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Mr. Richard P. Crouse
 Vice President, Nuclear
 Toledo Edison Company
 Edison Plaza-Stop 712
 300 Madison Avenue
 Toledo, Ohio 43652

Dear Mr. Crouse:

SUBJECT: STATUS OF GENERIC ITEM B-24 AND NUREG-0737 ITEM II.E.4.2

In our letter of November 29, 1978, we identified the generic concerns of purging and venting of containments and requested your response to these concerns. Our review of your response was interrupted by the TMI accident and its demand on staff resources. Consequently, an Interim Position on containment purging and venting was transmitted to you on October 23, 1979. You were requested to implement short-term corrective actions which were to remain in effect pending completion of our longer-term review of your response to our November 29, 1978 letter.

Over the past several months we and our contractors have been reviewing the responses to our November 1978 letter to close out our long-term review of this issue. The components of this review are as follows:

Conformance to Standard Review Plan Section 6.2.4 Revision 1 and Branch Technical Position CSB 6-4 Revision 1

These documents were provided as enclosures to our November 1978 letter.

Valve Operability

The Interim Position allowed blocking of the valves at partial-open positions, however, it is to be noted that this is strictly an interim position. Earlier we requested a program demonstrating operability of the valves in accordance with our "Guidelines for Demonstrating Operability of Purge and Vent Valves". These Guidelines were sent to you in our letter of September 27, 1979. There is an acceptable alternative which you may wish to consider in lieu of completing the valve qualification program for the large butterfly-type valves. This would be the installation of a fully-qualified mini-system using valves 8-inches or smaller to bypass the larger valves. Such an alternative system might prove more timely and cost-effective. The system would meet BTP CSB 6-4 Item B.1.c.

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Safety Actuation Signal Override

This involves the review of safety actuation signal circuits to ensure that overriding of one safety actuation signal does not also cause the bypass of any other safety actuation signal.

Containment Leakage Due to Seal Deterioration

Position B.4 of the BTP CSB 6-4 requires that provisions be made to test the availability of the isolation function and the leakage rate of the isolation valves in the vent and purge lines, individually, during reactor operations. But CSB 6-4 does not explain when or how these tests are to be performed. Enclosure 1 is an amplification of Position B.4 concerning these tests.

The status of our long-term review of the above items for Davis-Besse Unit No. 1 is as follows:

1. Conformance to Standard Review Plan Section 6.2.4 Revision 1 and Branch Technical Position CSB 6-4 Revision 1

We have completed our review of this item. The results of our review are provided in the enclosed Safety Evaluation Report (Enclosure 2). We find that, except for two items, the purge system design and operating practices are acceptable.

We find that you have not provided sufficient information for us to conclude that debris will not be carried into the isolation valves by escaping air and steam following a LOCA. Because of the potential for such debris to prevent valve closure, we recommend that debris screens be provided for the supply and exhaust systems. Debris screens are not required if the isolation valves are sealed closed while the plant is in operating modes 1, 2, 3 or 4.

There have been numerous reports of unsatisfactory performance of resilient seats in butterfly isolation valves due to seal deterioration. Toledo Edison Company is requested to propose a Technical Specification change incorporating the test requirements of Enclosure 1.

Therefore, you are requested to provide the following no later than December 31, 1982:

- a) A commitment to install debris screens on the purge system supply and exhaust lines as discussed above and the schedule for their installation.
- b) Proposed Technical Specifications incorporating seal leakage test requirements along with the details of your test program.

We find that there is some misunderstanding by some licensees regarding the use of containment purge and vent valves. Therefore, we are providing a restatement of the salient features of the position as interpreted by the staff (Enclosure 3) to assist you in understanding this and subsequent correspondence on this item.

2. Valve Operability

Our letter of October 23, 1979 requested your commitment to operate the Davis-Besse facility in conformance with the NRC staff interim position (Enclosure 4). Your letter dated December 13, 1979 (No. 564) provided your response. Subsequently, by letter dated March 31, 1981, the NRC provided acceptance of your December 13, 1979 response and later related submittals.

Item 2a of the interim position specifies that the operability of large butterfly valves may be demonstrated on an interim basis by limiting valve opening to no more than 30° to 50° with the maximum opening to be determined in consultation with the valve manufacturer. Your December 13, 1979 letter committed to restricting valve opening to less than 65° in modes 1, 2, 3 and 4. The restrictions were to be installed during the refueling outage of Spring 1980. This commitment was reaffirmed by your letter dated January 18, 1980 (No. 577). The analytical justification was scheduled to be completed by about June 1980.

By letter dated March 25, 1982 (No. 801) Toledo Edison Company submitted an analysis by Henry Pratt Company. That analysis concluded that certain valve components are overstressed during a LOCA with the valve disc opened beyond 55°. In addition, torque on the actuator is excessive for openings greater than 55°.

We can find no record that Toledo Edison Company has committed to installation of blocks at 55°. In fact, Licensee Event Report 82-039 transmitted by Toledo Edison letter dated September 16, 1982 indicates that these blocks are not installed. If this is true then Davis-Besse is not being operated in conformance with the interim position or with position 3 of Enclosure 3 to this letter. Furthermore, it is likely that these valves should be declared "inoperable", therefore the action requirements of Technical Specification 3.6.3.1 should apply.

You are requested to provide the following no later than December 31, 1982:

- a) Confirmation that the purge isolation valves are prevented from opening beyond 55° by positive mechanical stops, or
- b) A commitment to install such mechanical stops and a firm schedule for implementation, and
- c) A commitment to seal closed the purge isolation valves when the plant is in operational modes 1, 2, 3 or 4 until the stops are installed. The isolation valves must be verified sealed closed at least every 31 days.

Sealed closed isolation valves shall be under administrative control to assure that they cannot be inadvertently opened. Administrative control includes mechanical devices to seal or lock the valve closed or to prevent power from being supplied to the valve operator. Key locked switches in the control room are also acceptable administrative control devices.

The staff has not yet completed its review of the Henry Pratt Company analysis. The results of a review will be the subject of future communication, however, pending completion of our review, you are committed to meeting the requirements of the interim position.

3. Safety Actuation Signal Override

The staff has not yet completed its review of this item. The results of this review, therefore, will be the subject of future communication. Please note that a somewhat parallel review of engineered safety features reset was carried out in conjunction with I&E Bulletin 80-06.

4. Containment Leakage Due to Seal Deterioration

Please refer to Item 1(b) above.

Sincerely,

"ORIGINAL SIGNED BY:"

John F. Stolz, Chief
Operating Reactors Branch #4
Division of Licensing

cc:
See next page

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DATE	11/18/82: cab	12/2/82	12/2/82				

Toledo Edison Company

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PURGE/VENT VALVE LEAKAGE TESTS

The long term resolution of Generic Issue B-24, "Containment Purging During Normal Plant Operation," includes, in part, the implementation of Item B.4 of Branch Technical Position (BTP) CSB 6-4. Item B.4 specifies that provisions should be made for leakage rate testing of the (purge/vent system) isolation valves, individually, during reactor operation. Although Item B.4 does not address the testing frequency, Appendix J to 10 CFR Part 50 specifies a maximum test interval of 2 years.

As a result of the numerous reports on unsatisfactory performance of the resilient seats for the isolation valves in containment purge and vent lines (addressed in OIE Circular 77-11, dated September 6, 1977), Generic Issue B-20, "Containment Leakage Due to Seal Deterioration," was established to evaluate the matter and establish an appropriate testing frequency for the isolation valves. Excessive leakage past the resilient seats of isolation valves in purge/vent lines is typically caused by severe environmental conditions and/or wear due to frequent use. Consequently, the leakage test frequency for these valves should be keyed to the occurrence of severe environmental conditions and the use of the valves, rather than the current requirements of 10 CFR 50, Appendix J.

It is recommended that the following provision be added to the Technical Specifications for the leak testing of purge/vent line isolation valves:

"Leakage integrity tests shall be performed on the containment isolation valves with resilient material seals in (a) active purge/vent systems (i.e., those which may be operated during plant operating Modes 1 through 4) at least once every three months and (b) passive purge systems (i.e., those which must be administratively controlled closed during reactor operating Modes 1 through 4) at least once every six months."

By way of clarification, the above proposed surveillance specification is predicated on our expectation that a plant would have a need to go to cold shutdown several times a year. To cover the possibility that this may not occur, a maximum test interval of 6 months is specified. However, it is not our intent to require a plant to shutdown just to conduct the valve leakage integrity tests. If licensees anticipate long duration power operations with infrequent shutdown, then installation of a leak test connection that is accessible from outside containment may be appropriate. This will permit simultaneous testing of the redundant valves. It will not be possible to satisfy explicitly the guidance of Item B.4 of BTP CSB 6-4 (which states that valves should be tested individually), but at least some testing of the valves during reactor operation will be possible.

It is intended that the above proposed surveillance specification be applied to the active purge/vent lines, as well as passive purge lines: i.e., the purge lines that are administratively controlled closed during reactor operating modes 1-4. The reason for including the passive purge lines is that B-20 is concerned with the potential adverse effect of seasonal weather conditions on the integrity of the isolation valves. Consequently, passive purge lines must also be included in the surveillance program.

The purpose of the leakage integrity tests of the isolation valves in the containment purge and vent lines is to identify excessive degradation of the resilient seats for these valves. Therefore, they need not be conducted with the precision required for the Type C isolation valve tests in 10 CFR Part 50, Appendix J. These tests would be performed in addition to the quantitative Type C tests required by Appendix J and would not relieve the licensee of the responsibility to conform to the requirements of Appendix J. In view of the wide variety of valve types and seating materials, the acceptance criteria for such tests should be developed on a plant-specific basis.