

January 16, 2003

MEMORANDUM TO: Richard J. Laufer, Chief, Section 1
Project Directorate I
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

FROM: Timothy G. Colburn, Senior Project Manager, Section 1 /RA/
Project Directorate I
Division of Licensing Project Management
Office of Nuclear Reactor Regulation

SUBJECT: REQUEST FOR ADDITIONAL INFORMATION FAXED TO THE
LICENSEE RE: TMI-1 REACTOR COOLANT SYSTEM (RCS)
UNIDENTIFIED LEAKAGE (TAC NO. MB7250)

The attached questions have been faxed to the licensee regarding the licensee's unidentified RCS leakage. The licensee has been investigating the cause of the leakage since it began increasing from essentially zero to approximately 0.1 gpm in the May-June 2002 time frame. These questions have been discussed with the licensee on January 14, 2003, and will further be discussed with the licensee on January 17, 2003.

Docket No. 50-289

Attachment: As stated

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M. O'Brien
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DATE	1/16/ 03	1/16/03

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QUESTIONS FOR UPCOMING PHONE CALL WITH TMI-1

REGARDING UNIDENTIFIED RCS LEAKAGE

1. Describe the recent and current plant conditions (including trends) associated with the observed increase in reactor coolant system (RCS) unidentified leakage.
2. Describe actions you have taken to determine the source of the increased RCS unidentified leakage and any actions you plan to take. Include any evidence of boron accumulation the Reactor Building ventilation system duct work, air handling units and building coolers in your discussion.
3. If the leakage rate increases, are there planned and proceduralized operator actions at certain leak rate levels that you would take? At what leakage level would you adopt a more aggressive investigative strategy?
4. What contingency plans/work plans do you have for additional inspections should the plant enter an unplanned outage or downpower? What would be the nature of these inspections? Have you had any opportunities (downpower or similar events) since June of last year to conduct walkdowns of the reactor building for leakage identification?
5. Discuss your assessment of the possible and probable causes of the measured level of RCS unidentified leakage. If the leakage is from a control rod drive mechanism (CRDM) or a mechanical joint in the vessel head area, what indications would be available to signal that the leak is structurally significant and could result in significant degradation of the head?
6. What confidence do you have that the leakage is not coming from a Reactor head penetration (upper or lower) given your past vessel head repairs and the limited ability to ultrasonically test (UT) inspect many of the vessel head penetrations?
7. Do the boric acid deposits from the leakage include iron, or iron oxide compounds that would indicate corrosion of iron? What does a measurement and accounting of boric acid deposits indicate?
8. Briefly summarize the scope of visual, surface, and volumetric inspections conducted during the last refueling outage, evaluations made of all indications detected, repairs made, and evaluations of flaws left in service.
9. Other than the CRDM nozzle repairs were there any design modifications to the RCS pressure boundary during the last refueling outage? For example, did TMI install modified CRDM vent closures or make any changes to the RV closure flange tensioning process?
10. Describe the historical leak tight performance of TMI-1 CRDM flanges, fasteners and gasket hardware. Describe also the historical performance of RC pump flanges and flange fasteners (studs).
11. Discuss your assessment of the potential for the leakage to cause boric acid corrosion of the RCS pressure boundary and your basis for concluding that the leakage being experienced is not causing degradation of the RCS pressure boundary that will lead to unacceptable conditions during the remainder of the current operating cycle.