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Writer's Direct Dial Number

May 13, 1980  
TLL 220

Division of Operating Reactor  
Attn: R. W. Reid, Chief  
Operating Reactors Branch No. 4  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Dear Sir:

Three Mile Island Nuclear Station Unit I, (TMI-I)  
Operating License No. DPR-50  
Docket No. 50-289  
10 CFR 50 Appendix J

Enclosed please find the response to your letter of April 14, 1980, concerning additional information as to the requirements of 10 CFR 50 Appendix J as applied to TMI-I.

Sincerely,

A handwritten signature in cursive script, appearing to read "J. G. Herbein".

J. G. Herbein  
Vice President  
TMI-I

JGH:LWH:jacp

cc: J. T. Collins

Enclosure

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Question:

1. It is not apparent when considering a single active failure, why you have identified certain valves as not requiring the Type C testing in accordance with 10 CFR 50 Appendix J. Specifically, additional justification is required for not performing the Type C testing for the following valves.

MU-V16A, B, C, D	BS-V30A, B	NS-V53A, B, C	CF-V12A, B
MU-V107A, B, C, D	RR-V3A, B, C	DH-V6A, B	DH-V63, V64
DH-V2, V3	RR-V4A, B, C, D	BS-V37A, B, C, D	
DH-V4A, B	CA-V192	BS-V1A, B	
DH-V22A, B	NS-V52A, B, C	MU-V116	

Response:

Insofar as 10 CFR 50 Appendix J Type C leak rate testing is concerned, the valves listed above do not require such testing based on the following reasons:

- a.) All of the valves remain open under accident conditions, except for CF-V12A/B, MU-V116, DH-V2, DH-V3, DH-V69 (replaces DH-V63 as containment isolation valve due to system design change), DH-V64 and CA-V192. Of the exceptions, Met-Ed has performed Type C tests on CF-V12A/B, MU-V116, DH-V64, and DH-V69 each refueling interval since commercial operation began. See paragraph C below for discussion of CA-V192, DH-V2, & DH-V3 testing.
- b.) 10 CFR 50 Appendix J does not require consideration of a single active failure. Therefore, it should not be applied as a criterion for testing these valves.
- c.) If a single active failure of systems is considered the following justifications apply:

- 1) MU-V16A, B, C, D  
MU-V107A, B, C, D

Under accident conditions, the High Pressure Injection lines would be filled up with water and the valves would be open. Referring to the figure in the response to Question 36b, Supplement 1, Part I of the Restart Report, it is obvious that all the lines are cross-connected so that even if one make-up pump fails, there would be water flowing through all lines into the reactor containment. Therefore, Reactor Building accident pressure is blocked by the integrity of the Seismic I High Pressure Injection piping and/or the fluid pressure of the operating High Pressure Injection pump.

2) DH-V2, DH-V3

Valves DH-V1, DH-V2, DH-V3, and DH-V12A/B are all normally closed during operation. Following an accident, if these valves were opened or is air leakage through these valves occurred the leakage would be effectively blocked by the water filled suction piping between the BWST and the Reactor Building sump, and it would be picked up by the operating Decay Heat pump and/or Reactor Building Spray Pump and returned to the containment.

3) DH-V4A/B  
DH-V22A/B

The two lines containing these valves are normally open during accident conditions and would be cross-connected by the operator in the event of a core flood line break accident. This would result in flow of water through those valves into the containment. For other accidents where the single active failure is the failure of a Decay Heat Pump to start, air leakage would be effectively blocked by the water filled Decay Heat Piping maintained full by the BWST and/or the Reactor Building Sump.

4) DH-V6A,B

There would be water flowing through these valves continuously under accident conditions as these line are kept water filled by the BWST and/or Reactor Building Sump.

5) BS-V1A, B,  
BS-V30A, B

These valves would be open under accident conditions and water would be flowing into the containment through these valves to the Reactor Building spray nozzles. In addition, the lines to these valves remain water filled due to the head of water from the BWST. The water filled Decay Heat Suction piping would convey any air leakage to the operating Decay Heat Pump to returned to the Reactor Building.

6) BS-V37A, B, C, D

These valves are always open even under accident conditions. They will be closed briefly only during instrument testing or maintenance. Since these lines are an extension of the containment, there would be no leakage through these valves.

These lines are tested to containment accident pressure during the Type A Integrated Leak Rate Test.

7) RR-V3A, B, C  
RR-V4A, B, C

The system which these valves are part of is a closed system which is required to operate under accident conditions. There would be no path open to the containment atmosphere since, under any single failure conditions, water from the Reactor Building

Emergency Cooling River Water Pumps would fill these lines and the head of the RR Pumps is greater than post-accident containment pressure.

This 55 psig back pressure is maintained at the outlet of the cooling coils automatically by RR-V6 or by operator control of RR-V5.

- 8) NS-V52A, B, C  
NS-V53A, B, C

These valves are part of a closed system which is required to operate under accident conditions. There would be no path open to the containment atmosphere since, under any single failure conditions, water from the Nuclear Service Closed Cooling Pumps would fill these lines and the head of the NS Pumps is greater than post-accident containment pressure. The Nuclear Services Closed Cooling Water Surge Tank is also pressurized to maintain 55 psig minimum pressure in the Reactor Building Emergency Fan Motor cooling piping (inside containment).

- 9) CA-V192

This check valve is normally open and closes when CA-V189 receives an ES signal to close. If required to consider the single active failure of CA-V189 to close and the inoperability of the Seismic II reclaimed water system to maintain the normal 80 psig fluid pressure in this piping, then no justification would exist to exempt CA-V192 from Type "C" testing.

- 10) MU-V116  
CF-V12A, B  
DH-V69  
DH-V64

These valves are already included in the Type C testing program.

2. In regard to testing requirements at reduced pressure (Proposed Specification 4.4.1.1.3), you are requested to confirm the value of  $P_t$  as being 30.0 psig which corresponds to the  $L_t$  value of 0.077 given in the proposed specification.

We confirm that the reduced test pressure to be used for any future tests would indeed be 30 psig rather than 27.5 psig as stated on the Tech. Spec. Change Request. The pressure used during the preoperational integrated leak rate test was 30 psig. Proposed T.S. 4.4.1.1.3 should be corrected to specify 30 psig instead of 27.5 psig.

3. You are requested to confirm that all valves listed in the TS 4.4.1.2.1c are tested either by the fluid block system or by the Type C test procedures in accordance with 10 CFR 50 Appendix J.

All of the valves listed under TS 4.4.1.2.1c are tested by use of Type C test procedures.