



72-1

GE Nuclear Energy

February 17, 1997

Morris Operation
General Electric Company
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Mr. A.B. Beach
Administrator, Region III
US Nuclear Regulatory Commission
801 Warrenville Road
Lisle, IL 60532-4351

REF: 1. SNM-2500
2. Docket 72-1

Dear Mr. Beach:

In compliance with 10CFR72.44(d)(3) and SNM-2500 license condition 8.2.1, this report documents our estimate of quantities of principal radionuclides released to the environment by GE Morris Operation in 1996. This report also provides an estimate of the total annual dose to the public resulting from GE Morris Operation activities.

The dominant particulate radionuclides emitted by GE Morris Operation are Cs-137 and Co-60 which we evaluate by measurement of stack monitor filters. Ni-63 is assumed equal in concentration to Co-60. Gaseous radionuclides evaluated are H-3 and Kr-85. Tritium is evaluated by calculation using basin water evaporative losses while Kr-85 is estimated conservatively using historical analytical results.

There is no pathway for the intentional release of radionuclides in surface water from the Morris site. Routine environmental analyses of water pathways exiting GE property continue to indicate no apparent measurable insult to the environment. Release of radionuclides in groundwater is estimated by evaluation of eight monitoring wells encircling the GE Morris fuel storage basin. All wells exhibit no measurable radiocobalt or radiocesium activity. Two wells continue to exhibit trace tritium (300 pCi/L) concentrations. This concentration yields a maximum fence line dose of about 3E-6 mrem/year.

Direct radiation measurement at the GE Morris Operation owner control boundary continues using TLD and direct measurement techniques. Dose to the public at the GE owner control boundary was 1.7 mrem in 1996.

GE Morris Operation recognizes the constraint of 10 mrem per year to the general public as suggested by Regulatory Guide 4.20, "Constraint on Releases of Airborne Radioactive Materials to the Environment for Licensees Other than Power Reactors", December 1996. Adoption of Reg. Guide 4.20 requires that GEMO modify the calculation methodology formerly used. GE Morris used "COMPLY" (EPA software program) at screening level 4 to demonstrate compliance and to derive the air emission dose to the public.

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1. Public Dose Estimate from Airborne Emissions from 300 Feet Stack

NUCLIDE	CURIES	CONCENTRATION	DOSE in MREM
H-3	0.073	3.1E-10	See Total Below
Co-60	1.2E-6	5.2E-15	See Total Below
Ni-63	1.2E-6	5.2E-15	See Total Below
Kr-85	1	4.3E-9	See Total Below
Cs-137	2.2E-6	9.5E-15	See Total Below
			3.4E-6

2. Public Dose Estimate from LAW Vault Processing Emissions

NUCLIDE	CURIES	CONCENTRATION	DOSE in MREM
Co-60	1.5E-7	1.1E-14	See Total Below
Ni-63	1.5E-7	1.1E-14	See Total Below
Cs-137	6E-7	4.5E-14	See Total Below
U-NAT	9E-7	1.3E-13	See Total Below
			1.2E-4

3. Public Dose Estimate from GE Morris Operation Surface Waters

There is no measurable public dose due to release of radioactivity in GE Morris surface waters.

4. Public Dose Estimate from GE Morris Operation Groundwater

As indicated above, the estimate of public dose from GE Morris groundwater is 3E-6 mrem.

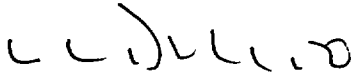
5. Direct Radiation Dose to the Public at the GEMO Owner Control Boundary

Fenceline quarterly TLD results indicate a mean fenceline dose (mean of 12 TLD positions) of 0.6 mrem and a maximum dose from the highest position of 1.6 mrem.

TOTAL DOSE

The total estimated dose from airborne, surface water, groundwater and direct radiation resulting from 1996 GE Morris Operation activities is 1.6 mrem.

Sincerely,



L.L. Denio
Regulatory Compliance Manager

cc: Director, Office of Nuclear Material Safety and Safeguards
US Nuclear Regulatory Commission
Washington, DC 20555

T.J. McGinty (NRC)
J.E. Ellis (GEMO)