Load group "I", consisting of:
1) ± 24 volt DC buses — 1D672
2) Fuse box — 1D671

2. Division II consisting of:

a) Load group Channel "B", consisting of:
1) 125 volt DC buses — 1D622, 2D622**, 1D624, 2D624**
2) Fuse box — 1D621, 2D621**

b) Load group Channel "D", consisting of:
1) 125 volt DC buses — 1D642, 2D642**, 1D644, 2D644**
2) Fuse box — 1D641, 2D641**

c) Load group "II", consisting of:
1) 250 volt DC buses — 1D662, 1D264, 1D274
2) Fuse box — 1D661

d) Load group "II", consisting of:
1) ± 24 volt DC buses — 1D682
2) Fuse box — 1D681

APPLICABILITY: OPERATIONAL CONDITIONS 4, 5 and *.

*When handling irradiated fuel in the secondary containment.
**Not required to be OPERABLE when the requirements of ACTION c have been satisfied.

ACTION:

a. With less than Division I or Division II of the above required A.C. distribution system energized, suspend CORE ALTERATIONS, handling of irradiated fuel in the secondary containment and operations with a potential for draining the reactor vessel.

b. With less than Division I or Division II of the above required Unit 1 D.C. distribution system energized, suspend CORE ALTERATIONS, handling or irradiated fuel in the secondary containment and operations with a potential for draining the reactor vessel.

c. With less than Division I or Division II of the above required Unit 2 D.C. distribution system energized, either:

   1. Suspend CORE ALTERATIONS, handling of irradiated fuel in the secondary containment, and operations with a potential for draining the reactor vessel, or

   2. Transfer the Unit 1 and common loads aligned to the deenergized Unit 2 load group(s) to the corresponding Unit 1 load group(s).

   Otherwise, declare the Unit 1 and common loads aligned to the deenergized Unit 2 load group(s) inoperable and take the ACTION required by the applicable Specification(s).

d. With the Unit 1 loads aligned to one or more of the above required Unit 1 125-volt D.C. load group(s) aligned to the corresponding Unit 2 load group(s), realign the Unit 1 loads to the Unit 1 load group(s) within 72 hours after restoring the Unit 1 load group(s) to OPERABLE status; otherwise, declare the Unit 1 loads aligned to the Unit 2 load group(s) inoperable and take the ACTION required by the applicable Specification(s).

e. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.8.3.2.1 At least the above required power distribution system divisions shall be determined energized at least once per 7 days by verifying correct breaker alignment and voltage on the busses/MCCs/panels.

4.8.3.2.2 The A.C. power distribution system swing bus automatic transfer switch shall be demonstrated OPERABLE at least once per 31 days by actuating the load test switch or by disconnecting the normal power source to the transfer switch and verifying that swing bus automatic transfer is accomplished.

3/4.8.4 ELECTRICAL EQUIPMENT PROTECTIVE DEVICES

PRIMARY CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

LIMITING CONDITION FOR OPERATION

3.8.4.1 All primary containment penetration conductor overcurrent protective devices shown in Table 3.8.4.1-1 and all fuses tested pursuant to Specification 4.8.4.1.a.2 shall be OPERABLE. 29

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2 and 3.

ACTION:

a. With one or more of the above required containment penetration conductor overcurrent devices shown in Table 3.8.4.1-1 and/or fuses tested pursuant Specification 4.8.4.1.a.2 inoperable:

   1. Restore the protective device(s) to OPERABLE status or deenergize the circuit(s) by tripping, racking out, or removing the alternate device or racking out or removing the inoperable device within 72 hours, and 29

   2. Declare the affected system or component inoperable, and

   3. Verify at least once per 7 days thereafter the alternate device is tripped, racked out, or removed, or the device is racked out or removed.

   Otherwise, be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

b. The provisions of Specification 3.0.4 are not applicable to overcurrent devices which have the inoperable device racked out or removed or, which have the alternate device tripped, racked out, or removed. 29

SURVEILLANCE REQUIREMENTS

4.8.4.1 Each of the primary containment penetration conductor overcurrent protective devices required above shall be demonstrated OPERABLE: 29

a. At least once per 18 months by:

   1. Selecting and functionally testing a representative sample of at least 10% of each type of lower voltage circuit breakers. Circuit breakers selected for functional testing shall be selected on a rotating basis. For the lower voltage circuit breakers the nominal trip setpoint and short circuit response times are listed in Table 3.8.4.1-1. Testing of these circuit breakers shall consist of injecting a current in excess of 120% of the breaker's nominal setpoint and measuring the response time.

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. 7
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 and Light Company, dated December 6, 1984, 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 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. 7 , and the Environmental Protection Plan contained in Appendix B, are hereby incorporated in the license. The licensee shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This amendment is effective as of the date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

A. Schwencer

A. Schwencer, Chief
Licensing Branch No. 2
Division of Licensing

Enclosure:
Changes to the Technical
Specifications

Date of Issuance: FEB 0 8 1985

ENCLOSURE TO LICENSE AMENDMENT NO. 7
FACILITY OPERATING LICENSE NO. NPF-22
DOCKET NO. 50-388

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

REMOVE	INSERT
3/4 8-11	3/4 8-11
3/4 8-12	3/4 8-12
3/4 8-13	3/4 8-13
3/4 8-14	3/4 8-14
3/4 8-15	3/4 8-15
3/4 8-16	3/4 8-16
3/4 8-17	3/4 8-17
3/4 8-18	3/4 8-18
3/4 8-19	3/4 8-19
3/4 8-20	3/4 8-20
3/4 8-21	3/4 8-21
3/4 8-22	3/4 8-22
3/4 8-23	3/4 8-23
3/4 8-24	3/4 8-24

3/4.8.2 D.C. SOURCES

D.C. SOURCES - OPERATING

LIMITING CONDITION FOR OPERATION

3.8.2.1 As a minimum, the following D.C. electrical power sources shall be OPERABLE:

a. Division I, consisting of:

1. Load group Channel "A" power source consisting of:
   a) 125-volt D.C. battery bank — 1D610*, 2D610
   b) Full capacity charger — 1D613*, 2D613
2. Load group Channel "C" power source consisting of:
   a) 125-volt D.C. battery bank — 1D630*, 2D630
   b) Full capacity charger — 1D633*, 2D633
3. Load group "I" power source consisting of:
   a) 250-volt D.C. battery — 2D650
   b) Half-capacity chargers — 2D653A, 2D653B
4. Load group "I" power source consisting of:
   a) ± 24-volt D.C. battery bank — 2D670
   b) Two half-capacity chargers — 2D673, 2D674

b. Division II, consisting of:

1. Load group Channel "B" power source consisting of:
   a) 125-volt D.C. battery bank — 1D620*, 2D620
   b) Full capacity charger — 1D623*, 2D623
2. Load group Channel "D" power source consisting of:
   a) 125-volt D.C. battery bank — 1D640*, 2D640
   b) Full capacity charger — 1D643*, 2D643
3. Load group "II" power source consisting of:
   a) 250-volt D.C. battery bank — 2D660
   b) Full capacity charger — 2D663
4. Load group "II" power source consisting of:
   a) ± 24-volt D.C. battery bank — 2D680
   b) Two half-capacity chargers — 2D683, 2D684

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, and 3

ACTION:

a. With one of the above required Unit 2 125-volt or 250-volt D.C. load group battery banks inoperable, restore the inoperable battery bank to OPERABLE status within 2 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

*Not required to be OPERABLE when the requirements of ACTION b have been satisfied.

LIMITING CONDITION FOR OPERATION (Continued)

ACTION: (Continued)

b. With one or more of the above required Unit 1 125-volt D.C. load group battery banks inoperable, within 2 hours either:

1. Restore the inoperable battery bank(s) to OPERABLE status, or
2. Transfer the common loads aligned to the inoperable Unit 1 battery bank(s) to the corresponding Unit 2 battery bank(s).

Otherwise, declare the common loads aligned to the inoperable Unit 1 battery bank(s) inoperable and take the ACTION required by the applicable Specification(s).

c. With one of the above required ± 24-volt D.C. load group battery banks inoperable, declare the associated equipment inoperable and take the ACTION required by the applicable Specification(s).

d. With one of the above required chargers inoperable, demonstrate the OPERABILITY of its associated battery bank by performing Surveillance Requirement 4.8.2.1a.1. within 1 hour and at least once per 8 hours thereafter. If any Category A limit in Table 4.8.2.1-1 is not met, declare the battery inoperable.

SURVEILLANCE REQUIREMENTS

4.8.2.1 Each of the above required ± 24-volt, 125-volt, and 250-volt batteries and chargers shall be demonstrated OPERABLE:

a. At least once per 7 days by verifying that:

1. The parameters in Table 4.8.2.1-1 meet the Category A limits, and
2. There is correct breaker alignment to the battery chargers, and total battery terminal voltage is greater than or equal to 26, 129, 258 volts on float charge.

b. At least once per 92 days and within 7 days after a battery discharge with battery terminal voltage below 22, 110, or 220 volts, as applicable, or battery overcharge with battery terminal voltage above 30, 150 or 300 volts, as applicable, by verifying that:

1. The parameters in Table 4.8.2.1-1 meet the Category B limits,
2. There is no visible corrosion at either terminals or connectors, or the connection resistance of these items is less than 150×10^{-6} ohm, and
3. The average electrolyte temperature of 4, 10, or 20, as applicable, of connected cells for the 24, 125, and 250 volt batteries is above 60°F.

SURVEILLANCE REQUIREMENTS (Continued)

c. At least once per 18 months by verifying that:

1. The cells, cell plates, and battery racks show no visual indication of physical damage or abnormal deterioration,

2. The cell-to-cell and terminal connections are clean, tight, free of corrosion, and coated with anticorrosion material,

3. The resistance of each cell-to-cell and terminal connection of each 125-volt and 250-volt battery is less than or equal to 150×10^{-6} ohm, and

4. The battery charger, for at least 4 hours, will supply at least:

a) For the ± 24-volt batteries, 25 amperes at a minimum of 25.7 volts.

b) For the 125-volt batteries, 100 amperes at a minimum of 127.8 volts.

c) For the 250-volt batteries, 300 amperes at a minimum of 255.6 volts.

d. At least once per 18 months by verifying that either:

1. The battery capacity is adequate to supply and maintain in OPERABLE status all of the actual emergency loads for the design duty cycle when the battery is subjected to a battery service test, or

2. The battery capacity is adequate to supply a dummy load of the following profile, which is verified to be greater than the actual emergency loads, while maintaining the battery terminal voltage greater than or equal to ± 21, 105 or 210 volts, as applicable.

a) For ± 24-volt battery banks 2D670, 2D670-1, 2D680, and 2D680-1, 9.37 amperes for the entire 4-hour test.

b) For 125-volt batteries:

1) Channel "A" battery 1D612: 325 amperes for 60 seconds
107 amperes for the remainder of the 4 hour test

2) Channel "B" battery 1D622: 323 amperes for 60 seconds
105 amperes for the remainder of the 4 hour test

3) Channel "C" battery 1D632: 340 amperes for 60 seconds
121 amperes for the remainder of the 4 hour test

4) Channel "D" battery 1D642: 323 amperes for 60 seconds
104 amperes for the remainder of the 4 hour test.

5) Channel "A" battery 2D612: 328 amperes for 60 seconds
112 amperes for the remainder of the 4 hour test

6) Channel "B" battery 2D622: 326 amperes for 60 seconds
110 amperes for the remainder of the 4 hour test

7) Channel "C" battery 2D632: 343 amperes for 60 seconds
128 ampers for the remainder of the 4 hour test

8) Channel "D" battery 2D642: 326 amperes for 60 seconds
111 amperes for the remainder of the 4 hour test

SURVEILLANCE REQUIREMENTS (Continued)

c) For 250-volt batteries:

1) Battery bank 2D650:
458 amperes for 60 seconds
251 amperes for 239 minutes

2) Battery bank 2D660:
1119 amperes for 60 seconds
244 amperes for 239 minutes

e. At least once per 60 months by verifying that the battery capacity is at least 80% of the manufacturer's rating when subjected to a performance discharge test. Once per 60-month interval, this performance discharge test may be performed in lieu of the battery service test.

f. Annual performance discharge tests of battery capacity shall be given to any battery that shows signs of degradation or has reached 85% of the service life expected for the application. Degradation is indicated when the battery capacity drops more than 10% of rated capacity from its average on previous performance tests, or is below 90% of the manufacturer's rating.

TABLE 4.8.2.1-1

BATTERY SURVEILLANCE REQUIREMENTS

Parameter	CATEGORY A(1)	CATEGORY B(2)	
	Limits for each designated pilot cell	Limits for each connected cell	Allowable(3) value for each connected cell
Electrolyte Level	>Minimum level indication mark, and ≤ ¼" above maximum level indication mark	>Minimum level indication mark, and ≤ ¼" above maximum level indication mark	Above top of plates, and not overflowing
Float Voltage	≥ 2.13 volts	≥ 2.13 volts(c)	> 2.07 volts
Specific Gravity(a)	≥ 1.200(b)	≥ 1.195(b) Average of all connected cells > 1.205(b)	Not more than 0.020 below the average of all connected cells Average of all connected cells ≥ 1.195(b)

(a) Corrected for electrolyte temperature and level.

(b) Or battery charging current is less than 0.01, 0.1 and 0.25 amperes for the ±24, 125 and 250 volt batteries respectively, when on float charge.

(c) May be corrected for average electrolyte temperature.

(1) For any Category A parameter(s) outside the limit(s) shown, the battery may be considered OPERABLE provided that within 24 hours all the Category B measurements are taken and found to be within their allowable values, and provided all Category A and B parameter(s) are restored to within limits within the next 6 days.

(2) For any Category B parameter(s) outside the limit(s) shown, the battery may be considered OPERABLE provided that the Category B parameters are within their allowable values and provided the Category B parameter(s) are restored to within limits within 7 days.

(3) Any Category B parameter not within its allowable value indicates an inoperable battery.

LIMITING CONDITION FOR OPERATION

3.8.2.2 As a minimum, Division I or Division II of the D.C. electrical power sources shall be OPERABLE with:

a. Division I consisting of:

1. Load group Channel "A" power source, consisting of:
   a) 125-volt D.C. battery bank — 1D610**, 2D610
   b) Full capacity charger — 1D613**, 2D613

2. Load group Channel "C" power source, consisting of:
   a) 125-volt D.C. battery bank — 1D630**, 2D630
   b) Full capacity charger — 1D633**, 2D633

3. Load group "I" power source, consisting of:
   a) 250-volt D.C. battery bank — 2D650
   b) Half-capacity chargers — 2D653A, 2D653B

4. Load group "I" power source, consisting of:
   a) ± 24-volt D.C. battery bank — 2D670
   b) Two half-capacity chargers — 2D673, 2D674

b. Division II consisting of:

1. Load group Channel "B" power source, consisting of:
   a) 125-volt D.C. battery bank — 1D620**, 2D620
   b) Full capacity charger — 1D623**, 2D623

2. Load group Channel "D" power source, consisting of:
   a) 125-volt D.C. battery bank — 1D640**, 2D640
   b) Full capacity charger — 1D643**, 2D643

3. Load group "II" power source, consisting of:
   a) 250-volt D.C. battery bank — 2D660
   b) Full capacity charger — 2D663

4. Load group "II" power source, consisting of:
   a) ± 24-volt D.C. battery bank — 2D680
   b) Two half-capacity chargers — 2D683, 2D684

APPLICABILITY: OPERATIONAL CONDITIONS 4, 5, and *.

ACTION:

a. With less than the above required Unit 2 125-volt and/or 250-volt D.C. load group battery banks OPERABLE, suspend CORE ALTERATIONS, handling of irradiated fuel in the secondary containment and operations with a potential for draining the reactor vessel.

*When handling irradiated fuel in the secondary containment.
**Not required to be OPERABLE when the requirements of ACTION b have been satisfied.

LIMITING CONDITION FOR OPERATION (Continued)

ACTION: (Continued)

b. With less than the above required Unit 1 125-volt D.C. load group battery banks OPERABLE, either:

   1. Suspend CORE ALTERATIONS, handling of irradiated fuel in the secondary containment and operations with a potential for draining the reactor vessel, or

   2. Transfer the common loads aligned to the inoperable Unit 1 battery bank(s) to the corresponding Unit 2 battery bank(s).

   Otherwise, declare the common loads aligned to the inoperable Unit 1 battery bank(s) inoperable and take the ACTION required by the applicable Specification(s).

c. With the above required ± 24-volt D.C. load group battery banks inoperable, declare the associated equipment inoperable and take the ACTION required by the applicable Specification(s).

d. With the above required charger(s) inoperable, demonstrate the OPERABILITY of the associated battery by performing Surveillance Requirement 4.8.2.1.a.1 within one hour and at least once per 8 hours thereafter. If any Category A limit in Table 4.8.2.1-1 is not met, declare the battery inoperable.

e. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.8.2.2 At least the above required battery and charger shall be demonstrated OPERABLE per Surveillance Requirement 4.8.2.1.

3/4.8.3 ONSITE POWER DISTRIBUTION SYSTEMS

DISTRIBUTION - OPERATING

LIMITING CONDITION FOR OPERATION

3.8.3.1 The following power distribution system divisions shall be energized with tie breakers open both between redundant buses within the unit and between units at the same station:

a. A.C. power distribution:	
1. Division I, consisting of:	
a) Load group Channel "A", consisting of:	
1) 4160-volt A.C. switchgear bus	1A201, 2A201
2) 480-volt A.C. load center	1B210, 2B210
3) 480-volt A.C. motor control center	0B516
b) Load group Channel "C", consisting of:	
1) 4160-volt A.C. switchgear bus	1A203, 2A203
2) 480-volt A.C. load center	1B230, 2B230
3) 480-volt A.C. motor control center	0B536
c) Load group 480 volt A.C. motor control centers	0B517, 0B136 1B216, 1B236, 2B216, 2B236 1B217, 2B237, 2B217, 2B219*
d) Load group 208/120-volt A.C. instrument panels	1Y216, 1Y236, 2Y216, 2Y236
2. Division II, consisting of:	
a) Load group Channel"B", consisting of:	
1) 4160-volt A.C. switchgear bus	1A202, 2A202
2) 480-volt A.C. load center	1B220, 2B220
3) 480-volt A.C. motor control center	0B526
b) Load group Channel "D", consisting of:	
1) 4160-volt A.C. switchgear bus	1A204, 2A204
2) 480-volt A.C. load center	1B240, 2B240
3) 480-volt A.C. motor control center	0B546
c) Load group 480-volt A.C. motor control centers	0B527, 0B146 1B226, 1B246, 2B226, 2B246 1B227, 2B227, 2B247 2B229*
d) Load group 208/120-volt A.C. instrument panels	1Y226, 1Y246 2Y226, 2Y246
b. D.C. power distribution:	
1. Division I, consisting of:	
a) Load group Channel "A", consisting of:	
1) 125-volt D.C. buses	1D612**, 1D614** 2D612, 2D614
2) Fuse box	1D611**, 2D611
b) Load group Channel "C", consisting of:	
1) 125-volt D.C. buses	1D632**, 1D634**, 2D632, 2D634

*The associated swing bus automatic transfer switch shall be OPERABLE.
**Not required to be OPERABLE when the requirements of ACTION c have been satisfied.

b. D.C. power distribution: (Continued)

2) Fuse box	1D631**, 2D631
c) Load group "I", consisting of:	
1) 250-volt D.C. buses	2D652, 2D254
2) Fuse box	2D651,
d) Load group "I", consisting of:	
1) ± 24-volt D.C. buses	2D672
2) Fuse box	2D671
2. Division II, consisting of:	
a) Load group Channel "B" consisting of:	
1) 125-volt D.C. buses	1D622**, 1D624**, 2D622, 2D624
2) Fuse box	1D621**, 2D621
b) Load group Channel "D" consisting of:	
1) 125-volt D.C. buses	1D642**, 1D644**, 2D642, 2D644
2) Fuse box	1D641**, 2D641
c) Load group "II" consisting of:	
1) 250-volt D.C. buses	2D662, 2D264, 2D274
2) Fuse box	2D661
d) Load group "II" consisting of:	
1) ± 24-volt D.C. buses	2D682
2) Fuse box	2D681

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2, and 3.

ACTION:

a. With one of the above required A.C. distribution system load groups not energized, reenergize the load group within 8 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

b. With one of the above required Unit 2 D.C. distribution system load groups not energized, reenergize the load group within 2 hours or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

c. With one or more of the above required Unit 1 D.C. distribution system load groups not energized, within 2 hours either:

1. Reenergize the load group(s), or

2. Transfer the common loads aligned to the deenergized Unit 1 load group(s) to the corresponding Unit 2 load group(s).

**Not required to be OPERABLE when the requirements of ACTION c have been satisfied.

Otherwise, declare the common loads aligned to the deenergized Unit 1 load group(s) inoperable and take the ACTION required by the applicable Specification(s).

d. With an A.C. power distribution system swing bus transfer switch inoperable, restore the inoperable bus transfer switch to OPERABLE status within 7 days, or be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

4.8.3.1.1 Each of the above required power distribution system load groups shall be determined energized at least once per 7 days by verifying correct breaker alignment and voltage on the busses/MCCs/panels.

4.8.3.1.2 The A.C. power distribution system swing bus automatic transfer switches shall be demonstrated OPERABLE at least once per 31 days by actuating the load test switch or by disconnecting the normal power source to the transfer switch and verifying that swing bus automatic transfer is accomplished.

LIMITING CONDITION FOR OPERATION

3.8.3.2 As a minimum, the following power distribution system divisions shall be energized:

a. For A.C. power distribution, Division I or Division II with:

1. Division I consisting of:

a) Load group Channel "A", consisting of:	
1) 4160-volt A.C. switchgear bus	1A201, 2A201
2) 480-volt A.C. load center	1B210, 2B210
3) 480-volt A.C. motor control center	0B516
b) Load group Channel "C", consisting of:	
1) 4160-volt A.C. switchgear bus	1A203, 2A203
2) 480-volt A.C. load center	1B230, 2B230
3) 480-volt A.C. motor control center	0B536
c) Load group 480-volt A.C. motor control centers	0B517, 0B136 1B216, 1B236, 2B216, 2B236 1B217, 2B217, 2B237 2B219*
d) Load group 208/120-volt A.C. instrument panels	1Y216, 1Y236 2Y216, 2Y236

2. Division II consisting of:

a) Load group Channel "B", consisting of:	
1) 4160-volt A.C. switchgear bus	1A202, 2A202
2) 480-volt A.C. load center	1B220, 2B220
3) 480-volt A.C. motor control center	0B526
b) Load group Channel "D", consisting of:	
1) 4160-volt A.C. switchgear bus	1A204, 2A204
2) 480-volt A.C. load center	1B240, 2B240
3) 480-volt A.C. motor control center	0B546
c) Load group 480-volt A.C. motor control centers	0B527, 0B146 1B226, 1B246, 2B226, 2B246 1B227, 2B227, 2B247, 2B229**
d) Load group 208/120-volt A.C. instrument panels	1Y226, 1Y246 2Y226, 2Y246

*The associated swing bus automatic transfer switch shall be OPERABLE if LPCI pumps A and C alone are fulfilling the requirements of Specification 3.5.2.

**The associated swing bus automatic transfer switch shall be OPERABLE if LPCI pumps B and D alone are fulfilling the requirements of Specification 3.5.2.

LIMITING CONDITION FOR OPERATION (Continued)

b. For D.C. power distribution, Division I or Division 2, with:

1. Division I consisting of:
   a) Load group Channel "A", consisting of:
      1) 125-volt D.C. buses — 1D612**, 1D614**, 2D612, 2D614
      2) Fuse box — 1D611**, 2D611
   b) Load group Channel "C", consisting of:
      1) 125-volt D.C. buses — 1D632**, 1D634**, 2D632, 2D634
      2) Fuse box — 1D631**, 2D631
   c) Load group "I", consisting of:
      1) 250-volt D.C. buses — 2D652, 2D254
      2) Fuse box — 2D651
   d) Load group "I", consisting of:
      1) ± 24-volt D.C. buses — 2D672
      2) Fuse box — 2D671

2. Division II consisting of:
   a) Load group Channel "B", consisting of:
      1) 125-volt D.C. buses — 1D622**, 1D624**, 2D622, 2D624
      2) Fuse box — 1D621**, 2D621
   b) Load group Channel "D", consisting of:
      1) 125-volt D.C. buses — 1D642**, 1D644**, 2D642, 2D644
      2) Fuse box — 1D641**, 2D641
   c) Load group "II", consisting of:
      1) 250-volt D.C. buses — 2D662, 2D264, 2D274
      2) Fuse box — 2D661
   d) Load group "II", consisting of:
      1) ± 24-volt D.C. buses — 2D682
      2) Fuse box — 2D681

APPLICABILITY: OPERATIONAL CONDITIONS 4, 5, and *.

*When handling irradiated fuel in the secondary containment.
**Not required to be OPERABLE when the requirements of ACTION c have been satisfied.

LIMITING CONDITION FOR OPERATION (Continued)

ACTION:

a. With less than Division I or Division II of the above required A.C. distribution system energized, suspend CORE ALTERATIONS, handling of irradiated fuel in the secondary containment and operations with a potential for draining the reactor vessel.

b. With less than Division I or Division II of the above required Unit 2 D.C. distribution system energized, suspend CORE ALTERATIONS, handling of irradiated fuel in the secondary containment and operations with a potential for draining the reactor vessel.

c. With less than Division I or Division II of the above required Unit 1 D.C. distribution system energized, either:

   1. Suspend CORE ALTERATIONS, handling of irradiated fuel in the secondary containment and operations with a potential for draining the reactor vessel, or

   2. Transfer the common loads aligned to the deenergized Unit 1 load group(s) to the corresponding Unit 2 load group(s).

   Otherwise, declare the common loads aligned to the deenergized Unit 1 load group(s) inoperable and take the ACTION required by the applicable Specification(s).

d. With an A.C. power distribution system swing bus automatic transfer switch inoperable, suspend CORE ALTERATIONS, handling of irradiated fuel in the secondary containment and operations with a potential for draining the reactor vessel.

e. The provisions of Specification 3.0.3 are not applicable.

SURVEILLANCE REQUIREMENTS

4.8.3.2.1 At least the above required power distribution system divisions shall be determined energized at least once per 7 days by verifying correct breaker alignment and voltage on the busses/MCCs/panels.

4.8.3.2.2 The A.C. power distribution system swing bus automatic transfer switches shall be demonstrated OPERABLE at least once per 31 days by actuating the load test switch or by disconnecting the normal power source to the transfer switch and verifying that swing bus automatic transfer is accomplished.

3/4.8.4 ELECTRICAL EQUIPMENT PROTECTIVE DEVICES

PRIMARY CONTAINMENT PENETRATION CONDUCTOR OVERCURRENT PROTECTIVE DEVICES

LIMITING CONDITION FOR OPERATION

3.8.4.1 All primary containment penetration conductor overcurrent protective devices shown in Table 3.8.4.1-1 and all fuses tested pursuant to Specification 4.8.4.1.a.2 shall be OPERABLE.

APPLICABILITY: OPERATIONAL CONDITIONS 1, 2 and 3.

ACTION:

a. With one or more of the above required containment penetration conductor overcurrent devices shown in Table 3.8.4.1-1 and/or fuses tested pursuant Specification 4.8.4.1.a.2 inoperable:

   1. Restore the protective device(s) to OPERABLE status or deenergize the circuit(s) by tripping, racking out, or removing the alternate device or racking out or removing the inoperable device within 72 hours, and

   2. Declare the affected system or component inoperable, and

   3. Verify at least once per 7 days thereafter the alternate device is tripped, racked out, or removed, or the device is racked out or removed.

   Otherwise, be in at least HOT SHUTDOWN within the next 12 hours and in COLD SHUTDOWN within the following 24 hours.

b. The provisions of Specification 3.0.4 are not applicable to overcurrent devices which have the inoperable device racked out or removed or, which have the alternate device tripped, racked out, or removed.

SURVEILLANCE REQUIREMENTS

4.8.4.1 Each of the primary containment penetration conductor overcurrent protective devices required above shall be demonstrated OPERABLE:

a. At least once per 18 months by:

   1. Selecting and functionally testing a representative sample of at least 10% of each type of lower voltage circuit breakers. Circuit breakers selected for functional testing shall be selected on a rotating basis. For the lower voltage circuit breakers the nominal trip setpoint and short circuit response times are listed in Table 3.8.4.1-1. Testing of these circuit breakers shall consist of injecting a current in excess of 120% of the breaker's nominal setpoint and measuring the response time.

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

SAFETY EVALUATION

AMENDMENT NO. 31 TO NPF-14 AND

AMENDMENT NO. 7 TO NPF-22

SUSQUEHANNA STEAM ELECTRIC STATION, UNITS 1 AND 2

DOCKET NOS. 50-387 AND 50-388

Introduction

The licensee proposed amendments to the Susquehanna SES Unit 1 and Unit 2 Technical Specifications in order to avoid a forced shutdown of Unit 2 during the Unit 1 first refueling outage.

Certain common loads for Susquehanna Units 1 and 2 are powered from a Unit 1 125-volt DC supply; therefore, Unit 2 currently depends on a Unit 1, 125-volt DC system to support common loads and, therefore, Unit 1 DC system is listed in the Unit 2 Limiting Condition for Operation (LCOs). Since Unit 1 battery load profile testing must be performed during the first refueling outage, an ACTION statement must be entered in the Unit 2 Technical Specifications. The battery load profile testing cannot be performed within the two hours allotted in the ACTION statement (LCO) and, therefore, the required testing will force a Unit 2 shutdown.

Evaluation

The licensee has developed a system modification consisting of a common load transfer scheme which will allow common loads to be powered from a 125-volt DC source on either unit through the use of manual transfer switches.

The feeder breakers of the DC source supply are not only a common load, but also a Unit 1 load. Therefore, once the common loads including the Unit 1 loads have been transferred to the Unit 2 DC source, the Unit 1 loads (hereafter called "tag along loads") will be energized from a Unit 2 DC source. In order to maintain division/channel separation, all Class 1E loads will be transferred between the corresponding Unit 1 and Unit 2 DC divisions.

The proposed Unit 1 technical specification changes to support the design changes to accomplish the purpose of avoiding forced shutdown of Unit 2 are described as follows:

a. Pages 3/4 8-10: The Unit 2 batteries, from which common and "tag along loads" may now be powered, are added to the LCO. A footnote is provided to remove them as LCO requirement under situations when they are not supporting Unit 1 operation. ACTION a is revised to affect Unit 1 equipment only. ACTION b is additionally provided to cover the common

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and "tag along load" transfer in the event that a Unit 2 DC system supporting Unit 1 operation is inoperable. ACTION c is provided to cover the realignment of Unit 1 loads to their normal Unit 1 source once that source has been restored to OPERABLE status. Also ACTION b has been relettered as ACTION d.

b. Page 3/4 8-11: ACTION c has been relettered as ACTION e.

c. Page 3/4 8-12: The load profile for the Unit 1 Channel "B" battery has been revised to provide margin for future load additions, should they occur. Insert B provides the load profiles for the Unit 2 batteries that are not required by the revised LCO.

d. Page 3/4 8-15: See discussion for above item a.

e. Page 3/4 8-16: ACTIONS c and d have been relettered.

f. Page 3/4 8-17: As in the above discussion for item a, required Unit 2 equipment has been added to the LCO with a footnote to govern when it is required to support Unit 1 operation.

g. Page 3/4 8-18: As discussed in item a. for sources, appropriate ACTION statements have been proposed on insert D for the affected DC loads group.

h. Page 3/4 8-20: See discussion on item f.

i. Page 3/4 8-21: "And/or" has been revised to just "or" for consistency with the LCO requirement on page 3/4 8-20. Insert E is provided again for controls over common load transfer and restoration of normal alignment.

For the Unit 2 technical specifications, similar changes are proposed to each section. The only significant differences are on ACTION statements in the Unit 1 technical specification which cover the restoration of the normal Unit 1 alignment with respect to Unit 1 loads (tag along loads). Since no Unit 2 load is being transferred due to this change, such an ACTION is not required in the Unit 2 specifications.

The proposed changes do not involve a significant increase in the probability or consequences of an accident previously evaluated, for the following reasons:

Each unit has four independent 125-volt DC power sources. The FSAR analysis shows that a unit can be safely shut down with any one 125-volt DC power source inoperable.

Based on the revised design, one 125-volt DC source would fail due to a fault in a Unit 1 "tag along load" if both upstream protective devices failed (postulated worst condition). The more practical result of a fault on a "tag along load" would be loss of an individual circuit. Therefore, the most probable failure is much less severe than the loss of an entire power source, which has been previously evaluated.

Finally, the Unit 2 DC systems have been analyzed and do have sufficient capacity to operate all necessary loads for the design basis interval of four hours, after loss of AC power and assuming the loss of the battery charger.

The probable failure as a result of the revised design is within the bounds of the FSAR analysis, and battery capacity is sufficient to meet design loads. Therefore, no new or different failure possibility exists.

The staff has reviewed the design modification and its associated technical specification changes to avoid the forced shutdown of Unit 2 during the Unit 1 refueling outage, and as a result of our evaluation we find that proposed changes to the technical specification, 3/4.8.2 DC Sources, and 3/4.8.3 Onsite Power Distribution Systems, are acceptable.

Environmental Consideration

This amendment involves a change in the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that this amendment involves no significant hazards consideration and there has been no public comment on such finding. Accordingly, this amendment meets the eligibility criteria for categorical exclusion set forth in 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 this amendment.

Conclusion

We have 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, and (2) such activities will be conducted in compliance with the Commission's regulations and the issuance of this amendment will not be inimical to the common defense and security or to the health and safety of the public.

Dated: FEB 0 8 1985

FEB 0 8 1985

AMENDMENT NO. 31 TO FACILITY OPERATING LICENSE NO. NPF-14 AND AMENDMENT NO. 7 TO FACILITY OPERATING LICENSE NO. NPF-22 - SUSQUEHANNA STEAM ELECTRIC STATION, UNITS 1 AND 2 RESPECTIVELY

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