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Department of Energy
Albuquerque Operations
Los Alamos Area Office
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MAY 07 1986

Ms. Denise Fort, Director
NM Environmental Improvement Division
P.O. Box 968
Santa Fe, NM 87504-0968

MAY 1986
GROUND WATER/HAZARDOUS WASTE
BUREAU

Dear Ms. Fort:

In a letter addressed to me from Mr. Peter Pache dated January 30, 1986, Mr. Pache suggests that a date in May or June will be the earliest possible time to conduct a trial burn of the Los Alamos National Laboratory's hazardous waste incinerator. It has become extremely important, for the purposes of scheduling personnel and expenditures for the balance of the fiscal year, to set dates for the shakedown run and trial burn. The trial burn requires that contractual commitments be made for outside support functions, which include sampling specialists, analytical laboratories, and chemical suppliers (new, technical grade chemicals will be used for the trial burn). Procurement of these services involves a bid cycle lasting several months, in which bidders key their pricing structure on supply dates. Therefore, we intend to proceed with the following schedule and procedure:

1. For the purpose of initiating procurement of required materials, supplies, and services, Los Alamos is scheduling the trial burn for July 14, 1986.
2. A shakedown run will be conducted prior to the trial burn to assure operational readiness of the incineration system. The scheduling of the shakedown run must allow sufficient time to correct identified deficiencies in procedures and equipment before conducting the trial burn. This run is scheduled to begin on May 19, 1986 and will be a limited-scope effort with no contracted support required.
3. The feed for the shakedown run and the trial burn will be mixtures of fuel oil, sawdust, packaging materials (e.g., plastic bags and cardboard boxes), and technical-grade chemicals. One variable that will be examined during the shakedown run will be the effectiveness of shredded corncobs versus sawdust as a sorbent for organic liquids (in our case, carbon tetrachloride). The decision to examine shredded corncobs (tradename "Pelecel") is based on favorable results achieved with this medium in incineration tests conducted at the University of Maryland and at the Idaho National Engineering Laboratory.



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Their data indicate that shredded corncobs, upon introduction into the incinerator, release organics at a rate that enhances an incinerator's destruction efficiency. This release is substantially slower than is achieved with a sawdust carrier. If the Laboratory's test verifies earlier reports, it will modify the trial burn plan to substitute Pelecel for sawdust in our solids incineration tests.

4. Enclosure 1 is the Quality Assurance (QA) procedure that we will be using during the trial burn. The Laboratory is amending the trial burn plan to include QA procedures that are more acceptable under current Environmental Protection Agency (EPA) guidance. In the time since the original draft of the trial burn plan was prepared, EPA's position on acceptable QA plans has become clearer. The enclosed plan is based on the recommended 16-point plan contained in "Interim Guidelines and Specifications for Preparing Quality Assurance Project Plans," EPA report EPA-600/4-83-004 (1983).
5. The EPA has suggested a method of incineration operation during the trial burn that employs simultaneous injection of solid and liquid feed streams. The Los Alamos incinerator is not constructed to operate this way, because:
 - A) The offgas system and each feed system are sized to match the maximum capacity of the combustion chambers. The control system is not capable of limiting the sum of the combustion products from simultaneous and separate solids and liquid injection to the capacity of the combustion chambers or offgas system. Simultaneous injection of solid and liquid feed streams could easily result in over-capacity operation.
 - B) Effective solids incineration requires a quiescent combustion chamber whereas liquid injection results in a turbulent combustion chamber. Since both injection points are located in the primary combustion chamber, one operation interferes with the other.

For these reasons, the control system is configured to prevent simultaneous and separate injection of liquid and solid feed forms. Modification of the system to allow simultaneous and separate injection during the trial burn will not serve to accurately simulate the design and actual use of the incinerator.