

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 8101210362 DOC. DATE: 81/01/14 NOTARIZED: NO DOCKET #
 FACIL: 50-387 Susquehanna Steam Electric Station, Unit 1, Pennsylv 05000387
 50-388 Susquehanna Steam Electric Station, Unit 2, Pennsylv 05000388
 AUTH. NAME AUTHOR AFFILIATION
 CURTIS, N.W. Pennsylvania Power & Light Co.
 RECIP. NAME RECIPIENT AFFILIATION
 GRIER, B.H. Region 1, Philadelphia, Office of the Director

SUBJECT: Interim deficiency rept re use of improperly grounded flexible conduit on safety-related circuits, initially reported on 801210. Caused by manufacturer failure to remove paint from termination module. Next rept by April 1981.

DISTRIBUTION CODE: B019S COPIES RECEIVED: LTR 1 ENCL 1 SIZE: 4
 TITLE: Construction Deficiency Report (10CFR50.55E)

NOTES: Send I&E 3 copies FSAR & all amends. 05000387
 Send I&E 3 copies FSAR & all amends. 05000388

ACTION:	RECIPIENT	COPIES		RECIPIENT	COPIES	
	ID CODE/NAME	LTTR	ENCL		ID CODE/NAME	LTTR
ACTION:	A/D LICENSNG 04	1	1	YOUNGBLOOD, B 05	1	1
	RUSHBROOK, M. 06	1	1	STARK, R. 07	1	1
INTERNAL:	AD/RCI/IE 17	1	1	AEOD 18	1	1
	ASLBP/J.HARD	1	1	D/DIR HUM FAC15	1	1
	DIR, DIV OF LIC	1	1	EDO & STAFF 19	1	1
	EQUIP QUAL BR11	1	1	HYD/GEO BR 22	1	1
	I&E 09	1	1	LIC QUAL BR 12	1	1
	MPA 20	1	1	NRC PDR 02	1	1
	OELD 21	1	1	PROC/TST. REV 13	1	1
	QA BR 14	1	1	REG FILE 01	1	1
	RUTHERFORD, W. IE	1	1	STANDRDS, DEV 21	1	1
EXTERNAL:	ACRS 16	16	16	LPDR 03	1	1
	NSIC 08	1	1			

JAN 22 1981

TOTAL NUMBER OF COPIES REQUIRED: LTTR 40 ENCL 40

af

PP&L

PPL

TWO NORTH NINTH STREET, ALLENTOWN, PA. 18101 PHONE: (215) 770-5151

NORMAN W. CURTIS
Vice President: Engineering & Construction-Nuclear
770-5381

50-387

January 14, 1981

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

SUSQUEHANNA STEAM ELECTRIC STATION
INTERIM REPORT OF A DEFICIENCY RELATING
TO IMPROPERLY GROUNDED FLEXIBLE CONDUIT
ER's 100450/100508 FILE 840-4
PLA-613

Dear Mr. Grier:

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

The deficiency involves the use of improperly grounded flexible conduit in various safety related circuits as reported to the NRC by General Electric under the provisions of 10CFR 21 on December 8, 1980 (Letter No. MFN212-80). PP&L has evaluated the condition and determined that it is reportable under 10CFR50.55(e). A complete description of the condition along with its safety implications and corrective action planned is attached to this letter.

Since the details of this report provide information relevant to the reporting requirements of 10CFR 21, this correspondence is considered to also discharge any formal responsibility PP&L may have for reporting in compliance thereto.

We expect to provide a final report prior to April, 1981.

Boia
5/11

PENNSYLVANIA POWER & LIGHT COMPANY

8101210362

9

Mr. Boyce H. Grier

- 2 -

January 14, 1981

Very truly yours,



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

FLW:sab

Attachment

cc: Mr. Victor Stello (15)
Director-Office of Inspection & Enforcement
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

~~Mr. Robert M. Gallo~~

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, PA 18655

INTERIM REPORT

Subject: Improperly Grounded Flexible Conduit on Safety-Related Fail Safe Circuits

Description:

Metallic flexible conduit is utilized to enclose electrical conductors in various fail-safe (deenergize to perform the safety function) safety related circuits. These fail-safe circuits, are part of the Reactor Protection System (RPS), Nuclear Steam Supply Shut-Off System (NSSS) and Neutron Monitoring System (NMS) logics. The fail-safe design requires that the flexible conduit provide a low resistance path to ground to prevent external voltage sources, that could occur from certain short circuits, from defeating (deenergizing to operate) fail-safe mode of these safety related circuits. The positive ground path assures that the upstream protective devices will sense and interrupt a short circuit, thereby eliminating the possibility of an external voltage source defeating the safety function.

Flexible conduit is utilized for fail-safe circuits within the GE-supplied Power Generation Control Complex (PGCC). Typically the flexible conduit is routed through the PGCC floor sections from the termination cabinets to panels or from panel to panel.

The defect being reported is the lack of positive metallic grounding for the flexible conduit either at the termination cabinet or at the panel. In a typical termination cabinet installation; the conduit is attached with a locking ring to a termination module. This is an acceptable ground connection; however, the termination module is ultimately mounted on a painted (high electrical resistance) surface. During manufacturing, there was no procedure to assure paint was removed prior to mounting the termination module. Hence, a positive ground path was not provided.

GE has reported this defect to the NRC under 10 CFR, Part 21.

Analysis of Safety Implications

The design basis, for safety-related fail-safe circuits of the RPS, NSSS and NMS systems requires protection against the possibility of loss of protective functions from external voltage sources. Installation of these circuits in positively grounded metallic conduit is required to meet this design basis.

Engineering considers the omission of a positive ground on the GE supplied flexible metallic conduit to be a significant deficiency in design and construction of the PGCC such that if it were to have remained uncorrected, could have adversely affected the safety of operation of the plant. Therefore, the lack of grounding on flexible metallic conduit containing safety-related fail-safe circuits within the PGCC is considered reportable under 10 CFR 50.55 (e).

Corrective Action:

GE will issue instructions to field investigate installations of fail-safe circuits in flexible conduit for adequate grounding. Where the grounding is found to be unacceptable, positive grounding will be installed.

Bechtel has been instructed to review installations of safety-related fail-safe circuits within their design scope to assure that positive raceway grounding has been applied.

A final report identifying the total scope of the problem and corrective actions will be provided by March 31, 1981.

SBK/kes