



# Florida Power

CORPORATION  
Crystal River Unit 3  
Docket No. 50-302

July 18, 1997  
3F0797-02

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

Subject: LICENSEE EVENT REPORT (LER) 97-007-01

Dear Sir:

Please find the enclosed Licensee Event Report (LER) 97-007-01, concerning temperature variations causing unknown instrument uncertainties. This report is being submitted pursuant to 10CFR50.73.

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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PDR ADCK 05000302  
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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

TITLE (4)

BUILDING TEMPERATURE VARIATIONS LARGER THAN ASSUMED RESULTING IN UNKNOWN INSTRUMENT UNCERTAINTIES

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	
03	06	97	97	-- 007 --	01	07	18	97	FACILITY NAME	DOCKET NUMBER	
OPERATING MODE (9)		THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR §: (Check one or more) (11)									
N		20.2201(b)			20.2203(a)(2)(v)			50.73(a)(2)(i)		50.73(a)(2)(viii)	
POWER LEVEL (10)		20.2203(a)(1)									
000		20.2203(a)(2)(i)			20.2203(a)(3)(ii)			X 50.73(a)(2)(ii)		50.73(a)(2)(x)	
		20.2203(a)(2)(ii)			20.2203(a)(4)			50.73(a)(2)(iii)		73.71	
		20.2203(a)(2)(iii)			50.36(c)(1)			50.73(a)(2)(iv)		OTHER	
		20.2203(a)(2)(iv)			50.36(c)(2)			50.73(a)(2)(v)		Specify in Abstract below or in NRC Form 366A	
								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

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)

YES (If yes, complete EXPECTED SUBMISSION DATE)	X	NO	EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
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ABSTRACT (Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines) (16)

On, March 6, 1997, Florida Power Corporation's (FPC) Crystal River Unit 3 (CR-3) was in MODE 5 (COLD SHUTDOWN). FPC made a four hour report to the NRC in accordance with 10 CFR 50.72(b)(2)(i), as being in an unanalyzed condition (Reference Event Number 31903). On February 13, 1997, FPC discovered the temperatures in the plant are not being maintained in accordance with the Environmental & Seismic Qualification Program Manual (ESQPM). On March 6, 1997, after an engineering evaluation, FPC declared CR-3 was in an unanalyzed condition because the instrument uncertainties were unknown due to inadequate temperature controls and may effect the setpoints for safety related instrumentation. If actual temperature variations were greater than those used in the development of these calculations, instrument calibrations and equipment performance could potentially be adversely impacted. A lack of commitment to configuration management resulted in controls and procedural guidance being insufficient to ensure ambient temperatures were maintained within the required temperature ranges in the buildings. Procedural guidance to ensure engineering requirements specified in the calculations and implementing procedures receive adequate review by implementing organizations, is scheduled to be completed by October 15, 1997. Nuclear Engineering Procedure NEP-213, was revised to require a review of the FSAR, Enhanced Design Basis Document and Improved Technical Specifications as part of the calculation approval.

**LICENSEE EVENT REPORT (LER)**

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		97	-- 007 --	01	

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

EVENT DESCRIPTION

On, March 6, 1997, Florida Power Corporation's (FPC) Crystal River Unit 3 (CR-3) was in MODE 5 (COLD SHUTDOWN). FPC made a four hour report to the NRC in accordance with 10 CFR 50.72(b)(2)(i), as being in an unanalyzed condition. Reference Event Number 31903.

On February 13, 1997, FPC discovered the temperatures in the plant are not being maintained in accordance with the Environmental & Seismic Qualification Program Manual (ESQPM). On March 6, 1997, after an engineering evaluation, FPC declared CR-3 was in an unanalyzed condition because the instrument uncertainties were unknown due to inadequate temperature controls and may effect the setpoints for safety related instrumentation.

FPC discovered that the ambient air temperatures were not maintained in the plant, as described in the ESQPM and therefore, could result in instrument uncertainties that would be non-conservative for actual environmental conditions and could affect instrument calibration accuracy.

Calculations for instrument setpoints utilized temperature ranges specified in the ESQPM to determine the instrument error resulting from temperature changes in the individual instrument string components. The current methodology used at CR-3 is to conservatively assume the device is calibrated at the lower temperature value for respective ESQPM zones, and the safety function occurs while the device is at the higher zone temperature. This would allow for the maximum conservatism for the calculation bases. There were limited administrative controls to ensure the ESQPM zone temperature ranges were being maintained to prevent adversely impacting the instrument string error calculations. Ambient air temperatures were not recorded at the time of the calibration.

FPC is submitting this report in accordance with 10 CFR 50.73(a)(2)(ii)(A).

EVENT EVALUATION

Instrument calibrations have been performed that may have introduced instrument uncertainty errors into safety related channels. These instrument uncertainties would have been outside of the analyzed parameters utilized to develop the supporting Instrumentation and Controls (I&C) setpoint calculations.

This is a concern since the existence of larger temperature variations than were identified in the ESQPM could impact the performance of plant safety related instrumentation. If actual temperature variations were greater than those used in the development of these calculations, instrument calibrations and equipment performance could potentially be adversely impacted. This is an example of an earlier identified configuration control issue wherein design inputs and assumptions were not correctly translated into field documents.

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To address the extent of condition of design issue, including those related to design inputs and assumptions, FPC instituted a System Readiness Review to provide the requisite assurance that CR-3 systems are able to perform in accordance with their design and licensing bases at the time CR-3 is restarted from the current outage.

CAUSE

Building temperatures were not maintained within the temperature range specified in the ESQPM. The instrument calibrations were performed outside of these temperature ranges, which were used as the basis for setpoint calculations.

Controls and procedural guidance were insufficient to ensure ambient temperatures were maintained within the required temperature ranges in the buildings due to a lack of commitment to configuration management.

IMMEDIATE CORRECTIVE ACTIONS

An engineering evaluation was completed by FPC which determined no OPERABILITY concerns exist due to temperature variations for those instruments necessary for MODE 5.

FPC instituted a corrective action for temperature verification by maintenance personnel to ensure calibrations are performed within the specified range.

CORRECTIVE ACTIONS

Establish ambient temperature requirements for calibration and operation activities in the Intermediate Building, Auxiliary Building, Reactor Building, and Control Complex Building by September 22, 1997.

Establish controls to maintain the Intermediate Building, Auxiliary Building, Reactor Building and Control Complex building within the required temperatures by November 24, 1997.

FPC will calibrate Technical Specification required instrumentation to specified temperature ranges by December 8, 1997.

ACTION TO PREVENT RECURRENCE

Nuclear Engineering Procedure NEP-213, was revised to require a review of the FSAR, Enhanced Design Basis Document and Improved Technical Specifications as part of the calculation approval.

FPC will develop procedural guidance to ensure engineering requirements specified in the calculations and used for design inputs receive the appropriate review by organizations issuing those design inputs by October 15, 1997.

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Process controls will be established to ensure that documents created or revised by new programs are reviewed against existing licensing and design basis documents for consistency. Controls will also be established to advise program document owners when their documents are being used as design inputs. These controls will be established by October 15, 1997.

PREVIOUS SIMILAR EVENTS

None

ATTACHMENTS

Attachment 1 - Abbreviations, Definitions and Acronyms

Attachment 2 - List of Commitments

**LICENSEE EVENT REPORT (LER)**

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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
- PC Precursor Card
- REA Request for Engineering Assistance
- ESQPM Environmental & Seismic Qualification Program Manual
- I&C Instrumentation and Controls

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

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**ATTACHMENT 2**

RESPONSE SECTION	COMMITMENT	DUE DATE
	Establish ambient temperature requirements for calibration and operation activities in the Intermediate Building, Auxiliary Building, Reactor Building, and Control Complex Building	September 22, 1997
	Establish controls to maintain the Intermediate Building, Auxiliary Building, Reactor Building and Control Complex building within the required temperatures	November 24, 1997
	FPC will calibrate Technical Specification required instrumentation within specified temperature ranges	December 8, 1997
	FPC will develop procedural guidance to ensure engineering requirements specified in the calculations and used for design inputs receive the appropriate review by organizations issuing those design inputs	October 15, 1997
	Process controls will be established to ensure that documents created or revised by new programs are reviewed against existing licensing and design basis documents for consistency. Controls will also be established to advise program document owners when their documents are being used as design inputs.	October 15, 1997