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SHIELDS L. DALTROFF
VICE PRESIDENT
ELECTRIC PRODUCTION

June 13, 1979

Docket Nos.: 50-277
50-278

IE Bulletin 79-01

Mr. Boyce H. Grier, Director
Office of Inspection & Enforcement
Region I
United States Nuclear Regulatory Commission
631 Park Avenue
King of Prussia, PA 19406

Dear Mr. Grier:

This letter is in response to IE Bulletin 79-01, forwarded to us on February 8, 1979, concerning the environmental qualification of safety-related electrical equipment. Because of the unavailability of information from manufacturers, we have been unable to furnish all the requested documentation within the 120 days required by your Bulletin. We are continuing to gather the necessary documentation as expeditiously as possible. Submittal of the completed work is anticipated by October 15, 1979. The "Action to be Taken by Licensees" and our responses are treated sequentially.

Action to be Taken by Licensee

1. Complete the re-review program described in IE Circular 78-08 within 120 days of receipt of this Bulletin.

Response

The re-review of safety-related equipment installed in primary containment has been completed with the exception of motor operated valve actuators. Limitorque Corporation has agreed to provide the applicable qualification information based on the equipment serial numbers and purchase order numbers. This information was provided to Limitorque for Unit 2 valve actuators by letter dated 5/17/79. The Unit 3 Limitorque serial numbers will be obtained during the current Unit 3 outage. This

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information along with purchase order numbers will then be sent to Limitorque.

The re-review of safety-related equipment installed outside primary containment has been initiated, and the following activities describe our efforts to date:

(1) A review of the Peach Bottom APS FSAR Supplement 2 (High Energy Line Break (HELB) Analysis) has been completed. This analysis provides the basis for outside containment qualification review. The accident conditions are identified and the system operations required to respond to the accident are identified.

(2) A tabulation of all safety-related electrical equipment located in the reactor building is in progress.

(3) General Electric Company is searching their file for qualification documentation for NSSS supplied equipment.

(4) Available heat transfer studies have been researched to determine their applicability to the accidents identified in the HELB analysis.

Completion of the re-review for the safety-related equipment located outside primary containment is contingent on an analyisis to determine the values of the environmental parameters resulting from each of the identified HELB accidents. Completion of the environmental analysis is anticipated to be early August 1979, and the re-review of equipment qualification is anticipated to be completed by October 15, 1979.

2. Determine if the types of stem mounted limit switches described above are being used or planned for use on safety-related valves which are located inside containment at your facility. If so, provide a written report to the NRC within the time frame specified and to the address specified in Item 4 below.

Response

The Main Steam Isolation Valve limit switches associated with the reactor protection system (RPS) perform no safety function during or following a LOCA. They do perform a safety function for a Steam Line Break outside of containment and are qualified to perform their safety function by virtue of GE tests. NAMCO limit switches (EA-700-86010) which are very similar to those used on the Peach Bottom APS - Main Steam Line Isolation Valves (EA-700-50100/SL3CB2-N) were tested by General Electric Company in the LOCA and post LOCA environments. G.E. Co. Plant and Equipment Engineering Memorandum No. 126-43 documents the results

of these tests; the switches are capable of operation for the first 24 hours after a LOCA. The Main Steam Isolation Valve limit switches associated with the control room indication are not considered safety-related equipment and, therefore, Peach Bottom APS indication circuits were not designed for post cident monitoring.

3. Provide written evidence of the qualification of electrical equipment required to function under accident conditions. This written evidence should include: 1) component description; 2) description of the accident environment; 3) the environment to which the component or equipment is qualified; 4) the manner of qualification which should include test methods such as sequential, synergistic, etc. and 5) identification of the specific supporting qualification documentation. For those items not having complete qualification data available for review, identify your plans for determining qualification, either by testing or engineering analysis, or combination of these, or by replacement with qualified equipment. Include your schedule for completing these actions and your justification for continued operation.

   Submit this information to the Director, Division of Reactor Operations Inspection, Office of Inspection and Enforcement, Nuclear Regulatory Commission, Washington, D.C. 20555 with a copy to the appropriate NRC Regional Office within 120 days of receipt of this Bulletin.

Response

The attached summary sheets provide the written evidence of the qualification for safety-related electrical equipment located in the primary containment. Additional sheets for safety-related electrical equipment outside of the containment will be assembled and submitted after review for the environmental parameters as described in answer to Item 1. It is anticipated that the re-review for outside containment equipment can be completed by October 15, 1979.

Re-review of safety-related equipment installed in primary containment has been completed with the exception of confirmation of existing data for Limitorque motor operated valves, and no unqualified equipment has been found. Additionally, Supplement No. 2 to the Final Safety Analysis Report (FSAR) for Peach Bottom Atomic Power Station Units No. 2 & 3 contains information concerning the protection provided against effects of high energy piping systems failure outside the primary containment, and the protection of safeguard equipment from the direct and environmental effects of the postulated pipe failure. The fact that no safety-related equipment has been identified that is not

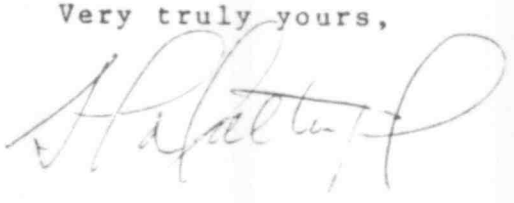
qualified for its intended service coupled with the fact that the aforementioned qualification program is in progress, provides justification for continued operation.

4. Report any items which are identified as not meeting qualification requirements for service intended to the Director, Division of Operating Reactors, Office of Nuclear Reactor Regulation, Nuclear Regulatory Commission, Washington, D.C. 20555 with a copy to the appropriate NRC Regional Office within 24 hours of identification. If plant operation is to continue following identification, provide justification for such operation. Provide a detailed written report within 14 days of identification to NRR, with a copy to the appropriate NRC Regional Office.

Response

To date, we have not identified any safety-related equipment which is not qualified for its intended service.

Very truly yours,



Attachment

cc: U. S. Nuclear Regulatory Commission
Office of Inspection & Enforcement
Divisions of Reactor Operations Inspection
Washington, DC 20555

ITEM	EQUIPMENT DESCRIPTION	TIME REQ'D	ENVIRONMENT (LOCATION) Primary Contain. PARAMETER	SPEC.	QUAL.	QUAL. METHOD*	DOC. REF**	REMARKS
1	AO 2/3-02-39	10 Sec			LOCA & MSLB			
	Recirc. Loop B Sample		Temp. (^{o}F)	Aug. 4, 1978		Analysis	1, 2, & 3	The air operated valve is
	Line isolation valve		Press. (psia)	Letter from		"		used to isolate reactor
	"ASCO" Cat. # T8300061U 120		Rel. Hum.	G. D. Edwards		"		water sample from loop B.
	volt, 60 Hertz		Radiation	to ASCO		"		
			Chem.	-	-	-		
2	AO 2/3-02-316				LOCA & MSLB			
	Main Steam Sample Line		Temp. (^{o}F)	Aug. 4, 1978		Analysis	1, 2 & 3	The air operated valve is
	Isolation Valve		Press. (psia)	Letter from		"		used to isolate main steam
			Rel. Hum.	G. D. Edwards		"		sample line on reactor vessel
	"ASCO" Cat. # T8300061U		Radiation	to ASCO		"		low water level
	120 Volt, 60 Hertz		Chem.	-	-	-		
3	Wiring methods				LOCA & MSLB			
	Buchanan Terminal Blocks		Temp. (^{o}F)		340^{o}F	Test	1, 4 & 5	The Terminal Blocks are
	2H100 Series	≤80 Sec.	Press. (psia)		104 Psig	"		used to supply power and
	Marathon Terminal Blocks		Rel. Hum.		90-100%	"		control to Safeguard Equipment
	1600 Series		Radiation		≤ 26 MR	"		
			Chem.	-	-	-		
4	Rockbestos Cable	≤80 sec.			LOCA & MSLB			
	Firewall III		Temp. (^{o}F)		295^{o}F	Test	1 & 6	The cable is used to supply
	Pyrotrol III		Press. (psia)		21 Psig	"		power and control to safeguard
			Rel. Hum.		90-100%	"		equipment
			Radiation		50 MR 100 MR	"		
			Chem.	-	-	-		

This list is a compilation of items by component. Do not list the same type of component more than once. Use limiting environment where more than one applies.

*ie, separate effects, sequential, etc.

**Please attach typed lists of reference documents

PLANT NAME: Peach Bottom Unit #2 and #3

ITEM	EQUIPMENT DESCRIPTION	TIME REQ'D.	ENVIRONMENT (LOCATION) Primary Contain. PARAMETER	SPEC.	QUAL.	QUAL. METHOD*	DOC. REF**	REMARKS
5	Drywell Penetrations	101 Days			LOCA & MSLB			The Safety Function is to
	G.E. Co. (Low Voltage		Temp. (^{o}F)		340^{o}F	Test	1,7,8, & 9	maintain Drywell integrity
	Power and Control)		Press. (psia)		103 Psig	"		during normal and during
	G.E. 100 series		Rel. Hum.		90-100%	"		a design basis event
			Radiation		40 MR	"		and post design basis event.
			Chem.	-	-	-		In addition, some penetrations
								are used to supply power and
			Temp. (^{o}F)					control to safeguard equipment.
			Press. (psia)					
			Rel. Hum.					
			Radiation					
			Chem.					
6	Drywell Penetrations	101 days			LOCA & MSLB			The safety function is to
	Physical Sciences		Temp. (^{o}F)		281^{o}F	Test	1, 8, & 10	maintain drywell integrity
	Corp. (High Voltage)		Press. (psia)		62 psig	"		during normal and during a
			Rel. Hum.		90-100%	"		design basis event and post
			Radiation		40 MR	Test & Analysis		design basis event.
			Chem.	-	-	-		
7	RPS Drywell equipment	Not required						This equipment does not perform
			Temp. (^{o}F)					a safety function during or
			Press. (psia)					following a LOCA and/or MSLB
			Rel. Hum.					event
			Radiation					
			Chem.					

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PLANT NAME: Peach Bottom Unit #2 and #3

ITEM	EQUIPMENT DESCRIPTION	TIME REQ'D.	ENVIRONMENT (LOCATION) Primary Contain. PARAMETER	SPEC.	QUAL.	QUAL. METHOD*	DOC. REF**	REMARKS
8	2/3-02-65A and 65B	≤ 80 Sec.			LOCA & MSLB			Valves close on design basis
			Temp. (°F)		340°F	Test	1 & 11	event to isolate loops.
	Limitorque motor operated		Press. (psia)		105 Psig	"		Investigation is continuing.
	valve recirc. system pump		Rel. Hum.		90-100%	"		
	cross tie valves		Radiation		200 MR	"		
			Chem.	-	-	-		
9	2/3-02-53A and 53B	≤ 80 sec.			LOCA & MSLB			Valves close on design
	Limitorque Motor		Temp. (°F)		340°F	Test	1 & 11	Basis event to isolate recirc.
	Operated valve		Press. (psia)		105 Psig	"		loops. Investigation is
	SMB-3		Rel. Hum.		90-100%	"		continuing.
	Recirc. Loops A and B		Radiation		200 MR	"		
	Pump Discharge Valves		Chem.	-	-	-		
10	2/3-02-66A and 66B	≤ 80 sec.			LOCA & MSLB			
	Limitorque Motor		Temp. (°F)		340°F	Test	1 & 11	Valves close on design basis
	Operated Valve		Press. (psia)		105 Psig	"		event to isolate loops.
	SMB-00		Rel. Hum.		90-100%	"		Investigation is continuing.
	Recirc. System Pump		Radiation		200 MR	"		
	Discharge Cross tie Bypass		Chem.	-	-	-		
11	2/3-10-18	≤ 80 sec.			LOCA & MSLB			
	Limitorque Motor operated		Temp. (°F)		340°F	Test	1 & 11	Valve isolates RHR reactor
	valve		Press. (psia)		105 Psig	"		shutdown cooling supply line
	SMB-4-150, RHR		Rel. Hum.		90-100%	"		on isolation signal.
	Shutdown Cooling		Radiation		200 MR	"		Investigation is continuing.
	Isolation Valve		Chem.	-	-	-		

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PLANT NAME: Peach Bottom Unit #2 and #3

ITEM	EQUIPMENT DESCRIPTION	TIME REQ'D.	ENVIRONMENT (LOCATION) PARAMETER	SPEC.	QUAL.	QUAL. METHOD*	DOC. REF**	REMARKS
12	2/3-23-15	≤80 sec.			LOCA & MSLB			Valve isolates HPCI turbine
	Limitorque Motor		Temp. (^{o}F)		340^{o}	Test	1 & 11	steam supply on non-failsafe
	Operated Valves		Press. (psia)		105 Psig	"		isolation signal.
	SMB-0-40, HPCI		Rel. Hum.		90-100%	"		Investigation is continuing.
	Steam Line		Radiation		200 MR	"		
	Isolation Valve		Chem.	-	-	-		
13	2/3-13-15	≤80 sec.			LOCA & MSLB			Valve isolates RCIC
	Limitorque Motor		Temp. (^{o}F)		340^{o}F	Test	1 & 11	Turbine Steam Supply Line
	Operated Valves		Press. (psia)		105 Psig	"		on non-failsafe signal.
	SMB-000-5, RCIC		Rel. Hum.		90-100%	"		Investigation is continuing
	Steam Line		Radiation		200 MR	"		in this area.
	Isolation Valve		Chem.	-	-	-		
14	2/3-12-15	≤80 sec.			LOCA & MSLB			Valve Isolates RWCU
	Limitorque Motor		Temp. (^{o}F)		340^{o}F	Test	1 & 11	Line on Isolation Signal.
	Operated Valves		Press. (psia)		105 Psig	"		Investigation is continuing.
	SMB-00-10, Reactor		Rel. Hum.		90-100%	"		
	Water Cleanup Inlet		Radiation		200 MR	"		
	Isolation Valve		Chem.	-	-	-		
15	2/3-02-74	≤80 Sec.			LOCA & MSLB	Test		Valve Isolates Main
	Limitorque Motor Valves		Temp. (^{o}F)		340^{o}F	"	1 & 11	Steam Line Drain on
	SMB-000-5, Inboard		Press. (psia)		105 Psig	"		Isolation Signal.
	Main Steam Line Drain		Rel. Hum.		90-100%	"		Investigation is continuing.
	Isolation Valve		Radiation		200 MR	"		
			Chem.	-	-	-		

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PLANT NAME: Peach Bottom Unit #2 and #3

ITEM	EQUIPMENT DESCRIPTION	TIME REQ'D.	ENVIRONMENT (LOCATION) Primary Contain. PARAMETER	SPEC.	QUAL.	QUAL. METHOD*	DOC. REF**	REMARKS
16	2/3-02-43A & 43B	≤ 80 Sec.			LOCA & MSLB			
	Limitorque Motor		Temp. (°F)		340°F	Test	1 & 11	Valves close on design basis
	Operated valve		Press. (psia)		150 Psig	"		event to isolate recirc.
	SMB-2 recirc.		Rel. Hum.		90-100%	"		loops. Investigation is
	loops A and B Pump		Radiation		200 MR	"		continuing.
	Suction Valves		Chem.	-	-	-		
			Temp. (°F)					
			Press. (psia)					
			Rel. Hum.					
			Radiation					
			Chem.					
			Temp. (°F)					
			Press. (psia)					
			Rel. Hum.					
			Radiation					
			Chem.					
			Temp. (°F)					
			Press. (psia)					
			Rel. Hum.					
			Radiation					
			Chem.					

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PLANT NAME: Peach Bottom Unit #2 and #3

ITEM	EQUIPMENT DESCRIPTION	TIME REQ'D.	ENVIRONMENT (LOCATION) Primary Contain. PARAMETER	SPEC.	QUAL.	QUAL. METHOD*	DOC. REF**	REMARKS
17	AO-2/3-02-80A, 80B, 80C,				LOCA & MSLB			Solenoids de-energize to
	and 80D. Main Steam line		Temp. (^{o}F)		340^{o}F	Test	1, 2 & 13	isolate main steam lines on
	isolation valve air		Press. (psia)		110 Psig	"		isolation signals.
	operated manifold.		Rel. Hum.		90-100%	"		
	Man factured by automatic		Radiation		4 MR 30 MR	"		
	valve corp.		Chem.	-	-	-		
18	RV-2/3-02-71A, B, C, D,				LOCA & MSLB			Prevents overpressurization of
	E, F, G, H, J, K, & L		Temp. (^{o}F)		340^{o}F	Test	1 & 2	the Nuclear System. In
	Reactor Steam Relief		Press. (psia)		65 psig	"		addition, the ADS feature of
	valves, A.V.C. C-5450		Rel. Hum.		90-100%	"		the nuclear Sys. press.
	ASCO 8300568F		Radiation		4 MR 30 MR	"		relief sys. acts in conjunction
	Solenoids		Chem.	-	-	-		with core standby cooling sys.
								for reflooding the core
			Temp. (^{o}F)					following small breaks in the
			Press. (psia)					nuclear system process barrier
			Rel. Hum.					
			Radiation					
			Chem.					
19	Cable/connector assemblies,							The connectors are used to
	Pyle-National Co.		Temp. (^{o}F)		340^{o}F	Test	1 & 12	supply power and control to
	P-A-207499 P&R thru		Press. (psia)		105 Psig	"		safeguard equipment
	P-A-207503 P&R		Rel. Hum.		90-100%	"		
			Radiation		200 MR	"		
			Chem.	-	-	-		

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REFERENCES

1. RES 5-3 (Qualification Drywell Equipment.)
2. G.E. Co. Cover Letter G-HE-8-198
3. ASCO Letter 8/17/78
4. Franklin Institute Test Report F-C5022-1
5. Franklin Institute Test Report for PECO FC5022-2
6. Franklin Institute Test Report for P.E. Co. F-C2750
7. G.E. Co. Cover Letter G-HE-8-153
8. Vendor Print #6280-E106-113-1
9. G.E. Co. cover letter G-HE-8-54
10. Vendor Print #6280-E40-124-2
11. Franklin Institute Test Report for Limitorque Corp. FC3441
12. Franklin Institute Test Report for Pyle-National Company F-C3451
13. G.E. Co. cover letter G-HE-7-154 (FDI-123)

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5/29/79