



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

APR 19 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. 37 TO FACILITY OPERATING LICENSE NO. NPF-14 - SUSQUEHANNA
STEAM ELECTRIC STATION, UNIT 1

The Nuclear Regulatory Commission has issued the enclosed Amendment No. 37 to Facility Operating License No. NPF-14 for the Susquehanna Steam Electric Station, Unit 1. The amendment is in response to your letters dated August 22, 1983 and February 1, 1985. The amendment deletes License Condition 2.C.(18)(e) as the License Condition is no longer applicable. By letter dated October 17, 1984 from NRC to PP&L the staff identified the criteria the licensee must meet in order to delete the above License Condition. By letter dated February 1, 1985, PP&L responded to the outlined criteria and as a result the NRC staff has found it acceptable to delete the above referenced License Condition.

A copy of the related safety evaluation supporting Amendment No. 37 to Facility Operating License NPF-14 is enclosed.

Sincerely,

A handwritten signature in cursive script that reads "A. Schwencer".

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

Enclosures:

1. Amendment No. 37 to NPF-14
2. Safety Evaluation

cc: 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. 37
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 August 22, 1983 as supplemented on February 1, 1985 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 the deletion of License Condition 2.C.(18)(e) of Facility Operating License No. NPF-14.
3. This amendment is effective upon start-up following the first refueling outage.

FOR THE NUCLEAR REGULATORY COMMISSION


Hugh L. Thompson, Jr., Director
Division of Licensing
Office of Nuclear Reactor Regulation

Date of Issuance: APR 19 1985

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

SAFETY EVALUATION
AMENDMENT NO. 37 TO NPF-14
SUSQUEHANNA STEAM ELECTRIC STATION, UNIT 1
DOCKET NO. 50-387

Introduction

The full power license amendment to Susquehanna, Unit 1 issued on November 12, 1982 identified the following license condition, 2.C.(18)(e):

"Prior to startup following the first refueling outage, PP&L shall implement the required equipment qualifications for equipment pursuant to Section 5.3 of NUREG-0803 for an SDV break environment."

The staff determined at that time, that such a condition was needed to ensure the operability of detection and mitigation equipment exposed to the potentially harsh environment that may result from a failure of the Scram Discharge Volume (SDV) piping system. Subsequently, however, based on reviews of submittals by the General Electric Company and the BWR Owner's Group (BWROG) (particularly, NEDO-22209, and BWROG-8420 dated May 10, 1984), and independent analyses of the system integrity, the staff developed an alternative generic approach to that suggested in NUREG-0803 for the resolution of the concerns associated with the integrity of scram discharge piping systems for BWRs with Mark 1 and 2 containment designs. The approach is based on current licensing criteria regarding postulated pipe breaks as stated in SRP Sections 3.6.1 and 3.6.2. The approach permits the licensee or applicant to assume no SDV pipe failure and its resulting consequences as identified in NUREG-0803 and thus eliminate the need for providing equipment qualification provided the following guidelines can be satisfied.

1. Confirm that the SDV piping system falls within the generic envelop identified in the BWROG submittal (BWROG-8420) with regards to leak rates, loading conditions and material properties;
2. Comply with the BWROG recommendations for leak detection capability for the SDV piping system;
3. Comply with the BWROG applicable secondary containment Emergency Procedure Guidelines (EPGs) for the facility; and
4. Provide assurance that the expected radiation fields and contact exposure levels at the SDV piping system will not impair the performance of routine tests, inspections and post-scrum reset walkdowns.

The staff has taken the above position based on our determination that the SDV piping system as described in the BWROG submittal satisfies the low stress criteria for nonpostulation of a break or a leakage crack per SRP Section 3.6.2. Further, the probabilistic fracture mechanics analysis of the system integrity supports the above conclusion. The staff has also determined from a

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deterministic fracture mechanics analysis of a postulated through-wall flaw in the system that such a flaw will grow negligibly and will not propagate into a break. The resulting leakage from such a flaw will be minimal, can be detected, and therefore will not result in a harsh environment. Therefore, by letter from A. Schwencer (NRC) to N. W. Curtis of Pennsylvania Power and Light Company (PP&L) dated October 17, 1984, the staff requested the licensee to provide information regarding the above guidelines. In response, the licensee provided a submittal dated February 1, 1985.

Evaluation

In the licensee's submittal of February 1, 1985, the licensee confirmed that the Susquehanna SDV piping system design bounds the leak rates, loading conditions and material properties to the limiting values for these parameters specified in the BWROG submittal (BWROG-8420). Further, the licensee stated that PP&L performs the BWROG recommended post-scrum reset walkdowns of their SDV systems as identified in the Susquehanna FSAR, Section 18.1.60 (Integrity of Systems Outside Containment Likely to Contain Radioactive Material), and Technical Specification 6.8.4.a. (Primary Coolant Sources Outside Containment). These walkdowns are performed once every refueling outage and are of sufficient detail to detect appreciable leakage from the system should it occur. In their submittal, the licensee also stated that they are currently revising the Susquehanna emergency operating procedures to reflect the generic secondary containment criteria contained in Revision 3 of the BWROG EPGs (NEDO-24934, December 1982). Additionally, the submittal listed the expected average contact dose, the maximum contact dose, and the average radiation field for the SDV piping systems at Susquehanna to be 50-80 MR/hr, 300 MR/hr, and 5 MR/hr, respectively. The staff has determined that these expected exposure levels will not impair the required performance of routine tests, inspections and postscram reset walkdowns. Based on review of the above information, the staff has determined that the licensee has satisfied the guidelines and thus meets current criteria with regard to SDV piping system integrity.

Conclusion

Based on the above determination, the staff concludes that the postulated pipe failure and its resulting consequences as identified in NUREG-0803 are not applicable to Susquehanna Units 1 and 2. The staff, therefore, concludes that license condition 2.C.(18)(e) stated in the full power operating License Amendment for Susquehanna, Unit 1, issued on November 12, 1982, is no longer applicable, and can be removed.

Environmental Consideration

This amendment involves a change in the installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission

has previously issued a proposed finding that this amendment involves no significant hazards consideration and there has been no public comment on such finding. Accordingly, this amendment meets the eligibility criteria for categorical exclusion set forth in 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

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: APR 19 1985

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Docket No. 50-387

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Sincerely,

Original signed by:

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

Enclosures:

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- 2. Safety Evaluation

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PENNSYLVANIA POWER & LIGHT COMPANY
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FOR THE NUCLEAR REGULATORY COMMISSION

Hugh L. Thompson, Jr.
Original Signed by

for Hugh L. Thompson, Jr., Director
Division of Licensing
Office of Nuclear Reactor Regulation

Date of Issuance: APR 19 1985

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