GPU Nuclear

GPU Nuclear Corporation
Post Office Box 480
Route 441 South
Middletown, Pennsylvania 17057-0191
717 944-7621
TELEX 84-2386
Writer's Direct Dial Number:

May 28, 1985
5211-85-2099

Office of Nuclear Reactor Regulation
Attn: J. F. Stolz, Chief
Operating Reactor Branch No. 4
Division of Licensing
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Dear Mr. Stolz:

Three Mile Island Nuclear Station Unit 1 (TMI-1)
Operating License No. DPR-50
Docket No. 50-289
Steam Generator Hot Testing Program

Amendment 103 to the TMI-1 Operating License includes a requirement that GPU Nuclear Corporation submit to NRC prior to initial criticality the results of the steam generator hot test program and a summary of its management review. GPUN letter 5211-85-2095, dated May 21, 1985 provided the results of the management review. This letter reports the results of the steam generator hot test program and completes our response to license condition 2.C.(8).1 in Amendment 103.

OTSG primary to secondary leakrate monitoring was conducted at TMI-1 during April, 1985 utilizing non-nuclear heat to bring and hold the plant at hot shutdown conditions. Approximately 19 curies of Krypton-85 were injected into the reactor coolant system in order to perform this monitoring. Several radiation monitors were used to measure the condenser off-gas activity during a thirty-two (32) hour period after the reactor coolant system had reached an equilibrium Kr-85 concentration of approximately 4.54 E-2 uCi/gm. The reactor coolant system was maintained at approximately 2155 psig and 532°F during this period.

The off-gas radiation monitors indicated an increase in activity, above background, after the krypton was injected into the reactor coolant. The increase in off-gas activity, due to the krypton, was only slightly above the background readings and indicated the OTSG P/S leakage to be very low. On-site analysis of off-gas samples resulted in activity values which were below the counting equipment's lower limit of detection. Several off-gas samples were sent to Teledyne Isotopes Corp. for analysis. Results obtained to date are consistent with the RM-A5L based results below.

A001
1/0

Evaluation of the collected data (RCS activity, off-gas flowrate and off-gas radiation readings using RM-A5L and RM-A13) results in an average of 0.3 to 0.4 GPH OTSG leakrate. The variability of the test data was evaluated as approximately 0.1-0.2 GPH.

Based on the average leakage of 0.3 to 0.4 and the variability of 0.1 to 0.2 GPH at steady state hot shutdown conditions, a leakrate of 0.5 GPH will be used as the baseline OTSG P/S leakrate when TMI-1 is returned to power operation. This value updates the leakrate provided in the GPUN letter of October 25, 1983.

Sincerely,

H. D. Hukill
Director, TMI-1

SK:dls:1798f

cc: R. Conte
Dr. T. Murley