D509

Department of Energy

Oak Ridge Operations
P.O. Box 2001
Oak Ridge, Tennessee 37831—8739

February 10, 1995

10793
FR5964438
Mike Weber
12/14/94

Secretary
U.S. Nuclear Regulatory Commission
Attention: Docketing and Services Branch
Washington, DC 20555-0001

Dear Sir:

COMMENTS ON THE GENERIC DOSE ASSESSMENT FOR THE DISPOSAL OF INCINERATOR ASH IN A LANDFILL

Enclosed are comments on the proposed dose assessment for incinerator ash which was noticed in the *Federal Register* (59 *FR* 64438) on December 14, 1994. We appreciate the opportunity to comment on the proposal.

If you have any questions, please contact James Donnelly at 615-574-6260.

Sincerely,

Peter J. Gross, Director
Environmental Protection Division

Enclosure:
As stated

cc w/enclosure:
J. P. Donnelly, SE-312
M. E. Mitchell, K-1001, MS-7155

MARTIN MARIETTA

MARTIN MARIETTA ENERGY SYSTEMS, INC.

POST OFFICE BOX 2003
OAK RIDGE, TENNESSEE 37831

February 3, 1995

Peter J. Gross, Director
Environmental Protection Division
Department of Energy
Oak Ridge Operations Office
P. O. Box 2001
Oak Ridge, Tennessee 37831-8738

Dear Mr. Gross:

Request for Comments on the Nuclear Regulatory Commission's Generic Dose Assessment for the Disposal of Incinerator Ash in a Landfill

Per your January 19, 1995, request, Martin Marietta Energy Systems, Inc., offers the following comments regarding the Nuclear Regulatory Commission's Generic Dose Assessment for the Disposal of Incinerator Ash in a Landfill. The comments provided will assist the Nuclear Regulatory Commission (NRC) in finalizing the dose assessment and in developing the guidance or regulations pertaining to ash landfilling based on the dose assessment.

Comments on the Dose Assessment

1. The dose assessment was limited to certain radionuclides with atomic numbers 1 to 83. The radionuclides P-32, S-35, Tc-99m, Fe-59, and Ca-45 were not evaluated in the dose assessment even though they frequently appear in incinerator ash from medical and research institutions. The NRC should consider expanding the dose assessment to include these nuclides as well as isotopes of uranium, thorium, plutonium, americium, neptunium and technetium-99, which also appear in incinerator ash.

2. How much of the 100 mrem/y dose limit mandated by 10 CFR 20.1301 is the NRC allocating to the reference disposal method? The 100 mrem/y is the exposure limit for a member of the general public from all sources combined. Currently, 40 CFR 61 (clean air) limits exposure to 10 mrem/y from the air pathway, 40 CFR 191 (high-level waste) limits exposure to 15 mrem/y, 10 CFR 61 (low-level waste) limits exposure to 25 mrem/y, 40 CFR 141 (clean water) limits exposure to 4 mrem/y from the drinking water pathway, and DOE Order 5820.2A (radioactive waste management) limits exposure to 25 mrem/y.

3. The resident farmer scenario used for the generic dose assessment is a worst case scenario and is therefore unrealistic. A more realistic scenario should be developed and compared with the worst case scenario used in the subject assessment.

4. What was the elapsed time period between landfill closure and occupancy by a resident farmer? This factor was not listed as an influencing factor on page 21 of the dose assessment document.

5. When did day one of the farmer's exposure occur relative to landfill closure for the dose results presented in Table 5 of the dose assessment document? What is the exposure period for the farmer? In other words, how long does the farmer reside on the closed landfill?

6. Can the dose assessment support the disposal of like materials such as soils and sludges in a like manner?

Comments Related to Guidance or Regulations Development

1. The dose assessment was based on the assumption that the individual radionuclide concentrations would not exceed the 10 CFR 20, Appendix B, Table II, Column 2, limits. Will it be acceptable to dilute radioactively contaminated ash containing nuclides exceeding these limits with ash that is less contaminated so that the mixture of ashes will be less than the Appendix B limits; thereby, affording the reference disposal option? If not, will it be acceptable to incinerate non-radioactive materials with radioactive materials so that the incinerator ash from this feed mixture will not exceed the Appendix B limits thereby affording the reference disposal option?

2. Will the impact on groundwater be considered in the development of guidance or regulations? In the final rule for high-level waste management (40 CFR 191) and the draft low-level waste rule (40 CFR 193) the Environmental Protection Agency limits exposure via the groundwater pathway to 4 mrem/y.

3. Will ash meeting the radiological constraints described in the generic dose assessment be considered to be non-radioactive and therefore not regulated? Or will the ash be regulated at the landfill as a radioactive material? Will landfill leachate containing radioactivity from the ash be regulated as a radioactive material or waste? Will all leachate emanating from the landfill be regulated because of the "potential" for contamination?

4. If the ash containing radioactivity is acceptable for landfilling, will it be acceptable to use for other purposes? In other words, if the placement of the ash in the landfill is a non-regulated activity then it must be acceptable for unrestricted use. If the ash is acceptable for unrestricted use, can it be used for purposes other than landfilling?

5. Will the guidance or regulations contain language that specifies the ash must meet the requirements of other regulations such as Resource Conservation and Recovery Act (RCRA) and Toxic Substance Control Act (TSCA) before landfilling can be utilized?

6. Guidance and regulations for the disposal of the ash should be based on a more realistic (plausible) scenario as opposed to the worst case scenario. The resident farmer scenario is not realistic for all the reasons cited in the top two paragraphs on page 23 of the dose assessment document.

7. Would a commercially operated, NRC licensed, low-level waste incineration facility be allowed to dispose of its incinerator ash at a sanitary landfill in accordance with the proposed guidance/regulations?

If you have any comments, or require additional information, please contact Mr. Mitchell Callahan of my staff at 241-2025.

Sincerely,

M. E. Mitchell, Director
Environmental Compliance

MEM:MAC:db

c: F. P. Delozier
J. P. Donnelly (DOE-ORO)
C. E. Frye
File
EC Doc. Ctrl. - RC