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April 24, 1979

NOTE TO: L. Barrett, TMI/NRR Support
FROM: F. Miraglia, Jr., Coordinator, Team B

Per your request, attached is the calculated dose rate from the condensate polisher demineralizers at TMI-2. This information was prepared by F. Cardile, F. Akstulewicz, and R. Emch.

F. Miraglia, Jr.
Coordinator
Team B

Attachment:
As Stated

cc: see attached distribution list

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OFFICE	Team B					
SURNAME	F. Miraglia, Jr.					
DATE	04/24/79					

We were requested by E. Adensam/L. Barrett to calculate the dose rate from the condensate polisher demineralizers at TMI-2. (A similar request was made of F. Cardile, ETSB, by J. Collins.)

F. Cardile, F. Akstulewicz and R. Emch performed hand calculations of the dose rate from a condensate polisher demineralizer under the conditions described in the following paragraph. The calculated dose rates were 2-3 R/hr at contact on the side of the demineralizer and 300-500 mR/hr at one meter from the side of the demineralizer.

We were informed that the resin bed of the condensate polisher demineralizer is an upright cylinder ten feet in diameter and three feet high. We assumed that the walls of the demineralizer are iron, 1/2 inch thick. We were also informed that the demineralizers are not shielded with concrete walls. (FSAR drawings indicate that they will be shielded some day.) The source term was based on the following concentrations of radionuclides in the secondary coolant of isolated steam generator "B" (6.5×10^7 cc):

I-131	0.9 - 1.4 μ Ci/cc
Cs-134	8.6×10^{-3} μ Ci/cc
Cs-136	1.1×10^{-2} μ Ci/cc
Cs-137	3.4×10^{-2} μ Ci/cc.

We assumed that all of the radioactivity in the "B" secondary coolant was deposited in one condensate polisher demineralizer. The dose rates are heavily dominated by I-131 (>90%); however, over a period of a few weeks, the cesiums would begin to dominate the dose rate.

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