December 10, 1993

Docket No. 50-387

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

Dear Mr. Byram:

SUBJECT: REVISION OF SURVEILLANCE REQUIREMENTS FOR ACQUISITION OF SINGLE-LOOP BASELINE DATA, SUSQUEHANNA STEAM ELECTRIC STATION, UNIT 1 (PLA-4005) (TAC NO. M87008)

The Commission has issued the enclosed Amendment No. 131 to Facility Operating License No. NPF-14 for the Susquehanna Steam Electric Station, Unit 1. This amendment is in response to your letter dated July 21, 1993.

This amendment revises the Technical Specification (TSs) to modify the requirement for acquisition of baseline data on single-loop operation from during startup testing following each refueling outage to at least once per 18 months. This revision to the Unit 1 TSs is the same as the revision that the Commission approved for Unit 2 by Amendment No. 91 to License No. NPF-22 on October 28, 1992.

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

Sincerely,
Original signed by
Richard J. Clark

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

Enclosures:
1. Amendment No. 131 to License No. NPF-14
2. Safety Evaluation

cc w/enclosures:
See next page

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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

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Richard J. Clark, Senior Project Manager
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Office of Nuclear Reactor Regulation

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cc w/enclosures:
See next page

cc:

Jay Silberg, Esq.
Shaw, Pittman, Potts & Trowbridge
2300 N Street N.W.
Washington, D.C. 20037

Bryan A. Snapp, Esq.
Assistant Corporate Counsel
Pennsylvania Power & Light Company
2 North Ninth Street
Allentown, Pennsylvania 18101

Mr. J. M. Kenny
Licensing Group Supervisor
Pennsylvania Power & Light Company
2 North Ninth Street
Allentown, Pennsylvania 18101

Mr. Scott Barber
Senior Resident Inspector
U. S. Nuclear Regulatory Commission
P.O. Box 35
Berwick, Pennsylvania 18603-0035

Mr. William P. Dornsife, Director
Bureau of Radiation Protection
Pennsylvania Department of
Environmental Resources
P. O. Box 8469
Harrisburg, Pennsylvania 17105-8469

Mr. Jesse C. Tilton, III
Allegheny Elec. Cooperative, Inc.
212 Locust Street
P.O. Box 1266
Harrisburg, Pennsylvania 17108-1266

Regional Administrator, Region I
U.S. Nuclear Regulatory Commission
475 Allendale Road
King of Prussia, Pennsylvania 19406

Mr. Harold G. Stanley
Vice President-Nuclear Operations
Susquehanna Steam Electric Station
Pennsylvania Power and Light Company
Box 467
Berwick, Pennsylvania 18603

Mr. Herbert D. Woodeshick
Special Office of the President
Pennsylvania Power and Light Company
Rural Route 1, Box 1797
Berwick, Pennsylvania 18603

George T. Jones
Vice President-Nuclear Engineering
Pennsylvania Power and Light Company
2 North Ninth Street
Allentown, Pennsylvania 18101

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

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. 131
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 July 21, 1993, 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.

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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. 131 and the Environmental Protection Plan contained in Appendix B, are hereby incorporated in the license. PP&L shall operate the facility in accordance with the Technical Specifications and the Environmental Protection Plan.

3. This license amendment is effective as of its date of issuance.

FOR THE NUCLEAR REGULATORY COMMISSION

James C. Stone

For Larry E. Nicholson, Acting Director
Project Directorate I-2
Division of Reactor Projects - I/II
Office of Nuclear Reactor Regulation

Attachment:
Changes to the Technical
Specifications

Date of Issuance: December 10, 1993

ATTACHMENT TO LICENSE AMENDMENT NO. 131

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 4-1f	3/4 4-1f
3/4 4-1g	3/4 4-1g

SURVEILLANCE REQUIREMENTS (Continued)

4.4.1.1.2.4 The pump discharge valve and bypass valve in both loops shall be demonstrated OPERABLE by cycling each valve through at least one complete cycle of full travel during each startup** prior to THERMAL POWER exceeding 25% of RATED THERMAL POWER.

4.4.1.1.2.5 The pump MG set scoop tube electrical and mechanical stop shall be demonstrated OPERABLE with overspeed setpoints less than or equal to 102.5% and 105%, respectively, of rated core flow, at least once per 18 months.

4.4.1.1.2.6 During single recirculation loop operation, all jet pumps, including those in the inoperable loop, shall be demonstrated OPERABLE at least once per 24 hours by verifying that no two of the following conditions occur:###

a. The indicated recirculation loop flow in the operating loop differs by more than 10% from the established single recirculation pump speed-loop flow characteristics.

b. The indicated total core flow differs by more than 10% from the established total core flow value from single recirculation loop flow measurements.

c. The indicated diffuser-to-lower plenum differential pressure of any individual jet pump differs from established single recirculation loop patterns by more than 10%.

4.4.1.1.2.7 The SURVEILLANCE REQUIREMENTS associated with the specifications referenced in 3.4.1.1.2a shall be followed.

* See Special Test Exception 3.10.4.

** If not performed within the previous 31 days.

**** Initial value. Final value to be determined based on startup testing. Any required change to this value shall be submitted to the Commission within 90 days of test completion.

\# See specification 3.4.1.1.1 for two loop operation requirements.

\## This requirement does not apply when the loop not in operation is isolated from the reactor pressure vessel.

At least once per 18 months (555 days) data shall be recorded for the parameters listed to provide a basis for

SURVEILLANCE REQUIREMENTS (Continued)

establishing the specified relationships. Comparisons of the actual data in accordance with the criteria listed shall commence upon the performance of required surveillances.

+ The LPRM upscale alarms are not required to be OPERABLE to meet this specification in OPERATIONAL CONDITION 2.

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION BY THE OFFICE OF NUCLEAR REACTOR REGULATION

RELATED TO AMENDMENT NO. 131 TO FACILITY OPERATING LICENSE NO. NPF-14

PENNSYLVANIA POWER AND LIGHT COMPANY

ALLEGHENY ELECTRIC COOPERATIVE, INC.

SUSQUEHANNA STEAM ELECTRIC STATION, UNIT 1

DOCKET NO. 50-354

1.0 INTRODUCTION

By letter dated July 21, 1993, the Pennsylvania Power and Light Company (the licensee) submitted a request for changes to the Susquehanna Steam Electric Station, Unit 1, Technical Specifications (TS). The requested changes would modify the requirement for acquisition of baseline data on single-loop operation (SLO) from during startup testing following each refueling outage to at least once per 18 months. This revision to the Unit 1 TSs is the same as the revision that the Commission approved for Unit 2 by Amendment No. 91 to License No. NPF-22 on October 28, 1992.

2.0 EVALUATION

The current TS for Susquehanna, Units 1 and 2, permit plant operation with a single recirculation loop out of service for an extended period of time. However, there are a number of additional requirements when the plant is operated with only one rather than two recirculation loops, such as the requirement to increase the minimum critical power ratio (MCPR) by 0.01 when in SLO. One of the additional requirements specified in Surveillance Requirement (SR) 4.4.1.1.2.6 is that the operators have to demonstrate at least once per 24 hours that all jet pumps, including those in the inoperable loop, are operable during SLO. This is accomplished by comparing parameters such as total core flow with established baseline values. The SR verifies jet pump integrity to assure the core could be flooded to two-thirds core height if the postulated design basis loss-of-coolant accident were to occur.

A footnote to SR 4.4.1.1.2.6 now specifies that:

> "During startup testing following each refueling outage, data shall be recorded for the parameters listed to provide a basis for establishing the specified relationships. Comparisons of the actual data in accordance with the criteria listed shall commence upon the performance of subsequent required surveillances."

The licensee proposes to substitute the words: "At least once per 18 months (555 days)" in place of "During startup testing following each refueling

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outage" and to delete "subsequent" in the second sentence. The changes to the TSs will permit the baseline data to be taken when SLO is scheduled for maintenance reasons rather than entering SLO for no reason other than to take data. The proposed revised testing schedule would eliminate unnecessary plant cycling while taking advantage of SLO which is typically scheduled two or three times per fuel cycle for maintenance reasons. Since the plant must be placed in SLO at low core flow to obtain the baseline data, the revised testing schedule would likely eliminate at least one time where the unit is placed in SLO at low core flow/power operation, a mode of operation where reactor instability is a concern.

Sufficient jet pump baseline data has been gathered at Susquehanna, Units 1 and 2, that the distribution of data is well defined and is not changing from cycle to cycle. The recirculation pump flow versus speed, the total core flow versus recirculation pump flow, and the single loop jet pump distribution curves have had no major adjustments since the reactors have consisted of full cores of the Siemens 9x9-2 fuel design. Testing and gathering of data will be accomplished in the same manner as in the past, albeit according to a different schedule. Furthermore, the licensee has committed to establish administrative controls to ensure SLO baseline data will be recorded under the following conditions: 1) beginning of cycle when discharged bundles are replaced with bundles of a different mechanical or thermal-hydraulic design, 2) when reactor systems or core operating strategies which can affect the baseline data are modified, and 3) if it is determined that dual loop baseline data has changed significantly.

The proposed change accomplishes the same objective as the present TSs. Also, the change is consistent with the recommendations in General Electric Service Information Letter 330 (GE SIL 330). The proposed change is acceptable.

3.0 STATE CONSULTATION

In accordance with the Commission's regulations, the Pennsylvania State official was notified of the proposed issuance of the amendment. The State official had no comments.

4.0 ENVIRONMENTAL CONSIDERATION

The amendment changes a surveillance requirement. The NRC 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 the amendment involves no significant hazards consideration, and there has been no public comment on such finding (58 FR 41509). Accordingly, the 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 the amendment.

5.0 CONCLUSION

The Commission has concluded, based on the considerations discussed above, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

Principal Contributor: R. Clark

Date: December 10, 1993