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Norman W. Curtis
Vice President-Engineering & Construction-Nuclear
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May 27, 1982

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

SUSQUEHANNA STEAM ELECTRIC STATION
FINAL REPORT OF A DEFICIENCY INVOLVING
GE TYPE CR2940 SELECTOR SWITCHES
ER 100450/100508 FILE 840-04/821-10
PLA-1066

Reference: PLA-565 dated 10/28/80

Dear Mr. Haynes:

This letter serves to provide the Commission with a final report on a deficiency involving loose mounting screws on GE Type CR2940 Selector Switches.

This deficiency was originally reported by telephone to Mr. L. Narrow of NRC Region I by Mr. A. Sabol on September 24, 1980. The referenced PLA-565 provided the Commission with an interim report.

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

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100508
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
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Mr. Gary Rhoads
U. S. Nuclear Regulatory Commission
P.O. Box 52
Shickshinny, PA 18655

Subject

Loose contact modules on General Electric Type CR2940 Switches

Description

After becoming aware of loose GE CR2940 switch contact modules at another nuclear power plant construction project, a sampling plan was initiated at Susquehanna to determine if a similar problem existed. From a sample of 231 switches inspected in 16 different pieces of equipment, a total of 17 switches were found with loose contact modules (three in Unit 1, four in Unit 2 and nine in Common equipment). Fourteen of these switches were in Class 1E applications.

Both the pushbutton and rotary style GE CR2940 switches are utilized at Susquehanna. Additional switching contacts may be provided to a CR2940 switch by mounting several contact modules as required. The screws which were determined to be loose are designed to provide module to module connections and modules to operator assembly attachment. Correct installation is necessary to assure the proper engagement of the switch operating mechanism with the contact module. With loose mounting screws, failure of contact switching in the modules can occur.

Cause

Although it cannot be positively stated, the cause of the problem appears to be from improper torquing of the screws during the switch assembly. The switch mounting screws then became loose during handling and/or transit to Susquehanna SES.

Safety Implications

General Electric type CR2940 switches are utilized for the control of various safety and non-safety related devices in the plant. The loose contact module mounting screws, if they were not tightened, could have caused the failure of critical safety-related equipment to function in accordance with their design requirements. The failures could have occurred because of incorrect contact open or close states in automatic safety equipment control circuits or through improper contact response under manual control of safety equipment. Therefore, PP&L considers the loose CR2940 switch screw problem reportable under 10 CFR 50.55(e).

Corrective Action

The Project Construction and Integrated Startup Groups were instructed to inspect all "Q" CR2940 selector switches for loose screws and tighten any which were determined to be improperly torqued.

The inspection/rework for Unit I and Common was accomplished under Work Authorizations WA-U-14142, WA-U-14925, WA-U-21027, WA-U-21090, WA-U-21103, WA-U-21243, WA-U-21259, WA-U-21395, WA-U-21410, and WA-U-21427. Final sign-off for these Work Authorizations is complete.

A similar inspection/rework program will be performed for Unit 2. GE FDDR KP2-578 establishes the necessary retorquing criteria. The Bechtel QC inspection plan for this FDDR will identify all Unit II switches to be included in the Program.