CENTERIOR ENERGY

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Subject: Revision to Inspection Plan of Main Steam Safety Valves

Gentlemen:

The purpose of this letter is to advise the Nuclear Regulatory Commission (NRC) of Toledo Edison's (TE) inspection plan for the Main Steam Safety Valves (MSSVs) commencing with the upcoming seventh refueling outage.

In June 1986, the NRC issued NUREG-1177, which was the NRC staff's Safety Evaluation Report on the restart of Davis-Besse Nuclear Power Station following the loss of feedwater event of June 9, 1985. In Section 3.2.1.9 of NUREG-1177, the NRC requested that TE submit a plan for future refueling outage inspections of the main steam safety valves. The NRC issued a letter (Log Number 2062, dated August 28, 1986) identifying TE's Action Commitments resulting from NUREG-1177. Item 36 of Log 2062 documents the applicable commitment identified in Section 3.2.1.9 of NUREG-1177. Item 36 states:

> "Licensee to submit (sic) plan for inspection of MSSVs at each refueling outage within 90 days following restart (p 3-34)."

Toledo Edison submitted its plan for inspection of the MSSVs in a letter dated March 31, 1987 (Serial Number 1364). This plan consisted of a five (5) criteria approach for inspecting the MSSVs at each refueling outage. During the fifth and sixth refueling outages all the MSSVs were disassembled and inspected.

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In addition to the inspection plan, root cause analyses, extensive corrective actions, and modifications were performed to increase the reliability of the MSSVs at Davis-Besse. The modifications included material and design changes to certain valve components, setpoint changes, and installation of position monitoring instrumentation for selected MSSVs.

The success of the corrective actions has been demonstrated by the performance of the MSSVs during the sixth and seventh operating cycles. The valves operated satisfactorily during each of the five plant trips that occurred during these cycles. After each trip, the performance of the MSSVs was evaluated using linear variable differential transducer (LVDT) traces and/or by direct visual inspections. The recorded data and valve inspection results indicate that the MSSVs responded in the proper manner.

Based on the successful identification of the root causes for MSSV failures, corrective actions and modifications made, and demonstrated satisfactory performance of these valves, Toledo Edison is revising its inspection plan to be consistent with the requirements of the 1986 ASME Boiler and Pressure Vessel Code. This revised inspection plan is in accordance with 10CFR50.55a and Davis-Besse Technical Specification 4.0.5. The revised plan and frequencies will commence starting with the upcoming seventh refueling outage.

A more detailed discussion of the five (5) specific criteria of the former inspection plan and how they are impacted by the revised plan is contained in Attachment 1.

Should you have questions concerning this matter, please contact Mr. R. W. Schrauder, Manager - Nuclear Licensing, at (419) 249-2366.

Very truly yours,

DCS/KAF/ach

Attachment

cc: P. M. Byron, NRC Region III, DB-1 Senior Resident Inspector
A. B. Davis, Regional Administrator, NRC Region III
J. B. Hopkins, NRC/NRR DB-1 Senior Project Manager
Utility Radiological Safety Board

REVISED MSSV TESTING/INSPECTION PLAN

Commitments

1. With the plant in Mode 3 and steam pressure greater than 800 psig all the MSSVs will be inspected for visual and audible leakage. Any valve found to be leaking will be tested to verify setpoint. If the leakage persists the valve will be disassembled, inspected and repaired.

   Revision: All MSSVs which are scheduled for maintenance or set pressure adjustment, or both, shall be tested per the requirements of Section 7.3.2.1 of ANSI/ASME OM-1-1981.

   Justification: Per ANSI/ASME OM-1-1981 Section 1.3.3.1.2. all the MSSVs are required to be set pressure tested within a specific time interval (see paragraph 2 below). When a MSSV is scheduled to be pressure tested, or when maintenance on a MSSV is required, the tests specified in Section 7.3.2.1 shall be performed. Furthermore, Section 7.4.2.1 of this Standard requires those valves with identified leakage to be refurbished or replaced.

2. Setpoint will be verified on each of the 1050 psig setpoint valves and each of 1070 psig setpoint valves each refueling (eight valves total). The remaining MSSVs will be tested on an 10xN/60 (N-number of months since last refueling) frequency each refueling to assure the testing/inspection plan meets the minimum requirements of the Technical Specifications. Failures of the 1090 psig setpoint and 1100 psig setpoint valves will require additional valves to be tested. Failures of the 1050 psig and 1070 psig setpoint valves will not require the testing of additional valves.

   Revision: All MSSVs shall be tested within a 5 year period with a minimum of 20% of the valves tested within any 24 months. This 20% shall be previously untested valves, if they exist.

   Justification: The Commission issued Amendment No. 117 to Facility Operating License No. NPF-3 for the Davis-Besse Nuclear Power Station, Unit No. 1 on August 24, 1988 to change the MSSV setpoints. Each of the two main steam headers include nine MSSVs. Seven MSSVs on each header have setpoints of 1100 psig. The remaining two MSSVs on each header have setpoints of 1050 psig. With the improvements in the MSSVs at Davis-Besse and with the revised setpoints, a revision to this commitment is justified. The commitment should be revised as stated above to comply with Section 1.3.3.1.2 of ANSI/ASME OM-1-1981.

3. Valves with setpoints that are within 3% of desired setpoint and adjustable will be adjusted to 1% of desired setpoint.

Revision: Delete this commitment.

Justification: Davis-Besse Technical Specification 3.7.1.1, Turbine, Cycle, requires the MSSVs to be within 1% of desired setpoint. This commitment is redundant to the Technical Specification and should therefore be deleted.

4. Valves with setpoints that are outside 3% of desired setpoint will be inspected to find potential causes for the setpoint change. (Note inspection may include disassembly and internals inspection.)

Revision: Any valve exceeding its stamped set pressure by 3% or greater shall be repaired or replaced, the cause of failure determined and corrected, and shall successfully pass a retest before that valve is returned to service.

Justification: This commitment should be revised as stated above to be consistent with ANSI/ASME OM-1-1981 Section 1.3.3.1.5.b.

5. Valves with leakage that persist through the testing will be inspected to determine the cause of the leakage.

Revision: Valves with leakage that persist through the testing will be subject to the requirements of Sections 7.3.2.1 and 7.4.2.1.1 of ANSI/ASME OM-1-1981.

Justification: The requirements for testing, inspecting, and refurbishing the MSSVs that are specified in Sections 7.3.2.1 and 7.4.2.1.1 of ANSI/ASME OM-1-1981 are more stringent than the current commitment.