



50-520

UNITED STATES  
NUCLEAR REGULATORY COMMISSION  
WASHINGTON, D. C. 20555

April 20, 1979

NOTE TO: V. Stello, Jr., Director, TMI Operations  
FROM: F. J. Miraglia, Jr., Coordinator, Team B

The attached information was requested by L. Barrett and  
was prepared by R. Emch and F. Akstulewicz.

*F. J. Miraglia Jr.*  
F. J. Miraglia Jr.  
Coordinator, Team B

Attachment:  
As Stated

cc: see attached distribution list

7905110126

96 090

We were requested by L. Barrett to calculate the dose rates from RHR piping.

R. Emch and F. Akstulewicz have performed such calculations by hand. Attached is a graph showing the dose rate at one meter and at ten meters from a twelve inch RHR pipe containing primary coolant for various decay times. Also, we calculated a dose rate of 3.8 R/hr at one meter from a ten inch RHR pipe containing primary coolant decayed for 90 days (from the date of the second primary coolant sample analysis).

The source term was based on the concentrations obtained in the analyses, dated 4/11/79, of the second TMI-2 primary coolant sample:

I-131	8000 $\mu$ Ci/cc	
Cs-134	76 $\mu$ Ci/cc	
Cs-136	100 $\mu$ Ci/cc	
Cs-137	320 $\mu$ Ci/cc	
Ba-140	260 $\mu$ Ci/cc	
La-140	260 $\mu$ Ci/cc	- based on equilibrium with Ba-140

Upon investigation we found that the sizes of the RHR pipes at TMI-2 are nominal 10" and 12". As you can see from the graph, the dose rate is dominated by I-131 early and by Cs-134 and Cs-137 after about 60 days.

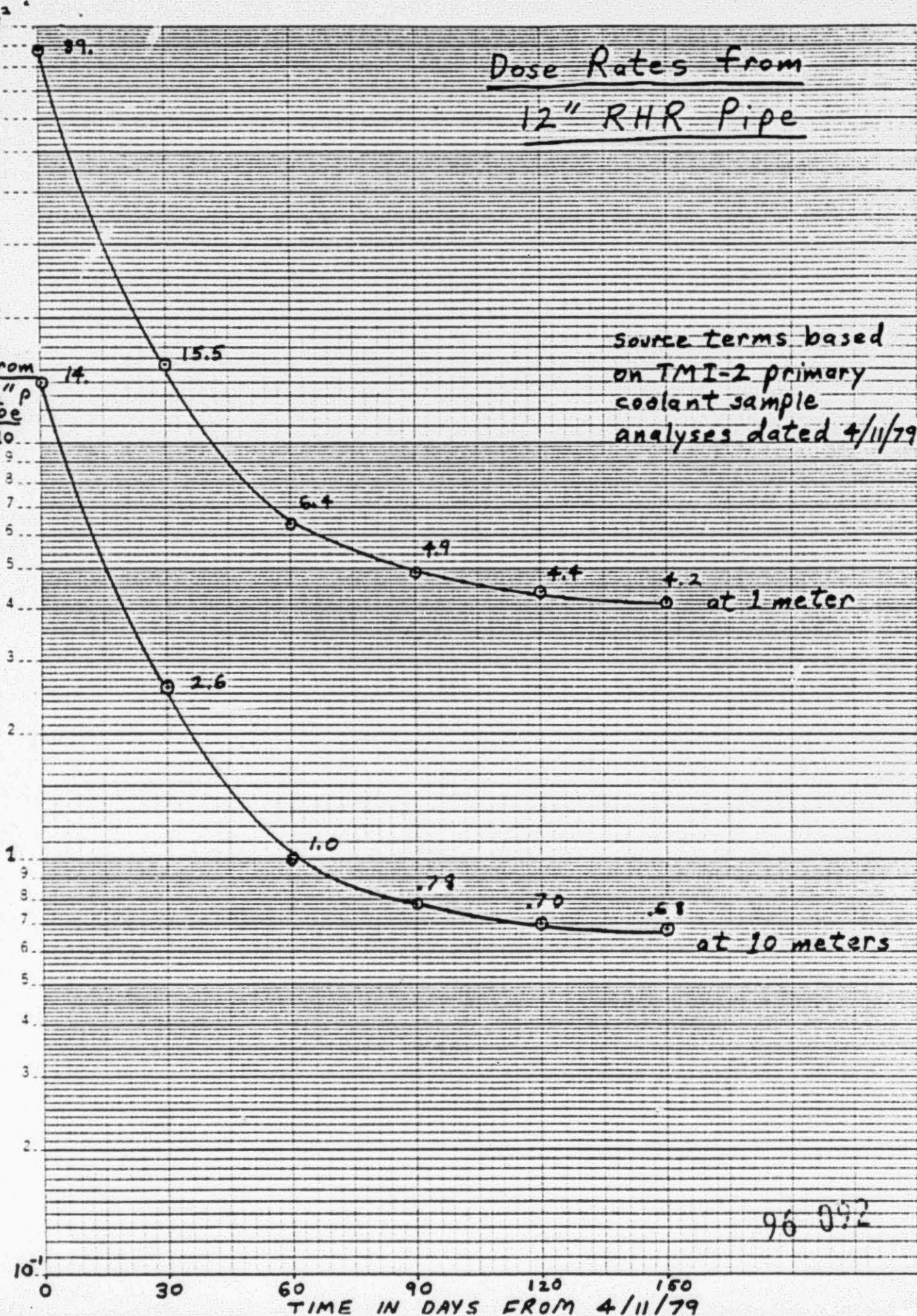


# Dose Rates from 12" RHR Pipe

R/hr  
From  
12" p  
pipe

46 549C

source terms based  
on TMI-2 primary  
coolant sample  
analyses dated 4/11/79



K-E  
SEMI-LOGARITHMIC - 3 CYCLES x 20 DIVISIONS  
NEUFEL & FISHER CO. 4014055

96 092

TIME IN DAYS FROM 4/11/79