



# Pennsylvania Power & Light Company

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50-387

Norman W. Curtis  
Vice President-Engineering & Construction-Nuclear  
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June 10, 1982

Mr. R. C. Haynes  
Regional Administrator, Region I  
U. S. Nuclear Regulatory Commission  
631 Park Avenue  
King of Prussia, Pennsylvania 19406

SUSQUEHANNA STEAM ELECTRIC STATION  
FINAL REPORT OF A DEFICIENCY INVOLVING  
VERTICALLY INSTALLED ANCHOR-DARLING CHECK VALVES  
ERs 100450/100508 FILE 821-10  
PLA-1124

Dear Mr. Haynes:

This letter serves to provide the Commission with a final report on a deficiency involving vertically installed Anchor-Darling check valves.

This deficiency was originally reported by telephone to Mr. S. Ebnetter of NRC Region I on May 5, 1982 by Mr. A. Sabol of PP&L. At that time the condition was identified as "Potentially Reportable".

The attachment to this letter contains a description of the deficiency, its cause, an analysis of safety implications and the corrective action taken and planned. This information is furnished pursuant to the provisions of 10 CFR 50.55(e).

Since the details of this report provide information relevant to the reporting requirements of 10 CFR 21, 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

JS:sab

Attachment

June 10, 1982

- 2 - SSES

PLA-1124

ERs 100450/100508 File 821-10

Mr. R. C. Haynes

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

SUBJECT:

Deficiencies identified in the vertically installed Anchor Darling Core Spray System Testable Check Valves 1F006 A & B.

DESCRIPTION:

During ISG testing, both Unit I Core Spray Testable Check Valves 1F006 A & B failed to close. The failures were documented in Bechtel NCR-8990.

CAUSE:

Inspection of the valves revealed that the discs, when fully opened, moved beyond the vertical 90° position, i.e., the disc assembly center of gravity moved beyond the pivot point, thereby preventing the disc from closing by its own weight as designed. The original piping isometric drawings showed the valves in a horizontal position and were supplied by Anchor Darling on that basis. However, subsequent to receipt of the valves, Bechtel Engineering changed the location due to stress considerations. The revised drawing showed the valves in a vertical location closer to the Reactor Vessel and that is where they were installed. The failure occurred since the valves as supplied by Anchor Darling were not intended for installation in the vertical position.

SAFETY IMPLICATIONS:

1F006 A & B are ASME Class I containment isolation valves which are the first barrier separating the reactor pressure boundary from the Core Spray System. Failure of these valves would result in the loss of Core Spray System isolation capabilities inside the containment. If the deficiency had remained uncorrected, it could have adversely affected the safe operation of SSES and PP&L, therefore, considers this condition to be reportable under the provisions of 10CFR50.55(e).

CORRECTIVE ACTION:

The corrective action for both 1F006 A & B consisted of a modification to the hinge arms in accordance with Anchor Darling's recommendations. The modification involved welding a right angle extension on hinge arm. This extension prevents the disc from traveling beyond the 90° position thereby allowing the disc to close under its own weight as required.

All Unit I modification work is complete and the valves have been tested with no recurrences of this problem. The same modifications will be performed on the corresponding Unit II valves.

In addition, PP&L Engineering has identified and documented all other Anchor Darling swing check valves installed vertically which could be subject to the same failure. All of the potentially affected valves will be inspected and corrective actions performed as necessary. None of the Unit 1 valves identified in this group are critical or necessary for the safe operation of SSES. Inspection of these Unit 1 valves and completion of any required corrective action will be accomplished prior to November 1, 1982.