April 29, 1992

Docket No. 50-302

DISTRIBUTION:
See next page

LICENSEE: Florida Power Corporation (FPC)

FACILITY: Crystal River Unit 3 (CR-3)

SUBJECT: MEETING SUMMARY OF MARCH 30, 1992

On March 30, 1992, representatives of FPC and B&W met with members of the NRC staff at the NRC headquarters in Rockville, Maryland to discuss resolution of Bulletin 88-04 on CR-3. A list of attendees is enclosed (Enclosure 1).

The remaining concern with respect to Bulletin 88-04 at CR-3 is that the licensee has not demonstrated the mission time for which the decay heat pump must perform at the low flow required in the "piggy-back" mode during a small break LOCA of such size that a bubble forming in the "candy cane" can decouple the steam generators from the primary system, interrupting the cooldown. It was noted that this problem may be generic, and that this issue is awaiting prioritization as a generic issue by RES.

A specific accident scenario was discussed, and it was agreed that the licensee would provide a detailed description of the scenario which they would use for analysis, either by B&W or on the CR-3 simulator. This scenario as provided by the licensee is attached as Enclosure 2. A schedule for the analysis was not agreed upon, but both NRC and FPC expressed an interest in early resolution of the problem.

The NRC staff has reviewed the detailed scenario and notes that although a break size of 0.007 ft^2 was discussed at the meeting, that specific size may not be appropriate for this analysis. Rather, the break size should be the smallest which results in decoupling of the steam generator, given the other assumptions.

/s/

Harley Silver, Sr. Project Manager
Project Directorate II-2
Division of Reactor Projects -I/II
Office of Nuclear Reactor Regulation

Enclosures:
As stated

cc w/enclosures:
See next page

OFFICE	LA:PDII-2	PM:PDII-2	D:PDII-2		
NAME	DMiller	HSilver:mk	HBerkow		
DATE	4/29/92	4/29/92	4/29/92	/ /	/ /

OFFICIAL RECORD COPY
FILENAME: CR3-30.MTS

9205050226 920429
PDR TOPRP EMVBW
C PDR

NRC FILE CENTER COPY

DF01

Florida Power Corporation

Crystal River Unit No. 3
Generating Plant

cc:
Mr. A. H. Stephens
General Counsel
Florida Power Corporation
MAC-A5D
P. O. Box 14042
St. Petersburg, Florida 33733

Mr. P. F. McKee, Director
Nuclear Plant Operations
Florida Power Corporation
P. O. Box 219-NA-2C
Crystal River, Florida 32629

Mr. Robert B. Borsum
B&W Nuclear Technologies
1700 Rockville Pike, Suite 525
Rockville, Maryland 20852

Regional Administrator, Region II
U. S. Nuclear Regulatory Commission
101 Marietta Street N.W., Suite 2900
Atlanta, Georgia 30323

Mr. Jacob Daniel Nash
Office of Radiation Control
Department of Health and
Rehabilitative Services
1317 Winewood Blvd.
Tallahassee, Florida 32399-0700

Administrator
Department of Environmental Regulation
Power Plant Siting Section
State of Florida
2600 Blair Stone Road
Tallahaseee, Florida 32301

Attorney General
Department of Legal Affairs
The Capitol
Tallahassee, Florida 32304

Mr. Robert G. Nave, Director
Emergency Management
Department of Community Affairs
2740 Centerview Drive
Tallahassee, Florida 32399-2100

Chairman
Board of County Commissioners
Citrus County
110 North Apopka Avenue
Inverness, Florida 32650

Mr. Rolf C. Widell, Director
Nuclear Operations Site Support
Florida Power Corporation
P. O. Box 219-NA-2I
Crystal River, Florida 32629

Mr. Percy M. Beard, Sr.
Vice President
Nuclear Operations
ATTN: Manager, Nuclear Operations
Licensing
P.O. Box 219-NA-2I
Crystal River, Florida 32629

Senior Resident Inspector
Crystal River Unit 3
U.S. Nuclear Regulatory
Commission
6745 N. Tallahassee Road
Crystal River, Florida 32629

Mr. Gary Bolt
Vice President, Nuclear
Production
Florida Power Corporation
P.O. Box 219-SA-2C
Crystal River, Florida 32629

ENCLOSURE 1

March 30, 1992

Bulletin 88-04 Meeting

Decay Heat Pump

List of Attendees

Harley Silver	NRC/NRR/PDII-2
Brian Gutherman	FPC
Joe R. Maseda	FPC
Ed Anderson	B&W Nuclear Services
David V. Firth	B&W Nuclear Services
Edmund Sullivan	NRR/DET/EMEB
Fred Maass	B&W Nuclear Services
Edward M. Morea	FPC
Paul V. Fleming	FPC
Ken Wilson	FPC
Tim Collins	NRC/NRR/SRXB
Robert Jones	NRC/NRR/SRXB
Narvaez Stinson	NRC/NRR/PDII-2
Tom Alexion	NRC/NRR/PDIV-1
Y. C. (Renee) Li	NRC/DET/EMEB
Jack W. Tunstill	FPC
Herbert N. Berkow	NRC/NRR/PDII-2

Bulletin 88-04 Scenario for CR-3 Decay Heat Pumps

Assumptions

1. With CR-3 operating at 100% power, a SBLOCA occurs with a 0.007 ft^2 area
2. Simultaneous Loss-of-Offsite Power (Resulting in No RC Pumps)
3. No single failures assumed
4. 100% decay heat
5. ECCS will operate at CR-3 setpoints and function as designed
6. 2 HPI pumps/2 LPI pumps available
7. Actions will be governed by existing Abnormal, Emergency, and Operating Procedures

The plant is operating at 100% power. A SBLOCA with a simultaneous LOOP is the initiating event. When either subcooling margin is lost or RCS pressure drops to 1500 psig, then full HPI will be established. ECCS will operate as designed and be controlled in accordance with CR-3 procedures.

It is expected that the RCS will void in the hot legs for a short duration. HPI will restore RCS inventory and adequate subcooling margin. OTSG level will be controlled using emergency feedwater and the EFIC System. Depending upon the size of the voids in the RCS, boiler-condenser cooling may be established. Once the RCS is refilled, natural circulation will be established to facilitate a cooldown to the DH System cut-in conditions (RCS pressure ≤240 psig and RCS temperature ≤280°F). HPI/break flow will also provide a contribution to the cooldown.

If Reactor Building water level reaches 2.2 ft, then HPI/LPI suction from the RB emergency sump will be established. The cooldown and depressurization will continue until the RCS pressure reaches approximately 100 psig at which time the DH drop line will be aligned to the RB sump.

This scenario may be run on the CR-3 simulator if it can handle the decoupling of the OTSGs.

DISTRIBUTION LIST FOR MEETING SUMMARY OF 3/30/92:
FILENAME: CR3-30.MTS

Docket File P122
NRC & Local PDRs
PDII-2 RDG File
T. Murley
F. Miraglia
J. Partlow
S. Varga
G. Lainas
H. Berkow
H. Silver
F. Rinaldi
D. Miller
OGC
E. Jordan, MNBB 3701
E. Sullivan
T. Collins
R. Jones
N. Stinson
T. Alexion
Y. C. Li
ACRS (10)
J. Wechselberger, EDO 17-G-21
M. Sinkule, RII