GPU Service

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May 12, 1980
E&L-2699

Mr. Paul Leech
U.S. Nuclear Regulatory Commission
Environmental Projects - Branch 2
7920 Norfolk Avenue
Mail Stop P-522
Bethesda, Maryland 20014

Dear Mr. Leech:

SUBJECT: PROGRAMMATIC ENVIRONMENTAL IMPACT STATEMENT
REQUEST FOR INFORMATION

Enclosed is a document which is in response to a request for information from Mr. K. Shiu at Argonne National Laboratories regarding sludge characteristics in the Unit-2 containment sump. The document is entitled "Solids in Reactor Building Basement".

If you should have any questions regarding this, please do not hesitate to call me at (201) 263-6341.

Very truly yours,

R. M. Milford III
Licensing Engineer

RMM/jed
Enclosures

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TMI-II-R-12331

METROPOLITAN EDISON COMPANY

Subsidiary of General Public Utilities Corporation

Subject Solids in Reactor Building Basement

Location TMI

Date April 29, 1980

To R. Milford

Per your request of 4/25/80 regarding the above, the following information is provided:

1. ORNL letter, W.D. Shults to J. A. Daniel, September 14, 1979, Reported Analyses of Reactor Building Analyses. The bottom sample contained a greenish precipitate, 10% by volume, (4% after centrifuge) in amounts indicated on Attachment 1.

2. We estimate between 8,000 and 10,000 lbs. of wetted, packed solids. The basis for this is as follows:

   a. 6363 gal/in (avg) precipitous matter in bottom 4 inches of containment water.

   b. Precipitous matter, wet packed volume estimated at $\sim$ 4% or between 900 and 1000 gallons.

   c. Average bulk density of wetted packed solids is estimated at 68 lbs/ft^3.

If I may be of further assistance, please call.

J. A. Daniel

JAD:dms

cc: R. W. Heward
G. K. Hovey
L. J. Lehman
J. R. Thorpe
E. G. Wallace
R. F. Wilson

INTER-OFFICE MEMORANDUM

Attachment 1

Solids from bottom sample (uCi/ml at 0800, 8/28/79, based on total volume of bottom sample)

Isotope	Sample 1[a]	Sample 2[2]
^{58}Co	0.0055	0.0079
^{60}Co	0.0011	0.0015
^{95}Zr	0.037	0.061
^{95}Nb	0.104	0.162
^{103}Ru	0.042	0.078
^{106}Ru	0.035	0.051
^{110m}Ag	0.0015	0.0025
^{113}Sn*	0.015	0.021
^{125}Sb	0.022	0.033
^{129m}Te	0.277	0.514
^{131}I	0.0108	0.016
^{134}Cs	0.018	0.011
^{137}Cs	0.078	0.049
^{140}Ba	0.041	0.047
^{140}La	0.106	0.122
^{141}Ce	0.0034	0.0097
^{144}Ce	0.0134	0.0446
$89 + 90Sr$	2.78	

[a]Two samples were taken at different times; they were centrifuged, washed, and -scanned.

*Tentative identification

Solids from bottom sample, neutron activation analysis
(units are ug/ml, based on total volume of bottom sample)

^{235}U	0.00459
In	0.16
^{129}I	0.07
Cu	54
Mn	0.62
Al	7
Ca	2

Spark source mass analysis of solids from bottom sample (ppm) based on total volume of bottom sample

Ag	8*	Li	0.3
Al	8	Mg	7
B	3	Mn	1
Ca	2	Mo	1[b]
Cd	0.5	Na	1
Co	0.1	Ni	10
Cr	2	P	0.4
Cs	0.5	Rb	0.3
Cu	54[a]	S	5
Fe	10	Sr	0.2
I	0.7	Te	0.2
In	0.3	Ti	0.5
K	1	Zn	2
U			
U[c]	0.106	Pu[c]	0.00016
^{234}U	0.022 AT %	^{238}Pu	0.1 AT %
^{235}U	2.35 AT %	^{239}Pu	91.13 AT %
^{236}U	0.065 AT %	^{240}Pu	7.57 AT %
^{238}U	97.56 AT %	^{241}Pu	1.10 AT %
		^{242}Pu	0.1 assumed

*May be some memory

[a]Internal standard from NAA

[b]Stable Mo; not fission product

[c]Thermal emission mass resin bead analysis