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

July 21, 1980

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

SUSQUEHANNA STEAM ELECTRIC STATION
FINAL REPORT OF A DEFICIENCY ON IMPROPER
SLOPING OF GENERAL ELECTRIC PIPING AND TUBING
ERs 100450/100508 FILE 840-4/900-10
PLA-512

Dear Mr. Grier:

This letter serves to confirm information provided by telephone to NRC Inspector Mr. J. Durr by Mr. A. R. Sabol of PP&L on June 17, 1980. During that conversation, Mr. Durr was advised that the subject condition was under evaluation for reportability under the provision of 10CFR50.55(e).

The deficiency involves small piping and tubing installations to General Electric equipment. The instrumentation piping and tubing affected does not meet specification requirements for the minimum slope required to insure proper system operation. A final report concerning the condition, along with an analysis of the safety implications and corrective action, is included as an attachment pursuant to PP&L's obligations under the provisions of 10CFR50.55(e).

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

We trust the Commission will find the information provided by this letter to be satisfactory.

Very truly yours,

A. R. Sabol
N. W. Curtis
Vice President-Engineering & Construction-Nuclear

Attachment
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July 21, 1980

cc: Mr. Victor Stello (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. Robert M. Gallo
U. S. Nuclear Regulatory Commission
P. O. Box 52
Shickshinny, Pennsylvania 18655

MCAR 1-58
FINAL REPORT

Subject

The installed piping and tubing to GE equipment is lacking proper slope.

Description of Potential Problem

General Electric Piping and Tubing, Process Instrumentation Specification 22A4019, Paragraph 4.2.2.1.2, states: "Where slopes are indicated in the installation arrangement schematics or elsewhere, a minimum slope of 1/2" per foot shall be provided."

Contrary to the stated requirement, Bechtel Nonconformance Report 5807 lists 41 small pipe installations to General Electric equipment that do not meet the minimum 1/2" per foot slope requirement.

Cause

Three conditions may have contributed to the installation error. They are:

1. Project engineering did not specify the required slope (i.e. 1/2" per foot min) on some of the design drawings.
2. Construction failed to incorporate specified slope requirements on some of the field prepared fabrication isometric drawings.
3. Construction failed in some cases to install the small pipe to the slope specified on the Field fabrication isometric drawings.

Analysis of Safety Implications

Project Engineering has determined if the deficiency were to have gone uncorrected it could have adversely affected the safe operation of the plant, and it is therefore deemed reportable under 10CFR 50.55(e). This deficiency could produce an error in essential instrumentation in excess of design limits. Inaccurate instrument readings and delayed trips could result on lines which have differential instruments which function on low differential pressures. This would be the result of air entrapment in the lines caused by improper slope. However, lines with devices which operate on high differential pressure would not be as sensitive to slope variations and would not adversely affect the safe operation of the plant.

Corrective Action

Field quality control has documented on Nonconformance Reports 5807 and 6055 all lines that do not meet the requirements of the GE specification (i.e., 1/2" per foot minimum slope).

Project engineering has reviewed the problem with General Electric engineering and revised acceptance criteria have been developed for "installed" piping for the various categories of instrumentation involved. Engineering Memo for Construction 4992, dated June 16, 1980 forwarded this criteria to the field.

Those lines which have not yet been installed or lines which require rework shall be installed with a slope of 1/2" per foot. Field construction is reworking identified lines which do not meet the revised acceptance criteria.

The Unit I as-built drawings will include the actual slope of installed lines. Project engineering will revise Unit II SKMs to include a note that the pipe and or tubing shall be installed to have a minimum slope of 1/2" per foot (ref. GE Spec. 22A4019) and Unit II P&IDs to include the GE Spec. as a reference. Field engineering will revise the Unit II fabrication Isometrics to reflect the above requirements.

Projected Completion of Corrective Action

All affected drawings are projected to be revised and Unit I as-builts are projected to be completed by December 30, 1980. In the interim, field construction was notified by Engineering Memo for Construction 5062 to take steps to insure that the subject pipe and tubing are installed in accordance with GE Specification 22A4019. Any exceptions are to be documented by a Nonconformance Report.

