

MAR 23 1984

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

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Dear Mr. Curtis:

Subject: Issuance of Facility Operating License NPF-22 -
Susquehanna Steam Electric Station, Unit 2

The U.S. Nuclear Regulatory Commission (NRC) has issued the enclosed Facility Operating License NPF-22, together with Technical Specifications and Environmental Protection Plan for Susquehanna Steam Electric Station, Unit 2. License No. NPF-22 authorizes operation of Susquehanna Steam Electric Station, Unit 2, at reactor core power levels not in excess of 3293 megawatts thermal (100% power). Pending Commission approval, operation is restricted to power levels not to exceed 5 percent of full power (164.6 megawatts thermal).

Enclosed is a copy of a related notice, the original of which has been forwarded to the Office of the Federal Register for publication.

Three signed copies of Amendment No. 3 to Indemnity Agreement No. B-90 which covers the activities authorized under License No. NPF-22 are also enclosed. Please sign all copies and return one copy to this office.

Sincerely,

151
Darrell G. Eisenhut, Director
Division of Licensing
Office of Nuclear Reactor Regulation

Enclosures:

- 1. Facility Operating License NPF-22 *see Tech. Spec*
- 2. Federal Register Notice
- 3. Amendment No. 3 to Indemnity Agreement No. B-90

cc w/enclosures:
See next page

AD:DL TNovak 03/21/84	D:DL DEisenhut 03/23/84					
LB#1:DL MRushbrook:kab 03/28/84	LB#1:DL RPerch 03/21/84	LB#1:DL BJYoungblood 03/21/84	AEAB7DE AToalston 03/21/84	SP IDinitz 03/21/84	OELD JRutberg 03/21/84	OELD MWagner 03/21/84

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Susquehanna

MAR 23 1984

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

EIS Review Coordinator, EPA Region III
Curtis Building, 6th Floor
6th and Walnut Streets
Philadelphia, Pennsylvania 19106

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

Attorney General
Department of Justice
Capitol Annex
Harrisburg, Pennsylvania 17120

Department of Environmental Resources
ATTN: Director, Bureau of Radiation
Protection
Fulton Building
P. O. Box 2063
Harrisburg, Pennsylvania 17120

Dept of Environmental Resources
Office of Environmental Planning
ATTN: Mr. David Hess
Room 813, Executive House
Harrisburg, Pennsylvania 17120

President, Board of Supervisors
738 East Third Street
Berwick, Pennsylvania



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

FACILITY OPERATING LICENSE

License No. NPF-22

1. The Nuclear Regulatory Commission (the Commission or the NRC) having found that:
 - A. The application for a license filed by the Pennsylvania Power & Light Company and the Allegheny Electric Cooperative, Inc. (the licensees) 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, and all required notifications to other agencies or bodies have been duly made;
 - B. Construction of the Susquehanna Steam Electric Station, Unit 2 (the facility), has been substantially completed in conformity with Construction Permit No. CPPR-102 and the application, as amended, the provisions of the Act, and the regulations of the Commission;
 - C. The facility will operate in conformity with the application, as amended, the provisions of the Act, and the regulations of the Commission;
 - D. There is reasonable assurance: (i) that the activities authorized by this operating license 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;
 - E. The Pennsylvania Power & Light Company* is technically qualified to engage in the activities authorized by this operating license in accordance with the Commission's regulations set forth in 10 CFR Chapter I;

*The Pennsylvania Power & Light Company is authorized to act as agent for the Allegheny Electric Cooperative, Inc. and has exclusive responsibility and control over the physical construction, operation and maintenance of the facility.

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- F. The licensees have satisfied the applicable provisions of 10 CFR 140, "Financial Protection Requirements and Indemnity Agreements", of the Commission's regulations;
 - G. The issuance of this license will not be inimical to the common defense and security or to the health and safety of the public;
 - H. After weighing the environmental, economic, technical, and other benefits of the facility against environmental and other costs and considering available alternatives, the issuance of Facility Operating License No. NPF-22 subject to the condition for protection of the environment set forth herein, is in accordance with 10 CFR Part 51 of the Commission's regulations and all applicable requirements have been satisfied; and
 - I. The receipt, possession, and use of source, byproduct, and special nuclear material as authorized by this license will be in accordance with the Commission's regulations in 10 CFR Parts 30, 40 and 70.
2. Based on the foregoing findings regarding this facility, Facility Operating License No. NPF-22 is hereby issued to the Pennsylvania Power & Light Company and the Allegheny Electric Cooperative, Inc. to read as follows:
- A. This license applies to the Susquehanna Steam Electric Station, Unit 2, a boiling water nuclear reactor and associated equipment (the facility), owned by the licensees. The facility is located in Luzerne County, Pennsylvania, and is described in the licensees' Final Safety Analysis Report, as supplemented and amended, and the licensees' Environmental Report, as supplemented and amended.
 - B. Subject to the conditions and requirements incorporated herein, the Commission hereby licenses:
 - (1) Pursuant to Section 103 of the Act and 10 CFR Part 50, "Domestic Licensing of Production and Utilization Facilities", Pennsylvania Power & Light Company (PP&L) and the Allegheny Electric Cooperative, Inc. to possess, and PP&L to use, and operate the facility at the designated location in Luzerne County, Pennsylvania, in accordance with the procedures and limitation set forth in this license;
 - (2) PP&L, pursuant to the Act and 10 CFR Part 70, to receive, possess, and use at any time special nuclear material as reactor fuel, in accordance with the limitations for storage and amounts required for reactor operation, as described in the Final Safety Analysis Report, as supplemented and amended;

- (3) PP&L, pursuant to the Act and 10 CFR Parts 30, 40, and 70, to receive, possess, and use at any time any byproduct, source and special nuclear material as sealed neutron sources for reactor startup, sealed neutron sources for reactor instrumentation and radiation monitoring equipment calibration, and as fission detectors in amounts as required;
- (4) PP&L, pursuant to the Act and 10 CFR Parts 30, 40, and 70, to receive, possess, and use in amounts as required any byproduct, source or special nuclear material without restriction to chemical or physical form, for sample analysis or instrument calibration or associated with radioactive apparatus or components; and
- (5) PP&L, pursuant to the Act and 10 CFR Parts 30, 40, and 70, to possess, but not separate, such byproduct and special nuclear materials as may be produced by the operation of the facility.

C. This license shall be deemed to contain and is subject to the conditions specified in the Commission's regulations set forth in 10 CFR Chapter I and is subject to all applicable provisions of the Act and to the rules, regulations and orders of the Commission now or hereafter in effect; and is subject to the additional conditions specified or incorporated below:

(1) Maximum Power Level

Pennsylvania Power & Light Company (PP&L) is authorized to operate the facility at reactor core power levels not in excess of 3293 megawatts thermal (100% power) in accordance with the conditions specified herein and in Attachment 1 to this license. The preoperational tests, startup tests and other items identified in Attachment 1 to this license shall be completed as specified. Attachment 1 is hereby incorporated into this license. Pending Commission approval, this license is restricted to power levels not to exceed five percent of full power (164.6 megawatts thermal).

(2) Technical Specifications and Environmental Protection Plan

The Technical Specifications contained in Appendix A and the Environmental Protection Plan contained in Appendix B, both of which are attached hereto, are hereby incorporated in this license. PP&L shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

(3) Fire Protection Program (Section 9.5, SER, SSER #1, SSER #2, SSER #3)

PP&L shall maintain in effect and fully implement all provisions of the approved fire protection program.

(4) Operation with Partial Feedwater Heating at End-of-Cycle (Section 15.1 SER, SSER #1)

PP&L shall not operate with partial feedwater heating for the purpose of extending the normal fuel cycle unless acceptable justification is provided to and approved by the NRC staff prior to such operation.

(5) Initial Test Program (Section 14, SER, SSER #1)

PP&L shall conduct the post-fuel-loading initial test program described in Section 14 of the Final Safety Analysis Report, as amended without making any major modifications unless such modifications have prior NRC approval. Major modifications are defined as:

- (a) Elimination of any safety-related test*;
- (b) Modifications of objectives, test methods or acceptance criteria for any safety-related test;
- (c) Performance of any safety-related test at a power level different from that stated in the licensees' Final Safety Analysis Report by more than 5 percent of rated power;
- (d) Failure to satisfactorily complete the entire initial startup test program by the time core burnup equals 120 effective full power days;
- (e) Deviation from initial test program administrative procedures or quality assurance controls described in the licensees' Final Safety Analysis Report; and
- (g) Delays in the test program in excess of 30 days (14 days if power levels exceeds 50 percent) concurrent with power operation. If continued power operation is desired during a delay, the licensees shall provide justification that adequate testing has been performed and evaluated to demonstrate that the facility can be operated at the planned power level with reasonable assurance that the health and safety of the public will not be endangered.

*Safety-related tests are those test which verify the design, construction, and operation of safety-related systems, structures, and equipment.

(6) Inservice Inspection Program (Section 5.2.4 and 6.6, SER, SSER #1, SSER #3)

By March 1, 1985, PP&L shall submit a revised inservice inspection program for NRC review and approval.

(7) Environmental Qualification (Section 3.11, SER, SSER #1, SSER #2, SSER #3, SSER #4, SSER #5, SSER #6)

Prior to March 31, 1985, PP&L shall environmentally qualify all electrical equipment according to the provisions of 10 CFR 50.49.

(8) Seismic and Dynamic Qualification (Section 3.10, SER, SSER #1 SSER #3, SSER #4, SSER #5, SSER #6)

(a) Prior to exceeding five percent of rated power, PP&L shall complete qualification and documentation, as well as installation for:

(1) RCIC backup power supply and inverter

(2) A/E-added devices to NSSS panels

(b) Prior to the first refueling outage, PP&L shall complete qualification and documentation, as well as installation for the in-vessel rack.

(9) Surveillance of Control Blade (Section 4.2.3, SER)

Within 30 days after plant startup following the first refueling outage, PP&L shall comply with Items 1, 2, and 3 of IE Bulletin No. 79-26, Revision 1, "Boron Loss from BWR Control Blades", and submit a written response on Item 3.

(10) Additional Instrumentation and Control Concerns (Section 7.7.2, SER, SSER #2; Section 3.11.3, SSER #6)

Prior to exceeding five percent of rated power, PP&L shall resolve the following concerns to the NRC's satisfaction:

(a) whether common electrical power sources or sensor malfunctions may cause multiple control systems failures, and

(b) whether high energy line breaks will result in unacceptable consequential control system failures.

(11) Emergency Diesel Engine Starting Systems (Section 9.6.3, SER)

Prior to September 1, 1985, PP&L shall install air dryers upstream of the air receivers.

(12) NUREG-0737 Conditions (Section 22, SER)

PP&L shall complete the following conditions to the satisfaction of the NRC. These conditions reference the appropriate items in Section 22.2, "TMI Action Plan Requirements for Applicants for Operating Licenses," in the Safety Evaluation Report and Supplements 1, 2, 3, 4, 5, and 6, NUREG-0776.

(a) Nuclear Steam Supply System Vendor Review of Procedures I.C.7, SER, SSER #1)

Prior to achieving initial criticality, PP&L shall assure that the General Electric review of the power ascension test procedures has been completed.

(b) Detailed Control Room Design Review (I.D.1, SSER #6)

All human engineering deficiencies requiring correction as a result of PP&L's Detailed Control Room Design Review for Unit 1 shall be corrected in the Unit 2 control room. By March 1, 1985, PP&L should submit its schedule for implementing all human engineering deficiency corrective action for review and approval by NRC staff.

(c) Post Accident Sampling (II.B.3, SER, SSER #1, SSER #3)

(1) Prior to exceeding five percent of rated power, PP&L shall have installed and have operational the Post-Accident Sampling System.

(2) Prior to December 1, 1984, PP&L shall revise the interim core damage estimating procedure by submitting for staff review a final procedure which incorporates hydrogen levels, reactor vessel coolant level and containment radiation levels in addition to radionuclide data.

(d) Emergency Response Capabilities (Generic Letter 82-33, Supplement 1 to NUREG-0737)

PP&L shall complete emergency response facilities and capabilities as required in Attachment 2 of this license.

(e) Instrumentation for Detection of Inadequate Core Cooling
(II.F.2, SER, SSER #1, SSER #3, SSER #6)

PP&L shall implement the staff's requirements regarding upgrading of liquid level instrumentation or inclusion of additional instrumentation for detection of inadequate core cooling necessary to comply with Commission regulations, based on the staff's review of the BWR Owner's Group Reports (SLI 8211 & SLI 8218) and PP&L's plant specific evaluation report addressing the recommendations of the BWROG reports. Within 90 days after PP&L is informed of staff requirements, PP&L shall submit for review and approval by the staff, a schedule for implementing any required modifications regarding upgrading of liquid level instrumentation or inclusion of additional instrumentation for detection of inadequate core cooling.

(f) Modification of Automatic Depressurization System Logic-Feasibility
for Increased Diversity for Some Event Sequences (II.K.3.18, SER,
SSER #1, SSER #2, SSER #3, SSER #6)

(1) Prior to achieving initial criticality, PP&L shall:

- (i) Install modifications to the Automatic Depressurization System acceptable to the NRC, and
- (ii) Propose Technical Specifications for the bypass timer setting and surveillance requirements for the bypass timer.

(2) Prior to September 1, 1985, PP&L shall:

- (i) Incorporate into the Plant Emergency Procedures the usage of the manual inhibit switch, and
- (ii) Propose Technical Specifications for the manual inhibit switch

(3) PP&L shall maintain the manual inhibit switch disabled until license condition 2.C.(12)(f)(2) above is satisfied.

(13) Emergency Service Water System (Section 9.2.1, SSER #6)

Prior to September 1, 1985, PP&L shall complete modifications to the emergency service water (ESW) system described in PP&L letter dated May 16, 1983.

(14) Control of Heavy Loads (Section 9.1.4, SSER #6)

Prior to startup following the first refueling outage, PP&L shall submit commitments necessary to implement changes in modifications required to fully satisfy the guidelines of Sections 5.1.2 through 5.1.6 of NUREG-0612 (Phase II - nine month responses to the NRC generic letter dated December 22, 1980).

(15) Radon (ASLB Initial Decision, Paragraph 223)

This license will be subject to the ultimate outcome of the consolidated radon proceeding currently underway in Docket Nos. 50-277, 50-278, 50-320, 50-354 and 50-355.

(16) Formal Federal Emergency Management Agency Finding

In the event the NRC finds that the lack of progress in completion of the procedures in the Federal Emergency Management Agency's final rule, 44 CFR Part 350, is an indication that a major substantial problem exists in achieving or maintaining an adequate state of emergency preparedness, the provisions of 10 CFR Section 50.54 (s)(2) will apply.

- D. PP&L shall fully implement and maintain in effect all provisions of the Commission approved physical security, guard training and qualification, and safeguards contingency plans, including amendments made pursuant to the authority of 10 CFR 50.54(p). The approved plans, which contain Safeguards Information as described in 10 CFR 73.21, are collectively entitled:

"Susquehanna Steam Electric Station Physical Security Plan", Change A, dated July 31, 1978 (transmittal letter dated July 31, 1978); Change B, dated February 15, 1979 (transmittal letter dated February 15, 1979); Change C, dated August 15, 1979 (transmittal letter dated August 23, 1979); Change D, dated September 28, 1979 (transmittal letter dated October 8, 1979); Change E, dated May 22, 1980 (transmittal letter dated July 11, 1980); Change F, dated March 27, 1981 (transmittal letter dated April 8, 1981); Change G, (Safeguards Contingency Plan Chapter 11) dated May 29, 1981 (transmittal letter dated June 5, 1981); Change H, (Safeguards Contingency Plan Chapter 11), dated June 26, 1981 (transmittal letter dated

June 29, 1981), Change I, dated March 19, 1982 (transmittal letter dated March 26, 1981), Change J, dated April 1, 1982 (transmittal letter dated April 23, 1982); Change K, dated May 4, 1982 (transmittal letter dated May 5, 1982); Change L, dated July 9, 1982 (transmittal letter dated July 13, 1982); Change M, dated October 15, 1981 (transmittal letter dated October 25, 1982); Change N, dated April 25, 1983 (transmittal letter dated May 6, 1983); Change O, dated June 15, 1983 (transmittal letter dated June 16, 1983); Change P, dated June 27, 1983 (transmittal letter dated July 17, 1983); and "Susquehanna Security Training and Qualification Plan", Change A, dated August 26, 1981 (transmittal letter dated September 1, 1981); Change B, dated February 3, 1983 (transmittal letter dated February 11, 1983).

E. Reporting to the Commission:

PP&L shall report any violations of the requirements contained in Section 2, Items C(1), C(3) through C(16) of this license within twenty-four (24) hours. Initial notification shall be made in accordance with the provisions of 10 CFR 50.72 with written followup in accordance with the procedures described in 10 CFR 50.73 (b), (c), and (e).

F. PP&L shall have and maintain financial protection of such type and in such amounts as the Commission shall require in accordance with Section 170 of the Atomic Energy Act of 1954, as amended, to cover public liability claims.

G. This license is effective as of the date of issuance and shall expire at midnight on March 23, 2024.

FOR THE NUCLEAR REGULATORY COMMISSION

14 DARRELL C. EISENHUT
for Harold R. Denton, Director
Office of Nuclear Reactor Regulation

Attachments:

1. Attachment 1
2. Attachment 2
3. Appendix A - Technical Specifications (NUREG-1042)
4. Appendix B - Environmental Protection Plan

Date of Issuance: **MAR 23 1984**

*See previous page for concurrences

Retyped kab (3/21/84)

LB#1:DL	LB#1:DL	LB#1:DL	AD:L:DL	OELD	D:DL	D:NRR
*RPerch:kab	*MRushbrook	*BJYoungblood	*TNovak	*MWagner	*DEisenhut	*HDenton
02/28/84	02/28/84	03/02/84	03/02/84	03/19/84	03/23/84	03/23/84

ATTACHMENT 1

1. Outstanding Items to be Accomplished Prior to Initial Criticality
 - a. Complete permanent modification to correct the deficiency involving the isolation of the Nitrogen Makeup System. (Construction Deficiency Report 83-00-15)
 - b. Complete system modifications to ensure electrical separation for safety-related circuits. (Construction Deficiency Report 81-00-10)
 - c. Verify that waterhammer loads due to scram discharge volume vent and drain valve operation on scram reset do not affect system integrity. (Construction Deficiency Report 83-00-07)
 - d. Verify that system piping, for which improper design input was included in the piping specification, are qualified for the proper design stresses. (Construction Deficiency Report 83-00-17)
 - e. Verify that signal isolation devices installed in Class 1E circuits provide adequate electrical separation/isolation between Class 1E and Non 1E circuits. (Construction Deficiency Report 84-00-01)
 - f. Upon issue of the Operating License Technical Specifications, verify that specified conditions, setpoints, and action points in facility procedures are consistent with those Technical Specifications.
 - g. Verify electrical separation criteria is met inside multiple division pull boxes and junction boxes. (Construction Deficiency Report 83-00-14)
 - h. Complete modification to CRD insert/withdrawal line supports to ensure the system is qualified for design stresses. (Construction Deficiency Report 83-00-20)
2. Outstanding Item to be Completed Prior to Exceeding 5% Power
 - a. Submit technical specification change requests for both units to reflect bypass leakage limits on the feedwater lines and to require pneumatic local leak rate tests. (Construction Deficiency Report 83-00-03)
 - b. Verify the installation of additional post-accident monitoring instrumentation in accordance with NUREG-0737 items II.F.1.1, II.F.1.2 and II.F.1.3 and FSAR Section 18.1.30.

3. Outstanding Items to be Corrected by the First Refueling Outage

- a. Complete corrective action for deficiency involving cavitation caused by throttling valve in the RHR system. (Construction Deficiency Report 81-00-33)
- b. Complete corrective action for deficiency involving capstan springs in Pacific Scientific snubbers. (Construction Deficiency Report 83-00-18)

4. Outstanding Items to be Corrected by a Specific Date

- a. Complete correction of the remaining HED deficiencies in the Unit 2 control room documented in Inspection Report 50-388/84-08 by June 1, 1984.
- b. Complete corrective action for deficiency involving corrosion allowance for the ESW piping to and from the RHR pump motor oil coolers by 1988. (Construction Deficiency Report 83-00-16)
- c. Submit revisions to the FSAR to correct the discrepancies noted below by July 31, 1984.
 - (i) Delete reliance on the 30 day water seal on feedwater lines in Section 6.2.3 (Construction Deficiency Report 83-00-03).
 - (ii) Correct statements concerning sizing of the ADS accumulators in Section 18.1.60 (TMI II.K.3.28).
 - (iii) Correct information concerning containment isolation signals in Tables 18.1-10, 18.1-11, 18.1-12 and 6.2-12 (TMI II.E.4.2)
 - (iv) Correct information concerning performance of the SBGTS in Section 6.2, 6.5, 9.4 and 15.6 (Construction Deficiency 83-00-19).
 - (v) Chapter 14 must be updated to correctly reflect the Unit 2 test program (UNR 83-04-01).
- d. Verify that angle fittings used for class 1E raceway supports and seismic category 1 HVAC duct supports are capable of supporting their associated design loads by June 1, 1984. (Construction Deficiency Report 84-00-03)
- e. By September 1, 1984, submit to NRC Region I an acceptable long-term solution for spray pond spray network freezing. (Unresolved Item 83-32-02)
- f. Complete corrective action for deficiency involving Emergency Service Water system water hammer by September 1, 1985. (Construction Deficiency Report 82-00-06)

ATTACHMENT 2

PP&L shall implement the specific items below, in the manner described in PP&L letter (PLA-1621) dated April 15, 1983, as modified by PP&L letter (PLA-1750) dated July 22, 1983, PP&L letter (PLA-1772) dated August 3, 1983, PP&L letter (PLA-1966) dated November 23, 1983, PP&L letter (PLA-2059) dated February 1, 1984, and PP&L letter (PLA-2131) dated March 14, 1984 no later than the following specified dates:

(a) Safety Parameter Display System (SPDS)

SPDS fully operational and operators trained July 1, 1984

(b) Detailed Control Room Design Review (DCRDR)

Submit a supplemental summary report to the NRC including a proposed schedule for implementation. March 1, 1985

(c) Regulatory Guide 1.97 - Application to Emergency Response Facilities

(1) Submit a report to the NRC describing how the requirements of Supplement 1 to NUREG-0737 have been or will be met. May 1984

(2) Implement (installation or upgrade) requirements of R. G. 1.97 or provide justification acceptable to the NRC staff for suppression pool water temperature, drywell atmosphere temperature, neutron flux, primary containment isolation valve position, radiation level in circulating primary coolant, radiation exposure rate, and noble gas and vent rate. June 1987

(d) Upgrade Emergency Operating Procedures

(1) Submit a Procedures Generation Package to the NRC June 1985

(2) Implement the upgraded EOP's December 1985

(e) Emergency Response Facilities

(1) Technical Support Center fully functional June 1987

(2) Operational Support Center fully functional June 1987

(3) Emergency Operations Facility fully functional June 1987

PENNSYLVANIA POWER & LIGHT COMPANY
ALLEGHENY ELECTRIC COOPERATIVE, INC.
SUSQUEHANNA STEAM ELECTRIC STATION, UNIT NO. 2
DOCKET NO. 50-388
NOTICE OF ISSUANCE OF FACILITY OPERATING LICENSE

Notice is hereby given that the U. S. Nuclear Regulatory Commission (the Commission), has issued Facility Operating License No. NPF-22, to Pennsylvania Power & Light Company and Allegheny Electric Cooperative, Inc. (licensees) which authorizes operation of the Susquehanna Steam Electric Station, Unit No. 2 (the facility) at reactor core power levels not in excess of 3293 megawatts thermal in accordance with the provisions of the License and the Technical Specifications. Authorization to operate beyond five percent (164.4 megawatts thermal) is still under consideration and will require specific Commission approval.

Susquehanna Steam Electric Station, Unit 2 is a boiling water nuclear reactor located at the licensees' site in Luzerne County, Pennsylvania. The license is effective as of the date of issuance.

The application for the license complies with the standards and requirements of the Atomic Energy Act of 1954, as amended (the Act), and the Commission's regulations. The Commission has made appropriate findings as required by the Act and the Commission's regulations in 10 CFR Chapter I, which are set forth in the license. Prior public notice of the overall action involving the proposed issuance of an operating license was published in the Federal Register on August 9, 1978 (43 FR 35406).

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The Commission has determined that the issuance of this license will not result in any environmental impacts other than those evaluated in the Final Environmental Statement since the activity authorized by the license is encompassed by the overall action evaluated in the Final Environmental Statement.

For further details with respect to this action, see (1) Facility Operating License No. NPF-22, complete with Technical Specifications, (2) the report of the Advisory Committee on Reactor Safeguards, dated August 11, 1981, (3) the Commission's Safety Evaluation Report, dated April 1981, Supplement No. 1, dated June 1981, Supplement No. 2, dated September 1981, Supplement No. 3, dated July 1982, Supplement No. 4, dated November 1982, Supplement No. 5, dated March 1983, and Supplement No. 6 dated March 1984, (4) the Final Safety Analysis Report and amendments thereto; and (5) the Final Environmental Statement, dated June 1981.

These items are available for public inspection at the Commission's Public Document Room, 1717 H Street, N. W., Washington, D. C. 20555 and at the Osterhout Free Library, Reference Department, 71 South Franklin Street, Wilkes-Barre, Pennsylvania 18701. A copy of Facility Operating License No. NPF-22 may be obtained upon request addressed to the U. S. Nuclear Regulatory Commission, Washington, D. C. 20555, Attention: Director, Division of Licensing. Copies

of the Safety Evaluation Report and its Supplements (NUREG-0776) may be purchased at current rates from the National Technical Information Service, Department of Commerce, 5285 Port Royal Road, Springfield, Virginia 22161, and through the NRC GPO sales program by writing to the U. S. Nuclear Regulatory Commission, Attention: Sales Manager, Washington, D. C. 20555. GPO deposit account holders can call (301) 492-9530.

Dated at Bethesda, Maryland, this 23rd day of March 1984.

FOR THE NUCLEAR REGULATORY COMMISSION

13/

B. J. Youngblood, Chief
Licensing Branch No. 1
Division of Licensing

LB#1:DL
MRushby:ok:kab
02/03/84
3

LB#1: *RP* OELD
RPerch J. Scinto
02/21/84 03/23/84

signed cover letter

LB#1:DL
BJYoungblood
03/21/84



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

Docket No. 50-387
50-388

AMENDMENT TO INDEMNITY AGREEMENT NO. B-90
AMENDMENT NO. 3

Effective ~~MAR 23 1984~~, Indemnity Agreement No. B-90, between Pennsylvania Power and Light Company and Allegheny Electric Cooperative, Inc. and the Nuclear Regulatory Commission, dated September 10, 1981, as amended, is hereby further amended as follows:

Item 3 of the Attachment to the indemnity agreement is deleted in its entirety and the following substituted therefor:

Item 3 - License number or numbers

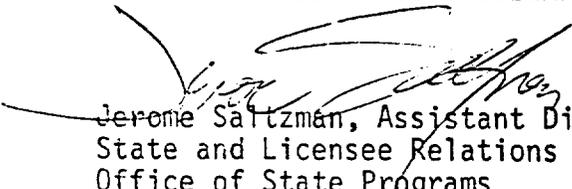
SNM-1878 (From 12:01 a.m., September 10, 1981 to 12 midnight, July 16, 1982, inclusive)

SNM-1919 (From 12:01 a.m., July 26, 1983, to 12 midnight, March 22, 1984 inclusive)

NPF-14 (From 12:01 a.m., July 17, 1982)

NPF-22 (From 12:01 a.m., March 23, 1984)

FOR THE UNITED STATES NUCLEAR REGULATORY COMMISSION


Jerome Saltzman, Assistant Director
State and Licensee Relations
Office of State Programs

Accepted _____, 1984

Accepted _____, 1984

By _____
Pennsylvania Power and
Light Company

By _____
Allegheny Electric
Cooperative, Inc.

APPENDIX B

TO FACILITY OPERATING LICENSE NO. NPF-22
SUSQUEHANNA STEAM ELECTRIC STATION, UNITS 1 AND 2

PENNSYLVANIA POWER AND LIGHT COMPANY

DOCKET NOS. 50-387 AND 50-388

ENVIRONMENTAL PROTECTION PLAN
(NON-RADIOLOGICAL)

March 1984

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SUSQUEHANNA STEAM ELECTRIC STATION

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1.0 Objectives of the Environmental Protection Plan

The Environmental Protection Plan (EPP) is to provide for protection of environmental values during additional construction and operation of the nuclear facility. The principal objectives of the EPP are as follows:

- (1) Verify that the station is operated in an environmentally acceptable manner, as established by the FES and other NRC environmental impact assessments.
- (2) Coordinate NRC requirements and maintain consistency with other Federal, State and local requirements for environmental protection.
- (3) Keep NRC informed of the environmental effects of facility construction and operation and of actions taken to control those effects.

Environmental concerns identified in the FES which relate to water quality matters are regulated by way of the licensee's NPDES permit.

2.0 Environmental Protection Issues

In the FES-OL dated June 1981, the staff considered the environmental impacts associated with the operation of the Susquehanna Steam Electric Station. Certain environmental issues were identified which required study or license conditions to resolve environmental concerns and to assure adequate protection of the environment.

2.1 Aquatic Issues

Specific aquatic issues raised by the staff in the FES-OL were:

1. The need for aquatic monitoring programs to confirm that thermal mixing occurs as predicted, that chlorine releases are controlled within those discharge concentrations evaluated, and that effects on aquatic biota and water quality due to plant operation are no greater than predicted.
2. The need for special studies to document levels of intake entrainment and impingement.

(FES-OL: Summary and Conclusions and Sections 5.2 and 5.3)

Aquatic issues are addressed by the effluent limitations, monitoring requirements and the effective NPDES permit issued and implemented by the Pennsylvania Department of Environmental Resources, Bureau of Water Quality Management. The NRC will rely on this agency for regulation of matters involving water quality and aquatic biota.

2.2 Terrestrial Issue

Those issues requiring monitoring programs identified previously and not yet completely resolved are listed below.

1. General monitoring for bird impingement on cooling towers. (FES-OL Sections 5.2.5 and 5.3.5)
2. The applicant will conduct short duration operational sound level surveys when each unit reaches its full operational level. Daytime as well as nighttime measurements will be taken to determine ambient day-night equivalent sound levels. (FES-OL Sections 5.2.5 and 5.3.5)
3. Maintenance of transmission lines. (Section 5.3.5)

NRC requirements with regard to remaining terrestrial issues are specified in Subsections 4.1 and 4.2 of this EPP.

2.3 Cultural Resources Issues

The need to protect the archeological sites identified in the floodplain survey which may possibly be eligible for the National Register of Historic Places. NRC requirements with regard to the cultural resources issue are specified in Subsection 4.2.4 of this EPP.

3.0 Consistency Requirements

3.1 Plant Design and Operation

The licensee may make changes in station design or operation or perform tests or experiments affecting the environment provided such changes, tests or experiments do not involve an unreviewed environmental question, and do not involve a change in the Environmental Protection Plan. Changes in plant design or operation or performance of tests or experiments which do not affect the environment are not subject to the requirements of this EPP. Activities governed by Section 3.3 are not subject to the requirements of this section.

Before engaging in additional construction or operational activities which may affect the environment, the licensee shall prepare and record an environmental evaluation of such activity. When the evaluation indicates that such activity involves an unreviewed environmental question, the licensee shall provide a written evaluation of such activities and obtain prior approval from the Director, Office of Nuclear Reactor Regulation. When such activity involves a change in the Environmental Protection Plan, such activity and change to the Environmental Protection Plan may be implemented only in accordance with an appropriate license amendment as set forth in Section 5.3.

A proposed change, test or experiment shall be deemed to involve an unreviewed environmental question if it concerns (1) a matter which may result in a significant increase in any adverse environmental impact previously evaluated

in the final environmental statement (FES) as modified by staff's testimony to the Atomic Safety and Licensing Board, supplements to the FES, environmental impact appraisals, or in any decisions of the Atomic Safety and Licensing Board; or (2) a significant change in effluents or power level [in accordance with 10 CFR Part 51.5(b)(2)] or (3) a matter not previously reviewed and evaluated in the documents specified in (1) of this Subsection, which may have a significant adverse environmental impact.

Before engaging in additional construction or operational activities that may result in a significant adverse environmental impact that was not evaluated or that is significantly greater than that evaluated in the environmental statement (NUREG-0564), the applicant shall provide written notification to the Director, Division of Licensing, Office of Nuclear Reactor Regulation.

The licensee shall maintain records of changes in facility design or operation and of tests and experiments carried out pursuant to this Subsection. These records shall include a written evaluation which provide bases for the determination that the change, test, or experiment does not involve an unreviewed environmental question nor constitute a decrease in the effectiveness of this EPP to meet the objectives specified in Section 1.0. The licensee shall include as part of his Annual Environmental Operating Report (per Subsection 5.4.1) brief descriptions, analyses, interpretations, and evaluations of such changes, tests and experiments.

Violations of the NPDES Permit or the State certification (pursuant to Section 401 of the Clean Water Act) shall be reported to the NRC by submittal of copies of the reports required by the NPDES Permit or certification. The licensee shall also provide the NRC with copies of the results of studies at the same time they are submitted to the permitting agency.

Changes and additions to the NPDES Permit or the State certification shall be reported to the NRC within 30 days following the date the change is approved. If a permit or certification, in part or in its entirety, is appealed and stayed, the NRC shall be notified within 30 days following the date the stay is granted.

The NRC shall be notified of changes to the effective NPDES Permit proposed by the licensee by providing NRC with a copy of the proposed change at the same time it is submitted to the permitting agency. The notification of a licensee-initiated change shall include a copy of the requested revision submitted to the permitting agency. The licensee shall provide the NRC a copy of the application for renewal of the NPDES permit at the same time the application is submitted to the permitting agency.

3.3 Changes Required for Compliance with Other Environmental Regulations

Changes in plant design or operation and performance of tests or experiments which are required to achieve compliance with other Federal, State, or local environmental regulations are not subject to the requirements of Section 3.1.

4.0 Environmental Conditions

4.1 Unusual or Important Environmental Events

Any occurrence of an unusual or important event that indicates or could result in significant environmental impact causally related to plant operation shall be recorded and promptly reported to the NRC within 24 hours by telephone, telegraph, or facsimile transmissions followed by a written report per Sub-section 5.4.2. The following are examples: excessive bird impaction events, onsite plant or animal disease outbreaks, mortality or unusual occurrence of any species protected by the Endangered Species Act of 1973, fish kills, increase in nuisance organisms or conditions and unanticipated or emergency discharge of waste water or chemical substances.

No routine monitoring programs are required to implement this condition.

4.2 Environmental Monitoring

4.2.1 General Monitoring Program for Bird Impingement (refer to Section 4.1)

4.2.2 Maintenance of Transmission Line Corridors

The use of herbicides within the Susquehanna Steam Electric Station transmission line corridors shall conform to the approved use of selected herbicides as registered by the Environmental Protection Agency and approved by State authorities and applied as directed by said authorities.

Records shall be maintained in the appropriate division office concerning herbicide use. Such records shall include the following information:

commercial and chemical names of materials used; concentration of active material in formulations diluted for field use; diluting substances other than water; rates of application; method and frequency of application; location; and the date of application. Such records shall be maintained for a period of 5 years and be made readily available to the NRC upon request. There shall be no routine reporting requirement associated with this condition.

4.2.3 Sound Level Surveys

Surveys shall be conducted to quantify the sound levels that exist at various locations around the site during operation of the Susquehanna Steam Electric Station. Surveys shall be conducted during one unit and during two unit operation at the site. The operational phase sound level surveys shall be conducted as soon as practicable during the operational phase of the facility, when each unit's cooling tower is operating with its design water flow rate. The one unit operation survey shall be scheduled to the extent practicable, such that measured sound levels are not significantly affected by onsite activities associated with the construction of the second unit.

For each of the surveys, sound level data shall be collected at several sites, the exact number and location to be selected by the licensee after consideration of (1) existing on-site and nearby off-site noise sources and barriers, and (2) noise sensitive land uses in the site vicinity (e.g., residences, schools, churches, cemeteries, hospitals, parks).

Data collected from each sampling site shall encompass both the daytime and the nighttime periods. Sampling shall include the identification of pure tones, if any, emanating from plant equipment during the operational phase.

The selection, calibration and use of equipment, conduct of the surveys, and the analysis and reporting of data shall conform to the provisions of the applicable American National Standards Institute Standards. The conduct of the surveys for both operational conditions shall be similar such that the results are comparable.

The results of the surveys conducted under this program shall be summarized, interpreted and reported in accordance with Section 5.4.1 of this EPP. The results shall include, for each sampling location for each survey, the daytime and nighttime equivalent sound levels, the background and intrusion sound levels (i.e., the L_{90} and L_{10} , respectively), and the range of sound levels recorded. A description of the pure tones found, if any, and their sources shall also be included in the results.

The final report of this program shall present a brief assessment by the licensee of the environmental impact of plant operation on the off-site acoustic environment, and shall describe the proposed mitigative measures, if any, to be taken to reduce the impact of plant noise levels on the off-site environment. This report shall also contain a list of all noise related complaints or inquiries received by Pennsylvania Power & Light

Company (PP&L) concerning the Susquehanna Steam Electric Station subsequent to issuance of the operating license along with a description of the action taken by PP&L to resolve these complaints or inquiries.

This program shall terminate upon completion of the collection of the specified sound level data for each phase and submission of an acceptable final report.

4.2.4 Cultural Resources

On March 26, 1981, the Pennsylvania Power & Light Company submitted a report to NRC, entitled, "Archeological Investigations at The Susquehanna SES: The Susquehanna SES Floodplain", prepared by Commonwealth Associates for Pennsylvania Power & Light Company. The report identified three sites as significant and one site as potentially significant with the sites being possibly eligible for the National Register of Historic Places.

In order for the NRC to proceed with the submission of a determination of eligibility request to the Keeper of the National Register, the applicant shall be required to provide the NRC with the information necessary to initiate a determination of eligibility request with regard to sites SES-3, SES-6, SES-8 and SES-11. The U.S. Department of Interior form entitled, "National Register of Historic Places Inventory - Nomination Form" should be filled out in detail with appropriate maps and other materials for each of the four sites and returned to the NRC. Item 12 of the form need not be filled out. The licensee should refer to the Federal Register,

September 21, 1977, Part 1, for detailed guidance. The NRC requests the licensee to take appropriate measures to protect the sites during the determination of eligibility process. Upon receipt and review of the information, the NRC will forward the materials to the Keeper for action. If the Keeper rules the sites are not eligible, the finding will be filed and this section of the EPP is fully satisfied with no further action required.

If the Keeper rules that any of the sites are eligible for the National Register, the licensee is required to provide the NRC with information with regard to completing a determination of effect which the operation and maintenance activities of the plant may have on the eligible sites. The licensee should follow the steps presented in 36 CFR 800.3 and 36 CFR 800.4 in developing the information. Upon receipt of the information, the NRC, in consultation with the SHPO, will complete the determination of effect process. If the determination results in a no effect determination as provided in 36 CFR 800.4(4)(B)(1), the documentation will be filed and this section of the EPP is fully satisfied with no further action required.

If the determination results in an effect determination, the licensee will be required to provide the NRC with information adequate to document the effect determination and an appropriate action program which the licensee has developed in consultation with the SHPO and concurred in by the SHPO. Upon review of the program the NRC will forward the documentation to the Advisory Council on Historic Preservation (ACHP) for comment.

After ACHP comment is received by NRC, the program will be revised, if necessary, to incorporate any comments provided by the ACHP. The licensee shall then proceed, in consultation with the SHPO, to implement the proposed program. Upon completion of the program, a report shall be submitted to the NRC which will include a description of the results of the program and the disposition of data recovered (if applicable). Upon submittal of this report, this section of the EPP is fully satisfied with no further action required.

5.0 Administrative Procedures

5.1 Review and Audit

The licensee shall provide for review and audit of compliance with the Environmental Protection Plan. The audits shall be conducted independently of the individual or groups responsible for performing the specific activity. A description of the organization structure utilized to achieve the independent review and audit function and results of the audit activities shall be maintained and made available for inspection.

5.2 Records Retention

Records and logs relative to the environmental aspects of plant operation shall be made and retained in a manner convenient for review and inspection. These records and logs shall be made available to NRC on request.

Records of modifications to plant structures, systems and components determined to potentially affect the continued protection of the environment shall be retained for the life of the plant. All other records, data and logs relating to this EPP shall be retained for five years or, where applicable, in accordance with the requirements of other agencies.

5.3 Changes in Environmental Protection Plan

Request for change in the Environmental Protection Plan shall include an assessment of the environmental impact of the proposed change and a supporting justification. Implementation of such changes in the EPP shall not commence

prior to NRC approval of the proposed changes in the form of a license amendment incorporating the appropriate revision to the Environmental Protection Plan.

5.4 Plant Reporting Requirements

5.4.1 Routine Reports

An Annual Environmental Operating Report describing implementation of this EPP for the previous year shall be submitted to the NRC prior to May 1 of each year. The initial report shall be submitted prior to May 1 of the year following issuance of the operating licenses. The period of the first report shall begin with the date of issuance of the operating license for the first operational unit.

The report shall include summaries and analyses of the results of the environmental protection activities required by Subsection 4.2 of this Environmental Protection Plan for the report period, including a comparison with preoperational studies, operational controls (as appropriate), and previous nonradiological environmental monitoring reports, and an assessment of the observed impacts of the plant operation on the environment. If harmful effects or evidence of trends towards irreversible damage to the environment are observed, the licensee shall provide a detailed analysis of the data and a proposed course of action to alleviate the problem.

The Annual Environmental Operating Report shall also include:

- (a) A list of EPP noncompliances and the corrective actions taken to remedy them.
- (b) A list of all changes in station design or operation, tests, and experiments made in accordance with Subsection 3.1 which involved a potentially significant unreviewed environmental issue.
- (c) A list of nonroutine reports submitted in accordance with Subsection 5.4.2.

In the event that some results are not available by the report due date, the report shall be submitted noting and explaining the missing results. The missing data shall be submitted as soon as possible in a supplementary report.

5.4.2 Nonroutine Reports

A written report shall be submitted to the NRC within 30 days of occurrence of nonroutine event. The report shall (a) describe, analyze, and evaluate the event, including extent and magnitude of the impact and plant operating characteristics, (b) describe the probable cause of the event, (c) indicate the action taken to correct the reported event, (d) indicate the corrective action taken to preclude repetition of the event and to prevent similar occurrences involving similar components or systems, and (e) indicate the agencies notified and their preliminary responses.

Events reportable under th subsection which also req_ e reports to other Federal, State or local agencies shall be reported in accordance with those reporting requirements in lieu of the requirements of this subsection. The NRC shall be provided a copy of such report at the same time it is submitted to the other agency.