



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

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TA-55

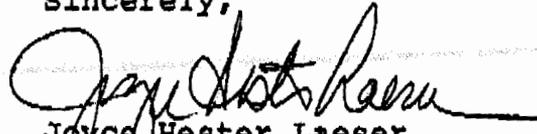
D. Bruce Jones, Esq.
Assistant Regional Counsel
Multi-Media Section
U.S. Environmental Protection Agency
1445 Ross Avenue
Dallas, TX 75202-2733

Dear Bruce:

Enclosed is a brief report prepared by Los Alamos National Laboratory staff which answers the questions posed to me in your letter dated November 5, 1992.

We look forward to talking to you in the teleconference scheduled for 9:00 a.m. your time on November 16, 1992.

Sincerely,


Joyce Hester Laeser
Counsel

Enclosure

cc:
Sheila Brown, Staff Attorney, LANL,
MS-A187
Jon Mack, Environment, Safety, &
Health Branch



4359

REPORT ON PLUTONIUM LEAKS

A. Format for Response to EPA

- 1) Describe the releases:
- 2) When and where did they occur:
- 3) Describe the tank(s) involved:
- 4) What processes were involved:
- 5) How long were the tanks used for storage:
- 6) What was the plutonium isotope involved:
- 7) What was the hazardous waste involved:
- 8) Was the spill contained in secondary containment? Explain:
- 9) Was there any release of radioactive or hazardous component to the environment or atmosphere:
- 10) Describe how each of the spills were cleaned up:

B. Occurrence #1

Date: 07/28/92

Location: TA-55, PF-4, Room 409

- 1) A leak in fitting from piping beneath a glove box in Building 4, Room 409. The malfunction was discovered after a small quantity of fluid leaked onto the floor. The fluid contained an alpha emitting isotope and measured 250,000 disintegrations per minute (dpm)/100 cm probe area.
- 2) 7/28/92 Rm 409
- 3) No tanks involved, fitting from piping under glovebox, solution in wrapping.
- 4) LR nitrate anion exchange
- 5) May 8, 1992 (deadline)
- 6) Weapons grade material
- 7) Nitric acid <2pH
- 8) Assuming plastic wrap around valve and room
- 9) No
- 10) The contaminated area was covered with wet absorbent material. Access to the area was limited to the contamination control team. The leak was stopped by replacing the fitting. Decontamination of the area was immediately started and completed four hours later.

C. Occurrence #2

Date: 09/02/92

Location: TA-55, PF-4, Room 409

- 1) A leak was discovered under tank LR-3 (a 6" diameter vertical column). The leak appears to be from a pin hole in the bottom of the tank drain valve flanged connections. The tank contains a Pu-nitric acid solution of which approximately 2 ml leaked out. The contamination level was greater than 2 million disintegrations per minute (dpm)/100 square cm probe area.
- 2) 9/02/92 Rm 409
- 3) LR-3 tank
- 4) Lean Residue nitrate anion exchange
- 5) May 8, 1992 (deadline)
- 6) Weapons grade
- 7) Nitric acid
- 8) The room was designed to be a secondary containment.
- 9) No
- 10) Contamination was confined to immediate floor area (approximately 2 ft. x 3 ft. under tank). Contents of the tank were transferred to another tank. Area access was restricted. The tank was seal welded, and the drain valve and flange gaskets were replaced. The floor will be decontamination as soon as mixed waste issue is resolved.

D. Occurrence #3 *Interim status*

Date: 09/22/92

Location: TA-55, PF-4, Room 401

- 1) Overhead valve/gasket leaked.
- 2) 9/22/92 Rm 401
- 3) Not a tank
- 4) Evaporator process (distillation).
- 5) May 8, 1992
- 6) Weapon grade
- 7) Nitric acid

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- 8) Assuming that the plastic wrap around valve and room are secondary containment
- 9) No
- 10) The spill was contained by covering it with wet cloth which was then covered with plastic. A portable CAM was installed at the location to monitor for airborne contamination. The area was closed to personnel access. Fitters were called to replace the valve and seals. During the replacement of the valve, the room was evacuated and access was closed. Fitters were dressed in acid suits with filtered respirators. Operations technicians were dressed in anti-c clothing and wore respirators. Two health protection technicians were present.

E. Occurrence #4 *Interim Status*

Date: 09/14/92

Location: TA-55, PF-4, Room 401

- 1) Gasket within flange pan below a valve on tank bank (14) leaked.
- 2) 9/14/92 Rm 401 (tank farm)
- 3) Storage tank bank (T4)
- 4) Evaporator process
- 5) May 8, 1992 (deadline)
- 6) Weapons grade
- 7) Nitric acid
- 8) Plastic wrap around valve and room
- 9) No
- 10) The technicians who discovered the solution on the floor evacuated the room, turned the red-light on outside the room to prevent other personnel from entering the area. Nuclear Materials Technology (NMT) technicians and Health Physics Operations (HS-1) Radiation Control Technicians (RCT) donned acid suits and respirators, then re-entered the room and covered the solution on the floor with Sorb-X pads. These pads were used to prevent the solution from drying and contamination becoming airborne. The Johnson Controls World Services, Inc. (JCI) fitters and decontamination team were immediately contacted to assist.