



December 15, 1980

File: 3-0-30/QP
#3-120-24

Mr. Darrell G. Eisenhut, Director
Division of Licensing
Office of Nuclear Reactor Regulation
Nuclear Regulatory Commission
Washington, D.C. 20555

Subject: Crystal River Unit 3
Docket No. 50-302
Operating License No. DPR-72
NUREG-0737 - Post-TMI Requirements

Dear Mr. Eisenhut:

Pursuant to 10 CFR Part 50.54(f), Florida Power Corporation (FPC) hereby provides the information requested in your letter of October 31, 1980.

Your letter of October 31, 1980, incorporates into one document, all TMI-related items approved for implementation by the Commission at this time. By this letter, Florida Power Corporation provides confirmation that the implementation date will be met, and, for any date that can not be met, furnishes a revised implementation date, justification for the revision, and any planned compensating measures to be taken during the interim.

Enclosure 1 is a summary listing of all applicable NUREG-0737 (Action Plan) items, your requested implementation and/or submittal dates, and the dates by which Florida Power Corporation intends to meet the implementation and/or submittal requirement. Enclosure 2 provides a statement of confirmation for each applicable Action Plan item or a request for relief and supporting justification for any delay in not meeting the required dates.

Should any unforeseen circumstances arise that preclude Florida Power Corporation's implementation as identified in this submittal, we will inform you within five (5) working days of the circumstance involved and any changes in commitments.

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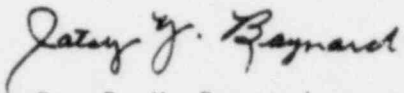
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Mr. Darrell G. Eisenhut, Director
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As always, we are prepared to meet with you and discuss our implementation and/or submittal of these requirements.

Very truly yours,

FLORIDA POWER CORPORATION

A handwritten signature in cursive script, reading "Dr. P. Y. Baynard".

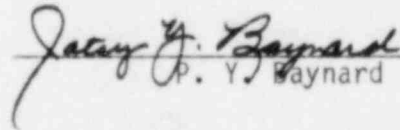
Dr. P. Y. Baynard
Manager
Nuclear Support Services

Items(Ltr)

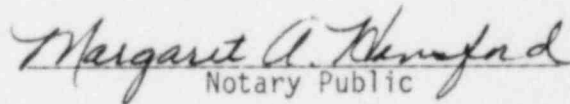
STATE OF FLORIDA

COUNTY OF PINELLAS

P. Y. Baynard states that she is the Manager, Nuclear Support Services Department of Florida Power Corporation; that she is authorized on the part of said company to sign and file with the Nuclear Regulatory Commission the information attached hereto; and that all such statements made and matters set forth therein are true and correct to the best of her knowledge, information and belief.


P. Y. Baynard

Subscribed and sworn to before me, a Notary Public in and for the State and County above named, this 15th day of December, 1980.


Notary Public

Notary Public, State of Florida at Large,

My Commission Expires: June 8, 1984

PYB/MAHNotary(DN-98)

ENCLOSURE 1

SUMMARY LISTING
OF
APPLICABLE NUREG-0737 ITEMS

ITEM	TITLE	DESCRIPTION	NUREG-0737 IMPLEMENTATION	FPC IMPLEMENTATION	NUREG-0737 LICENSING SUBMITTAL	FPC LICENSING SUBMITTAL
I.A.1.1	Shift Technical Advisor	1. On duty 2. Tech Specs 3. Trained per Cat B LL 4. Current program description 5. Long-term program description	1/1/80 12/15/80 1/1/81 1/1/81 1/1/81	1/1/80 -- 1/1/82 1/1/81 --	1/1/80 9/1/80 1/1/81 1/1/81 1/1/81	1/1/80 9/15/80 1/1/81 1/31/81 --
I.A.1.2	Shift Supervisor Responsibilities	Delegate non-safety duties	1/1/80	1/1/80	1/1/80	1/1/80
I.A.1.3	Shift Manning	1. Limit overtime 2. Minimum shift crew 3. Tech Specs	11/1/80 7/1/82 No date given	11/1/80 11/13/80 --	11/1/80 11/1/80 No date given	11/1/80 11/13/80 12/31/80
I.A.2.1	Upgrading of RO and SRO Training and Qualifications	1. SRO experience 2. SROs be ROs for 1 year 3. Three month training on shift 4. Modify training 5. Facility certifi- cation	5/1/80 12/1/80 8/1/80 8/1/80 5/1/80	5/1/80 12/1/80 8/1/80 8/1/80 5/1/80	None req'd None req'd None req'd 8/1/80 None req'd	N/A N/A N/A 9/15/80 N/A
I.A.2.3	Administration of Training Programs	Instructors complete SRO exam	8/1/80	8/1/80	None req'd	N/A

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ITEM	TITLE	DESCRIPTION	NUREG-0737 IMPLEMENTATION	FPC IMPLEMENTATION	NUREG-0737 LICENSING SUBMITTAL	FPC LICENSING SUBMITTAL
I.A.3.1	Revised Scope and Criteria for SRO and RO Exams	1. Increase scope 2. Increase passing grade 3. Simulator exams	5/1/80 5/1/80 10/1/81	N/A N/A 10/1/81	None req'd None req'd None req'd	N/A N/A N/A
I.C.1	Short-Term Accident and Procedures Review	1. SB LOCA 2. Inadequate core cooling a. Reanalyze and propose guide-lines b. Revise procedures 3. Transients and accidents a. Reanalyze and propose guide-lines b. Revise procedures	6/1/80 1/1/81 First refueling outage after 1/1/82 1/1/81 First refueling outage after 1/1/82	6/1/80 1/1/81 First refueling outage after 1/1/82 1/31/81 First refueling outage after 1/1/82	None req'd 1/1/81 Not determined 1/1/81 Not determined	N/A 1/31/81 -- 1/31/81 --
I.C.2	Shift and Relief Turnover Procedures	Implement shift turnover checklist	1/1/80	1/1/80	1/1/80	1/11/80

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ITEM	TITLE	DESCRIPTION	NUREG-0737 IMPLEMENTATION	FPC IMPLEMENTATION	NUREG-0737 LICENSING SUBMITTAL	FPC LICENSING SUBMITTAL
I.C.3	Shift Supervisor Responsibility	Define responsibilities	1/1/80	1/1/80	1/1/80	1/11/80
I.C.4	Control Room Access	Establish authority limit access	1/1/80	1/1/80	1/1/80	1/11/80
I.C.5	Feedback of Operating Experience	FPC to implement procedures	1/1/81	1/1/81	None req'd	N/A
I.C.6	Verify Correct Performance of Operating Activities	FPC to revise performance procedures	1/1/81	1/1/81	None req'd	N/A
I.D.1	Control Room Design Reviews	Preliminary assessment and schedule for correcting deficiencies	TBD	--	TBD	--
I.D.2	Plant Safety Parameter Display Console	1. Description 2. Installed 3. Fully implemented	TBD TBD TBD	-- -- --	TBD TBD TBD	-- -- --
II.B.1	Reactor Coolant System Vents	1. Design vents 2. Install vents 3. Procedures	7/1/81 7/1/82 1/1/82	7/1/81 7/1/82 1/1/82	7/1/81 7/1/81 1/1/81	7/1/81 7/1/81 1/31/81
II.B.2	Plant Shielding	1. Review designs 2. Plant modifications (LL Cat B) 3. Equipment qualification	1/1/80 1/1/82 6/30/82	1/1/80 1/1/82 (except Waste Disposal Panel) 6/30/82	1/1/80 1/1/81 1/1/82	1/1/80 1/1/81 1/1/82

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ITEM	TITLE	DESCRIPTION	NUREG-0737 IMPLEMENTATION	FPC IMPLEMENTATION	NUREG-0737 LICENSING SUBMITTAL	FPC LICENSING SUBMITTAL
II.B.3	Post-Accident Sampling	1. Interim system 2. Plant modifications (LL Cat B)	1/1/80 1/1/82	1/1/80 1/1/82	1/1/80 1/1/82	2/15/80 1/1/82
II.B.4	Training for Miti- gating Core Damage	1. Develop training program 2. Implement program a. Initial b. Complete	1/1/81 4/1/81 10/1/81	6/1/81 (Core damage mitigation pro- gram not devel- oped	None req'd None req'd	1/1/81 N/A N/A
II.D.1	Relief and Safety Valve Test Require- ments	1. Submit program 2. RV and SV testing (LL Cat B) a. Complete testing b. Plant specific report 3. Block valve testing	1/1/80 7/1/81 10/1/81 7/1/82	1/1/80 Contingent on EPRI schedules " "	1/1/80 7/1/80 1/1/82 7/1/82	1/11/80 Contingent on EPRI sched- ules --

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ITEM	TITLE	DESCRIPTION	NUREG-0737 IMPLEMENTATION	FPC IMPLEMENTATION	NUREG-0737 LICENSING SUBMITTAL	FPC LICENSING SUBMITTAL
II.D.3	Valve Position Indication	1. Install direct indications of valve positions	1/1/80	1980 refueling outage	1/1/80	1/11/80
		2. Tech specs	12/15/80		9/1/80	9/15/80
II.E.1.1	Auxiliary Feedwater System Evaluation	1. Short-term	7/1/81	See II.E.1.2	Plant Specific Plant Specific	See II.E.1.2
		2. Long-term	1/1/82	See II.E.1.2		See II.E.1.2
II.E.1.2	Auxiliary Feedwater System Initiation and Flow	1. Initiation				
		a. Control-grade	1/1/80	1/1/80	1/1/80	11/17/79
		b. Safety-grade	7/1/81	Beyond 1st qtr. 1982	1/1/81	12/19/80
		2. Flow indication				
		a. Control-grade	1/1/80	1/1/80	1/1/80	11/17/79 1/11/80
		b. LL A tech specs	12/15/80		9/1/80	12/31/80 & 7/13/79
II.E.3.1	Emergency Power for Pressurizer Heaters	c. Safety-grade	7/1/81	Beyond 1st qtr. 1982	1/1/81	12/19/80
		1. Upgrade power supply	1/1/80	1/1/80	1/1/80	11/17/79 1/11/80
		2. Tech specs	12/15/80		9/1/80	12/31/80
II.E.4.1	Dedicated Hydrogen Penetrations	1. Design	1/1/80	Existing	1/1/80	1/11/80
		2. Install	7/1/81	Existing	7/1/81	1/11/80

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ITEM	TITLE	DESCRIPTION	NUREG-0737 IMPLEMENTATION	FPC IMPLEMENTATION	NUREG-0737 LICENSING SUBMITTAL	FPC LICENSING SUBMITTAL
II.E.4.2	Containment Isolation Dependability	1-4 Improve diverse isolation	1/1/80	1980 refueling outage	1/1/80	1/11/80
		5. Containment pressure setpoint				
		a. Specify pressure	1/1/81	N/A	1/1/81	4/12/79
		b. Modifications	7/1/81	N/A	1/1/81	N/A
		6. Containment purge valves	1/1/81	Existing	1/1/81	1/10/79
		7. Radiation signals on purge valves	7/1/81	Existing	7/1/81	FSAR
II.F.1	Accident-Monitoring	8. Tech specs	12/15/80		9/1/80	9/15/80
		1. Noble gas monitor	1/1/82	1/1/82	1/1/82	1/1/82
		2. Iodine/particulate sampling	1/1/82	1/1/82	1/1/82	1/1/82
		3. Containment high-range monitor	1/1/82	1/1/82	1/1/82	1/1/82
		4. Containment pressure	1/1/82	1/1/82	1/1/82	1/1/82
		5. Containment water level	1/1/82	1/1/82	1/1/82	1/1/82
II.F.2	Instrumentation for Detection of Inadequate Core Cooling	6. Containment hydrogen	1/1/82	1/1/82	1/1/82	1/1/82
		1. Subcool meter	1/1/80	1980 refueling outage	1/1/80	11/17/79 1/11/80
		2. Tech spec (LL Cat A)	12/15/80		9/1/80	9/15/80
		3. Install level instruments (LL Cat B)	1/1/82	Upon NRC approval	1/1/82	Within 30 days of availability

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ITEM	TITLE	DESCRIPTION	NUREG-0737 IMPLEMENTATION	FPC IMPLEMENTATION	NUREG-0737 LICENSING SUBMITTAL	FPC LICENSING SUBMITTAL
II.G.1	Power Supplies for Pressurizer Relief Valves, Block Valves, and Level Indicators	1. Upgrade to emergency sources 2. Tech specs	1/1/80 12/15/80	Existing	1/1/80 9/1/80	11/17/79 1/11/80 9/15/80
II.K.2	Orders on B&W Plants	8. Upgrade AFW sysem 9. FMEA on ICS 10. Safety-grade trip 13. Thermal-mechanical report 14. Lift frequency of PORVs & SVs 15. Effects of slug flow on OTSGs 16. RCP seal damage 17. Voiding in RCS 19. Benchmark analysis of seq. AFW flow 20. System response to SB LOCA	See II.E.1.1 8/17/79 7/1/81 1/1/81 See II.K.3.7 Complete Complete Complete Complete Complete	8/17/79 10/1/81 1/1/81 2/7/80 12/10/79 2/14/80 2/8/80 2/28/80	See II.E.1.1 8/17/79 1/1/81 1/1/81 See II.K.3.7 Complete Complete Complete Complete	8/17/79 1/1/81 1/1/81 2/7/80 12/10/79 2/14/80 2/8/80 2/28/80
II.K.3	Final Recommendations, B&O Task Force	1. Auto PORV isolation a. Design b. Test/install 2. Report on PORV failures	7/1/81 1st refuel 6 mo. after NRC approval 1/1/81	See II.K.3.2 TBD 1/31/81	7/1/81 7/1/81 1/1/81	7/1/81 If req'd 1/31/81

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ITEM	TITLE	DESCRIPTION	NUREG-0737 IMPLEMENTATION	FPC IMPLEMENTATION	NUREG-0737 LICENSING SUBMITTAL	FPC LICENSING SUBMITTAL
II.K.3	Final Recommendations, B&O Task Force (Cont'd)	5. Auto trip of RCPs				
		a. Propose modifications	7/1/81	Contingent on LOFT L3-6 prediction	2/15/81	Contingent on LOFT L3-6 prediction
		b. Modify	3/1/82		7/1/81	
		7. Eval. of PORV opening probability	1/1/81	1/31/81	1/1/81	1/31/81
		11. Justify use of certain PORV	Plant Specific	TBD	Plant Specific	TBD
		17. ECC system outages	1/1/81	4/1/81	1/1/81	4/1/81
		30. SB LOCA methods				
		a. Schedule outline	1/15/80	11/17/80	11/15/80	11/17/80
		b. Model	1/1/82	1/1/82	1/1/82	1/1/82
		c. New analysis	1/1/83 or 1 yr. after approval	1/1/83 or 1 yr. after approval	1/1/83 or 1 yr. after approval	1/1/83 or 1 yr. after approval
		31. Compliance with CFR 50.46	1/1/83 or 1 yr. after approval	1/1/83 or 1 yr. after approval	1/1/83 or 1 yr. after approval	1/1/83 or 1 yr. after approval
		40. RCP seal damage See II.K.2.15				
		43. Effects of slug flow See II.K.2.16				
III.A.1.2	Upgrade Emergency Support Facilities	1. Interim (TSC, OSC, EOF)	1/1/80	1/11/80	1/1/80	1/11/80
		2. Design	TBD	TBD	TBD	TBD
		3. Modifications	TBD	TBD	TBD	TBD

ENCLOSURE 1

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APPLICABLE NUREG-0737 ITEMS

ITEM	TITLE	DESCRIPTION	NUREG-0737 IMPLEMENTATION	FPC IMPLEMENTATION	NUREG-0737 LICENSING SUBMITTAL	FPC LICENSING SUBMITTAL
III.A.2	Emergency Prepared- ness	1. Upgrade emergency plan to APP. E, 10 CFR 50	4/1/81	4/1/81	1/2/81	1/2/81
		2. Meteorological data	6/1/83	6/1/83	1/2/81	1/1/81
III.D.1.1	Primary Coolant Outside Containment	1. Leak reduction 2. Tech specs	1/1/80 12/15/80	1980 refueling	1/1/80 9/1/80	1/1/81 12/31/80
III.D.3.3	In-plant Radiation Monitoring	1. Provides means to determine presence of radioiodine	1/1/80	1/1/80	1/1/80	1/11/80
		2. Modifications to accurately measure I ₂	1/1/81	1/1/81	1/1/81	7/7/80
III.D.3.4	Control Room Habitability	1. Review 2. Modification	1/1/81 1/1/83	1/31/81 1/1/83	1/1/81 1/1/81	1/31/81 1/31/81

ENCLOSURE 2

NUREG-0737 ITEMS

ITEM I.A.1.1 SHIFT TECHNICAL ADVISOR

In compliance with the short-term requirements of NUREG-0578 and the subsequent clarification dated October 30, 1979, FPC is presently utilizing a group of interim STAs. The qualifications, training, duties and shift rotation of the interim STAs have been accepted by the NRC Staff (see your May 5, 1980, "Evaluation of NUREG-0578 Category A Implementation"; Reid to Hancock).

FPC has developed and is presently implementing a program for permanent STA training based upon the document included in the Action Plan (INPO Guidelines Rev. 0, April 18, 1980). The program is being conducted utilizing the University of Florida Nuclear Engineering Department, NUS, B&W and FPC. This program will be completed by December 31, 1981. The January 1, 1981, schedule for the completion of this program is unrealistic based upon the time frame required to recruit qualified personnel to be trained and the vast scope of NRC and INPO guidelines used to develop this program. Until the training program for permanent STAs is complete, the interim STAs will remain on duty. The current FPC "Nuclear Operations Technical Advisor Training Program", STA job description, STA qualifications and STA requalification program will be submitted to the NRC Staff for review by January 31, 1981.

Until the NRC Staff provides additional guidance on the long-term STA program (i.e., how the long-term program should differ from the present program), FPC cannot provide definite plans for this program. Several options are being considered and will be addressed in the January 31, 1981 submittal to assist the NRC in establishing long-term improvements in the STA program.

A technical specification change request to include the STA into the minimum shift complement was filed on September 15, 1980.

ITEM I.A.1.2 SHIFT SUPERVISOR RESPONSIBILITIES

FPC has implemented the requirements of this Item and has received NRC's concurrence (see your May 5, 1980, letter "Evaluation of NUREG-0578 Category A Implementation"; Reid to Hancock).

ITEM I.A.1.3 SHIFT MANNING

As delineated by this Action Plan Item, the limitation of overtime for nuclear power plant operators (ref. IE Circular 80-02, dated February 1, 1980) has been implemented and incorporated into Section 2.26 of AI-500 of the Crystal River Unit 3 Plant Operations Quality Assurance Manual.

The minimum requirements for shift manning as delineated by Darrell Eisenhower's letter to all licensees (July 31, 1980) and superceded by NUREG-0737 have been implemented and incorporated into Section 2.1 of

AI-500 of the Crystal River Unit 3 Plant Operations Quality Assurance Manual. See our letter (Bright to Eisenhower) dated November 13, 1980.

A technical specification change request will be submitted to you on the minimum shift manning requirements by December 31, 1980.

ITEM I.A.2.1 IMMEDIATE UPGRADING OF REACTOR OPERATOR (RO) AND SENIOR REACTOR OPERATOR (SRO) TRAINING AND QUALIFICATIONS

All FPC applicants for SRO or RO examinations will meet the experience criteria delineated in this Action Plan Item and Harold R. Denton's letter dated March 28, 1980.

The SRO and RO training programs have been modified vis-a-vis Harold R. Denton's letter dated March 28, 1980. The FPC response to the above letter was dated September 15, 1980 (Items 2C.1., 2., 3. address the modified training).

Certifications completed pursuant to Sections 55.10a(6) and 55.33a(4) and (5) of 10 CFR Part 55 will be signed by a designated officer of the Company within the Nuclear Operations Department.

ITEM I.A.2.3 ADMINISTRATION OF TRAINING PROGRAMS

FPC Nuclear Operations Training instructors and/or contractor personnel who teach plant systems, plant integrated responses, and plant transient response have successfully completed the SRO examination. This qualification will be maintained.

ITEM I.A.3.1 REVISE SCOPE AND CRITERIA FOR LICENSING EXAMS

FPC recognized the revised scope and criteria for SRO and RO examinations vis-a-vis Harold R. Denton's letter of March 28, 1980, and has incorporated additional heat transfer, thermodynamics and fluid mechanics study into the SRO and RO training program.

FPC will coordinate new SRO & RO examinations with the NRC and the NSSS vendor after October 1, 1981.

ITEM I.C.1 SHORT-TERM ACCIDENT AND PROCEDURES REVIEW

FPC meets the intent of the requirements of this Item through participation in the B&W Owners Group Abnormal Transient Operating Guidelines (ATOG) Program. Crystal River Unit 3 specific guidelines will be developed for all postulated single and multiple failure events.

The Crystal River Unit 3 guidelines are scheduled to be completed by June 30, 1981. These guidelines will be implemented no later than the first refueling outage after January 1, 1982.

An in-depth program description will be submitted by January 31, 1981.

ITEM I.C.2 SHIFT AND RELIEF TURNOVER PROCEDURES

The requirements of this Item are complete. Plant procedures provide guidance for a complete and systematic turnover between the off-going and on-coming shift at Crystal River Unit 3 to provide greater assurance that critical plant parameters are within limits and that the availability and alignment of safety systems are made known to the on-coming shift (see your May 5, 1980, "Evaluation of NUREG-0578 Category A Implementation"; Reid to Hancock).

ITEM I.C.3 SHIFT SUPERVISOR RESPONSIBILITY

The requirements of this Item are complete. FPC has revised the responsibilities of the Shift Supervisor. This revised responsibility has been set forth in plant procedures (see your May 5, 1980, "Evaluation of NUREG-0578 Category A Implementation"; Reid to Hancock).

ITEM I.C.4 CONTROL ROOM ACCESS

The requirements of this Item are complete. FPC has implemented plant procedures which will limit control room access during an emergency (see your May 5, 1980, "Evaluation of NUREG-0578 Category A Implementation"; Reid to Hancock).

ITEM I.C.5 FEEDBACK OF OPERATING EXPERIENCE

FPC has implemented procedures to provide operating information pertinent to plant safety originating within and outside FPC. This information is provided to operators and other personnel and be incorporated into training and retraining programs. These procedures will meet the NUREG-0737 position for this Item.

ITEM I.C.6 VERIFY CORRECT PERFORMANCE OF OPERATING ACTIVITIES

FPC reviews and revises plant procedures, as part of an on-going program. To assure that an effective system of verifying the correct performance of operating activities is provided as a means of reducing human error and improving the quality of normal operations. Procedure improvements will also be made during the human factors Control Room Design Reviews detailed in Action Plan Item I.D.1.

ITEM I.D.1 CONTROL ROOM DESIGN REVIEWS

Since no implementation date is requested, FPC will await NRC guidelines to be issued in 1981 prior to making any commitments on this Item.

ITEM I.D.2 PLANT SAFETY PARAMETER DISPLAY CONSOLE

Since no implementation date is requested, FPC will await further guidance prior to making any commitments on this Item.

ITEM II.B.1 REACTOR COOLANT SYSTEM VENTS

By the Action Plan required submittal date of July 1, 1981, FPC will submit information on the reactor coolant vent system for staff review. Our submittal will include a description of the design, results of LOCA analyses, procedures and supporting analysis for use, and other supporting information, as appropriate, for vents on the reactor coolant system hot legs and the pressurizer.

No vent for the reactor vessel head is proposed due to the current B&W position that there is no need to vent in this location to maintain natural circulation conditions, even during cooldown. A position document on venting the reactor vessel head will be provided to you by January 31, 1981. This position supercedes our previous commitment to install a reactor vessel head vent. See our letter date April 11, 1980 (Moore to Denton).

FPC will install hot leg and pressurizer vents during the Fall 1981 refueling outage and will therefore meet the required Action Plan implementation date of July 1, 1982 for this Item

FPC will submit a technical specification change request defining operability requirements of the vent system within 90 days of the actual implementation date.

ITEM II.B.2 DESIGN REVIEW OF PLANT SHIELDING AND ENVIRONMENTAL QUALIFICATION OF EQUIPMENT FOR SPACES/SYSTEMS WHICH MAY BE USED IN POST-ACCIDENT OPERATIONS

All plant modifications identified as a result of FPC's shielding review have been initiated and completion is scheduled prior to the Action Plan implementation date of January 1, 1982, except for relocation of the Waste Disposal Panel. Evaluation of the relocation of this panel is currently underway and is estimated to be achievable by January 1, 1982. However, a comprehensive review of the entire Waste Disposal System has been undertaken. The outcome of this review could impact the ultimate location for the Waste Disposal Panel.

Because of the preliminary nature of the Waste Disposal System upgrade, a commitment to the Action Plan required date of January 1, 1982, could result in a request for extension to consider integration of the relocation and system upgrade in the overall radwaste system modifications. Should this extension become necessary, FPC will submit its request, including justification of the extension, within 30 days of our acknowledgement. In the interim, FPC proposes to continue use of the short-term modifications you previously found acceptable (see your May 5, 1980, "Evaluation of NUREG-0578 Category A Implementation"; Reid to Hancock).

ITEM II.B.3 POST-ACCIDENT SAMPLING CAPABILITY

By the Action Plan required date of January 1, 1982, FPC will complete the sampling and analysis modifications as described to you in our letter dated February 15, 1980, (Baynard to Denton). A description of the details will be provided for your review prior to January 1, 1982.

ITEM II.B.4 TRAINING FOR MITIGATING CORE DAMAGE

FPC is developing a program along INPO guidelines. The first part of the program up to Recognition of Core Damage is to be developed by January 1, 1981, and implemented by June 1, 1981.

Part 2 of the program will address Mitigation of Core Damage. It is FPC's position that present information is insufficient to develop this program (see letter Hancock to Collins, dated September 15, 1980, Item 2C,2.).

ITEM II.D.1 RELIEF AND SAFETY VALVE TEST REQUIREMENTS

FPC is a sponsor of the EPRI PWR Safety and Relief Valve Test Program and intends to comply with the requirements of NUREG-0578, Item 2.1.2. By letter dated December 15, 1980, R.C. Youngdahl of Consumers Power Company has provided the current PWR Utilities' positions on NUREG-0737, Item II.D.1 clarifications. FPC endorses the following positions:

- A. Safety and Relief Valves and Piping - The EPRI "Program Plan for Performance Testing of PWR Safety and Relief Valves", Revision 1, dated July 1, 1980, does provide a program that satisfies the NRC requirements. Discussion with the NRC Staff and their consultants are resolving specific detailed issues.
- B. Block Valves - The EPRI Program has not formally included the testing of block valves. However, a small number of block valves has been tested at the Marshall Steam Station Test Facility. The PWR Utilities and EPRI cannot provide a detailed block valve test program until results of the Wyle Labs and CE relief valve tests are available. Therefore, a block valve test program will not be provided before July, 1981. The PWR Utilities and EPRI believe that the proper operation of the TMI-2 and Crystal River block valves and other operational experience, plus knowledge of the Marshall tests, support a less hurried and more rational approach to block valve testing.
- C. ATWS Testing - PWR Utilities do not plan to support additional efforts for ATWS valve testing until regulatory issues are resolved. The major safety and relief valve test facility (CE) is nearing completion and some measures were taken to provide additional test capability beyond the current program requirements. The NRC should recognize that results from the current program are likely to provide most of the information necessary to address ATWS events (i.e., relief capability at high pressures).

ITEM II.D.3 DIRECT INDICATION OF RELIEF AND SAFETY VALVE POSITION

Relief and safety valve position indication equipment has been installed at Crystal River Unit 3 per NUREG-0578, Item 2.1.3.a requirements.

A testing program is currently underway to document seismic and environmental qualification of the installed acoustical monitoring system. This testing program is scheduled for completion by June 30, 1981.

A technical specification change request was submitted to you on September 15, 1980.

ITEM II.E.1.1 AUXILIARY FEEDWATER SYSTEM EVALUATION

On December 27, 1979, FPC submitted to you a simplified auxiliary (emergency) feedwater system reliability analysis, as required in Item (1). As stated in your clarification, FPC will await a letter from you requesting specific modifications based on your review of Item (1). However, we believe the EFW upgrade proposed in response to Action Plan Item II.K.1.2 will eliminate the necessity of Staff recommendations for this Item.

ITEM II.E.1.2 AUXILIARY FEEDWATER SYSTEM AUTOMATIC INITIATION AND FLOW INDICATION

The short-term requirements for automatic initiation and flow indication of emergency feedwater have been completed. FPC has installed at Crystal River Unit 3 a reliable, control-grade, redundant system which meets the single failure criteria to automatically initiate emergency feedwater and to indicate the emergency feedwater delivery to each steam generator. The methods by which we have implemented these requirements are discussed in our letters to you dated November 17, 1979, and January 11, 1980.

Since the Three Mile Island Unit 2 incident, Florida Power Corporation has reviewed the many recommendations regarding emergency feedwater (i.e., NRC Commission Orders for B&W designed plants, NUREG-0578, the CR-3 IREP, NUREG-0667, NUREG-0660, NUREG-0737 and FPC's Nuclear Safety Task Force). In an effort to consolidate the many recommendations regarding the emergency feedwater system into an overall upgrade effort, FPC, in conjunction with two other utilities, has taken the initiative to develop and design an EFW system that incorporates the following major features:

- . Safety grade automatic initiation and control of EFW
- . Independent of ICS, NNI and other non-safety systems
- . Redundant and testable
- . Meets single failure criteria
- . Manual initiation and control provisions
- . Qualified hardware (seismic and environmental)
- . Provides EFW operational status, flowrate, and OTSG level information
- . Minimizes overcooling following loss of MFW or RCP's
- . Minimizes OTSG dryout
- . Terminates MFW or EFW overfill
- . EFW supplied to "good" steam generator only following steamline break event (FOGG)

This design philosophy and FPC's intention to proceed with the overall upgrade of the EFW system were presented to members of the NRC Staff in a meeting on September 4, 1980. A submittal that describes our EFW upgrade design is scheduled to be provided to you no later than December 19, 1980. Your timely review and concurrence with our approach will be requested.

In summary, the benefits to be realized by the overall EFW upgrade far outweigh the incremental benefits gained from upgrading to a control-grade system for automatic initiation and flow indication as required by this Item. Specifically, the EFW upgrade will incorporate features to minimize overcooling transients and steam generator dryout through use of a safety-grade control system, preclude steam generator overfill, and assure feedwater is supplied to only the "good" steam generator following a steamline break event. Incorporation of the EFW upgrade package will provide the greater enhancement toward assuring heat removal from the primary system under all conditions.

Our efforts to upgrade the EFW system beyond the requirements of this Item do not allow for incorporation of safety-grade initiation and flow indication for EFW by the required implementation date of July 1, 1981.

The overall EFW upgrade will require major equipment modifications. Delivery dates of approximately one year upon receipt of the order are expected for this equipment. Therefore, as discussed with your Staff on September 4, 1980, equipment delivery is not expected until early 1982. This EFW upgrade will be incorporated at the first available outage of sufficient duration following completion of engineering and procurement. A proposed change to the technical specification was submitted on July 13, 1979 (Baynard to Denton).

A supplemental proposed change to the technical specifications will be submitted by December 31, 1980, for your review and approval. This change request will address the automatic initiation and flow indication aspects of the currently installed EFW system.

In conclusion, FPC believes that the presently installed redundant control grade systems used to initiate and provide flow indication for the EFW system at Crystal River Unit 3 substantially meets the intent of the July 1, 1981 requirements and provide adequate margins of safety during the period of operation until the overall upgrade identified herein can be installed.

ITEM II.E.3.1 EMERGENCY POWER SUPPLY FOR PRESSURIZER HEATERS

This Item is complete for Crystal River Unit 3 as we assured that 126 KW of pressurizer heaters is available to establish and maintain natural circulation at hot standby conditions. A technical specification change request for assuring the availability of emergency power to pressurizer heaters will be submitted to you by December 31, 1980.

ITEM II.E.4.1 DEDICATED HYDROGEN PENETRATIONS

Crystal River Unit 3 has satisfied the requirement for dedicated hydrogen control penetrations for post-accident hydrogen purge. However, a system modification to supplement the existing purge filter and piping with a dedicated H₂ purge unit is underway. The added purge unit will be designed to allow contaminated filter changeout and to facilitate condensation drainage back to the containment.

Installation will be accomplished during our Fall 1981 refueling. Although this Item is not addressed in NUREG-0737, it is included here for documentation of a NUREG-0578 Category B Item completion schedule.

ITEM II.E.4.2 CONTAINMENT ISOLATION DEPENDABILITY

Items 1 through 4 were completed under the Short-Term Lessons Learned Requirements of NUREG-0578.

Item 5 requires justification of the containment pressure which initiates isolation of nonessential penetrations. Our April 12, 1979, letter (Stewart to O'Reilly) and February 11, 1980, letter (Baynard to Denton) identified those penetrations which were classed as nonessential and which are diversely isolated on High Pressure Injection (1500 psig RCS pressure). These nonessential penetrations also receive isolation signals on high containment pressure along with those of essential penetrations. Therefore, reduction of the high containment pressure isolation setpoint for nonessential penetrations only would not apply to Crystal River Unit 3.

Item 6 has been satisfied by compliance with the Staff Interim Position of October 23, 1979. See our letter dated January 10, 1979, Stewart to Reid.

Item 7 is satisfied with the existing logic for isolation on high ventilation duct activity.

ITEM II.F.1 ADDITIONAL ACCIDENT-MONITORING INSTRUMENTATION

FPC will install the following by January 1, 1982:

- . Noble gas effluent monitors
- . Iodine gaseous effluent monitors
- . Containment high-range radiation monitors
- . Containment pressure monitors
- . Containment water level monitors
- . Containment hydrogen monitors

To meet the intent of the Action Plan position and clarification dated October 31, 1980. No deviation from your requirements are expected; therefore, as requested by your letter of October 31, 1980, a final design description of the as-built system will be available for staff review by January 1, 1982. Our design details for these modifications are

not complete at this time, but a submittal to describe our proposed modifications will be made within a reasonable period following completion of these design details and, if necessary, justification for implementation schedules beyond the January 1, 1982, date.

A technical specification change request, as appropriate, will be submitted within 90 days of implementation of this Item.

ITEM II.F.2 INSTRUMENTATION FOR DETECTION OF INADEQUATE CORE COOLING

FPC's position on additional instrumentation to detect inadequate core cooling was provided to you in our letter dated October 31, 1980. The existing incore thermocouple system, in conjunction with the redundant saturation meters, provides an advance warning of (and an unambiguous indication of) inadequate core cooling.

At the same time, FPC is interested in the development of other instrumentation systems to accomplish the early and unambiguous detection of inadequate core cooling conditions. We have entered into a design development program for a hot leg level instrument. The present concept employed will be a differential pressure sensor which utilizes the hot leg vent and the RCS pressure tap as sensing locations. This system would be used in conjunction with the saturation meters and the incore thermocouples to meet the intent of your requirements on this Item.

The design development for the hot leg differential pressure system has not progressed to a point where a report can be provided to you by January 1, 1981. Within 30 days of the availability of a system description, a report will be provided for your review and conceptual approval. Consistent with our previous position (see our October 31, 1980 letter), we feel prudent engineering judgement dictates the hot leg differential pressure system be thoroughly developed and tested (and receive NRC's concurrence) prior to its installation and use. Therefore, an installation date of January 1, 1982 may not be achievable.

ITEM II.G.1 EMERGENCY POWER FOR PRESSURIZER EQUIPMENT

As noted in your May 5, 1980, letter ("Evaluation of NUREG-0578 Category A Implementation", Reid to Hancock), power supplies for the pressurizer relief valve, lock valve, and the pressurizer level indicators are capable of being powered from both off-site power and the on-site emergency power system and meet the intent of this requirement.

A technical specification change request for operability requirements of these power supplies was submitted to you by our letter dated September 15, 1980, (Baynard to Reid).

ITEM II.K.2.8 AUXILIARY FEEDWATER SYSTEM UPGRADING

No separate implementation or submittal is required for this Item. See our responses to Items II.E.1.1 and II.E.1.2 as stated previously.

ITEM II.K.2.9 FAILURE MODE EFFECTS ANALYSIS ON THE INTEGRATED CONTROL SYSTEM

A generic failure mode and effects analysis of the ICS was submitted on August 17, 1979. NRC Staff recommendations are pending completion of Staff review.

FPC is awaiting NRC staff recommendations.

ITEM II.K.2.10 SAFETY-GRADE ANTICIPATORY REACTOR TRIP

Implementation of a control-grade anticipatory reactor trip (ART) was completed during our 1979 refueling and revised during our 1980 refueling to provide full redundancy of sensors and actuators in addition to providing fail-safe logic to enhance reliability. This control-grade ART system provides a reactor trip upon main turbine trip, trip of both main feedwater pumps and/or low-low level in both steam generators.

In addition, FPC requested B&W to develop a modification to provide a safety-grade anticipatory reactor trip upon main turbine trip and/or trip of both main feedwater pumps. This modification and the Bailey equipment have been received; however, analytical verification of seismic and heat load impact upon the existing reactor protection system will not be completed until mid-February, 1981. Issuance of a construction work package is scheduled for March 1, 1981. The present cable and pressure switch delivery schedules associated with this modification may permit installation of the entire modification by July 1, 1981. However, a special, unscheduled outage of approximately two weeks for the final connections and testing would be necessary. Therefore, FPC is requesting relief from the July 1, 1981, implementation date to permit implementation of this modification during our scheduled refueling outage beginning in mid-to-late September, 1981.

FPC considers this request justified as we presently have installed a reliable, redundant, control-grade anticipatory reactor trip system which meets the single active failure criteria. This system is backed up by a fully qualified, safety-grade reactor protection trip system. We conclude that these presently installed systems provide an adequate margin of safety to permit operation of Crystal River Unit 3 until our Fall 1981 refueling outage and these systems insure that the reactor is tripped before operating limits bounded by the safety analyses for CR-3 are exceeded.

In addition, should a two week outage be required for this modification prior to the Fall 1981 refueling outage, the potential impact on overall system reliability due to the high summer loads would need to be evaluated and discussed with your Staff.

ITEM II.K.2.13 THERMAL-MECHANICAL REPORT

By January 1, 1981, FPC will submit a detailed analysis on the thermal-mechanical conditions in the reactor vessel during recovery from small breaks with an extended loss of all feedwater. This report will meet the requirements of this Item.

ITEM II.K.2.14 LIFT FREQUENCY OF PORVs and SVs

FPC will provide a report by January 31, 1981, which evaluates the PORV opening probability.

ITEM II.K.2.15 EFFECTS OF SLUG FLOW ON STEAM GENERATOR TUBES

The results of this analysis have been submitted by FPC and are undergoing NRC Staff review. (See FPC letter dated February 7, 1980; Baynard to Reid)

ITEM II.K.2.16 REACTOR COOLANT PUMP SEAL DAMAGE

The results of this analysis have been submitted by FPC and are undergoing NRC Staff review. (See FPC letter dated December 10, 1979; Baynard to Reid)

ITEM II.K.2.17 POTENTIAL FOR VOIDING IN THE REACTOR COOLANT SYSTEM DURING TRANSIENTS

The results of this analysis have been submitted by FPC and are undergoing NRC Staff review. (See FPC letter dated February 14, 1980; Baynard to Reid)

ITEM II.K.2.19 SEQUENTIAL AUXILIARY FEEDWATER FLOW ANALYSIS

The results of this analysis have been submitted by FPC and are undergoing NRC Staff review. (See FPC letter dated February 8, 1980; Baynard to Ross)

ITEM II.K.2.20 SMALL BREAK LOSS-OF-COOLANT ACCIDENT WHICH REPRESSURIZES THE REACTOR COOLANT SYSTEM TO THE POWER-OPERATED RELIEF VALVE SETPOINT

The results of this analysis have been submitted by FPC and are undergoing NRC Staff review. (See FPC letter dated February 28, 1980; Moore to Ross)

ITEM II.K.3.1 INSTALLATION AND TESTING OF AUTOMATIC POWER-OPERATED RELIEF VALVE ISOLATION SYSTEM

This Item will be evaluated if required by Action Plan Item II.K.3.2.

ITEM II.K.3.2 REPORT ON OVERALL SAFETY EFFECTS OF POWER-OPERATED RELIEF VALVE INDICATION SYSTEM

This report will be submitted for NRC Staff review by January 31, 1981.

ITEM II.K.3.5 AUTOMATIC TRIP OF REACTOR COOLANT PUMPS DURING LOSS-OF-COOLANT ACCIDENTS

By letter dated December 4, 1980 (James H. Taylor of B&W to Paul Check of NRC), B&W submitted, on behalf of the B&W Owners Group, a description of

the analytical model B&W intends to use for the blind post-test prediction of LOFT (L3-6). Approximately five (5) weeks after B&W has received the initial conditions of the LOFT L3-6 test, prediction results will be submitted to you.

ITEM II.K.3.7 EVALUATION OF POWER-OPERATED RELIEF VALVE OPENING
PROBABILITY DURING OVERPRESSURE TRANSIENT

FPC will provide a report by January 31, 1981 which evaluates the PORV opening probability.

ITEM II.K.3.17 REPORT ON OUTAGES OF EMERGENCY CORE COOLING SYSTEMS
(ECCS) LICENSE REPORT AND PROPOSED TECHNICAL
SPECIFICATION CHANGES

FPC is compiling this data for use in the Crystal River Unit 3 Reliability Model. A report detailing outage dates and lengths for all ECC system outages since commercial operation will be provided to you by April 1, 1981. The nonavailability of this data by January 1, 1981, will not impact the safe operation of the nuclear plant.

ITEM II.K.3.30 REVISED SMALL BREAK LOSS-OF-COOLANT ACCIDENT METHODS TO
SHOW COMPLIANCE WITH 10 CFR PART 50, APPENDIX K

FPC is participating with the B&W Owners Group on this item and intends to revise models and perform reanalysis, as necessary, vis-a-vis LOFT L3-6.

ITEM II.K.3.31 PLANT SPECIFIC CALCULATIONS TO SHOW COMPLIANCE WITH
10 CFR PART 50.46

Based upon the results of Item II.K.3.30, FPC will submit calculations, as necessary, by January 1, 1983, or one year after Staff approval of revised LOCA models.

ITEM III.A.1.2 UPGRADE EMERGENCY SUPPORT FACILITIES

FPC is awaiting the additional clarification on this Item and will subsequently provide descriptions of the TSC and EOF as required.

ITEM III.A.2 IMPROVED LICENSEE EMERGENCY PREPAREDNESS - LONG-TERM

FPC emergency plans and procedures will be submitted as required in NUREG-0737. Complete updated emergency plans will be provided by January 2, 1981, and complete implementation procedures will be submitted by April 1, 1981.

ITEM III.D.1.1 INTEGRITY OF SYSTEMS OUTSIDE CONTAINMENT LIKELY TO
CONTAIN RADIOACTIVE MATERIAL FOR PRESSURIZED-WATER
REACTOR AND BOILING-WATER REACTORS

This Item is complete except for submittal of the test leakage data and a minor ventilation system change identified by a review of North Anna type

release potentials. Submittal of the above test leakage data will be prior to January 1, 1981 and an auxiliary building cubicle door for positive ventilation control will be completed in the first quarter of 1981.

A technical specification change request submittal will be made by December 31, 1980.

ITEM III.D.3.3 IMPROVED IN-PLANT IODINE INSTRUMENTATION UNDER ACCIDENT CONDITIONS

This Item has been completed with the single channel analyzer identified in our July 7, 1980, letter, (Bright to Reid).

ITEM III.D.3.4 CONTROL ROOM HABITABILITY REQUIREMENTS

An extensive re-evaluation of habitability studies performed for the Crystal River Unit 3 control room are underway. This re-evaluation will provide the basis for our submittal to comply with identified criteria of the referenced Standard Review Plan (SRP) sections.

A formal submittal of the results of the above review, including NUREG-0737 Item III.D.3.4, Attachment 1 information, will be provided on January 31, 1981.