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

DEC 19 1979

Mr. Raymond C. Vaughan
135 East Main Street
Hamburg, New York 14075

Dear Mr. Vaughan:

As I mentioned to you on the telephone, I have circulated your two papers, dated February 1979 and May 1979, to NRC staff members for their review and comment. We appreciate the considerable time and effort you have put into the papers. Your suggestions indicate an attempt to provide a practicable solution to the difficult questions of what to do with the high-level waste at West Valley.

I am enclosing a copy of NUREG-0170, "Final Environmental Statement on the Transportation of Radioactive Material by Air and Other Modes." As you have pointed out, transportation is an important aspect of the high-level waste disposition question and this document may be of help to you. As for the NRC's transportation rules, they contain considerable flexibility. Much depends on the specifics of the design of a transport package.

As far as our comments on your papers, we only have two principal points for your consideration. Firstly, in developing a rationale for a solid form which can be safely transported, you have suggested a process which includes a number of steps. For example, in either the boric oxide or sodium silicate processes you describe, there is a step for ion exchange, a step for sludge separation, a calcination step, a mixing step, and a packaging step. Other process steps may be necessary. In addition, accessory equipment such as catch and feed tanks, evaporation, filters and off-gas systems will be needed. All of this equipment must be remotely operated and maintained. Although such systems have been and can be designed and operated, a great deal of attention must be paid to keeping remote processes and equipment as simple and as reliable as possible.

Secondly, in terms of the engineering design required and the number of process steps, there seems to be little difference between your suggested processes and complete solidification. It may be preferable for both radiological safety and cost effectiveness to eliminate additional process and transportation steps by solidifying the waste at the site and shipping directly to a national repository.

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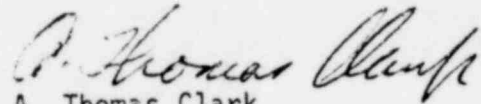
Mr. Raymond C. Vaughan

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I am also enclosing a photocopy of the Department of Energy's Federal Register Notice, dated Wednesday, December 12, 1979. The Notice concerns the Department of Energy's intent to prepare an Environmental Impact Statement and conduct a public scoping meeting. The meeting will be held on Saturday, February 2, 1980 at the West Valley Central School Gymnasium (8:30 a.m. to 6:00 p.m.).

Sincerely,



A. Thomas Clark
Advanced Fuel and Spent Fuel
Licensing Branch
Division of Fuel Cycle and
Material Safety

Enclosures:

1. NUREG-0170
2. Federal Register Notice
dtd 12/12/79 (photocopy)

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