TECHNICAL SPECIFICATION CHANGE REQUEST NO. 107
EMERGENCY FEEDWATER ULTRASONIC FLOW INDICATOR

Replace pages 3/4 3-38, 3/4 3-39, and 3/4 7-5 of Appendix A with the attached revised pages.

PROPOSED CHANGES

1) On Page 3/4 3-38: Add "(Primary EFW Flow Detector)" to item 9.

2) On Page 3/4 3-38: Add new item 18 as follows:

INSTRUMENT	MEASUREMENT RANGE	MINIMUM CHANNELS OPERABLE
18. Emergency Feedwater Ultrasonic Flow Indicator (Backup EFW Flow Detector)	0-100gpm	1/steam generator

3) On Page 3/4 3-39: Add "(Primary EFW Flow Detector)" to Item 9.

4) On Page 3/4 3-39: Add new Item 18 as follows:

INSTRUMENT	CHANNEL CHECK	CHANNEL CALIBRATION
18. Emergency Feedwater Ultrasonic Flow Indicator (Backup EFW Flow Detector)	M	R

5) On Page 3/4 7-5: Delete Surveillance Requirement 4.7.1.2.a.3.

REASON FOR PROPOSED CHANGES

Following the Three Mile Island accident, the NRC required Nuclear Power Plant Licensees to install instruments to provide positive indication of feedwater flow to the steam generators. The purpose of these instruments was to provide an alternate to steam generator level indication as a method of determining feedwater flow. In response to this requirement, ultrasonic flow indicators were installed on the Emergency Feedwater (EFW) lines downstream of the Main Feedwater tie-in and the Emergency Feedwater cross-connections at Crystal River Unit 3. Technical Specifications were required by the NRC to assure the operability of these instruments.

Florida Power Corporation (FPC) initially requested that EFW Flow Indicators be included in the Crystal River Unit 3 Technical Specifications as one of the Surveillance Requirements associated with the Emergency Feedwater System. There was no intent on the part of FPC to tie the operability of these monitors to the EFW System. It was placed in this specification to acknowledge its role as a routine monitor and not just a post-accident monitor. On several occasions, the misapplication of the specification has resulted in declaring one train of the EFW System inoperable when one of the flow indicators was inoperable. The EFW System, however, is still capable of performing its intended functions without the Ultrasonic Flow Indicator operability. Additional indication of EFW System operability is provided by the level indicators on the steam generators. Presently declaring an EFW train inoperable when its flow indicating instrument is inoperable requires compensatory action equal to that for loss of a pump, inability to operate a flow path valve, or actual loss of one EFW train. It must be noted that the feedwater flow indication was installed only as an operator convenience. Thus, FPC feels the EFW Ultrasonic Flow Indicator should be considered Post-Accident Monitoring Instrumentation rather than an EFW System component which could cause system inoperability upon component failure.

Recent experience with the failure of one of the flow indicators highlighted our concerns over misapplication of Technical Specification 3.7.1.2. On Wednesday, August 25, 1982, Flow Indicator FW-313-FI was found inoperable, which led to declaring the B train of EFW inoperable. This placed the plant in the ACTION Statement of the Specification which requires the inoperable train of EFW to be restored operable within 72 hours, or place the plant in HOT SHUTDOWN within the next 12 hours. Difficulty was encountered in repairing the inoperable flow indicator, and by Friday, August 27, the plant was facing a forced weekend shutdown or obtaining emergency relief from the requirements of Specification 3.7.1.2. The flow indicator was repaired within the time allowed by the ACTION Statement. However, neither emergency Technical Specification relief nor plant shutdown is appropriate or desirable considering the relative value of EFW flow indication and the availability of alternate methods of determining EFW flow. Changing the Specification makes the requirements for the flow indicators consistent with other Post-Accident Monitors of equal safety significance. The ACTION Statement requirement (changed from 72 hours to 30 days) is similarly consistent and will allow sufficient time to procure necessary materials and perform maintenance without inducing the unnecessary transient associated with Plant Shutdown.

SAFETY ANALYSIS OF PROPOSED CHANGE

Plant safety will not be degraded by this change. Operability and Surveillance Requirements for the EFW Ultrasonic Flow Indicators were incorrectly associated with Operability and Surveillance Requirements of the EFW System. This change corrects that error.

FPC is still required by Administrative Procedures (100.4.2) to return equipment to operability in an expeditious manner when in an ACTION Statement. Thus, lengthening the ACTION Statement does not mean FPC will wait until the end of the allowed time to return the equipment to operability. Instead, the 30 day period will allow sufficient time to procure necessary materials and perform maintenance prior to requiring a plant shutdown.

TABLE 3.3-10

POST-ACCIDENT MONITORING INSTRUMENTATION

	INSTRUMENT	MEASUREMENT RANGE	MINIMUM CHANNELS OPERABLE
1.	Power Range Nuclear Flux	0-125%	2
2.	Reactor Building Pressure	0-70 psia	2
3.	Source Range Nuclear Flux	10^{-1} to 10^{6} cps	2
4.	Reactor Coolant Outlet Temperature	520°F - 620°F	2 per loop
5.	Reactor Coolant Total Flow	0-160 x 10^{6} lb./hr.	1
6.	RC Loop Pressure	0-2500 psig 0- 600 psig 1700-2500 psig	2 1 2
7.	Pressurizer Level	0-320 inches	2
8.	Steam Generator Outlet Pressure	0-1200 psig	2/steam generator
9.	Steam Generator Operating Range Level (Primary EFW Flow Detector)	0-100%	2/steam generator
10.	Borated Water Storage Tank Level	0-50 feet	2
11.	Startup Feedwater Flow	0-1.5x10^{6} lb/hr.	2
12.	Reactor Coolant System Subcooling Margin Monitor	-65°F to +668°F	1
13.	PORV Position Indicator (Primary Detector)	N/A	1
14.	PORV Position Indicator (Backup Detector)	N/A	0
15.	PORV Block Valve Position Indicator	N/A	0
16.	Safety Valve Position Indicator (Primary Detector)	N/A	1/Valve
17.	Safety Valve Position Indicator (Backup Detector)	N/A	0
18.	Emergency Feedwater Ultrasonic Flow Indicator (Backup EFW Flow Detector)	0-1000 gpm	1/steam generator

TABLE 4.3-7

POST-ACCIDENT MONITORING INSTRUMENTATION SURVEILLANCE REQUIREMENTS

	INSTRUMENT	CHANNEL CHECK	CHANNEL CALIBRATION
1.	Power Range Nuclear Flux	M	Q*
2.	Reactor Building Pressure	M	R
3.	Source Range Nuclear Flux	M	R*
4.	Reactor Coolant Outlet Temperature	M	R
5.	Reactor Coolant Total Flow Rate	M	R
6.	RC Loop Pressure	M	R
7.	Pressurizer Level	M	R
8.	Steam Generator Outlet Pressure	M	R
9.	Steam Generator Level (Primary EFW Flow Detector)	M	R
10.	Borated Water Storage Tank Level	M	R
11.	Startup Feedwater Flow Rate	M	R
12.	Reactor Coolant System Subcooling Margin Monitor	M	R
13.	PORV Position Indicator (Primary Detector)	M	R
14.	PORV Position Indicator (Backup Detector)	M	R
15.	PORV Block Valve Position Indicator	M	R
16.	Safety Valve Position Indicator (Primary Detector)	M	R
17.	Safety Valve Position Indicator (Backup Detector)	M	R
18.	Emergency Feedwater Ultrasonic Flow Indicator (Backup EFW FLow Detector)	M	R

*Neutron detectors may be excluded from CHANNEL CALIBRATION

SURVEILLANCE REQUIREMENTS (Continued)

2. Verifying that each valve (manual, power operated, or automatic) in the flow path that is not locked, sealed, or otherwise secured in position, is in its correct position.

b. At least once per 18 months, during shutdown by:

1. Verifying that each automatic valve in the flow path actuates to its correct position on an emergency feedwater actuation test signal.

2. Verifying that the steam turbine driven pump and the motor driven pump start automatically.

a. Upon receipt of an emergency feedwater actuation OTSG A and B level low-low test signal, and

b. Upon receipt of an emergency feedwater actuation main feedwater pump turbines A and B control oil low test signal.

3. Verifying that the operating air accumulators for FWV-39 and FWV-40 maintain $\geq$ 27 psig for at least one hour when isolated from their air supply.