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SUBJECT: Forwards response to 870630 request for addl info re util response to IE Bulletin 85-03, "Motor Operated Valve Common Mode Failures During Plant Transients Due to Improper Switch Settings."

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August 3, 1987
161-00420-JGH/JBK

Richard J. Kiessel
Division of Operation Events Assessment
Nuclear Regulatory Commission
Washington, D.C. 20555

Subject: NRC IE Bulletin 85-03: Motor-Operated Valve Common Mode Failures During Plant Transients Due to Improper Switch Settings
File: 87-055-026

References: (A) Letter from ANPP to U.S. NRC (Subject: Same; ANPP-37192-EEVB/JBK/98.05; dated June 30, 1986).
(B) Letter to ANPP from U.S. NRC (Subject: Same; dated September 17, 1986).
(C) Letter from ANPP to U.S. NRC (Subject: Same; ANPP-38862-JGH/JBK/98.05; dated October 27, 1986).
(D) Letter from ANPP to U.S. NRC (Subject: Same; 161-00213-JGH/JBK; dated May 15, 1987).
(E) Letter to ANPP from U.S. NRC (Subject: Same; dated June 30, 1987).

Dear Mr. Kiessel,

Reference (A) contained ANPP's response to Item e in the subject bulletin. Reference (B) requested further clarification for two specific areas within Reference (A). Reference (C) provided clarification regarding the two specific areas. Reference (D) revised ANPP's schedular commitment's provided in Reference (A). Reference (E) requested further information for four items within References (A) and (C).

This letter provides the information requested in the attachment of Reference (E).

If you have any questions or require additional information, do not hesitate to call.

Very truly yours,

J. G. Haynes
Vice President
Nuclear Production

JGH/JBK/dlm
Attachment

IE11
1/1

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ATTACHMENT

ANPP RESPONSE TO NRC REQUEST FOR ADDITIONAL INFORMATION

NRC QUESTION

The information provided in your response to Action Item e of IE Bulletin 85-03 was found to be deficient in some areas. Please provide the additional information necessary to resolve the following comments and questions:

1. Has water hammer due to valve closure been considered in the determination of pressure differentials? If not, please explain.

ANPP RESPONSE

Water hammer due to valve closure is considered to not be a concern with respect to developing the differential pressures for each IEB 85-03 motor-operated valve. Based on flowrates at time of valve closure and slow valve closure times, any flow induced water hammer pressure waves are believed to be low magnitude and within the design limits of the piping system. This position is consistent with the analysis described in NUREG-0582, "Water Hammer in Nuclear Power Plants." Therefore, water hammer effects were not included in the maximum differential pressure calculations.

NRC QUESTION

2. Listed MOVs HV-30 through HV-33 and HV-54 of the AFW Systems are 4-inch globe valves, and listed MOVs HC-321 and HC-331 of the HPSI System are 3-inch globe valves. We were advised recently that the MOVATS data base does not include globe valves with orifice sizes less than 1.75 or more than 2.0 inches. Will representative samples of these three-inch and four-inch globe valves be tested at full differential pressure?

ANPP RESPONSE

ANPP plans to MOVATS static test all motor-operated valves which are within the scope of NRC IE Bulletin 85-03. Table I is a listing of each motor-operated valve according to valve group. A valve group is defined by the valve type, valve size, motor-operator size, gear ratio and voltage.

A differential pressure test is expected to be performed for a representative sample of each valve group regardless of whether the valve group is included in the MOVATS data base.

TABLE I

PVNGS IEB 85-03 VALVE GROUPS

Borg-Warner Globe		Borg-Warner Gate		
2"	3"	3"	4"	20"
SIBUV-616	SICHV-321	SIAHV-604	SIABV-698	CHBHV-530
SIAUV-617	SIDHV-331	SIBHV-609	SIBHV-699	CHAHV-531
SIBUV-626				
SIAUV-627				
SIBUV-636				
SIAUV-637				
SIBUV-646				
SIAUV-647				
SIAUV-666				
SIBUV-667				

ANCH-DAR	GIMPEL	CCI	POSI-SEAL
Gate 6"	Globe 4"	Globe 4"	Butterfly 24 "
AFAUV-034	AFAHV-054	AFBHV-030	SIAUV-673
AFBUV-035		AFBHV-031	SIAUV-674
AFCUV-036		AFAHV-032	SIBUV-675
AFDUV-037		AFCHV-023	SIBUV-676
SGAUV-134			
SGAUV-138			

NRC QUESTION

3. Please explain why the following MOVs in the AFW system are not included in the tables of the response of 06-30-86.

   (a) HV-1 and HV-4 are shown normally closed in a suction line from the CST to one of the motor-driven pumps, in Zone E-3 of Drawing 13-M-CTP-001, Rev. 14.

   (b) HV-1142 and HV-1143 are shown in parallel in a line bypassing discharge of one of the motor-driven pumps to Steam Generator 1, in zones G-14 and F-14 of Drawing 13-M-SGP-002, Rev. 17.

   (c) HV-1144 and HV-1145 are shown in parallel in a crossover line between discharge lines of the motor-driven pumps, in Zone C-14 of Drawing 13-M-SGP-002, Rev. 17.

ANPP RESPONSE

HV-1 and HV-4 are associated with the suction to the non-safety related AFW pump. HV-1142, HV-1143, HV-1144 and HV-1145 are primarily associated with the main feedwater system, but are also used for operation with the non-safety related auxiliary feedwater pump. All valves cited are independent from the safety related AFW system.

The non-safety related AFW pump is used during startup, maintaining hot standby and during normal shutdown until the shutdown cooling system is activated. However, the design basis (i.e., FSAR safety analysis) does not include the non-safety related AFW pump for mitigation of events.

Therefore, the motor-operated valves cited above do not fall within the requirements of Item a in NRC IE Bulletin 85-03 and are not included in the tables of Reference (A) since they are associated with the non-safety related AFW pump.

NRC QUESTION

4. Please expand the proposed program for action items b, c and of the bulletin to include a commitment to a training program for setting switches, maintaining valve operators, using signature testing equipment and interpreting signatures.

ANPP RESPONSE

ANPP is presently developing a program to ensure the motor-operated valves within the scope of IE Bulletin 85-03 are properly maintained throughout plant life. Correct engineering, training, trending/root-cause analysis, preventative/corrective maintenance and post-maintenance evaluations are areas which are being considered for inclusion in ANPP's Valve Motor Operator Monitoring and Test Program. The program is currently a draft proposal which will formalize ANPP's position. Therefore, ANPP is not prepared to provide any commitments related to training until we have completed a comprehensive review and evaluation of our draft program.

ANPP will provide our final program with the information required to be reported by IE Bulletin 85-03 in accordance with our previous commitments outlined in References (A), (C) and (D).