Pennsylvania Power & Light Company
Two North Ninth Street • Allentown, PA 18101 • 215 / 770-5151

Norman W. Curtis
Vice President-Engineering & Construction-Nuclear
215/770-7501

July 29, 1983

Dr. Thomas Murley
Acting Regional Administrator, Region I
U.S. Nuclear Regulatory Commission
631 Park Avenue
King of Prussia, PA 19406

SUSQUEHANNA STEAM ELECTRIC STATION - UNIT 2
FINAL REPORT OF A DEFICIENCY INVOLVING FEEDWATER
BYPASS LEAKAGE - POTENTIAL EXCESSIVE OFF-SITE DOSE
ER 100508 FILE 821-10
PLA-1765

Reference: PLA-1687, May 31, 1983

Dear Dr. Murley:

The above reference transmitted an interim report on a deficiency involving potential excessive off-site dose related to the feedwater containment penetrations not maintaining a water seal for 30-days post-LOCA. The interim report included the cause, extent, and safety implications of the deficiency.

This letter, in conjunction with the interim report, serves to provide a final report on the deficiency, and includes actions taken or planned to correct the deficiency. This information is submitted in compliance with the requirements of 10CFR50.55(e).

As discussed in the interim report under "Safety Implications," the analysis of the radiological consequences of a postulated large break LOCA (presented in Chapter 15 of the FSAR) assumed secondary bypass leakage at the rate of 5.0 SCF per hour. Prior to discovering the feedwater bypass problem, bypass leakage from all other sources was limited to 1.2 SCF per hour. The remaining 3.8 SCF per hour is then the maximum permissible bypass leakage for the feedwater system.

Subsequent to the discovery that credit could not be taken for water seals eliminating secondary containment bypass leakage through the Feedwater System, bypass leakage testing was performed in Unit 1 (see PLA-1662; LER No. 83-057). The results of this testing show that the maximum bypass leakage does not exceed the value assumed in the LOCA analysis.

In order to assure that the Unit 2 Feedwater System can also limit bypass leakage to an acceptable level the proposed Unit 2 Technical Specifications, sections 3.6.1.2(d) and 4.6.1.2(f), will incorporate an overall bypass leakage criterion of 5.0 SCF per hour when tested with gas at Pa, 45.0 psig.

A 047

In addition, PP&L will change Section 6.2.3.2.6 of the FSAR to delete reference to the post-LOCA water seals in the feedwater penetrations. This change is anticipated to be completed on or before December 31, 1983.

By performing these corrective actions, PP&L will assure that the demonstrable secondary containment bypass leakage will be less than the value used in our analysis of the radiological consequences of the DBA-LOCA.

In the long term we believe that it would be prudent to restore the original design condition (i.e. establish a water seal to eliminate bypass leakage) rather than depend on the air tightness of the valves. Therefore, PP&L will evaluate system modifications intended to accomplish this goal.

If it is determined in the evaluation that a modification is to be installed, the FSAR will be revised to reflect the existence of a water seal. This revision will include the deletion of the feedwater bypass leakage technical specification. PP&L will complete this evaluation prior to the end of 1984.

Since the details of this report provide information relevant to the reporting requirements of 10CFR21 for Unit 2, this correspondence is considered to also discharge any formal responsibility PP&L may have in compliance thereto.

We trust the Commission will find this report to be satisfactory.

Very truly yours,

N. W. Curtis
Vice President-Engineering & Construction-Nuclear

WFG:pvm

Attachment

JS/ltgi

cc: Mr. Richard C. DeYoung (15)
Director-Office of Inspection & Enforcement
U.S Nuclear Regulatory Commission
Washington, D.C. 20555

Mr. G. McDonald, Director
Office of Management Information & Program Control
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Mr. Gary Rhoads
U.S. Nuclear Regulatory Commission
P.O. Box 52
Shickshinny, PA 18655

Records Center
Institute of Nuclear Power Operations
1100 Circle 75 Parkway, Suite 1500
Atlanta, GA 30339