GE Hitachi Nuclear Energy
Morris Operation
7555 East Collins Road
Morris, IL 60450

February 12, 2010

Regional Administrator
U.S. Nuclear Regulatory Commission, Region III
2443 Warrenville Road, Ste 210
Lisle, IL 60532-4352

REF: SNM-2500

Dear Regional Administrator:

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 the GE-Hitachi Morris Operation in 2009. This report also provides an estimate of the maximum potential dose to the pubic resulting from GE-Hitachi Morris Operation effluents for 2009.

The only particulate radionuclide present on the stack monitor filters was Cs-137. Gaseous radionuclides evaluated were H-3 and Kr-85. The quantity of tritium released was calculated by multiplying basin water evaporative losses, by the average tritium levels in the fuel basins. The amount of Kr-85 released was calculated by multiplying the concentration found in samples taken directly over the basin water, by the airflow through the basin area.

COMPLY V1.6 (the EPA software program) was used to calculate the effective dose equivalent from the release of these radionuclides. The quantities released and the resultant maximum potential effective dose equivalents are shown in the following table.

Nuclide	Activity Discharged (Ci)
H-3	1.583 E-2
Kr-85	1.075 E-0
Cs-137	1.358 E-6

Effective Dose Equivalent **6.5 E-7 mrem/year**

There are no liquid effluents from the site. Trace quantities of tritium were found in the site wells. Surface water tritium levels were below minimum detectable levels. Tritium values below detectable levels are conservatively reported as the minimum detectable level.

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The maximum potential Committed Effective Dose Equivalent to the public that could occur from surface water was calculated to be **6.84 E-3 mrem** - based on a person consuming water all year from the Sanitary Lagoons (154 pCi/l H-3).

The maximum potential Committed Effective Dose Equivalent to the public that could occur from groundwater was calculated to be **6.88 E-3 mrem** - based on a person consuming water all year from any of the following wells: DM-2 through DM-8 (150.8 pCi/l H-3).

Measurement of direct radiation at the GE-Hitachi Morris Operation owner control boundary is accomplished using TLDs prepared and processed by a contractor, and direct measurement techniques. The calculated maximum potential Committed Effective Dose Equivalent to the public that could occur from direct radiation at the boundary of the owner controlled area was calculated to be **0.658 mrem** assuming the maximum time spent at the boundary is 24 hours per year.

The maximum potential radiation dose to the public, for 2009, would result from the sum of the stack effluent releases, the dose from drinking surface water from the Sanitary Lagoons, ground water from monitoring wells DM-2 through 8, and from direct radiation at the owner controlled boundary. The sum of these sources for 2009 is **0.672 mrem**.

Sincerely,

Anthony E. McFadden
Plant Manager

cc: ATTN: Document Control Desk
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Office of Nuclear Material Safety and Safeguards
U.S. Nuclear Regulatory Commission
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