January 18, 2001

MEMORANDUM TO:	Marsha Gamberoni, 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:	THREE MILE ISLAND NUCLEAR STATION, UNIT 1 (TMI-1) – REVISED UPDATED FINAL SAFETY ANALYSIS REPORT (UFSAR) STEAM GENERATOR TUBE FAILURE ACCIDENT ANALYSIS DOSE

CONSEQUENCE (TAC NO. MA9774)

The staff held a conference call with the TMI-1 licensee on December 20, 2000, to request some clarifying information relating to the licensee's August 9, 2000, application for license amendment requesting approval of a revised UFSAR steam generator tube failure accident analysis dose consequence. The licensee discovered that it had previously failed to include in its assumptions, a postulated post-accident release pathway through the main steam safety valves (MSSVs). The licensee's analysis determined that following a reactor trip and turbine trip, the MSSVs will lift for about 2 minutes. The dose from this release was not considered in the previous UFSAR accident analysis. The licensee's amendment request is for approval of the increased dose consequence resulting from the revised accident analysis.

The staff requested that the licensee provide information on the total amount of steam released through the MSSVs during this 2-minute period, and the iodine and noble gas concentrations in the main steam assumed by the licensee in its dose calculations. The licensee provided the attached e-mail with the requested information on December 22, 2000. The staff considered the licensee's information in performing its confirmatory calculations of the dose consequence during its review of the licensee's application. This memo documents the information received by the licensee.

Docket No. 50-289

Attachment: As stated

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FROM:	Timothy G. Colburn, Senior Project Manager, Section Project Directorate I Division of Licensing Project Management Office of Nuclear Reactor Regulation	on 1 <i>/RA/</i>
SUBJECT:	THREE MILE ISLAND NUCLEAR STATION, UNIT REVISED UPDATED FINAL SAFETY ANALYSIS R STEAM GENERATOR TUBE FAILURE ACCIDENT CONSEQUENCE (TAC NO. MA9774)	EPORT (UFSAR)

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NAME	TColburn	MO'Brien	MGamberoni	
DATE	01/17/ 01	01/18/01	01/18/01	

From:"David J Distel" <ddistel@amergenenergy.com>To:<tgc@nrc.gov>Date:Fri, Dec 22, 2000 2:50 PMSubject:OTSG Tube Rupture Questions

Tim - This responds to your verbal question from Jay Lee. ----- Forwarded by David J Distel/Pecon/Genco on 12/22/00 02:47 PM -----

> bparfitt@amergen energy.com To: ddistel@peco-energy.com cc: 12/22/00 02:36 Subject: OTSG Tube Rupture Questions PM

Dave - Here is the info you wanted.

For the time period the MSRV's are open, 5145 lbs of RCS is assumed to leak into the secondary and all the RCS is released via the relief valve. The activity in the RCS assumes operation with 1% failed fuel, and the specific activities are as follows (Table 14.2-4 of the FSAR):

(Embedded image moved to file: pic17756.pcx)

In addition, a maximum of 80,000 lbs of secondary steam could be released while the MSRV is open. Assuming the RCS concentrations above, and steady state operation with a 1 gpm primary-to-secondary leak, this secondary steam would have the following concentrations:

(Embedded image moved to file: pic10324.pcx)

The activity released in this steam is less than 0.2% of the activity in the RCS released, so it was ignored in the calculation.

Let me know if you have any questions.

Brad (See attached file: pic17756.pcx) (See attached file: pic10324.pcx)

Attachment

ISOTOPE	STEAM ACTIVITY (uCi/g)
KR-83M	4.58E-05
KR-85 M	2.10E-04
KR-85	8.42E-04
KR-87	1.11E-04
KR-88	3.41E-04
XE-131M	2.31E-04
XE-133M	3.64E-04
XE-133	3.38E-02
XE-135M	4.19E-05
XE-135	7.23E-04
XE-138	5.97E-05
I-131	5.31E-04
I-132	1.78E-04
I-133	5.64E-04
I-134	6.98E-05
I-135	2.86E-04

ISOTOPE	RCS ACTIVITY (uCi/g)
KR-83M KR-85M KR-85 KR-87 KR-88 XE-131M XE-133M XE-133 XE-135M XE-135 XE-138 I-131 I-132 I-133 I-134 I-135	5.30E-01 2.43E+00 9.75E+00 1.28E+00 2.68E+00 4.22E+00 3.92E+02 4.85E-01 8.37E+00 6.92E-01 5.71E+00 1.92E+00 6.07E+00 7.57E-01 3.08E+00