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 Los Alamos Area Office
 Los Alamos, New Mexico 87544

*file Red
 Permitting*



MAY 18 1992

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Edward Horst
 Program Manager
 Hazardous Waste Section
 New Mexico Environment Department
 525 Camino de Marquez Place
 Santa Fe, NM 87502

JA-55



Dear Mr. Horst:

This letter addresses the issue of whether permitting requirements apply to recycling units. This issue was discussed during the meeting between New Mexico Environment Department (NMED), Los Alamos National Laboratory (LANL), and Department of Energy (DOE) staff on January 16, 1992. This letter is also intended to provide additional information about a process used to passivate nitrated cheesecloth rags contaminated with plutonium. These issues are closely related and are therefore both addressed in the same letter.

It is LANL's and DOE's understanding that, pursuant to NMED's Hazardous Waste Management Regulations (HWMR-6), Section 261.6(c), the processes used to reclaim materials that may contain hazardous or mixed waste are not regulated under HWMR-6 (except certain types of units that emit volatile organics). As we discussed in our January 16, 1992 meeting, the intent of the regulations is to encourage recycling. The promulgation of two sets of recycling regulations separate from permitting regulations for treatment illustrates this intent. In both HWMR-6, Section 261.6 and Part 266, it is clear that not only can hazardous wastes be reclaimed, but hazardous waste can be separated from other valuable material without reclaiming the hazardous portion and no permit is required for the process itself. Recycling activities often only require compliance with storage, transportation and notification regulations. The fact that these recycling regulations exist separately from the permitting requirements indicates the Environmental Protection Agency's (EPA) desire to regulate recycling differently.



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MAY 18 1997

Mr. Edward Horst

2

As noted above, HWMR-6, Section 261.6(c) states that, "The recycling process itself is exempt from regulation except as provided in 261.6(d)". The exception for the provisions in 261.6(d) was added when the new Subparts AA and BB of Parts 264 and 265 were promulgated. These subparts specifically addressed organic emissions from certain types of treatment units that were, until now, unregulated because they were recycling units. The preamble discussion for these new regulations implies that these recycling units had not been regulated in the past. Additionally, the exception for Subparts AA and BB suggests that only when a regulation specifically states that a process requires a permit would one be necessary.

LANL currently operates various processes at the Plutonium Reprocessing Facility, Technical Area (TA) 55, under this same interpretation. At this facility, plutonium is extracted from several types of waste, some of which is mixed waste. LANL and DOE believe that the processes used to recover plutonium need not be permitted, although the handling of mixed waste prior to and after plutonium is recovered would be considered Resource Conservation and Recovery Act (RCRA) regulated activities. The general recycling requirements of HWMR-6 Section 261.6 and the intent of Part 266, Subpart F support this approach.

Although recovering plutonium is not included in the Part 266 Subpart F regulations for precious metal recovery, the concepts from which these requirements have been derived are similar. EPA believed that the strong motivation to manage precious metal-containing wastes carefully due to the high value of the metals justified a partial exemption from regulation. In fact, such wastes are exempt from all but the requirements for notification, manifests, precluding overaccumulation, and recordkeeping to document that wastes are not being overaccumulated (Federal Register Vol. 50, No. 3, pg 648). Plutonium-containing mixed waste at TA-55 is managed very stringently due to safety, security, and economic concerns. For example, the storage area containing waste to be reclaimed is monitored 24 hours a day, 7 days a week with a continuous air monitoring system that could detect a radioactive airborne release within 10 minutes and trigger an alarm. Also, containers that potentially hold RCRA mixed waste liquid to be processed are stored with five levels of containment to ensure strict waste control.

The above-mentioned preamble (pg. 648, 649) also stated that, for precious metals to be conditionally exempt from regulation, economically significant amounts must be recovered. Recovery operations at TA-55 are based upon an Economic Discard Level (EDL) that prescribes an amount of plutonium above which recovery is mandated by DOE due to the value of the metal available in the waste. Although plutonium was not included in

MAY 18 1992

Mr. Edward Horst

3

the list of precious metals in Subpart F, its economic value far surpasses the metals listed.

One activity in particular at TA-55 has been identified as a plutonium recycling process, and, as stated in my transmittal letter (January 25, 1991) for the RCRA Mixed Waste Part A Application, would presumably not require a RCRA permit. A small volume of cheesecloth rags used to wipe gloveboxes must periodically be passivated to recover plutonium and address safety concerns. Typically, the rags will be exposed to nitric acid in the cleaning process. When the acid comes in contact with the cellulose in the cheesecloth, nitrocellulose can be generated. The nitrocellulose could cause the rags to become ignitable or reactive, presenting a safety concern. For this reason, and the need to recover plutonium, the rags were typically ashed daily until June 1989.

The ashing of these rags was previously performed using a process that could have been construed as incineration. With the promulgation of New Mexico Laws 1989, Chapter 279 (House Bill 59) prohibiting incineration, the unit was shut down. A different technique to passivate these rags was developed that, although not as efficient, is a usable alternative.

The new method uses a stainless steel vessel heated to approximately 900 degrees Celsius with electric resistance heaters. A positive flow of argon into the vessel maintains an inert environment. The processed material is thermally decomposed to an ash-like material at these elevated temperatures by breaking the organic bonds and recombining them with the oxygen present in the initial matrix. The offgas produced passes through an aqueous caustic scrubber and then out the high efficiency particulate air filters. The residue generated is subsequently processed through a rotary calciner drying unit and then reintroduced into the plutonium recovery process.

Because the cheesecloth may have come in contact with spilled solutions containing solvents or nitric acid, these materials must be handled in compliance with hazardous waste generation, transportation and storage requirements [see HWMR-6, Section 261.6(a)(1)]. However, because the passivation unit is an integral part of the recycling process, we believe it is exempt from regulation pursuant to HWMR-6, Section 261.6(c)(1).

MAY 18 1992

Mr. Edward Horst

4

We would appreciate your review of this matter and a response indicating whether you agree with our determination that the passivation unit does not require a permit. Please contact Jon Mack at 665-5026 if you have any questions.

Sincerely,


Jerry L. Bellows
Area Manager

LESH:6JM-002

CC:

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