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GENRO REGION II  
ATLANTA, GA 30303

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June 12, 1980

File: 3-0-3-a-4

Mr. J. P. O'Reilly  
Director  
Office of Inspection and Enforcement  
U.S. Nuclear Regulatory Commission  
Suite 3100  
101 Marietta Street  
Atlanta, GA 30303

Subject: Crystal River Unit 3  
Docket No. 50-302  
Operating License No. DPR-72  
IE Bulletin 80-06  
ENGINEERED SAFETY FEATURE (ESF) RESET CONTROLS

Dear Mr. O'Reilly:

Enclosed is our response to IE Bulletin 80-06.

Please contact this office if you require any additional discussion concerning our response.

Very truly yours,

FLORIDA POWER CORPORATION

*P. Y. Baynard*  
P. Y. Baynard  
Manager  
Nuclear Support Services

Attachments

IE80-06(DN-71)

cc: Director  
Division of Reactor Operations Inspection  
Office of Inspection and Enforcement  
U.S. Nuclear Regulatory Commission  
Washington, DC 20555

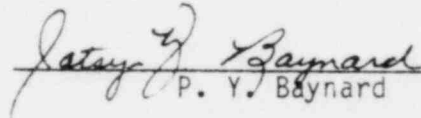
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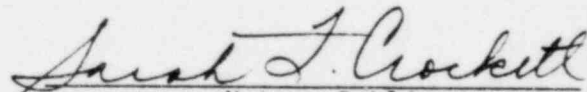
STATE OF FLORIDA

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 12th day of June, 1980.

  
Notary Public

Notary Public, State of Florida at Large,

My Commission Expires: August 24, 1983

IE80-06(PYB/SFCNotary)DN-71

FPC RESPONSE TO IE BULLETIN 80-06

ITEM 1

Review the drawings for all systems serving safety-related functions at the schematic level to determine whether or not upon the reset of an LSF actuation signal, all associated safety-related equipment remains in its emergency mode.

RESPONSE

A thorough review of all equipment actuated by the ESFAS system has been completed at the schematic/elementary diagram level. The ESFAS system includes High Pressure Injection (HPI), Low Pressure Injection (LPI), Reactor Building Isolation (RBI), and Reactor Building (RB) spray.

Attachment I is included with this response, which lists all equipment by name and method or device employed to ensure that equipment will not change position upon reset of the ESFAS system.

It should be noted that Attachment II "Typical Control Circuits for Engineered Safeguards System Equipment, Crystal River Unit 3", Figure 7-10 in the FSAR contains typical drawings for Engineered Safeguards Pump Control, Engineered Safeguards Motor-operated Valve Control, and Engineered Safeguards Solenoid Valve Control. Specific equipment listed in Attachment I follows this typical control design.

ITEM 2

Verify the actual installed instrumentation and controls at the facility are consistent with the schematics reviewed in Item 1, above, by conducting a test to demonstrate that all equipment remains in its emergency mode upon removal of the actuating signal and/or manual resetting of the various isolating or actuation signals. Provide a schedule for the performance of the testing in your response to this Bulletin.

RESPONSE

CR-3 Surveillance Procedure, Si -417, "Refueling Interval Integrated Plant Response to Engineered Safeguards Actuation", has been modified to conduct a test to demonstrate that all equipment remains in its emergency mode upon removal of the actuating signal and/or manual resetting of the various isolating or actuation signals. This test will be conducted during restart of CR-3.

ITEM 3

If any safety-related equipment does not remain in its emergency mode upon reset of an ESF signal at your facility, describe proposed system modification, design change, or other corrective action planned to resolve the problem.

RESPONSE

As a result of the review in Item 1, above, it has been determined that no valve, ventilation damper, motor, etc., returns to its preactuation condition upon reset of the ESF signal.

Attachment I

EQUIPMENT RECEIVING AN ESF SIGNAL

- Legend: B - Breaker Seal-in  
 S - Seal-in contact  
 M - Motor-operated valve  
 C - Normally open contact in series with device. Contact opens when deenergized. Upon closure of contact on reset, device does not change state. Pushbutton operation is required.

A Actuation

<u>Name</u>	<u>Device</u>	<u>ESFAS Status on Reset</u>
1. Emergency Nuclear Service Seawater Pump	RWP-2A	B
2. RB Fan, Low Speed	AHF-1A	S
3. RB Fan, Low Speed	AHF-1C	S
4. DH Closed-cycle Pumps	AHF-15A	S
5. Nuclear Service Closed-cycle Cool Water Pump	SWP-1A	B
6. DH Seawater Pump	RWP-3A	B
7. DH Closed-cycle Cool Water Pump	DCP-1A	B
8. DH Closed-cycle Cool Water Pump	DHP-1A	B
9. RB Fan, High Speed	AHF-1A	C
10. RB Fan, High Speed	AHF-1C	C
11. Makeup and Purification Pump	MUP-1A	B
12. Makeup and Purification Pump	MUP-1B	B
13. Primary Isolation Valve	MUV-64	S
14. Makeup Pump Recirculation Valve	MUV-53	M,S

	<u>Name</u>	<u>Device</u>	<u>ESFAS Status on Reset</u>
15.	HP Injection Control Valve to Reactor Inlet Lines Loop A	MUV-23	M
16.	HP Injection Control Valve to Reactor Inlet Lines Loop A	MUV-24	M
17.	Borated Water Storage Tank to MU Pump	MUV-73	S,M
18.	LP Injection Containment Isolation from DHP-1A	DHV-5	M
19.	DH Suction from Borated Water Storage Tank to DH Pump	DHV-34	S,M
20.	Reactor Building Spray Header Inlet Isolation Valve	BSV-3	M
21.	CF Tank 3Z NC Sampling Valve	CFV-11	S,M
22.	RB Sump Pump Discharge Line Inside Isolation Valve	WDV-3	S,M
23.	Pressure Steam Space Sample Isolation valve	CAV-1	S,M
24.	Control Bleedoff Isolation Valve from RC Pump	MUV-260	S,M
25.	Isolation Valve from Letdown Cooler MU-C1A	MUV-40	S,M
26.	CF Tank 3B Sampling Valve	CFV-12	S,M
27.	RC Drain Tank Vent Line Inside Isolation Valve	WDV-60	S,M
28.	Pressure Water Space Sample Isolation Valve	CAV-3	S,M
29.	Control Bleedoff Isolation Valve from RC Pump	MUV-261	S,M
30.	Isolation Valve from Letdown Cooler MU-C1B	MUV-41	S,M
31.	Reactor Building Spray Pump Suction Isolation Valve for Pump	BSV-17	S,M
32.	CF Tank Vent to Waste Gas Decay Tank Valve IE80-06(DN-71)	CFV-15	S,M

<u>Name</u>	<u>Device</u>	<u>ESFAS Status on Reset</u>
33. RC Drain Tank Pump Discharge Inside Isolation Valve	WDV-94	S,M
34. Steam Generator Sample Valve	CAV-4	S,M
35. Containment Purge Supply Valve	AHV-1C	S,M
36. Sodium Hydroxide Storage Tank BST-2 Isolation Valve to Decay Heat Pump	BSV-36	S,M
37. CF Tank Vent to Waste Gas Decay Tank Valve	CFV-16	S,M
38. RB Vent Heater Inside Isolation Valve	WDV-406	S,M
39. Steam Generator Sample Valve	CAV-5	S,M
40. Containment Purge Exhaust Valve	AHV-1B	S,M
41. Control Bleedoff Isolation Valve from RC Pump	MUV-258	S,M
42. Reactor Building Fan Assembly Transfer Valve	SWV-151	S
43. RC Letdown Sample Valve Isolation Valve	CAV-126	S,M
44. RB Cavity Cooling Coil Isolation Valve	CIV-40	S
45. Control Bleedoff Isolation Valve from RC Pump	MUV-259	S,M
46. Fill and Makeup Control Valve to CF Tank	CFV-25	C
47. Containment Monitoring Isolation Valve	WSV-3	C
48. Fill and Makeup Control Valve to CF Tank	CFV-26	C
49. Nitrogen Supply Control Valve to CF Tank	CFV-27	C
50. Nitrogen Supply Control Valve to CF Tank	CFV-28	C
51. MU Isolation Valve to Reactor Inlet Lines Loop A	MUV-27	S,M

<u>Name</u>	<u>Device</u>	<u>ESFAS Status on Reset</u>
52. Letdown Cooler Supply Valve	SWV-47	C
53. CC Air Handling System Auxiliary Relay for: Control Complex Vent Air Intake Damper Relief Air Damper Return Air Damper Miscellaneous Dampers	3ESAR	S
54. Letdown Cooler Supply Valve	SWV-48	S
55. Reactor Building Fan Assembly Transfer Valve	SWV-152	S
56. RC Pump Cooler Supply Valve	SWV-82	S
57. RC Pump Cooler Return Valve	SWV-86	S
58. Containment Monitoring Isolation Valve	WSV-5	C
59. RC Pump Supply Valve	SWV-81	S
60. RC Pump Cooler Return Valve	SWV-85	S
61. RC Pump Cooler Supply Valve	SWV-80	S
62. RC Pump Cooler Return Valve	SWV-84	S
63. Letdown Cooler Return Valve	SWV-50	S
64. RC Pump Cooler Supply Valve	SWV-79	S
65. RC Pump Cooler Return Valve	SWV-83	S
66. Nuclear Serv. Water Inlet Isolation to Reactor Building	SWV-109	S
67. Letdown Cooler Return Valve	SWV-49	S
68. Nuclear Service Water Outlet Isolation to Reactor Building	SWV-110	S
69. Auxiliary Service Isolation Valve	SWV-12	S
70. Reactor Building Fan Assembly Transfer Valve	SWV-353	S
71. RB Cavity Cooling Coil Isolation Valve	CIV-34	S



	<u>Name</u>	<u>Device</u>	<u>ESFAS Status on Reset</u>
72.	Reactor Building Demin. Water Supply Valve	DWV-160	M,S
73.	Reactor Building Fan Assembly Transfer Valve	SWV-354	S
74.	RB Cavity Cooling Coil Isolation Valve	CIV-35	S
75.	Steam Generator Drain Isolation Valve	MSV-130	C
76.	Steam Generator Drain Isolation Valve	MSV-148	C
77.	RB Cavity Cooling Coil Isolation Valve	CIV-41	S
78.	RB Spray Pump	BSP-1A	B

B Actuation

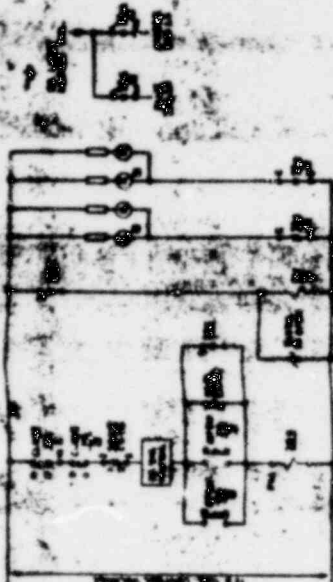
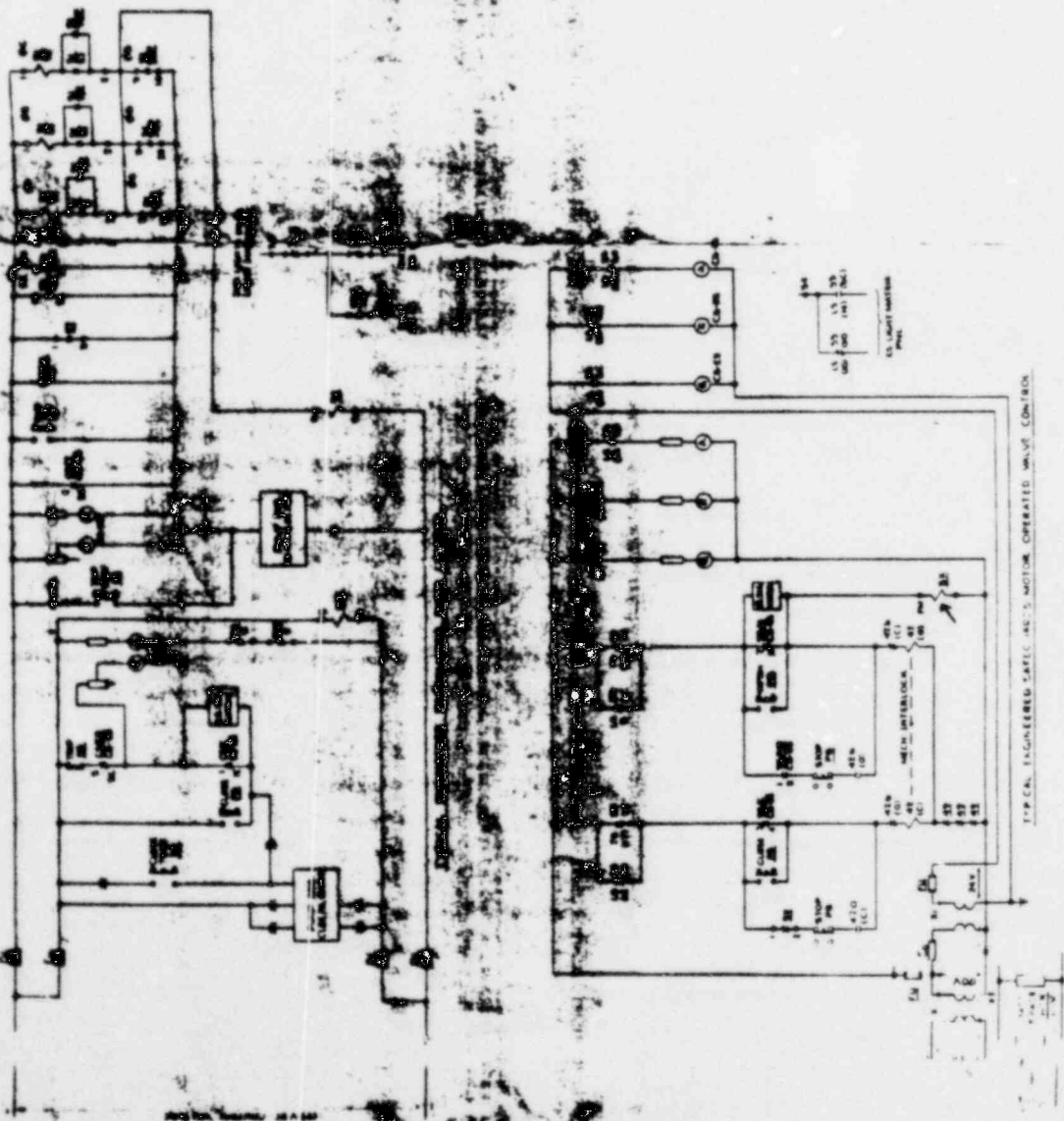
79.	Emergency Nuclear Service Seawater Pump	RWP-2B	B
80.	RB Fan Assembly, Low Speed	AHF-1B	S
81.	RB Fan Assembly, Low Speed	AHF-1C	S
82.	DH Closed-cycle Pump AHU	AHF-15B	S
83.	Emergency Nuclear Service CC Cooling Pump	SWP-1B	B
84.	DH Seawater Pump	RWP-3B	B
85.	DH Closed-cycle Cool Water Pump	DCP-1B	B
86.	DH Removal Pump	DHP-1B	B
87.	RB Fan Assembly, High Speed	AHF-1C	C
88.	RB Fan Assembly, High Speed	AHF-1B	C
89.	Makeup and Purification Pump	MUP-1B	B
90.	Makeup and Purification Pump	MUP-1C	B
91.	Primary Isolation Valve	MUV-64	S
92.	Makeup Pump Recirc. Valve	MUV-257	S,M
93.	HP Injection Control Valve to Reactor Inlet Lines Loop B	MUV-25	M

<u>Name</u>	<u>Device</u>	<u>ESFAS Status on Reset</u>
94. HP Injection Control Valve to Reactor Inlet Lines Loop B	MUV-26	M
95. HP Pump Suction from Borated Water Storage Tank	MUV-58	S,M
96. LP Injection Containment Isolation from DHP	DHV-6	M
97. DH Suction from Borated Water Storage Tank to DH Pump	DHV-35	S,M
98. Reactor Building Spray Hdr. Inlet Isolation Valve	BSV-4	M
99. CF Tanks Isolation Control Valve to WD System	CFV-29	C
100. Reactor Building Sump Pump Discharge Line Outside Isolation Valve	WDV-4	C
101. Pressure Steam Space Sampling Isolation Valve	CAV-2	C
102. Letdown Cooler Isolation Valve	MUV-49	S
103. CF Tanks Control Valve to Sample and Waste Disposal System	CFV-42	C
104. RC Drain Tank Vent Line Outside Isolation Valve	WDV-61	C
105. Steam GEnerator Isolation Valve	CAV-6	C
106. RB Spray Pump Suction Isolation Valve to BSP	BSV-16	S,M
107. Containment Purge Valve	AHV-1D	C
108. RC Drain Tank Pump Discharge Outside Isolation Valve	WDV-62	C
109. Sodium Hydrozide Storage Tank Isolation Valve to DH Pump	BSV-37	S
110. Containment Purge Valve	AHV-1A	C
111. RB Vent Hdr. Outside Isolation Valve	WDV-405	S,M

<u>Name</u>	<u>Device</u>	<u>ESFAS Status on Reset</u>
112. Containment Monitoring Isolation Valve	WSV-4	C
113. RC Pump Seal Bleedoff Shutoff Valve	MUV-253	S
114. RB Cavity Cooling Coil Isolation Valve	CIV-40	S
115. Containment Monitoring Isolation Valve	WSV-6	C
116. Fill and Makeup Control Valve to CF Tank	CFV-25	C
117. Fill and Makeup Control Valve to CF Tank	CFV-26	C
118. Nitrogen Supply Control Valve to CF Tank	CFV-27	C
119. Steam Generator Sample Isolation Valve	CAV-7	C
120. Nitrogen Supply Control Valve to CF Tank	CFV-28	C
121. MU Isolation Valve to Reactor Inlet Lines Loop A	MUV-27	S,M
122. Letdown Cooler Supply Valve	SWV-47	S
123. CC Air Handling System Auxiliary Relays for: Control Complex Vent Air Intake Damper Relief Air Damper Return Air Damper Miscellaneous Dampers	3ESBR	S
124. Letdown Cooler Supply Valve	SWV-48	S
125. Reactor Building Fan Assembly Transfer Valve	SWV-152	S
126. RC Pump Cooler Supply Valve	SWV-82	S
127. RC Pump Cooler Return Valve	SWV-86	S
128. RC Pump Cooler Supply Valve	SWV-81	S
129. RC Pump Cooler Return Valve	SWV-85	S
130. RC Pump Cooler Supply Valve	SWV-80	S

<u>Name</u>	<u>Device</u>	<u>ESFAS Status on Reset</u>
131. RC Pump Cooler Return Valve	SWV-84	S
132. Letdown Cooler Return Valve	SWV-50	S
133. RC Pump Cooler Supply Valve	SWV-79	S
134. RC Pump Cooler Return Valve	SWV-83	S
135. Nuclear Service Water Inlet Isolation to Reactor Building	SWV-109	S
136. Letdown Cooler Return Valve	SWV-49	S
137. Nuclear Service Water Outlet Isolation to Reactor Building	SWV-110	S
138. Auxiliary Service Isolation Valve	SWV-12	S
139. Reactor Building Fan Assembly Transfer Valve	SWV-353	S
140. RB Cavity Cooling Coil Isolation Valve	CIV-34	S
141. Reactor Building Demin. Water Supply Valve	DWV-160	S,M
142. Reactor Building Fan Assembly Transfer Valve	SWV-354	S
143. Reactor Building Cavity Cooling Coil Isolation Valve	CIV-35	S
144. Steam Generator Drain Isolation Valve	MSV-130	C
145. Reactor Building Fan Assembly Transfer Valve	SWV-355	S
146. Reactor Building Cavity Cooling Coil Isolation Valve	CIV-41	S
147. Steam Generator Drain Isolation Valve	MSV-148	C
148. Reactor Building Spray Pump	BSP-1B	B

ATTACHMENT II



Legend

1	STOP
2	START
3	STOP
4	START
5	STOP
6	START
7	STOP
8	START
9	STOP
10	START
11	STOP
12	START
13	STOP
14	START
15	STOP
16	START
17	STOP
18	START
19	STOP
20	START
21	STOP
22	START
23	STOP
24	START
25	STOP
26	START
27	STOP
28	START
29	STOP
30	START

TYPICAL CONTROL CIRCUITS FOR  
ENGINEERED SAFEGUARDS SYSTEM EQUIPMENT  
CRYSTAL RIVER UNIT 3

FIGURE 7-10

TYPICAL ENGINEERED SAFEGUARDS MOTOR OPERATED VALVE CONTROL