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A045

NRR-037

Rev. 1

Effective Date 5/25/00

EMERGENCY PLAN IMPLEMENTING PROCEDURE

EM-225C

FLORIDA POWER CORPORATION

CRYSTAL RIVER UNIT 3

POST ACCIDENT MONITORING OF REACTOR BUILDING TEMPERATURE
(This Procedure Addresses EQ Components)

APPROVED BY: Procedure Owner

(SIGNATURE ON FILE)

DATE: 5/23/2000

PROCEDURE OWNER: Manager, Nuclear Plant Operations

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1.0 PURPOSE

The purpose of this procedure is to provide guidance to the TSC Accident Assessment Team to monitor and take action to ensure Reactor Building (RB) temperatures remain below the qualified threshold limits for environmentally qualified components. If temperatures approach a predetermined limit, then actions will be taken to reduce RB temperatures to acceptable values.

2.0 REFERENCES

2.1 DEVELOPMENTAL REFERENCES

2.1.1 ITS 3.6.5 Containment Air Temperature

2.1.2 Environmental and Seismic Qualification Program Manual

2.1.3 IOC NOE 97-2534, Assessment to support EM-225C for SBLOCA EQ Concerns, dated 12/4/97

2.1.4 Calculation M-97-0072, CR-3 Containment Analysis for SBLOCA, Rev. 2

2.1.5 PC 97-7607

2.1.6 IOC NSM 98-0592, Close out of the DR/JCO related to PC 97-7607 - RB EQ Temperatures from a SBLOCA event, dated 4/2/98

2.1.7 Calculation M-97-0132, CR3 Containment Analysis, Rev. 6

2.1.8 PC 00-0830, Enclosure 1 curve in EM-225C appears to be incorrect, dated 3/16/00

2.1.9 Calculation M-90-0021, Building Spray and Decay Heat NPSH, Rev. 11

3.0 PERSONNEL INDOCTRINATION

3.1 DEFINITIONS

None

3.2 RESPONSIBILITIES

The TSC Accident Assessment Team is responsible for monitoring RB temperatures post accident, and to provide recommendations to the Emergency Coordinator to initiate building spray if temperatures reach the limits established in this procedure.

3.3 LIMITS AND PRECAUTIONS

3.3.1 Large break LOCA's and larger small break LOCA's will result in RB Pressures that actuate building spray automatically. Actions to manually start building spray to reduce RB temperatures will not be required in these situations.

3.3.2 Prior to starting any ES powered component, adequate load margin must be available if the ES 4160 volt busses are energized from the emergency diesel generators.

3.3.3 Prior to starting a building spray pump, building spray flow control valves must be set for 1200 gpm if ECCS suction has been transferred to the RB Sump.

3.3.4 If a SGTR is in progress then ensure adequate RB sump level is available prior to transferring or starting a BS pump from the RB Sump. With a SGTR, sufficient RB sump level might not be available due to loss from the SGTR. Reference calculation M-90-0021 for BSP NPSH requirements.

4.0 INSTRUCTIONS

4.1 IF at least one building spray pump is running,
THEN exit this procedure. No further action is required.

4.2 IF an RCS leak is occurring in the reactor building,
THEN begin plotting average RB temperature on Enclosure 1 for at least 1 hour intervals in the beginning of the event. The plotting interval can be changed based on plant conditions.

4.3 RB Temperature is the average of the following four temperature elements:

TEMPERATURE ELEMENT	CONTROL ROOM RECORDER	RECALL POINT	COMPUTER POINT	RB ELEV.
AH-536-TE	AH-536-TIR	RECL-77	S358	102
AH-537-TE		RECL-78	S359	125
AH-538-TE		RECL-80	S382	180
AH-539-TE		RECL-81	S383	235
AVERAGE			S837	

4.4 IF average RB Temperature is in the "Acceptable" Region of Enclosure 1 and decreasing,
THEN exit this procedure.

4.5 IF at any time average RB temperature reaches "Action Required boundary" region of Enclosure 1,
THEN obtain Emergency Coordinator concurrence to start at least one building spray pump.

4.6 IF a building spray pump is required and EC concurrence has been obtained,
THEN perform the following:

4.6.1 Ensure load is available on the emergency diesel generators per EOP-13, Rule 5.

4.6.2 Ensure Building Spray flow controls are set at 1500 GPM and "Remote" if pumps are aligned to BWST, or 1200 GPM and "LOCAL" if aligned to the RB Sump.

4.6.3 Notify the control room to start one building spray pump.

4.7 Continue to monitor RB Temperature.

4.8 IF RB Temperature does not lower to the acceptable region of Enclosure 1,
THEN notify control room to start a second building spray pump if available.

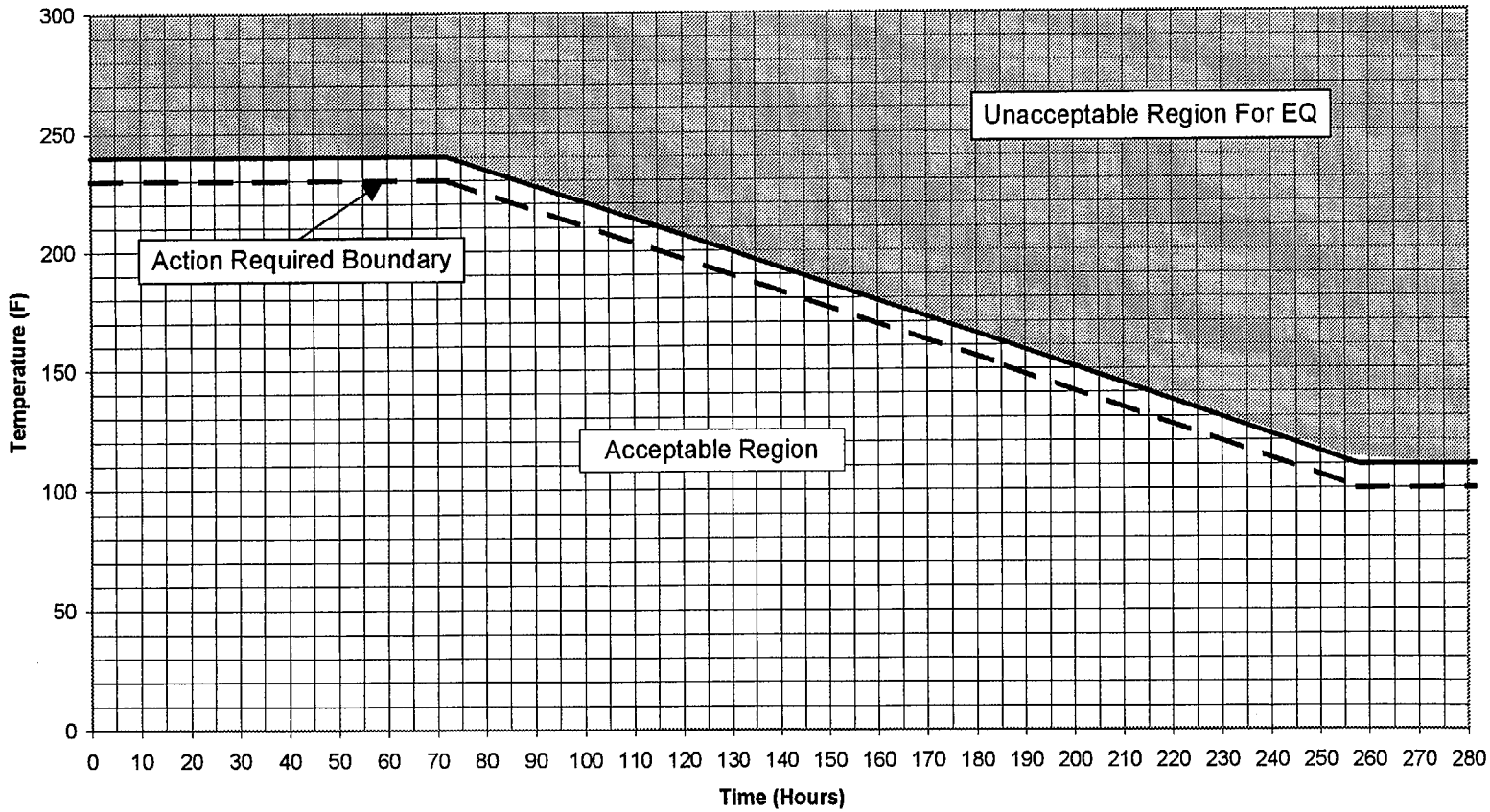
NOTE: **If building spray pumps are running, Emergency Operating Procedures provide guidance to secure them. If building spray pumps are secured, begin additional monitoring of RB Temperatures until a continuing decreasing trend is achieved.**

4.9 WHEN building spray pumps are running,
THEN exit this procedure.

5.0 FOLLOW-UP ACTIONS

None

EM-225C
Limiting RB Temperature



PROCEDURE DEVELOPMENT AND REVISION RECORD

Procedure: EM0225C **New Rev:** 1 **PRR#:** 18853

Title: POST ACCIDENT MONITORING OF REACTOR BUILDING TEMPERATURE

MINOR CHANGES

If Minor Changes are included, check the applicable box(es) and provide a list of affected steps.
The following corrections are incorporated throughout:

- _ Sentence Structure
- _ Punctuation
- _ Capitalization
- _ Spelling
- _ Organizational Changes: position titles, department names, or telephone numbers
- _ Redundant words or phrases
- _ Abbreviations
- _ Obviously incorrect units of measure
- _ Inadvertently omitted symbols (#, %, etc.)
- _ Obvious step numbering discrepancies
- _ Format

The following corrections are incorporated in the step(s) indicated: "Throughout" is used in lieu of Step# if a specific change affects a large number of steps.

	Correcting equipment nomenclature that does not agree with field labels or balance of procedure
	Changing information that is obviously incorrect and referenced correctly elsewhere
	Misplaced decimals that are neither setpoint values nor tolerances
	Reference to a procedure when an approved procedure has taken the place of another procedure
	Fixing branching points when it is clear the branching steps were originally intended but were overlooked or incorrectly stated due to step number changes
	Adding clarifying information such as NOTES and CAUTIONS
	Adding words to clarify steps, NOTES, or CAUTIONS which clearly do not change the methodology or intent of the steps

PROCEDURE DEVELOPMENT AND REVISION RECORD

Procedure: EM0225C **New Rev:** 1 **PRR#:** 18853

Title: POST ACCIDENT MONITORING OF REACTOR BUILDING TEMPERATURE

NON-INTENT CHANGES

Changes are incorporated for the reasons provided. "Throughout" is used in lieu of Step # if a specific change affects a large number of steps. For new or cancelled procedures the reason is provided.

Procedure Title page	Add "This Procedure Addresses EQ Components". Added statement to emphasize EQ aspect of the procedure.
Section 1.0	Reworded purpose to emphasize EQ aspect of the procedure.
Section 2.1	Deleted implementing references per format change in AI-402C.
Section 2.2 (new 2.1)	Added/deleted the following references and renumber section (2.1.....) (Ref NUPOST 61975). The change in the references enhance this section. 1) IOC NOE 97-2534, Assessment to Support EM-225C for SBLOCA EQ Concern, Dated 12/4/97 2) Calc M97-0072, CR-3 Containment Analysis for SBLOCA, Rev. 2 3) Calc M-97-0132, CR3 Containment Analysis, Rev. 6 4) PC 00-0830, Enclosure 1 curve in EM-225C appears to be incorrect, dated 3/16/00 5) PC 97-7607 6) Calc M-90-0021, Building Spray and Decay Heat NPSH, Rev. 11 Deleted Ref to Calc I-89-0013
3.3.4 (New Step)	Added a new limit and precaution to identify a concern for reduced RB sump levels during a SGTR. (Ref. NUPOST item 50777). The L&P will state "If a SGTR is in progress then ensure adequate RB sump level is available prior to transferring or starting a BS pump from the RB sump. With a SGTR, sufficient RB sump level might not be available due to loss from SGTR. Reference calculation M-90-0021 for BSP NPSH Requirements."
4.2	Clarify the requirements RB temperature monitoring time interval to allow flexibility based on the transient. Revise the last section of the step to state " at least 1 hour intervals in the beginning of the event. The plotting interval can be changed based on plant conditions."
4.9 - Note	Change the last word in the note from determined to achieved. This clarifies the note to ensure a decreasing RB temperature trend has been established before exiting the procedure.

PROCEDURE DEVELOPMENT AND REVISION RECORD

Procedure: EM0225C **New Rev:** 1 **PRR#:** 18853

Title: POST ACCIDENT MONITORING OF REACTOR BUILDING TEMPERATURE

CHANGE OF INTENT, CANCELLATION, OR NEW PROCEDURE

Changes are incorporated for the reasons provided. "Throughout" is used in lieu of Step # if a specific change affects a large number of steps. For new or cancelled procedures the reason is provided.

Enclosure 1	Pc 00-0830 identified a deficiency that EM-225C did not fully implement the required RB temperature threshold limits identified in IOC NOE 97-2534. Revised Enclosure 1 to meet the IOC requirements. Revised the action band from 25 deg to 10 deg. 25 deg band was a large margin band to take action. 10 deg is an adequate margin to take action. The temperature rise will be slow and time is available to plan for the required actions. Also several human factors enhancements were incorporated into the enclosure. (i.e. region names changed, shading, extend the curve)