



Florida Power

CORPORATION
Crystal River Unit 3
Docket No. 50-302

July 21, 1997
3F0797-28

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, D.C. 20555-0001

Subject: LICENSEE EVENT REPORT (LER) 97-017-00

Gentlemen:

Please find the enclosed Licensee Event Report (LER) 97-017-00 which discusses an inadequate electrical separation for the High Pressure Injection Flow Indicators. This report is being submitted pursuant to 10 CFR 50.73(a)(2)(ii).

Sincerely,

J. J. Holden,
Director
Nuclear Engineering and Projects

JJH/pmp

xc: Regional Administrator, Region II
Senior Resident Inspector
NRR Project Manager

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EXPIRES 04/30/98

LICENSEE EVENT REPORT (LER)

(See reverse for required number of digits/characters for each block)

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS MANDATORY INFORMATION COLLECTION REQUEST 50.0 HRS. REPORTED LESSONS LEARNED ARE INCORPORATED INTO THE LICENSING PROCESS AND FED BACK TO INDUSTRY. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (T-6 F33), U. S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20555-0001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

FACILITY NAME (1) CRYSTAL RIVER UNIT 3	DOCKET NUMBER (2) 05000302	PAGE (3) 1 OF 6
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TITLE (4)
Personnel Error Caused Inadequate Electrical Separation of the High Pressure Flow Indicators

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
06	21	97	97	-- 017 --	00	07	21	97	FACILITY NAME	DOCKET NUMBER

OPERATING MODE (9)	N	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)								
POWER LEVEL (10)	000	20.2201(b)			20.2203(a)(2)(v)			50.73(a)(2)(i)		50.73(a)(2)(viii)
		20.2203(a)(1)			20.2203(a)(3)(i)			X 50.73(a)(2)(ii)		50.73(a)(2)(x)
		20.2203(a)(2)(i)			20.2203(a)(3)(ii)			50.73(a)(2)(iii)		73.71
		20.2203(a)(2)(ii)			20.2203(a)(4)			50.73(a)(2)(iv)		OTHER
		20.2203(a)(2)(iii)			50.36(c)(1)			50.73(a)(2)(v)		Specify in Abstract below or in NRC Form 366A
20.2203(a)(2)(iv)			50.36(c)(2)			50.73(a)(2)(vii)				

LICENSEE CONTACT FOR THIS LER (12)

NAME Patrick M. Peterson, Sr. Regulatory Specialist	TELEPHONE NUMBER (Include Area Code) (352) 795-6486
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COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS

SUPPLEMENTAL REPORT EXPECTED (14)				EXPECTED SUBMISSION DATE (15)		MONTH	DAY	YEAR
YES (If yes, complete EXPECTED SUBMISSION DATE)	X NO							

ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)

On June 21, 1997, Florida Power Corporation's (FPC) Crystal River Unit 3 (CR-3) was in MODE 5 (COLD SHUTDOWN). On May 1, 1997, while performing a modification in the main control board, FPC personnel noticed that electrical separation material previously installed was different than that being currently installed. On June 21, 1997, FPC concluded the material previously installed (Nextel) was incorrect. The material was used to sleeve cables for electrical separation during the installation of a modification to the HPI Flow Indicators. The modification to the HPI flow indicators was performed during the tenth refueling outage (10R), spring 1996. Electrical separation ensures a failure in one cable will not disable other related trains or systems. The HPI flow indicators assist the reactor operators in isolating a faulted HPI line during certain design basis accidents. Personnel error during the installation resulted in the incorrect material being used for electrical separation. A walkdown of other areas is scheduled to be completed by September 15, 1997, to identify areas where Nextel may have been used. Two other LERs were issued by FPC concerning electrical separation.

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TEXT (If more space is required, use additional copies of NRC Form 366A) (17)

Event Description

On June 21, 1997, Florida Power Corporation's (FPC) Crystal River Unit 3 (CR-3) was in MODE 5 (COLD SHUTDOWN). On May 1, 1997, while performing a modification in the main control board, FPC personnel noticed that electrical separation material previously installed was different than that being currently installed. On June 21, 1997, FPC concluded the material previously installed (Nextel) was incorrect. The material was used to sleeve cables/conductors for electrical separation during the installation of a modification to the High Pressure Injection (HPI)[BQ] Flow Indicators. The modification to the HPI flow indicators was performed during the tenth refueling outage (10R), spring 1996. A non-approved material was used to sleeve the electrical cables/conductors.

The material used to sleeve the cables was Nextel, 1/8 inch, braided sleeve. Nextel is intended to be used as tie cord material, not sleeving material. Modification Approval Record (MAR) 96-02-09-01 specified the use of Siltemp for cable separation. The post installation inspection did not detect the incorrect material because the inspection only verified the presence of glass tape and tape markings. The glass tape used to cover the sleeving disguised the Nextel material.

The FSAR requires electrical separation to be in accordance with Institute of Electrical and Electronic Engineers Standard (IEEE) IEEE-279, for cables related to safety related circuits. Contrary to the above, during the installation of MAR 96-02-09-01, the material used to obtain the electrical separation was not qualified by FPC for electrical separation.

Inadequate electrical separation resulted in CR-3 being outside of the design basis. This report is being submitted pursuant to 10CFR50.73(a)(2)(ii).

Event Evaluation

Electrical separation ensures a failure in one electrical cable/conductor will not damage other trains or systems. Inadequate electrical separation could lead to a loss of systems necessary to achieve and maintain safe shutdown. The HPI flow indicators assist the reactor operators in isolating a faulted HPI line during certain design basis accidents.

Cause

Personnel error during the installation of MAR 96-02-09-01 resulted in the incorrect material being used as cable/conductor sleeving for electrical separation. The incorrect material used is currently listed in the procedure to be used as tie cord as opposed to sleeving material. Nextel is used to hold Siltemp blankets in place until the glass tape is applied.

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The Nextel braided sleeving is 1/8 inch in diameter, and is only approved to be used a tie cord.

FPC maintenance procedure MP-405A, Handling, Pulling and Termination for Safety Related and Non-safety Related Cables, was used for the installation of the Siltemp material. The specified use/application for both Nextel and Siltemp are not clear as stated in MP-405A. Additionally, both Nextel and Siltemp are braided and appear similar.

Immediate Corrective Actions

An inspection of the immediately accessible areas in the main control board was conducted to identify other areas where Nextel may have been used as a separation barrier. One other area, kilo-Watt (kW) indicator meters for the Emergency Diesel Generators, was identified where Nextel was inappropriately used as sleeving for electrical separation. However, an engineering evaluation of the second area determined adequate electrical separation exists, taking no credit for the incorrectly installed electrical separation material.

Appropriate managers and supervisors were informed, via letter dated 7/17/97, of this error and were requested to review the incident with their personnel to ensure Siltemp is used where required in future application.

Corrective Actions

An extent of condition review and walkdown of other areas where electrical separation is required is scheduled to be completed by September 15, 1997, to identify areas where Nextel may have been used.

Discrepancies identified to date on the HPI Flow Indicators and EDG kW meters, as well as any other discrepancies identified during the review and walkdown, are scheduled to be corrected by October 15, 1997.

Actions to Prevent Recurrence

MP-405A will be revised to clearly address the use and application of Nextel and Siltemp by August 28, 1997. The description of Nextel in MP-405A and on the warehouse material description will clearly identify it as tie cord to avoid confusion as to the use of Nextel.

A standard inspection plan will be developed for Siltemp sleeving installation to include an in-process verification of the material by July 25, 1997.

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Similar Occurrences

Two other LERs were issued by FPC concerning electrical separation. LER 96-015-00 concerned the cable and circuits between Safety-Related and Non-Safety Related portions of the electrical cables to the Toxic Gas Monitors not meeting CR-3's separation criteria.

LER 92-011-00 discussed an interlock relay which monitors the open position of containment isolation valve, WDV-3, located in a non-class 1E, non-seismic cabinet despite being part of a class 1E circuit.

Attachments

- Attachment 1 - Abbreviations, Definitions, and Acronyms
- Attachment 2 - Commitments

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TEXT (If more space is required, use additional copies of NRC Form 366A) (17)

ATTACHMENT 1 - ABBREVIATIONS, DEFINITIONS, AND ACRONYMS

- LER Licensee Event Report
- FPC Florida Power Corporation
- CR-3 Crystal River Unit 3
- 10CFR Title 10 of the Code of Federal Regulations
- HPI High Pressure Injection
- MAR Modification Approval Record
- FSAR Final Safety Analysis Report
- IEEE Institute of Electrical and Electronic Engineers

Note: Improved Technical Specifications terms appear in capitalization in the text of the LER. EISS Codes appear in square brackets.

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ATTACHMENT 2

RESPONSE SECTION	COMMITMENT	DUE DATE
Page 3	An extent of condition review and walkdown of other areas where electrical separation is required to identify areas where Nextel may have been used.	September 15, 1997
Page 3	Discrepancies identified to date on the HPI Flow Indicators and EDG kW meters, as well as any other discrepancies identified during the review and walkdown, are scheduled to be corrected.	October 15, 1997
Page 3	MP-405A will be revised to clearly address the use and application of Nextel and Siltemp. The description of Nextel in MP-405A and on the warehouse material description will clearly identify it as tie cord to avoid confusion as to the use of Nextel.	August 28, 1997
Page 3	A standard inspection plan will be developed for Siltemp sleeving installation to include an in-process verification of the material.	July 25, 1997