

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

August 31, 1979



MEMORANDUM FOR: J. T. Collins, Deputy Director
TMI-2 Support

FROM: J. Y. Lee
TMI-2 Support

SUBJECT: PRELIMINARY ANALYSIS RESULTS OF TMI-2
CONTAINMENT BUILDING WATER SAMPLES

We have obtained the following preliminary analysis results of TMI-2 containment building water samples from Oak Ridge National Laboratory.

- (1) When transferred samples into glass bottles, all three samples read 700 to 800 mR/hr contact.
- (2) No apparent oil or grease in any of three samples.
- (3) Samples 1(top) and 2 (middle) were clear with slight yellow tint.
- (4) Sample 3 (bottom) was green in color with a lot of visible solids.
- (5) Sample 3 (bottom) settled relatively quickly, but were bulky. When 5cc were dried, solid weighted only a few mg.
- (6) Preliminary analysis of solids showed dominant isotopes of Cerium and Lanthanum.
- (7) Analysis of liquid showed all three samples contained essentially the same activity:

Cs - 137	175 - 180	uCi/cc	
Cs - 134	40	uCi/cc	
La - 140	0.1	uCi/cc	wrong - .05
I - 131	0.03	uCi/cc	wrong - .013

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(8) Containment inner seal plate (4" diameter) contamination analysis showed:

Aug 28 sample
 March 28 - 48% Cs-137
 34% Cs-134 } of core content in sump.
 25% I-131

gives ~ 1/3 of core inventory to containment

<u>Nuclide</u>	<u>Total (uCi)</u>	<u>Relative Fraction (uCi/Ci) of Core</u>
Te - 129M	23.6	2×10^{-4}
Cs - 137	2.07	2.5×10^{-6}
Cs - 134	0.47	3.4×10^{-6}
Ru - 103	0.58	1.2×10^{-7}
Ru - 106	0.42	1.7×10^{-7}
Zr - 95	0.09	5.0×10^{-9}
Nb - 95	1.73	5.4×10^{-8}
I - 131	.33	1.9×10^{-3}
Sb - 124	0.005	7.6×10^{-6}
Sb - 125	0.45	4.0×10^{-6}
LA - 140	0.019	4.0×10^{-7}
Ag - 110	0.08	5.0×10^{-5}
Ce - 141	0.057	1.2×10^{-8}
Ce - 144	0.24	1.4×10^{-8}

NOTE: Autoradiography identified four (4) hot spots above general contamination.

(9) Elevations of sample collections were:

First sample 290' 6"
 Second sample 286.0'
 Third sample 282' 9"

Containment Building
 Bottom 282' 6"



J. Y. Lee
 TMI-2 Support

cc: H. Denton, NRR
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 R. Bangart, NRR
 R. Keirig, IE - TMI
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