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 AUTH. NAME      AUTHOR AFFILIATION  
 CURTIS, N.W.      Pennsylvania Power & Light Co.  
 RECIP. NAME      RECIPIENT AFFILIATION

SUBJECT: Interim deficiency rept re small diameter pipe bent in field, exceeding allowable ovality tolerance values. Caused by bending method. Criteria will be established for personnel, setting limits for ovality & conditions for acceptance.

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 TITLE: Construction Deficiency Report (10CFR50.55E)

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# PP&L

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

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

June 20, 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  
INTERIM REPORT OF A DEFICIENCY ON OVALITY OF BENT PIPE  
FOR UNIT 1 & 2  
ERs 100450/100508 FILE: 840-4/900-10  
PLA-498

Dear Mr. Grier:

This letter serves to confirm information provided by telephone to NRC Inspector Mr. R. Gallo by Mr. A. R. Sabol of PP&L on April 18, 1980. During that conversation Mr. Gallo was advised that the subject condition was under evaluation for reportability under the provisions of 10CFR50.55(e).

The deficiency involves small diameter pipe which has been bent in the field and which exceeds the ovality tolerance values stated in ASME, Section III, NB4223.2. The code states that, unless otherwise justified by the Stress Report, the ovality of piping after bending shall not exceed 8 percent as determined by the formula:

$$\% = 100 \times \frac{(D \text{ max} - D \text{ min})}{D_o}$$

Where  $D_o$  = Nominal pipe outside diameter  
 $D_{\text{min}}$  = Minimum outside diameter after bending or forming  
 $D_{\text{max}}$  = Maximum outside diameter after bending or forming

For the first instance detected, Bechtel NCR 5523 was written to identify four stainless steel pipe bends where the ovality exceeded 8%. The bending method used was attributed as the cause for the deficiencies. Further investigation by Bechtel Field Engineering and Quality Control identified another sixteen small pipe bends on stainless steel piping that exceeded ASME tolerances. Bechtel NCR 5674 was written to cover those deficiencies and has been used

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June 20, 1980

to record any other deficiencies of this nature.

The deficiency has been formally documented in Bechtel MCAR 1-51.


The deficiency, had it gone undetected, could have adversely affected the safety of operations of the SSES plant. The piping that has been bent beyond ovality tolerance could lead to a rupture or restrict flow in the control and instrumentation lines for safety systems such as the: Reactor Water Level, Reactor Pressure, Residual Heat Removal, Core Spray, HPCI, RCIC, RWCU, thereby affecting plant safety.

In addressing the deficiency for pipe bends with ovality beyond the established tolerance of 8%, acceptance criteria is being developed for pipe bends whose cross sectional shapes are between 8% and 15% of circular (oval). This criteria will be established for use by field personnel and will set the limits for ovality and the conditions necessary for acceptance. The conditions will include cross sectional area, surface conditions and system considerations. Establishing this acceptance criteria in our opinion constitutes "extensive evaluation to meet the criteria" as defined by 10CFR50.55(e)(1)(iii). Therefore, the deficiency is deemed reportable under 10CFR50.55(e).

Further, since the details of this report provides 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.

A final report of the deficiency and the corrective action to be implemented will be available in September, 1980.

Very truly yours,



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

FLW:mcb

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  
Shickshimny, Pennsylvania 18655