

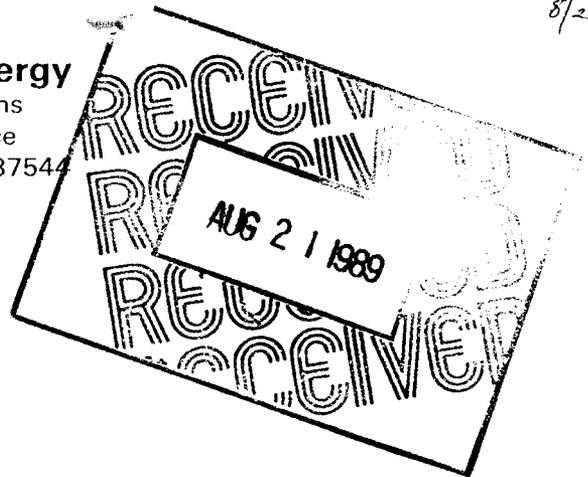


Department of Energy  
 Albuquerque Operations  
 Los Alamos Area Office  
 Los Alamos, New Mexico 87544

AUG. 18 1989

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Boyd Hamilton  
 Program Manager  
 Hazardous Waste Program  
 Environmental Improvement Division  
 Harold Runnels Building  
 1190 St. Francis Drive  
 Santa Fe, New Mexico 87504



1489 LANL inc  
 8/25/89

Dear Mr. Hamilton:

The following is provided to you by the Department of Energy (DOE) pursuant to your letter dated July 25, 1989, requesting information on incinerators at Los Alamos National Laboratory (LANL). There are currently three units that are capable of burning various materials at LANL: the Technical Area (TA) 16 industrial waste incinerator; the TA-50 Controlled Air Incinerator (CAI), and the TA-55 thermal reduction processing unit.

The TA-16 industrial waste incinerator is located on the north side of the TA-16 burning ground. The unit was manufactured by the Spronz Incinerator Corporation of Rochester, New York and will be used for potentially high explosive contaminated materials that are administratively controlled by LANL. The waste stream consists of Incinerator Institute of America Type Zero trash (primarily cardboard boxes, papers, rags, etc.). Existing documentation for this incinerator includes LANL's Resource Conservation and Recovery Act (RCRA) Part B Permit Application (Rev. 4.1), and EID's draft RCRA Operating Permit, both of which are available to the public.

The TA-50 CAI is located at TA-50, Building 37, on the north side of Pajarito Road. The unit was built by Environmental Control Products, Inc. (now known as Joy Energy Systems) and is sold as Model 500-T. Materials to be incinerated will be primarily solids and liquids although the unit is capable of handling gases as well. Classes of materials include transuranic waste (TRU) solids, low-level radioactively contaminated solids, RCRA hazardous and mixed hazardous wastes, and polychlorinated biphenyls (PCB) contaminated materials. Current RCRA documentation includes: RCRA Part B Permit Application for LANL (Rev 4.1); draft RCRA Operating Permit, and the "RCRA Trial Burn Final Report for the Controlled Air Incinerator" (March 1987, 2 vol.). All are available for review by the public. Other documentation includes: (1) a Toxic Substances Control Act (TSCA) Permit for incineration of PCBs; (2) an environmental statement - "Transuranium Solid Waste Development Facility", Los Alamos Scientific Laboratory, NM (April 1973, EIS-NM-73-0795-F); (3) a draft environmental assessment for transuranic waste inventory work-off, which will not be available for public review until approved by the DOE, and (4) an Action Description Memorandum in preparation that addresses anticipated schedule changes.

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The TA-55 "Plutonium Recovery Incinerator" resides at the TA-55 Plutonium Processing Facility, Building PF-4, Room 420. This unit was emplaced in the facility when TA-55 was built, approximately 10 years ago.

Its primary function is part of an in-line process to recovery plutonium from rags. Plutonium is initially separated from various compounds through a dissolution process using acids. The gloveboxes in which this recovery process takes place are then wiped clean with cheesecloth rags. This is done in an effort to reduce personnel exposure as well as to reclaim as much plutonium as possible. The rags are then ashed in the unit, and plutonium is extracted from the ash. Off-gas emissions are collected in a scrubber system from which plutonium is also reclaimed, and three stages of filtration by high efficiency particulate air (HEPA) filters. Each stage has a control efficiency of at least 99.95%.

The cheesecloth rags have only infrequently been exposed to solvents; however, the rags would typically be dry before ashing. Wood from HEPA filter cashings and other burnable items such as contaminated paper from the recovery process have also been burned in the past to reclaim plutonium.

This unit was placed on inactive status in June pending determination of the process as it potentially relates to New Mexico House Bill 59. It should be noted, however, that this presents a significant safety hazard. The commingling of nitric acid typically used in the separation process and glovebox cleaning process with cheesecloth generates cellulose nitrate. This compound is pyrophoric in nature and can most safely be destroyed through ashing of the rags. Efforts are currently underway to determine the applicability of other substitution processes for the extraction of plutonium from "nitrated" cheesecloth rags as well as the use of other effective compositions for the rags themselves. "Nitrated" rags are now stored submersed in water until some solution can be reached.

Currently, this unit is being evaluated for inclusion in LANL's RCRA Part A permit application for mixed waste. It is anticipated that the process for recovery of plutonium from the above-described materials may be altered in the near future.

Should you require additional information regarding these units, please call Mr. James Phoenix of my staff (667-5288).

Sincerely,

  
James R. Anderson  
Acting Area Manager

cc:

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8/21/89