December 12, 1983

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. 20 to Facility Operating License No. NPF-14 - Susquehanna Steam Electric Station, Unit 1

The Nuclear Regulatory Commission has issued the enclosed Amendment No. 20 to Facility Operating License No. NPF-14 for the Susquehanna Steam Electric Station, Unit 1. The amendment is in response to your letter dated August 15, 1983. The amendment clarifies that the monthly requirement for grab samples for Gaseous Release Type "B" in Technical Specification Table 4.11.2.1.2-1 does not require grab samples for particulates and iodines. This amendment also adds fire hose stations above elevation 749'1" to Technical Specification Table 3.7.6.5-1 to ensure a proper level of surveillance on equipment that protects safety-related equipment.

A copy of the related safety evaluation supporting Amendment No. 20 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. 20 to NPF-14
2. Safety Evaluation

cc w/ enclosures:
See next page

*SEE PREVIOUS CONCURRENCES

DL:LB#2/PM*	DL:LB#2/LA*	DL:LB#2/BC*	OELD	DL:AD/L
RLPerch:pt	EGHylton	ASchwencer	MEWagner	TMNovak
11/28/83	11/22/83	11/29/83	12/5/83	12/12/83

8312280208 831212
PDR ADOCK 05000387
P PDR

Susquehanna

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

ccs: Jay Silberg, Esquire
Shaw, Pittman, Potts & Trowbridge
1800 M Street, N. W.
Washington, D. C. 20036

Edward M. Nagel, Esquire
General Counsel and Secretary
Pennsylvania Power & Light Company
2 North Ninth Street
Allentown, Pennsylvania 18101

Mr. William E. Barberich
Nuclear Licensing Group Supervisor
Pennsylvania Power & Light Company
2 North Ninth Street
Allentown, Pennsylvania 18101

Mr. G. Rhodes
Resident Inspector
P. O. Box 52
Shickshinny, Pennsylvania 18655

Gerald R. Schultz, Esquire
Susquehanna Environmental Advocates
P. O. Box 1560
Wilkes-Barre, Pennsylvania 18703

Mr. E. B. Poser
Project Engineer
Bechtel Power Corporation
P. O. Box 3965
San Francisco, California 94119

Dr. Judith H. Johnsrud
Co-Director
Environmental Coalition on Nuclear Power
433 Orlando Avenue
State College, Pennsylvania 16801

Mr. Thomas M. Gerusky, Director
Bureau of Radiation Protection Resources
Commonwealth of Pennsylvania
P. O. Box 2063
Harrisburg, Pennsylvania 17120

Ms. Colleen Marsh
P. O. Box 538A, RD #4
Mountain Top, Pennsylvania 18707

Mr. Thomas J. Halligan
Correspondent
The Citizens Against Nuclear Dangers
P. O. Box 5
Scranton, Pennsylvania 18501

Mr. N. D. Weiss
Project Manager
Mail Code 391
General Electric Company
175 Curtner Avenue
San Jose, California 95125

Robert W. Adler, Esquire
Office of Attorney General
505 Executive House
P. O. Box 2357
Harrisburg, Pennsylvania 17120

Susquehanna

cc: Governor's Office of State Planning & Development
Attn: Coordinator, State Clearinghouse
P O. Box 1323
Harrisburg, Pennsylvania 17120

Mr. Bruce Thomas, President
Board of Supervisors
R. D. #1
Berwick, Pennsylvania 18603

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

Amendment No. 20
License No. NPF-14

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

   A. The application for amendment filed by the Pennsylvania Power and Light Company, dated August 15, 1983, 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 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. 20 , 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.

8312280214 831212
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

Attachment:
Changes to the Technical
Specifications

Date of Issuance: December 12, 1983

DL:LB#2/PM	DL:LB#2/LA	DL:LB#2/BC	OELD	DL:AD/L
RLPerch:pt	EGHylton	ASchwencer	MEWagner	TMNovak
11/28/83	11/29/83	11/29/83	12/5/83	12/12/83

ATTACHMENT TO LICENSE AMENDMENT NO. 20
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 7-41	3/4 7-41
3/4 7-42	3/4 7-42
3/4 11-9	3/4 11-9
3/4 11-10	3/4 11-10
3/4 11-11	3/4 11-11
3/4 11-12	3/4 11-12

TABLE 3.7.6.5-1

FIRE HOSE STATIONS

LOCATIONS	COLUMN	HOSE RACK NUMBER
a. Control Structure		
El. 697'-0"	L-26	1HR-171
El. 697'-0"	L-32	2HR-171
El. 714'-0"	L-26	1HR-162
El. 714'-0"	L-31	2HR-162
El. 729'-0"	L-25.9	1HR-158
El. 729'-0"	L-32.1	2HR-158
El. 754'-0"	L-26	1HR-136
El. 754'-0"	L-32	2HR-136
El. 771'-0"	L-26	1HR-125
El. 771'-0"	L-31	2HR-125
b. Reactor Building		
El. 645'-0"	R-29	1HR-271
El. 645'-0"	P-20.6	1HR-272
El. 645'-0"	U-22	1HR-273
El. 645'-0"	R-37.4	2HR-271
El. 645'-0"	U-30.5	2HR-272
El. 645'-0"	R-30	2HR-273
El. 670'-0"	Q-27.5	1HR-261
El. 670'-0"	Q-29	1HR-262
El. 670'-0"	T-22	1HR-263
El. 683'-0"	Q-27.5	1HR-251
El. 683'-0"	Q-20.6	1HR-252
El. 683'-0"	T-22	1HR-253
El. 719'-1"	Q-27.5	1HR-241
El. 719'-1"	S-27.5	1HR-242
El. 719'-1"	Q-20.6	1HR-243
El. 719'-1"	T-20.6	1HR-244
El. 719'-1"	T-23.5	1HR-245
El. 749'-1"	S-27.5	1HR-231
El. 749'-1"	Q-20.6	1HR-232
El. 749'-1"	T-20.6	1HR-233
El. 779'-1"	P-26.5	1HR-221
El. 779'-1"	S-26.5	1HR-222
El. 779'-1"	Q-22	1HR-223
El. 779'-1"	U-20.6	1HR-224
El. 799'-1"	T-23.3	1HR-211
El. 818'-1"	P-26.5	1HR-201
El. 818'-1"	U-26.5	1HR-202
El. 818'-1"	Q-20.6	1HR-203

PLANT SYSTEMS

YARD FIRE HYDRANTS AND HYDRANT HOSE HOUSES

LIMITING CONDITION FOR OPERATION

3.7.6.6 Yard fire hydrants 1FH122 and 1FH104 and associated hydrant hose houses shall be OPERABLE.

APPLICABILITY: Whenever equipment in the areas protected by the yard fire hydrants is required to be OPERABLE.

ACTION:

a. With yard fire hydrants 1FH122 and/or 1FH104 and/or associated hydrant hose houses inoperable, route sufficient additional lengths of fire hose of equal or greater diameter located in adjacent OPERABLE hydrant hose house(s) to provide service to the unprotected area(s) within one hour. Restore the inoperable hydrant(s) and/or hose house(s) to OPERABLE status within 14 days or, in lieu of any other report required by Specification 6.9.1, prepare and submit a Special Report to the Commission pursuant to Specification 6.9.2 within the next 30 days outlining the action taken, the cause of the inoperability and the plans and schedule for restoring the system to OPERABLE status.

b. The provisions of Specifications 3.0.3 and 3.0.4 are not applicable.

SURVEILLANCE REQUIREMENTS

4.7.6.6 Yard fire hydrants 1FH122 and 1FH104 and associated hydrant hose houses shall be demonstrated OPERABLE:

a. At least once per 31 days by visual inspection of the hydrant hose houses to assure all required equipment is at the hose houses.

b. At least once per 6 months, during March, April or May and during September, October or November, by visually inspecting the yard fire hydrants and verifying that the hydrant barrels are dry and that the hydrants are not damaged.

c. At least once per 12 months by:

1. Conducting hose hydrostatic tests at a pressure of 150 psig or at least 50 psig above the maximum fire main operating pressure, whichever is greater.

2. Replacement of all degraded gaskets in couplings.

3. Performing a flow check of each hydrant.

RADIOACTIVE EFFLUENTS

3/4.11.2 GASEOUS EFFLUENTS

DOSE RATE

LIMITING CONDITION FOR OPERATION

3.11.2.1 The dose rate due to radioactive materials released in gaseous effluents from the site (see Figure 5.1.3-1) shall be limited to the following:

a. For noble gases: Less than or equal to 500 mrems/yr to the total body and less than or equal to 3000 mrems/yr to the skin, and

b. For iodine-131, for tritium, and for all radionuclides in particulate form with half lives greater than 8 days: Less than or equal to 1500 mrem/yr to any organ. (Inhalation pathways only.)

APPLICABILITY: At all times.

ACTION:

With the dose rate(s) exceeding the above limits, immediately restore the release rate to within the above limits.

SURVEILLANCE REQUIREMENTS

4.11.2.1.1 The dose rate due to noble gases in gaseous effluents shall be determined to be within the above limits in accordance with the methodology and parameters of the ODCM.

4.11.2.1.2 The dose rate due to iodine-131, tritium, and all radionuclides in particulate form with half lives greater than 8 days in gaseous effluents shall be determined to be within the above limits in accordance with the methodology and parameters of the ODCM by obtaining representative samples and performing analyses in accordance with the sampling and analysis program specified in Table 4.11.2.1.2-1.

TABLE 4.11.2.1.2-1

RADIOACTIVE GASEOUS WASTE SAMPLING AND ANALYSIS PROGRAM

Gaseous Release Type	Sampling Frequency	Minimum Analysis Frequency	Type of Activity Analysis	Lower Limit of Detection (LLD)[a] (μCi/ml)
A. Containment Purge	P Each Purge[b] Grab Sample	P Each Purge[b]	Principal Gamma Emitters[g]	$1x10^{-4}$
			H-3	$1x10^{-6}$
B. Reactor Building Vents, Turbine Building Vents, and SGTS	M[b] Grab Sample	M[b]	Principal Gamma Emitters[h]	$1x10^{-4}$
			H-3	$1x10^{-6}$
C. All Release Types as listed in A and B.	Continuous[f]	W[c,d] Charcoal Sample	I-131	$1x10^{-12}$
	Continuous[f]	W[c,d] Particulate Sample	Principal Gamma Emitters[g] (I-131, Others)	$1x10^{-11}$
	Continuous[f]	Q Composite Particulate Sample	Gross Alpha	$1x10^{-11}$
	Continuous[f]	Q Composite Particulate Sample	Sr-89, Sr-90	$1x10^{-11}$
	Continuous[f]	Noble Gas Monitor	Noble Gases Gross Beta or Gamma	$1x10^{-6}$ (XE-133 equivalent)

TABLE 4.11.2.1.2-1 (Continued)

TABLE NOTATION

[a]The LLD is the smallest concentration of radioactive material that will be detected with 95% probability with 5% probability of falsely concluding that a blank observation represents a "real" signal.

For a particular measurement systems (which may include radiochemical separation):

$$LLD = \frac{4.66\ s_b}{E \cdot V \cdot 2.22 \times 10^6 \cdot Y \cdot \exp(-\lambda \Delta t)}$$

Where:

LLD is the a priori lower limit of detection as defined above (as microcuries per unit mass or volume),

s_b is the standard deviation of the background counting rate or of the counting rate of a blank sample as appropriate (as counts per minute),

E is the counting efficiency (as counts per disintegration),

V is the sample size (in units of mass or volume),

2.22×10^6 is the number of disintegrations per minute per microcurie,

Y is the fractional radiochemical yield (when applicable),

λ is the radioactive decay constant for the particular radionuclide, and

Δt is the elapsed time between midpoint of sample collection and time of counting (for plant effluents, not environmental samples)

The value of s_b used in the calculation of the LLD for a detection system shall be based on the actual observed variance of the background counting rate or of the counting rate of the blank samples (as appropriate) rather than on an unverfied theoretically predicted variance. Typical values of E, V, Y, and Δt shall be used in the calculation.

TABLE 4.11.2.1.2-1 (Continued)

TABLE NOTATION

b. If the iodine or particulate monitoring channel(s) is(are) inoperative, analyses shall also be performed following shutdown, startup, or a THERMAL POWER change exceeding 15 percent of the RATED THERMAL POWER within a one hour period.

c. Particulate and/or charcoal samples shall be analyzed when an alarm is received indicating rate of activity buildup exceeds 3 times normal

d. Samples shall be changed at least once per 7 days and analyses shall be completed within 48 hours after changing, or after removal from sampler. If the iodine or particulate monitoring channel(s) is (are) inoperative, sampling shall also be performed at least once per 24 hours for at least 7 days following each shutdown, startup or THERMAL POWER change exceeding 15 percent of RATED THERMAL POWER in one hour and analyses completed within 48 hours of changing. When samples collected for 24 hours are analyzed, the corresponding LLDs may be increased by a factor of 10.

e. (Deleted)

f. The ratio of the sample flow rate to the sampled stream flow rate shall be known for the time period covered by each dose or dose rate calculation made in accordance with Specifications 3.11.2.1, 3.11.2.2 and 3.11.2.3.

g. The principal gamma emitters for which the LLD specification applies exclusively are the following radionuclides: Kr-87, Kr-88, Xe-133, Xe-133m, Xe-135, Xe-135m and Xe-138 for gaseous emissions and Mn-54, Fe-59, Co-58, Co-60, Zn-65, Mo-99, Cs-134, Cs-137, Ce-141 and Ce-144 for particulate emissions. This list does not mean that only these nuclides are to be considered. Other gamma peaks which are identifiable, together with those of the above nuclides, shall also be analyzed and reported in the Semiannual Radioactive Effluent and Release Report, pursuant to Specification 6.9.1.11. | 14

h. Under the provisions of footnote g. above, only noble gases need to be considered. |

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

SAFETY EVALUATION
AMENDMENT NO. 20 TO NPF-14
SUSQUEHANNA STEAM ELECTRIC STATION, UNIT 1
DOCKET NO. 50-387

Introduction

The licensee in a letter dated August 15, 1983, proposed changes to the Technical Specifications of the operating license for Susquehanna Steam Electric Station, Unit 1 which are as follows:

a) Clarify that the monthly requirement for grab samples for Gaseous Release Type "B" in Technical Specification Table 4.11.2.1.2-1 does not require grab samples for particulates and iodines. This change would be accomplished by changing the footnote notation on "Principal Gamma Emitters" under Types of Activity Analysis for Gaseous Release Type "B" from "g" to "h" and adding an additional footnote "h" at the end of Technical Specification Table 4.11.2.1.2-1 to read: "Under the provisions of footnote g above, only noble gases need be considered." and,

b) Adds fire hose stations above elevation 749'1" to Technical Specification Table 3.7.6.5-1 to ensure a proper level of surveillance on equipment that protects safety-related equipment.

Evaluation

a) Technical Specification Table 4.11.2.1.2-1

The NRC staff has reviewed the Pennsylvania Power and Light Company's request to delete redundant monthly sampling requirements for iodine and particulates in the Reactor Building, Turbine Building and Standby Gas Treatment System exhaust vents. The licensee states that the present plant Technical Specifications require these vents to be continuously monitored for noble gases, iodines and particulates, with an additional monthly requirement to take grab samples of these vent streams and analyze for noble gases, iodines and particulates. The licensee claims that because the iodine and particulate information is made available by the continuous monitors, there is no need to perform iodine and particulate analysis on the grab samples. However, grab sample analysis for noble gas isotopic characterization will still be required.

The staff concludes that iodine and particulate analysis of grab samples taken from vents that are continuously monitored for same is redundant and does not provide any additional information. Therefore, the licensee Technical Specifications change regarding grab sampling analysis of the subject vent stream is acceptable.

8312280232 831212
PDR ADOCK 05000387
P PDR

b) Technical Specification Table 3.7.6.5-1

The NRC staff has reviewed Pennsylvania Power & Light Company's request to add fire hose stations above elevation 749'1" to Technical Specification Table 3.7.6.5-1. The licensee states that omission of the fire hose stations above elevation 749'1" was an administrative error and that these fire stations have been in place since the inception of the Unit 1 license.

The NRC staff concludes that the fire hose stations above elevation 749'1" should be added to Technical Specification Table 3.7.6.5-1 to ensure a proper level of surveillance on equipment that protects safety-related equipment. Therefore, the licensee Technical Specification change adding fire hose stations above elevation 749'1" to Table 3.7.6.5-1 is acceptable.

Environmental Consideration

We have determined that this amendment does not authorize a change in effluent types or total amount nor an increase in power level and will not result in any significant environmental impact. Having made this determination, we have further concluded that this amendment involves action which is insignificant from the standpoint of environmental impact, and pursuant to 10 CFR Section 51.5(d)(4), that an environmental impact statement or negative declaration and enviromental impact appraisal need not 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: December 12, 1983

DL:LB#2/PM	DL:LB#2/BC	OELD	DL:AD/L
RLPerch:pt	ASchwencer	MEWagner	TMNovak
11/28/83	11/30/83	12/5/83	12/12/83

DATED: December 12, 1983

AMENDMENT No. 20 - SUSQUEHANNA
Document Control (50-387)
NRC PDR
L PDR
NSIC
PRC

LB#2 File
EHylton
RPerch
Wagner, OELD
Region I
HDenton
DEisenhut/RPurple
DBrinkman, SSPB
ELJordan, DEQA:IE
JMTaylor, DRP:IE
LJHarmon, IE (2)
JSauder
WMiller
IDinitz
WJones, QA
TBarnhart (4)
BPCotter, ASLBP
ARosenthal, ASLAP
FPagano, IE
ACRS (16)