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Docket No. 50-302

Mr. Walter S. Wilgus
Vice President, Nuclear Operations
Florida Power Corporation
ATTN: Manager, Nuclear Licensing
& Fuel Management
P. O. Box 14042, M. A. C. H-2
St. Petersburg, Florida 33733

Dear Mr. Wilgus:

At a meeting between our staffs on March 1 and 2, 1983, at the Crystal River Unit 3 (CR-3) site, your staff agreed to transmit responses to the 12 open items in the enclosed meeting minutes regarding Inservice Testing at CR-3.

As these responses must become part of the docketed record, we request that they be formally submitted to us. We understand that a telecopy of the responses will be sent initially so that our review may continue on schedule. Our letter serves to put the requests for information on the docket. Kindly reference this letter in your formal response.

Sincerely,

"ORIGINAL SIGNED BY
JOHN F. STOLZ"

John F. Stolz, Chief
Operating Reactors Branch #4
Division of Licensing

Enclosure:
As stated

cc w/enclosure:
See next page

WB7

OFFICE	ORB#4:DL	ORB#4:DL					
SURNAME	MFairtile;dm	JStolz					
DATE	5/17/83	5/17/83					

cc w/enclosure(s):
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ATTACHMENT

MEETING MINUTES

CRYSTAL RIVER UNIT 3

March 1 and 2, 1983

ATTENDANCE LIST

INSERVICE TESTING PROGRAM WORKING MEETING

PLANT Crystal River 3 DATES March 1 & 2, 1983

NAME	REPRESENTING
Herb Rockhold	EG&G Idaho, Inc.
Joel Page	US/NRC-NRR-MEB
Stephen Primo	FPC ISI SPEC P&V
Clair Ransom	EG&G Idaho, Inc.
Preston L. Breaux	FPC Shift Supv.
William H. Herbert	FPC Tech Spec Coord
Tom Stetka	NRC-SRI
Dave Fields	FPC Tech Services

CRYSTAL RIVER UNIT 3 VALVE TESTING PROGRAM

A. General Questions and Comments

1. Are all valves that are Appendix J type C leak-rate tested included in the IST program and categorized A or A/C?

   Response: All valves that are Appendix J type C leak-rate tested are included in the IST program and categorized A or A/C except SAB-23 which is in the post accident sampling system. This system is to be replaced and the valves in the new system will be included in the program. FSV-261 and 262 will be included in the program and categorized A/passive and A/C passive respectively; these valves are fire service to containment isolation and check valves.

B. Auxiliary Steam System

1. Provide the P&ID that shows the location of ASV-195 and 196.

   Response: These valves are not presently installed at Crystal River Unit 3 and therefore, are not shown on the system P&IDs. They will be auxiliary steam from Units 1 and 2 (fossil plants) isolation valves, to isolate the steam lines in case of a seismic event.

2. Provide a more detailed technical justification for not exercising ASV-50 quarterly.

   Response: OPEN: This valve is the auxiliary feedwater turbine trip and throttle valve. Open item for the licensee to determine if this valve can be full-stroke exercised quarterly.

C. Reactor Building Spray

1. How are valves BSV-1 and 8 full-stroke exercised quarterly?

Response: During the containment spray pump testing, a flow of 1400 to 1540 gpm is established through these valves. The safety analysis design flow rate is 1500 to 1600 gpm, therefore, this testing should constitute a full-stroke exercise of these valves.

2. What alternate methods have been considered for performing exercise tests of valves BSV-26 and 27 at the frequency specified by the Code?

Response: The licensee will provide more detail in their basis for requesting relief for valves BSV-26 and 27. The licensee would like to disassemble these valves every 5 years. They will provide a report to the NRC after the next inspection to aid them in establishing a justified inspection interval.

3. Has any test method been established for valves BSV-152 and 153?

Response: The only practical method for testing these valves is by disassembly. The utility will report on the disassembly of these valves in their refuel No. 4 (scheduled for spring 1983) disassembly report so an acceptable inspection interval can be established.

D. Chemical Additions

1. What is the safety-related function of check-valves CAV-58 and 61?

Response: These valves are required for concentrated boric acid flow during emergency boration per Technical Specification 3.1.2. The boric acid pumps are not

presently included in the IST program, nor are the discharge check valves CAV-81 and 83. The piping around the boric acid pumps has recently been modified. The licensee will include the pumps and associated valves in the IST program.

E. Core Flooding System

1. Provide the specific technical justification for not full-stroke exercising check valves CFV-1 and 3 quarterly. How are these valves full-stroke exercised during cold shutdown?

Response: During plant cooldown these valves are partial-stroked open when the plant pressure is decreased below 500 psi. The RCS pressure is then increased to verify that these check valves close. A separate leak-rate test is performed during plant startup from cold shutdown and refueling outages. The utility will include a relief request for these valves and will either demonstrate that the decay heat removal flow through these valves opens the valve to a position that is sufficient to accommodate the design accident flow for the valves or will include them in a disassembly inspection plan.

2. How are check valves CFV-17 and 20 verified to close, their safety related position, when they are full-stroke exercised quarterly?

Response These valves only perform a function important to safety in the closed position, therefore, the quarterly exercising of these valves open will be deleted from the IST program and the licensee will provide a request for relief from the Section XI

exercising requirements. These valves will be verified shut by the Appendix J leak-rate tests performed during refueling outages.

3. What alternate tests have been considered for full-stroke exercising check valves CFV-2 and 4?

   Response: These valves are partial-stroke exercised during cold shutdowns and refueling outages. These valves will be included in the refuel No. 4 check valve disassembly inspection report.

4. Provide a more detailed technical justification for not full-stroke exercising valves CFV-18 and 19 quarterly.

   Response: The only function important to safety that these valves perform is in the closed position. The licensee will therefore, delete the quarterly stroke testing of these valves to the open position from the IST program and will request relief from the Section XI exercising requirements. These valves will be verified shut by the Appendix J leak-rate tests performed during refueling outages.

F. Chilled Water System

1. Provide a more specific technical justification for not full-stroking and stroke timing the following valves quarterly.

CHV-56	CHV-61
CHV-57	CHV-62
CHV-58	CHV-63
CHV-59	CHV-68
CHV-60	CHV-69

Response: CHV-56 and 58 fail in the closed position; these valves will be full-stroked and stroke timed quarterly. The remainder of the valves fail in the open position and will be full-stroke exercised and stroke timed in accordance with the code. The stroke-time may not be able to be measured for the 3-way valves, CHV-57 and 59, in which case specific relief will be requested.

2. Review the safety-related function of valves CHV-17 and 18 and CHV-64 and 65 to determine if they should be categorized "C" and exercised quarterly.

Response: Valves CHV-17 and 18 do not perform any function important to safety and will, therefore, be exempted from testing in the IST program. Valves CHV-64 and 65 will be categorized C and tested in accordance with the Code.

G. Industrial Cooler Water

1. How do valves CIV-36, 37, 38, and 39 perform a containment isolation function if they are normally open manual valves located inside containment?

Response: These valves do not serve any function important to safety and will be moved to the "exempt from testing" section of the IST program and need not be tested per the Code.

H. Decay Heat Removal System

1. Provide the specific technical justification for not full or partial-stroke exercising DHV-1 and 2 quarterly.

Response: The licensee will provide a relief request or justification for testing these valves at cold shutdowns instead of quarterly in their IST program. The licensee will modify the test procedure for DHV-1 and 2 to provide for sufficient test flow to full-stroke exercise these valves.

2. What is the maximum safety analysis flow rate through check valves DHV-33 and 36?

Response: The decay heat removal pumps and the reactor building spray pumps will be tested concurrently in the recirculation mode which will result in design accident flow through DHV-33 and 36.

3. The comments made in the remarks column for DHV-5 and 6 appear to be contradictory to the relief request "basis for relief" for these valves. Based on the information provided in the remarks column, it appears that these valves can be full-stroke exercised quarterly.

Response: The licensee will change the exercising frequency of DHV-5 and 6 to "quarterly" in accordance with the code, and the associated relief request will be deleted from the IST program.

4. Should valves DHV-91 and 93 be leak-rate tested as Pressure Isolation Valves instead of Containment Isolation Valves?

Response: There are two valves (RCV-12 and 53) between DHV-91 and 93 and primary system pressure. Therefore, DHV-91 and 93 are not code class 1 valves and they will not be leak-rate tested as pressure isolation valves.

5. Do valves DHV-110 and 111 change position to perform their safety-related function and should they, therefore, be full-stroke exercised and stroke timed to monitor any possible valve degradation?

Response: OPEN: The licensee will investigate valves DHV-110 and 111 to determine if they have a fail-safe position. They will also verify that the valves failing as-is, in their normal throttled position, would not restrict the design accident flow of the decay heat removal pumps.

I. Domestic Water System

1. Provide the specific technical justification for not exercising valves DOV-118 and 119 shut (their safety-related position) quarterly.

Response: OPEN: Open for the licensee to determine if flushing water flow to the service water pumps is important to safety.

J. Condensate and Demineralized Water Supply

1. The exercise test method/frequency for valve DWV-162 in Table 2 does not agree with the provided relief request.

Response: The licensee will rewrite the basis for relief in the relief request to indicate that the only function important to safety for this valve is for it to close, which can only be verified during the Appendix J leak-rate test which is performed during refueling outages.

K. Emergency Feedwater System

1. How are EFV-5 and 8, the turbine driven emergency feedwater pump discharge check valves, full stroke exercised during cold shutdown?

   Response: The valves are tested during cold shutdowns using steam from the fossil fueled Crystal River, Units 1 and 2.

L. Emergency Diesel Generator Compressed Starting Air and Engine Exhaust

1. How are check valves EGV-21, 22, 23 and 24 verified shut, their safety-related position, quarterly?

   Response: The licensee will determine a method to verify that these valves close quarterly.

2. Review the safety-related function of valves EGV-56, 57, 58, and 59 to determine if they should be categorized B and exercised quarterly.

   Response: The licensee will include these valves in the IST program and will exercise them quarterly in accordance with the Code.

M. Fire Service System

1. Should valves FSV-261 and 262 be identified as passive-containment isolation valves in the IST program?

   Response: These valves are passive and the licensee will identify them as such in the IST program and will

provide a relief request from the quarterly Section XI exercising requirements for these passive valves.

N. Feedwater System

1. What is the safety-related function of valves FWV-37, 38, 39 and 40?

Response: Valves FWV-37, 38, 39, and 40 are not important to safety and will be exempt from IST testing and relief request #5 will be deleted from the program.

2 Provide the safety analysis that demonstrates no compromise in safety for never exercising valves FWV-45 and 46 shut (their safety-related position).

Response: OPEN: Open for the licensee to determine a method and frequency to verify these check valves in the closed position.

P. Instrument Air and Station Service Air

1. Are IAV-61 and 62 leak-rate tested per Appendix J?

Response: Valves IAV-61 and 62 are not leak-rate tested per Appendix J.

2. Review the safety-related function of valve SAV-23 to determine if it should be categorized A/E rather than E.

Response: Valve SAV-23 will be categorized A/E in the IST program. The post accident sampling system will be replaced with a new system during refuel No. 4 and this valve will be deleted from the program and approximately 40 valves in the new system will be

added to the IST program. A new hydrogen purge system will also be added during refuel No. 4 which should result in an addition of approximately 4 valves to the IST program.

Q. Main and Reheat Steam

1. Should valves MSV-55 and 56 be categorized B/C rather than C?

Response: MSV-55 and 56 perform functions important to safety in both the open and closed positions. These valves are tested both open and closed and the licensee will categorize them B/C in the IST program and will modify their test procedure to measure the stroke times of the valves closing as well as opening.

2. Does any Crystal River #3 safety analysis take credit for the operability of the atmospheric steam dump valves MSV-25 and 26?

Response: OPEN: Open for the licensee to determine if these valves perform any function important to safety. If the valves are important to safety the licensee will determine a method and frequency of testing them and will add them to the testing program.

R. Makeup and Purification System

1. Review the safety related functions of valves MUV-38, 39, 40, and 41 to determine if they perform a pressure isolation function.

Response: OPEN: The utility is not yet responsible for including these valves as PIVs in their IST program.

2. What is the safety-related function of valves MUV-140 and 142?

Response: MUV-140 and 142 perform an operational function and are not important to safety, therefore, they will be exempted from testing in the IST program.

3. Could full-stroke exercising the following valves during cold shutdown result in a low-temperature overpressurization of the Reactor Coolant System?

MUV-1	MUV-11	MUV-160
MUV-2	MUV-36	MUV-161
MUV-6	MUV-37	MUV-163
MUV-7	MUV-42	MUV-164
MUV-10	MUV-43	

Response: OPEN: The design flow rate through the makeup pump discharge check valves is 500 gpm. MUV-2, 6, and 10 have manual operators and can be manually full-stroke exercised. The rest of the valves are not presently full-stroke exercised. MUV-1, 7 and 11 are partial-stroke exercised at least quarterly during makeup pump testing. The utility does not want to full-stroke exercise these valves at regular frequencies because it would require injection of 500 gpm into the RCS and could result in thermal shock to the injection nozzles on the reactor vessel. The only time MUV-1, 7, and 11 are full-stroke exercised is when the system balance procedure is performed after maintenance or modifications have been conducted on the system.

MUV-36, 37, 42, 160, 163 and 164 are not full or partial-stroke exercised quarterly. These valves are partial stroke exercised during cooldown to cold shutdowns when the plant is above the 200°F but less than 250°F, these valve are partial-stroke exercised using one makeup pump. MUV-43 and 161 are

partial-stroke exercised quarterly, since they are in the normal makeup flow path. These valves are not full-stroke exercised at any established frequency. They are only full-stroke exercised during the flow balance tests which are conducted after maintenance or modification have been performed on the system. Open item for the licensee to decide if sufficient flow is achieved through these valves and MUV-1, 7, and 11 during cold shutdown testing to qualify that testing as full-stroke exercising. They will also determine if full-stroke exercising would result in thermal shock to the injection nozzles.

4. What is the safety-related function of valves MUV-16, 17, 30 and 31?

   Response: These valves are not important to safety and will be exempt from testing in the IST program.

5. Are valves MUV-18 and 162 leak-rate tested per Appendix J?

   Response: OPEN: MUV-18 does receive an isolation signal to close for containment isolation, however, it is not leak tested per Appendix J requirements. The check valve inside containment, 162, is not Appendix J leak-rate tested. Open for the licensee to determine the function important to safety of 162, and for them to determine a method of exercising this valve to the position that is important to safety.

6. What is the safety-related function of valve MUV-51?

   Response: Valve MUV-51 is not important to safety and will be exempt from testing in the IST program.

7. How are valves MUV-60 and 72 full-stroke exercised (open and closed) during cold shutdown?

Response: OPEN: Open for the licensee to determine if these valves are full-stroke exercised during cold shutdowns (refer to question R.3 above). Also, open for the licensee to determine if these check valves serve any function important to safety in the closed position. If they are important to safety in the closed position, it is open for the licensee to investigate a method of exercising these valves to that position.

8. What is the safety-related function of valve MUV-108?

Response: Valve MUV-108 is not important to safety and will be exempt from testing in the IST program.

S. Nitrogen and Hydrogen System

1. Are the following valves leak-rate tested per Appendix J?

NGV-64	NGV-81
NGV-68	NGV-84
NGV-74	NGV-93
NGV-79	

Response: None of these valves are leak-rate tested per Appendix J.

T. Reactor Coolant System

1. What alternate tests have been considered to verify leak-tight integrity of valves RCV-12 and 53?

Response: The licensee is not yet required to leak-rate test these pressure isolation valves.

2. What is the safety-related function of valve RCV-13?

Response: This valve is not important to safety and will be exempt from testing in the IST program.

U. Spent Fuel Cooling

1. If valve SFV-86 performs no safety-related function, then it should not be included in Table II of the IST program.

Response: OPEN: Open for the licensee to determine if this valve performs a function important to safety. If it does not, this valve will be exempt from the IST program testing.

V. Nuclear Services Closed Cycle Cooling

1. Provide the specific technical justification for not full-stroke exercising the following valves during cold shutdown.

SWV-35	SWV-41
SWV-37	SWV-43
SWV-39	SWV-45

Response The licensee will full-stroke exercise and stroke time these valves quarterly per the Code.

W. Additional Comments

The utility may elect to rewrite Section III.H of the Pump and Valve Test Program concerning valves exempt from testing, especially the discussion of valves used for system control and system regulation where the failure position may involve a function important to safety.

PUMP TESTING PROGRAM

1. Is proper lubricant level or pressure observed as required by Table IWP-3100-1 for all pumps in the IST program?

   Response: Yes, lubricant level or pressure is measured as required. This test will be added to the list in Attachment B of the Crystal River, Unit 3 IST program.

2. What parameters are measured or monitored by operations and the HVAC maintenance staff on the Chilled Water Pumps that would be indicative of pump degradation?

   Response: OPEN: Vibration measurements are presently taken as part of the Plants P.M. program, the licensee will apply this testing to the IST pump vibration requirements. Open for the licensee to determine if the remainder of the Section XI measurements can be taken on these pumps.

3. What parameters are measured or monitored on the Emergency Diesel Generator Fuel Transfer Pumps during the monthly testing that would be indicative of pump degradation?

   Response: The licensee will determine which Section XI measurements can be made and will include those in the IST program. Also, a more specific relief request will be provided for any measurements that cannot be performed.

4. Does the Normal Nuclear Services Seawater Pump (RWP-1) perform any safety-related function?

   Response: This pump performs no function that is important to safety; RWP-2A and 2B are Service Seawater pumps that are important to safety and are tested in the IST program.

5. Are only two of the Nuclear Services Closed Cycle Cooling Pumps safety-related?

   Response: Yes, only two of the Nuclear Services Closed Cycle Cooling Pumps perform a function important to safety.

6. Do the Boric Acid Pumps (CAP-1A and 1B) perform any safety-related function?

   Response: The Boric Acid Pumps do perform a function important to safety and will be included in the IST program and tested in accordance with the Code unless specific relief is requested.

7. How are the pump bearing temperatures and vibration amplitudes measured on the Emergency Nuclear Service Seawater Pumps and the Decay Heat Service Seawater Pumps?

   Response: The temperature and vibration measurements are made on the upper pump shaft thrust bearing.

ADDITIONAL PUMP PROGRAM COMMENTS

1. Relief request #5 for the emergency feedwater pumps is not required since the pumps are tested in a fixed resistance flow path and measurement of differential pressure is sufficient to satisfy the Code requirements.

2. OPEN: The utility is investigating the feasibility of installing flow instrumentation on the emergency nuclear service seawater pumps.