

February 6, 2003

Ms. Deborah Davenport
Concerned Mothers and Women
Against TMI
18 South 17th Street
Camp Hill, PA 17011

Dear Ms. Davenport:

I am responding to your telefax dated January 21, 2003, wherein you asked several questions concerning the unidentified reactor coolant system (RCS) leakage at Three Mile Island Nuclear Station, Unit 1 (TMI-1). You asked:

1. What are the current leak rate limits for the primary system? I understand there may have been some changes in the parameters/Tech. Specs. [Technical Specifications] for TMI-1 and I wanted to know the forementioned current regs [regulations]. In addition, what are the leak rate limits on various components in the primary system such as gaskets, seals, flanges, etc.?
2. Are allowed leakag[e] limits from primary to secondary systems still the same, including the throughwall limits for the steam generator tubes?
3. The current unidentified ongoing leakage in TMI-1 was apparently found via mass balance comput[e]r calculations; was this part of the reactor coolant inventory tracking system? Can that tracking system be considered adequate as stands if it cannot identify the leakage?
4. If there is the possibility that the leakage is from the reactor vessel head due to cracking/corrosion are there limits on the leakage from that part of the system, would there be instrumentation to identify the same? What, as well, are the limits for overall unidentified leakage from one or multiple sites within the system?

You also expressed concern about the reactor coolant drain tank's detectors having been left off and/or unrepaired. You referred to this having been a problem that went on for several months before and during the TMI-2 accident. You asked if a penalty would be assessed regarding the 6/02 problem by which I assume you are referring to the fact that the unidentified leakage has been observed since June of 2002.

In response to your first question, the current Technical Specification (TS) leakage limits for TMI-1 apply to the RCS and the makeup and purification system and are 1 gallon per minute (gpm) unidentified leakage and 10 gpm total leakage (unidentified leakage plus identified leakage). There is no allowable leakage through a nonisolable fault in an RCS strength boundary such as the reactor vessel, piping, valve bodies, etc., except for a small allowance through the steam generator tubes. Various other components, such as gaskets, seals, and

flanges are subject to the 1 gpm unidentified leakage limit and the 10 gpm identified leakage limit previously stated.

In response to your second question, I am not sure of your frame of reference regarding the question of sameness with respect to the primary-to-secondary systems' leakage limits, but I can assure you that they have remained the same since late 1991. There is a TS limit for primary-to-secondary leakage of 1 gpm total for both steam generators. In addition, license condition 2.c.(8) further restricts the primary-to-secondary leakage to 0.1 gpm above the baseline leakage, after which the unit shall be shutdown, leak tested and a new baseline established after leaking tubes have been removed from service. The current TMI-1 primary-to-secondary baseline leakage is approximately zero.

In response to your third question, I believe you are referring to the reactor coolant inventory trending system (RCITS). The mass balance computer calculations are not part of RCITS. RCITS provides indication of the trend in water inventory in the hot legs of the RCS and the reactor vessel if approaching inadequate core cooling (ICC). RCITS provides additional information to the operator to diagnose the approach of ICC and to assess the adequacy of responses taken to restore core cooling. The mass balance calculations typically used by pressurized-water reactor licensees are adequate to meet TS requirements.

In response to your fourth question, as stated previously, there is no allowable leakage through a nonisolable fault in an RCS strength boundary such as the reactor pressure vessel or the vessel head. While there is no specific instrumentation that would identify reactor vessel head leakage, the diverse leakage detection methods within the reactor building that would identify RCS leakage may help identify any reactor vessel head leakage. Regardless of whether the unidentified leakage were from one or multiple sites, the limit would remain at 1 gpm. Note that in response to a significant event at the Davis-Besse facility near Toledo, Ohio, where leakage on the reactor vessel head resulted in major corrosion, the Nuclear Regulatory Commission (NRC) has taken steps to ensure that reactor vessel heads are adequately inspected. These steps apply to TMI Unit 1.

With respect to your concerns regarding the reactor coolant drain tank's detectors having been left off and/or unrepaired, this issue was addressed most recently in the NRC's Inspection Report, No. 50-289/02-06, dated November 7, 2002 (ADAMS accession number ML023110421). The licensee was issued a non-cited violation for failure to establish, implement and maintain written procedures for operating the radiation monitoring system. Using the significance determination process, the inspectors determined that the item was of very low safety significance, and the licensee wrote two separate condition reports to document and track its corrective actions.

Ms. Davenport

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I hope this information has been responsive to your questions. If you have any additional questions, please contact the TMI-1 Project Manager, Mr. Timothy G. Colburn, at 301-415-1402.

Sincerely,

/RA/

Stuart A. Richards, Director
Project Directorate I
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

Docket No. 50-289

cc: see next page

Ms. Davenport

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I hope this information has been responsive to your questions. If you have any additional questions, please contact the TMI-1 Project Manager, Mr. Timothy G. Colburn, at 301-415-1402.

Sincerely,

/RA/

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