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

APR 23 1985

Docket No. 50-387

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

Dear Mr. Curtis:

SUBJECT: AMENDMENT NO. 40 TO FACILITY OPERATING LICENSE NO. NPF-14 - SUSQUEHANNA STEAM ELECTRIC STATION, UNIT 1

The Nuclear Regulatory Commission has issued the enclosed Amendment No. 40 to Facility Operating License No. NPF-14 for the Susquehanna Steam Electric Station, Unit 1. The amendment is in response to your letter dated October 31, 1984. This amendment includes two changes. The first change covers the addition of the ex-core neutron flux monitoring instrumentation to Tables 3.3.7.5-1 and 4.3.7.5-1, "Accident Monitoring Instrumentation." The second change covers the addition of an excess flow check valve to Table 3.6.3-1 which will be installed in the reference leg in support of the new level instrumentation.

A copy of the related safety evaluation supporting Amendment No. 40 to Facility Operating License NPF-14 is enclosed.

Sincerely,

A. Schwencer

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

Enclosures:
1. Amendment No. 40 to NPF-14
2. Safety Evaluation

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. 40
License No. NPF-14

1. The Nuclear Regulatory Commission (the Commission or the NRC) having found that:

   A. The application for an amendment filed by the Pennsylvania Power & Light Company, dated October 31, 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;

   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 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. 40, 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.

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3. This amendment is effective upon start-up following the first refueling outage.

FOR THE NUCLEAR REGULATORY COMMISSION

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

Enclosure:
Changes to the Technical
Specifications

Date of Issuance: APR 2 8 1985

ATTACHMENT TO LICENSE AMENDMENT NO. 40
FACILITY OPERATING LICENSE NO. NPF-14
DOCKET NO. 50-387

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

REMOVE	INSERT
3/4 3-71	3/4 3-71
3/4 3-72	3/4 3-72
3/4 3-73	3/4 3-73
3/4 3-74	3/4 3-74
3/4 6-27	3/4 6-27
3/4 6-28	3/4 6-28

TABLE 3.3.7.5-1

ACCIDENT MONITORING INSTRUMENTATION

INSTRUMENT	REQUIRED NUMBER OF CHANNELS	MINIMUM CHANNELS OPERABLE	ACTION	APPLICABLE OPERATIONAL CONDITION
1. Reactor Vessel Steam Dome Pressure	2	1	80	1, 2
2. Reactor Vessel Water Level	2	1	80	1, 2
3. Suppression Chamber Water Level	2	1	80	1, 2
4. Suppression Chamber Water Temperature	8, 6 locations	6, 1/location	80	1, 2
5. Suppression Chamber Air Temperature	2	1	80	1, 2
6. Primary Containment Pressure	2/range	1/range	80	1, 2
7. Drywell Temperature	2	1	80	1, 2
8. Drywell Gaseous Analyzer				
a. Oxygen	2	1	80	1#, 2#
b. Hydrogen	2	1	82	1#, 2#
9. Safety/Relief Valve Position Indicators	1/valve*	1/valve*	80	1, 2
10. Containment High Radiation	2	1	81	1, 2
11. Noble gas monitors**				
a. Reactor Bldg. Vent	1	1	81	1, 2 and ***
b. SGTS Vent	1	1	81	1, 2 and ***
c. Turbine Bldg. Vent	1	1	81	1, 2
12. Neutron Flux	2	1	80	1, 2

*Acoustic monitor.
**Mid-range and high-range channels
***When moving irradiated fuel in the secondary containment.
#See Special Test Exception 3.10.1

TABLE 3.3.7.5-1 (Continued)

ACCIDENT MONITORING INSTRUMENTATION

ACTION STATEMENT

ACTION 80 -

a. With the number of OPERABLE accident monitoring instrumentation channels less than the Required Number of Channels shown in Table 3.3.7.5-1, restore the inoperable channel(s) to OPERABLE status within 7 days or be in at least HOT SHUTDOWN within the next 12 hours.

b. With the number of OPERABLE accident monitoring instrumentation channels less than the Minimum Channels OPERABLE requirements of Table 3.3.7.5-1, restore the inoperable channel(s) to OPERABLE status within 48 hours or be in at least HOT SHUTDOWN within the next 12 hours.

ACTION 81 - With the number of OPERABLE Channels less than required by the Minimum Channels OPERABLE requirement, initiate the preplanned alternate method of monitoring the appropriate parameter(s) within 72 hours, and:

1. either restore the inoperable channel(s) to OPERABLE status within 7 days of the event, or

2. prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within 14 days following the event outlining the action taken, the cause of the inoperability, and the plans and schedule for restoring the system to OPERABLE status.

ACTION 82 -

a. With the number of OPERABLE channels one less than the required Number of Channels shown in Table 3.3.7.5-1, restore the inoperable channel to OPERABLE status within 30 days or be in at least HOT SHUTDOWN within the next 12 hours.

b. With the number of OPERABLE channels less than the Minimum Channels OPERABLE requirements of Table 3.3.7.5-1, restore at least one channel to OPERABLE status within 7 days or be in at least HOT SHUTDOWN within the next 12 hours.

TABLE 4.3.7.5-1

ACCIDENT MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

INSTRUMENT	CHANNEL CHECK	CHANNEL CALIBRATION
1. Reactor Vessel Steam Dome Pressure	M	R
2. Reactor Vessel Water Level	M	R
3. Suppression Chamber Water Level	M	R
4. Suppression Chamber Water Temperature	M	R
5. Suppression Chamber Air Temperature	M	R
6. Primary Containment Pressure	M	R
7. Drywell Temperature	M	R
8. Drywell Oxygen/Hydrogen Analyzer	M	Q*
9. Safety/Relief Valve Position Indicators	M	R
10. Containment High Radiation	M	R**
11. Noble gas monitors		
a. Reactor Bldg. Vent	M	R
b. SGTS Vent	M	R
c. Turbine Bldg. Vent	M	R
12. Neutron Flux	M	R

*For hydrogen analyzer, use sample gas containing:
a. Nominal zero volume percent hydrogen, balance nitrogen.
b. Nominal thirty volume percent hydrogen, balance nitrogen.

**CHANNEL CALIBRATION shall consist of an electronic calibration of the channel, not including the detector, for range decades above 10 R/hr and a one point calibration check of the detector below 10 R/hr with an installed or portable gamma source.

INSTRUMENTATION

SOURCE RANGE MONITORS

LIMITING CONDITION FOR OPERATION

3.3.7.6 At least three source range monitor channels shall be OPERABLE.

APPLICABILITY: OPERATIONAL CONDITIONS 2*, 3 and 4.

ACTION:

a. In OPERATIONAL CONDITION 2* with one of the above required source range monitor channels inoperable, restore at least 3 source range monitor channels to OPERABLE status within 4 hours or be in at least HOT SHUTDOWN within the next 12 hours.

b. In OPERATIONAL CONDITION 3 or 4 with two or more of the above required source range monitor channels inoperable, verify all insertable control rods to be inserted in the core and lock the reactor mode switch in the Shutdown position within 1 hour. |29

SURVEILLANCE REQUIREMENTS

4.3.7.6 Each of the above required source range monitor channels shall be demonstrated OPERABLE by:

a. Performance of a:

1. CHANNEL CHECK at least once per:

a) 12 hours in CONDITION 2*, and

b) 24 hours in CONDITION 3 or 4.

2. CHANNEL CALIBRATION** at least once per 18 months.

b. Performance of a CHANNEL FUNCTIONAL TEST:

1. Within 24 hours prior to moving the reactor mode switch from the Shutdown position, if not performed within the previous 7 days, and

2. At least once per 31 days.

c. Verifying, prior to withdrawal of control rods, that the SRM count rate is at least 0.7 cps*** with the detector fully inserted. |

*With IRM's on range 2 or below.
**Neutron detectors may be excluded from CHANNEL CALIBRATION.
***Provided signal-to-noise ratio is $\geq$ 2, otherwise 3 cps. |

TABLE 3.6.3-1 (Continued)

PRIMARY CONTAINMENT ISOLATION VALVES

VALVE FUNCTION AND NUMBER

Excess Flow Check Valves (Continued)

Reactor Recirculation

XV-143F003 A,B
XV-143F004 A,B
XV-143F009 A,B,C,D
XV-143F010 A,B,C,D
XV-143F011 A,B,C,D
XV-143F012 A,B,C,D
XV-143F040 A,B,C,D
XV-143F057 A,B

Nuclear Boiler Vessel Instrument

XV-142F041
XV-142F043 A,B
XV-142F045 A,B
XV-142F047 A,B
XV-142F051 A,B,C,D
XV-142F053 A,B,C,D
XV-142F055
XV-142F057
XV-142F059 A,B,C,D,E,F,G,H,L,M,N,P,R,S,T,U
XV-142F061
XV-14201
XV-14202

Nuclear Boiler

XV-141F070 A,B,C,D
XV-141F071 A,B,C,D
XV-141F072 A,B,C,D
XV-141F073 A,B,C,D
XV-141F009

MSIVLCS

XV-13910 B,F,K,P

TABLE 3.6.3-1 (Continued)

PRIMARY CONTAINMENT ISOLATION VALVES
NOTATION

(a) See Specification 3.3.2, Table 3.3.2-1, for isolation signal(s) that operates each automatic isolation valve. All power operated isolation valves may be opened or closed remote-manually.

(b) Isolation barrier remains water filled or a water seal remains in the line post-LOCA. Isolation valve is tested with water. Isolation valve leakage is not included in 0.60 La total Type B and C tests.

(c) Redundant isolation boundary for this valve is provided by the closed system whose integrity is verified by Type A test.

(d) Automatic isolation signal causes TIP to retract; ball valve closes when probe is fully retracted.

(e) Power assisted check valve.

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

SAFETY EVALUATION
AMENDMENT NO. 40 TO NPF-14
SUSQUEHANNA STEAM ELECTRIC STATION, UNIT 1
DOCKET NO. 50-387

Introduction

By letter dated October 31, 1984 the licensee proposed changes to the Technical Specifications of the operating license for the Susquehanna Steam Electric Station, Unit 1 concerning modifications resulting from the implementation of Regulatory Guide 1.97.

Evaluation

On December 17, 1982, all licensees of operating reactors, applicants for operating licenses and holders of construction permits were sent a copy of Generic Letter No. 82-33 (Supplement 1 to NUREG-0737). This letter included guidance on post-accident monitoring instrumentation through an endorsement of Regulatory Guide 1.97, Revision 2. Regulatory Guide 1.97, Revision 2 divides the post-accident monitoring instruments into three categories providing a graded approach to requirements depending on the importance to safety of the measurement of a specific variable. Category 1 includes the most stringent requirements and is intended for key variables. Category 2 includes less stringent requirements and generally applies to instrumentation designated for indicating system operating status and instrumentation provided to furnish information regarding the release of radioactive materials. Category 3 is intended to provide requirements that will ensure high-quality, off-the-shelf instrumentation is used for backup and diagnostic instrumentation. Although the Regulatory Guide does not include explicit guidance on technical specifications, it does state that the Category 1 instrumentation "should be available prior to an accident except as provided in paragraph 4.11, 'Exception,' as defined in IEEE Standard 279 or as specified in the Technical Specifications" (C.1.3.1). For Category 2 instrumentation, the Regulatory Guide states: "the out-of-service interval should be based on normal technical specification requirements on out-of-service for the system it serves where applicable or where specified by other requirements" (C.1.3.2).

Generic Letter 83-36, "NUREG-0737 Technical Specifications," dated November 1, 1983 requested that the licensee provide information regarding the implementation of Technical Specifications for certain NUREG-0737 items. In a letter dated October 31, 1984, the licensee submitted proposed technical specification changes to their Accident Monitoring Instrumentation. The requested changes by PP&L reflect their commitment (letter dated November 13, 1981 from N. W. Curtis to A. Schwencer) relative to the implementation of the requirements of NUREG-0737, Supplement 1 (Regulatory Guide 1.97). The first change covers the addition of the ex-core neutron flux monitoring instrumentation to Tables 3.3.7.5-1 and 4.3.7.5-1, "Accident Monitoring Instrumentation." The second change covers the addition of an excess flow valve to Table 3.6.3-1; this valve will be installed in the reference leg in support of the new level instrumentation.

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The licensee's submittal provided an action statement for restoring the inoperable channel(s) (less than the required number) to operable status within 7 days or be in hot shutdown within the next 12 hours. For anything less than the minimum channels operable, the licensee has 48 hours to restore the channel to operable status or be in hot shutdown within 12 hours.

Based on the above, the staff has concluded that the licensee's planned operating procedures for the implementation of the action statements associated with Neutron Flux instrumentation is adequate and provides incentive for the licensee to restore an instrument to operability as soon as practical without restricting plant operations.

Conclusion

The staff finds the proposed changes to the Susquehanna, Unit 1 Technical Specifications pertaining to accident monitoring instrumentation (Neutron Flux) permit the operation of the facility in a manner that is consistent with the licensing basis and the accident analysis and the guidance of NRC Generic Letter No. 83-36, "NUREG-0737 Technical Specifications."

Based on the above, the staff concludes that the proposed technical specification modifications concerning implementation of Neutron Flux to Table 3.3.7.5-1 and Table 4.3.7.5-1 are acceptable. We also conclude that the addition of the excess flow valve (XV-14202) to Table 3.6.3-1 in support of the new level instrumentation is 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 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 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 this amendment.

Conclusion

(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: APR 23 1985

Docket No. 50-387

APR 23 1985

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

Dear Mr. Curtis:

SUBJECT: AMENDMENT NO. 40 TO FACILITY OPERATING LICENSE NO. NPF-14 - SUSQUEHANNA STEAM ELECTRIC STATION, UNIT 1

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A copy of the related safety evaluation supporting Amendment No. 40 to Facility Operating License NPF-14 is enclosed.

Sincerely,

Original signed by:

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

Enclosures:
1. Amendment No. 40 to NPF-14
2. Safety Evaluation

cc w/enclosures:
See next page

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