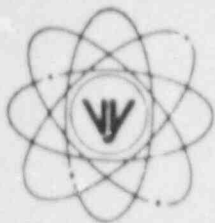


VERMONT YANKEE NUCLEAR POWER CORPORATION

FVY 88-34



RD 5, Box 169, Ferry Road, Brattleboro, VT 05301

May 5, 1988

REPLY TO
ENGINEERING OFFICE
1671 WORCESTER ROAD
FRAMINGHAM, MASSACHUSETTS 01701
TELEPHONE 617-872-8100

United States Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, DC 20555

- References:
- (a) License No. DPR-28 (Docket No. 50-271)
 - (b) Letter, USNRC to All Holders of Nuclear Power Reactor Operating Licenses (OLs) or Construction Permits (CPs) for Action, NVY 85-250, dated November 15, 1985 (IE Bulletin 85-03)
 - (c) Letter, VYNPC to USNRC, FVY 86-45, dated May 14, 1986
 - (d) Memorandum, G. Grant (USNRC) to J. Pelletier (VYNPS), NVY 88-046, "Request for Additional Information Concerning Vermont Yankee Response to IEB 85-03," dated March 30, 1988

Subject: Vermont Yankee Response to NRC Request for Additional Information - IEB 85-03

Dear Sir:

By memorandum dated March 30, 1988 [Reference (d)], USNRC requested additional information to supplement Vermont Yankee's May 14, 1986 [Reference (c)] response to USNRC Bulletin 85-03, "Motor-Operated Valve Common Mode Failures During Plant Transients due to Improper Switch Settings [Reference (b)]." Subsequent to discussions with NRC staff (the NRR Technical Contact for Bulletin 85-03 and the Resident Inspector at Vermont Yankee) which clarified that Vermont Yankee's original response was complete and not deficient, Vermont Yankee herewith responds to the subject request in Attachment 1 to this letter in accordance with the agreed scope and schedule.

We trust that this supplemental submittal is responsive; however, should you have any questions or require additional information, please contact this office.

Very truly yours,

VERMONT YANKEE NUCLEAR POWER CORPORATION

R. W. Capstick
R. W. Capstick
Licensing Engineer

RWC/25.565
Attachment

cc: USNRC, Region I, Regional Administrator
USNRC, Resident Inspector - VYNPS, G. Grant
USNRC, NRR Project Manager - VYNPS, V. Rooney
USNRC, NRR Technical Contact - Bulletin 85-03, J. Kiessel

8805110177 880505
PDR ADOCK 05000271
Q DCD

IEB
11

ATTACHMENT 1

Vermont Yankee Response
to
NRC Request for Additional Information IE Bulletin 85-03

Question No. 1

If MOVATS is planned for application to some MOVs which are not included in its data base, commit to and describe an alternate method for determining the extra thrust necessary to overcome the pressure differentials for these valves.

Vermont Yankee Response

In our May 14, 1986 letter [Reference (c)], it was noted that testing using normal operating differential pressures was being considered in lieu of full design differential pressure testing. It is Vermont Yankee's current intention to perform testing on several representative MOVs at normal operating differential pressure and to extrapolate this test data to verify that the calculated design thrust values and related torque switch settings for all valves included in the scope of IE Bulletin 85-03 are appropriate. This test program will utilize MOVATS test equipment but will not rely upon the MOVATS data base. Engineering data and calculations specific to the valves to be tested at Vermont Yankee are in development.

The MOV Test Program is currently under development to support differential testing of select valves prior to the next refueling outage scheduled for February 1989. Vermont Yankee will submit the results of our test program including the extrapolation methods used to verify appropriate torque switch settings in our final response which is scheduled for 60 days after the restart from our 1989 refueling outage.

Question No. 2

Revise Table 1 of the response dated May 14, 1986 to indicate whether the tabulated differential pressures apply to opening the valve, closing the valve, or both opening and closing the valve.

Vermont Yankee Response

Table 1 reflects the design differential pressure for each valve and is, therefore, applicable for both opening and closing. These design values were originally specified for the valve travel direction required to perform the safety (accident) function, and are currently being used for both travel directions. As stated in Reference (c), Vermont Yankee is performing calculations for each valve to document the normal, abnormal, and accident differential pressures that could be applied to the valve. The final submittal will provide a summary of the differential pressure calculations that address all scenarios and will verify that the design differential pressure values envelope the maximum differential pressures that could be developed under any normal, abnormal (including inadvertent mispositioning), and accident conditions.

ATTACHMENT 1

Vermont Yankee Response
to
NRC Request for Additional Information IE Bulletin 85-03
(Continued)

Question No. 3

Noting per Item 2 above that separate values of differential pressure for opening are not specified clearly, assume inadvertent operations of the following MOVs. This assumption is required by Action Item (a) of the bulletin and is mentioned in the second paragraph of the response dated May 14, 1986.

- (a) HPCI MOV V-17 is shown normally open in Zone D-11 of Drawing G-191169, Sheet 1, Revision 23, and as MO 3 on Page 68 of BWROG Report NEDC-31322, dated September 1986. How would suction from the CST be ensured if this MOV were to be (a) actuated inadvertently to the closed position upon intended initiation of the system or (b) left closed inadvertently?
- (b) HPCI MOV V-20 is shown normally open in Zone H-7 of Drawing G-191169, Sheet 1, Revision 23, and as MOV 8 on Page 68 of the BWROG Report. How would discharge to the reactor vessel be ensured if this MOV were to be (a) actuated inadvertently to the closed position upon intended initiation of the system or (b) left closed inadvertently?
- (c) RCIC MOV V-18 is shown normally open in Zone E-14 of Drawing G-191174, Sheet 1, Revision 18, and as MOV 3 on Page 72 of the BWROG Report. The question in Item 3(a) above applies here also.
- (d) RCIC MOV V-20 is shown normally open in Zone G-10 of Drawing G-191174, Sheet 1, Revision 18, and as MOV 8 on Page 72 of the BWROG Report. The question in Item 3(b) above applies here also.
- (e) RCIC MOV V-1 is shown normally open in Zone E-14 of Drawing G-191174, Sheet 2, Revision 13, and as trip and throttle MOV X on Page 74 of the BWROG Report. How would steam supply to the RCIC turbine be ensured if this valve were to be (a) actuated inadvertently to the closed position upon intended initiation of the system or (b) left closed inadvertently?

Vermont Yankee Response

As stated in Reference (c) and our response to Question No. 2 above, Vermont Yankee is performing calculations for each valve to document the normal, abnormal, and accident differentials that could be applied to the valve. The final submittal will provide the differential pressure that encompasses all scenarios. Scenarios involving inadvertent valve repositioning before or during the accident are included. Therefore, valve thrust and torque switch setting values used by Vermont Yankee will account for inadvertent operations of all MOVs within the scope of IE Bulletin 85-03 including the five valves noted herein.

ATTACHMENT 1

Vermont Yankee Response
to
NRC Request for Additional Information, IE Bulletin 85-03
(Continued)

Question No. 4

The proposed program for Action Items (b), (c), and (d) of the bulletin is incomplete. Provide the following details as a minimum:

- (a) Commitment to a training program for setting switches, maintaining valve operators, using signature testing equipment, and interpreting signatures.
- (b) Commitment to justify continued operation of a valve determined to be inoperable.
- (c) Description of a method possibly needed to extrapolate valve stem thrust determined by testing at less than maximum differential pressure.
- (d) Justification of a possible alternative to testing at maximum differential pressure at the plant.
- (e) Consideration of pipe break conditions as required by the bulletin.

Vermont Yankee Response

- (a) Vermont Yankee currently has an approved training program for maintenance personnel. Procedures are in place which are used in the maintenance of motor-operated valves. Training in the proper use of the procedures is part of the program. Procedures are being developed for use by site personnel in the proper function and data interpretation of the MOVATS equipment. Technical advice and assistance is provided by MOVATS technicians in the interim.
- (b) Vermont Yankee intends to follow existing Technical Specifications if, during testing, a valve is determined to be inoperable (i.e., unable to perform its required design function for design basis accidents).
- (c) As stated in our response to Question No. 1 above, Vermont Yankee will submit the results of our test program including the extrapolation methods used to verify appropriate torque switch settings in our final response which is scheduled for 60 days after the restart from our 1989 refueling outage.
- (d) The Vermont Yankee test program currently being developed includes in plant testing at normal operational pressures of select valves. The final submittal after implementation of the testing program will provide an engineering evaluation of, and justification for, the use of Vermont Yankee's test program with extrapolation methods in lieu of maximum differential pressure testing which is not feasible to perform on valves installed in operating plant systems.

ATTACHMENT 1

Vermont Yankee Response
to
NRC Request for Additional Information IE Bulletin 85-03
(Continued)

- (e) Vermont Yankee's calculations to determine maximum possible differential pressure will consider the differential pressure from design basis high energy line breaks. Specifically, HPCI and RCIC steam line break accidents will be considered for the steam line isolation valves that are relied upon to isolate the postulated break. The final submittal will provide a summary of these calculations.