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VPNPD-87-187
NRC-87-48

May 5, 1987

U. S. Nuclear Regulatory Commission
Document Control Desk
Washington, D.C. 20555

Gentlemen:

DOCKETS 50-266 AND 50-301
RESPONSE TO REQUEST FOR ADDITIONAL INFORMATION
IE BULLETIN 85-03, MOV SWITCH SETTINGS
POINT BEACH NUCLEAR PLANT, UNITS 1 AND 2

Your letter of April 3, 1987 requested additional information regarding our responses to IE Bulletin 85-03, "Motor-Operated Valve Common Mode Failure During Plant Transients Due To Improper Switch Settings." The attachment to this letter provides responses to the questions as listed in your April 3rd letter. The responses explain the reasoning used in specifying the scope of our IE Bulletin 85-03 program, as well as providing additional clarifications on some other items.

Please note that we have added some of the valves requested in your April 3rd letter to our IE Bulletin 85-03 Program for completeness. These valves are in addition to the valves included in our Inservice Testing Program for Pumps and Valves, as required by the bulletin as a valve selection criteria. We will complete our final report as outlined by Action Item F of the bulletin by June 30, 1988. This date is beyond your deadline of January 15, 1988, but is required in order to include the new valves and complete the required testing

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during scheduled outages. Please notify us if this schedule is not acceptable. These matters were discussed with Richard J. Kiessel of your staff on April 20 and 23, 1987.

Very truly yours,

C. W. Fay

C. W. Fay
Vice President
Nuclear Power

Attachment

Copies to NRC Regional Administrator, Region III
NRC Resident Inspector

Subscribed and sworn to before me
this 5th day of May, 1987

NOTARY PUBLIC
LOIS J.
HUBERT
STATE OF WISCONSIN

Lois J Hubert
Notary Public, State of Wisconsin

My Commission expires January 6, 1991

May 4, 1987

ATTACHMENT

RESPONSE TO THE REQUEST FOR ADDITIONAL INFORMATION
REGARDING IE BULLETIN 85-03
POINT BEACH NUCLEAR PLANT, UNITS 1 AND 2

This attachment provides responses to your request for additional information (RAI) dated April 3, 1987, regarding IE Bulletin 85-03. The specific responses below are organized and numbered in the same manner as the RAI. It is intended to provide the additional reasoning that supports our position on the bulletin, or clarify information previously presented. We believe that the technical bases behind our IE Bulletin 85-03 program are sound, and meet the intent of the bulletin.

1. In answer to your general question, the affected valves are initially aligned according to operations system checklists and startup procedures. During normal operation, the valve positions are verified from the control room once per shift (every eight hours) via operations procedures for shift turnover. This procedure requires sign-off for valve position indication, as well as review by the offgoing and oncoming Control Operators, Operating Supervisors, and Shift Superintendents. This provides assurance that all valves listed are aligned as necessary, and cannot be left out of position inadvertently for more than one shift.

   In your RAI, the following statement was made:

   > "In accordance with the assumption of inadvertent equipment operations as required by Action Item a. of the bulletin, revise Table 1 of the response to include these valves, or state that they are locked in position and power is removed from the motor."

   Our responses to the bulletin was based on an understanding that action Item a. of the bulletin requires consideration of "single equipment failures and inadvertent equipment operation" for the determination of maximum differential pressures only, not for the determination of which valves are to be included in the program. The paragraph preceding Action Item a. in the bulletin provides scoping guidance to determine which valves should be included in the program. It states:

   > "For motor-operated valves in the high pressure coolant injection/core spray and emergency feedwater systems (RCIC for BWRs) that are required to be tested for operational readiness in accordance with 10CFR50.55a(g), develop and implement a program to ensure that valve operator switches are selected, set, and maintained properly."

   For Point Beach, the requirements of 10CFR50.55a(g) are implemented via the Inservice Testing (IST) program for Pumps and Valves which was reviewed by the NRC and is currently documented by a draft Safety Evaluation Report (SER) and Technical Evaluation Report (transmitted to us in a January 16, 1987 letter). THE IST program excludes all of the valves noted in your RAI and provides justification for their

exclusion. The exclusions are due to the passive nature of the valves (i.e. they are not required to change position to perform their safety functions). The list of valves given in Table 1 of our previous submittal is consistent with the IST program for Pumps and Valves required by 10CFR50.55a(g), and we believe meets the scope requirements of IE Bulletin 85-03.

However, since the valves noted in Items 1 and 4 of your RAI are not locked in position with power removed, we will add them to Table 1 for completeness with respect to the high head SI and AFW systems (see revised Table 1). In addition, we are adding valves 1 & 2MOV-896A & B (SI pump suction isolation), which fall in the same category as the valves noted in Item 1 of your RAI. Please note that these additions do not fall under our IST program for pumps and valves as they are passive components.

2. The statement from our response of July 3, 1986 which is quoted in your RAI refers to the scope of the valves to be included in our program, not to the determination of the maximum differential pressure (dP) applicable to those valves. Item 1. of this attachment discusses the scope of this program with respect to which valves need be included. Maximum dP's were determined in accordance with Action Item a. of the bulletin, and also follow the guidelines in section III.F of the Westinghouse Owners Group (WOG) Safety Related MOV Report dated March 1986. The maximum dPs were determined based on worst case conditions, using maximum sources of pressure for one side of a valve (e.g., pump shutoff head, RCS relief valve setpoint, tank hydrostatic pressure, etc.) and minimum conditions on the other side (e.g., nominally 0 psig for RCS, steam generator, etc.). The dPs given in Table 1. of our July 3, 1986 response are the worst case maximum values achievable for these valves, which we believe meets the intent of the bulletin.

3. Point Beach has lower head safety injection pumps as compared to some other Westinghouse two-loop plants (about 50% lower). The dP values for MOVs 878A and 878C are based on the shutoff head of our safety injection pumps (3520 ft), plus the shutoff head of our residual heat removal pumps (335 ft) assuming "piggyback" operation (which occurs only for ECCS recirculation), giving a total maximum head of 3855 ft. Using a conversion factor of 2.31 ft/psig yields an upstream pressure of 1668.83 psig. Assuming a completely depressurized RCS yields a maximum dP of 1670 psi. Note that this is different from our previous submittal [1617 psig] due to a correction in the calculation.

4. MOV's 4000 and 4001 are initially positioned to provide 200 gpm per steam generator and remain throttled in that position during normal operations. The motor operator can be controlled from the control room, but is not required to cycle to perform its safety function. As discussed in Item 1 of this attachment, these valves are considered passive and are excluded from the IST program and were, therefore, not included in our initial bulletin response. Their positions are verified every eight hours, and thus are not likely to be left closed inadvertently.

However, as stated in Item 1, we will add these valves to the program for completeness with respect to the AFW system.

5. Valves 841A, B are normally open with power removed by administratively red tagging and locking the associated breakers. Due to their passive nature, they are not in our IST program, but have their position verified every eight hours (see Item 1). Therefore, we believe there is no reason to include these valves in our response to IEB 85-03. This is also consistent with Section III.A.1 of the WOG Report.

6. Water hammer due to valve closure is not considered to be a problem with respect to determining differential pressures for torque switch settings. The pump discharge valves for the AFW and SI systems at Point Beach all have two downstream check valves in series. Any pressure waves that may be generated by closure of these valves would not reflect back through the check valves. In addition, the fastest valve closure time of any valve in the IE Bulletin 85-03 program is ten seconds. Based on this closure time and the length of piping involved, this type of water hammer is not likely to be induced. Thus we did not include water hammer effects in our maximum differential pressure calculations.

7. The final report for our IE Bulletin 85-03 program as outlined by Action Item f of the bulletin will be completed by June 30, 1988. We realize that this date is beyond your deadline of January 15, 1988, but believe that it is justified based on the addition of several valves to our IE Bulletin 85-03 program in accordance with your April 3, 1987 letter, and the time constraint imposed in meeting the testing requirements during scheduled outages. As discussed with Richard J. Kiessel of your staff, differential pressure testing and switch setting verification of the valves in our original submittal will be completed by December 31, 1987.

TABLE 1

IE Bulletin 85-03, Items a Results
Point Beach Nuclear Plant, Units 1 & 2

Valve Tag No.*	Design Basis Operation	Maximum dP (PSIG)	Design dP (PSIG)
1-4020; 1-4021; 1-4022; 1-4023	Must be able to close to isolate auxiliary feedwater flow from the motor-driven auxiliary feedwater pumps to the steam generators of the unaffected unit. This ensures full auxiliary feedwater flow to the affected unit.	1305	1560
1, 2-2019; 1, 2-2020	Must open to admit steam to the turbine-driven auxiliary feedwater pump.	1085*	1085
1, 2-825A; 1, 2-825B	Opens to provide suction to the high head safety injection pumps from the refueling water storage tank.	30	150
1, 2-826B; 1, 2-826C	Opens to provide suction to the high head safety injection pumps from the boric acid tank.	12	200
1, 2-878A; 1, 2-878C	To be opened at the operators discretion if high head core deluge is deemed beneficial. This function is not considered safety related.	1670	2485
1, 2-4006; 1--4009; 1-4016	Opens to provide service water to the suction of the auxiliary feedwater pumps.	76	150

*These valves are of the globe, stop-check type that only open on differential pressure, and do not use the motor operator to lift the plug off of the seat. The motor operator is only used to close the valve, or hold it in a closed position. Therefore, the differential pressure will not affect the stem thrust for the opening (safety-related) direction.

TABLE 1 (continued)

IE Bulletin 85-03, Items a Results
Point Beach Nuclear Plant, Units 1 & 2

Valve Tag No.*	Design Basis Operation	Maximum dP (PSIG)	Design dP (PSIG)
1, 2-826A	Normally open. Must remain open to supply suction to the high head safety injection pumps from the refueling water storage tanks.	12	200
1, 2-878B 1, 2-878D	Normally open. Must remain open to allow high head safety injection to the RCS cold legs.	1670	2485
1, 2-866A 1, 2-866B	Normally open. Must remain open to allow high head safety injection to the RCS.	1670	1745**
1, 2-896A 1, 2-896B	Normally open. Must remain open to allow suction to the high head safety injection pumps.	30	150
1, 2-4000 1, 2-4001	Normally throttled to 200 gpm position. Must remain in this position to allow 200 gpm flow to each steam generator from auxiliary feedwater pumps.	1340	1560

*These valves are normally in their safety related position and are not required to change position to perform their safety functions (i.e. they are passive valves). They are not part of the Point Beach Nuclear Plant Inservice Testing Program For Pumps and Valves.

**The design pressure of this portion of the SI system was upgraded from 1500 psig to 1745 psi in 1976. As part of the IE Bulletin 85-03 program, it will be verified that the valve can operate at the 1745 psi design pressure. Currently the valve is considered passive, and is not required to change position to perform its safety function. Note also that the maximum dP noted is based on recirculation operation (i.e. low head SI pumps "piggyback" on high head SI pumps). Normally injection mode would yield a maximum dP of 1524 psi.