PP&L

TWO NORTH NINTH STREET, ALLENTOWN, PA. 18101 PHONE: (215) 821-5151

NORMAN W. CURTIS
Vice President-Engineering & Construction
821-5381

MAY 26 1981

Mr. Boyce H. Grier, Director
Region I
U.S. Nuclear Regulatory Commission
631 Park Avenue
King of Prussia, Pennsylvania 19406

SUSQUEHANNA STEAM ELECTRIC STATION
IE BULLETIN 80-17 SUPPLEMENTS 1 AND 2
ER 100450 FILE 842-3
PLA-770

DOCKET NOS. 50-387
50-388

Dear Mr. Grier:

The following information is provided in response to IE Bulletin 80-17, Supplements 1 and 2, "Failure of 76 of 185 Control Rods to Fully Insert During a Scram at a BWR."

Supplement 1 actions to be taken:

A.1. The system verification, as required by item A.1 of Supplement 1, was performed prior to system turnover. The term "as built" refers to the isometric and other drawings representing the conditions existing at the time of system verification. The following items are attached:

a. The procedure used to inspect the "as built" condition of the Unit 1 SDV system.

b. Marked-up copies of the isometric drawings and other drawings of the Unit 1 SDV system. The originals are available for inspection at PP&L General Offices in Allentown.

c. The Quality Inspection Report addressing verification of the Unit 1 SDV system.

The system was reviewed against the following criteria:

a. The SDV's must have 3.34 gallons capacity per control rod drive to allow for a full scram on demand.

b. All vent lines must not allow any water pockets.

c. The vent lines must not be submerged in the sump.

d. The vent lines must not be shared by other systems.

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e. The drain lines must slope down and not allow air pockets.

f. The drain lines must not be shared with other systems.

g. All valves must be positioned in the system to assure flow in the correct direction.

h. Level sensors in the SDIV's must be positioned to initiate the signal they are intended to provide.

The review had the following results:

a. The SDV's were confirmed to have in excess of 3.34 gallons capacity for each of the 185 CRD's, above the scram level switch set point.

b. The "as-built" drawings of Unit 1 reveal all vent lines slope up and no "pockets" exist to the vent valves. Then the vent lines slope down, mostly vertical, to the sump area.

c. The "as-built" drawings of Unit 1 reveal the vent lines discharge into the Reactor Building sump above the high level in the sump.

d. The "as-built" drawings of Unit 1 reveal the vent lines of the SDV's have no interconnecting lines with other systems.

e. The "as-built" drawings of Unit 1 reveal the drain lines slope down.

f. The "as-built" drawings of Unit 1 reveal the drain lines of Unit 1 SDV's have no interconnecting lines with other systems. There is sufficient drain line height (about 87 feet) to allow drainage of any accumulated water in the lines even if a perfect vacuum were created. This means no water could enter the SDV's via the drain lines from the sump due to a vacuum induced reverse flow.

g. The instrument root valves for the float switches have essentially no flow and this criteria does not apply to these valves. The drain and vent valves are placed correctly accordingly to the flow indication arrows on the valve bodies.

h. The float switch level chambers for low level, rod block, and scram initiation are installed as designed.

A.2. Operating Procedure OP-53-001 has been revised to define, for the operator, specific plant conditions which require initiation of the SLCS. This revision is in draft form and has been issued for information and trial use.

A.3. Susquehanna's SDV's are connected to the SDIV's directly by an 8" elbow. Due to this closely coupled arrangement, water will drain to the SDIV's and will not collect in the SDV's. The SDIV's have adequate instrumentation to continuously monitor system water levels. Therefore, procedures are not required concerning water levels in the SDV's.

A.4. Check-Off Lists OP-53-001-1 (Unit 1) and OP-53-001-3 (Unit 2) require the Control Room Operator to be cognizant of the location of the SLCS initiation key. These check-off lists have been drafted and will be issued upon system turnover. A key will be administratively controlled in the shift office to allow rapid access.

A.5. Susquehanna has an integral SDV/SDIV design which precludes the need for a separate continuous monitoring system. The float switches with their respective alarm, control, and RPS functions are adequate and alleviate the need for water level monitoring in the SDV's.

B.1. The SDV's do not need separate continuous water level monitors. As described above, Susquehanna's SDV's are closely coupled with the SDIV's. This design allows the SDIV float switches to continuously monitor the water in the SDV's. SDIV "not drained" alarm, rod withdrawal blocks, and scram functions are also provided by the float switches. In response to suggested ATWS improvements, delta-pressure level switches will be installed to provide diversity for scram initiation. Additional float switches will be installed in the south SDIV (Unit 1) for alarm and rod block. The installation of these new switches will be scheduled consistent with the overall ATWS implementation. Current schedule calls for completion of SDIV instrument additions by December 31, 1982 contingent on materials availability. Identical improvements will be made to the Unit 2 SDIV consistent with Unit 2 schedule.

B.2. In response to item A.1 a review of Susquehanna's SDV system (including the vent paths) was performed. This review concluded that the system is adequate and will perform satisfactorily. In addition, a vacuum breaker will be installed downstream of the SDV vent valve to aid in draining the SDV's. Redundant parallel valves will not be installed in either the vent or the drain lines. This work will be completed on Unit 1 prior to the end of the first refueling outage and on Unit 2 prior to Fuel Load.

Supplement 2 actions to be taken:

1. Susquehanna's present SDV vent system is dependent solely on the vent valve and piping provided. No modifications to the piping, in response to this supplement, are anticipated or necessary.

Very truly yours,

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

Attachments and Affidavit
RMH:mcb

cc: Director
Division of Reactor Operations Inspection
Office of Inspection and Enforcement
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

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

Mr. L. D. Narrow
U. S. Nuclear Regulatory Commi-sion
631 Park Avenue
King of Prussia, PA 19406

AFFIDAVIT

COMMONWEALTH OF PENNSYLVANIA)
: SS
COUNTY OF LEHIGH)

I, NORMAN W. CURTIS, being duly sworn according to law, state that I am Vice President, Engineering & Construction-Nuclear of Pennsylvania Power & Light Company and that the facts set forth on the attached response by Applicants to IE Bulletin 80-17, Supplements 1 and 2, are true and correct to the best of my knowledge, information and belief.

N W Curtis

Norman W. Curtis
Vice President,
Engineering & Construction-Nuclear

Sworn to and subscribed
before me this 26th day
of May, 1981.

Jean A. Smolick
Notary Public

JEAN A. SMOLICK, Notary Public
Allentown, Lehigh County, Pa.
My Commission Expires May 14, 1984