

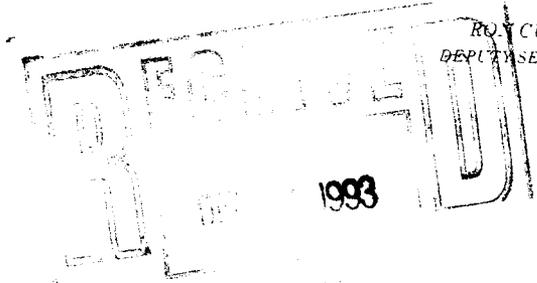


BRUCE KING
GOVERNOR

State of New Mexico
ENVIRONMENT DEPARTMENT
Harold Runnels Building
1190 St. Francis Drive, P.O. Box 26110
Santa Fe, New Mexico 87502
(505) 827-2850

JUDITH M. ESPINOSA
SECRETARY

ROY CURRY
DEPUTY SECRETARY



November 29, 1993

Dear Concerned Citizen,

Enclosed are a fact sheet and legal notice regarding a hazardous waste treatment draft Permit that the New Mexico Environment Department (NMED) proposes for the U.S. Department of Energy (DOE)/Los Alamos National Laboratory (LANL) for a Research, Development and Demonstration experiment at the Packed-Bed Reactor/Silent Discharge Plasma (PBR/SDP) Unit.

Copies of the draft Permit are available for review at the offices of the NMED Hazardous and Radioactive Materials Bureau, P.O. Box 26110, 525 Camino de los Marquez, Suite # 4, Santa Fe, New Mexico 87502 (Mondays through Fridays from 8:00 am to 5:00 pm) and at the Environmental Restoration Community Reading Room, 1450 Central Avenue, Suite 101, Los Alamos, New Mexico (Mondays through Fridays from 9:00 am to 12:00 Noon, and from 1:00 pm to 5:00 pm).

If you wish to make comments on this Draft Permit, they must be in writing and be received by the NMED Hazardous and Radioactive Materials Bureau at the address mentioned above no later than **January 14, 1994.**

If you have any questions regarding this Draft Permit, please contact Mr. Cornelius Amindyas of my staff at (505) 827-4308 or at the Santa Fe address given above.

Sincerely,

Barbara Hoditschek
Program Manager
RCRA Permit Section
Hazardous and Radioactive Materials Bureau

Enclosures (2)

cc: William Honker (EPA, 6H-P)
File-Red, 1993.

09a
TA 35 permit





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DRAFT RESEARCH, DEVELOPMENT AND DEMONSTRATION PERMIT
FACT SHEET

for the

LOS ALAMOS NATIONAL LABORATORY

PACKED-BED REACTOR/SILENT DISCHARGE PLASMA UNIT

LOS ALAMOS, NEW MEXICO

Activities: Packed-Bed Reactor/Silent Discharge Plasma experimental hazardous waste treatment at the Department of Energy (DOE)/Los Alamos National Laboratory (LANL) under the New Mexico Hazardous Waste Act.

Facility Name: Department of Energy
Los Alamos National Laboratory

EPA I.D. No.: NM0890010515

Location: The DOE/LANL facility is located in Los Alamos County, New Mexico, southwest of the city of Los Alamos. The site is in Technical Area (TA) 35, Building 128.

Unit Purpose: The research objective of the work to be conducted under this Permit is to determine if process data for a real hazardous waste stream generated at the LANL facilities is comparable with data produced for surrogates of that waste stream. The answer will determine if the present technology is worth pursuing on a larger scale in future research. Components of the hazardous waste have been tested individually in the unit as surrogate (i.e. non-waste) materials. These tests have demonstrated 99.99% destruction of the surrogates.

The main purpose of obtaining an RD&D Permit at this time is to allow the research to continue into a phase where an actual waste

may be processed by the unit. If it can be successfully demonstrated that similar destructive efficiencies with the real waste can be achieved as those with the surrogate work, then modifications to this Permit may be made to deal with different and more complex waste than those proposed at this time.

Unit
Description:

The combined Packed-Bed Reactor/Silent Discharge Plasma (PBR/SDP) unit will be housed in Building 128. The PBR treatment unit involves use of an alumina pellet filled bed that is heated with an external electrical furnace. Liquid organic hazardous wastes are injected along with a carrier gas (air) into the PBR where many of the hazardous compounds undergo vaporization and thermal decomposition. More complex hazardous compounds may resist thermal decomposition within the PBR and, therefore, require further treatment. As part of the RD&D activities, this further treatment will be provided by the SDP.

The SDP treatment is an advanced oxidation technique that will be used for second stage treatment of effluents from the PBR unit. SDP technology involves the use of a non-thermal electrical discharge plasma. Large quantities of reactive free radicals are generated in the plasma, and the free radicals react with and decompose the remaining hazardous organic constituents in the effluent. In contrast to thermal processes, the SDP operates at near-ambient temperature and pressures, thereby eliminating complications typical of thermal treatment.

The end products of the PBR/SDP waste treatment process include primarily carbon dioxide, water, carbon monoxide, acids, and trace quantities of unreacted waste and reaction by-products. LANL plans to operate up to three cells for the RD&D experiments during which 36 to 108 kilograms of the planned hazardous waste will be destroyed per day.

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Draft Permit
Availability:

A copy of the draft Permit is available for public review at the Environmental Restoration Community Reading Room, 1450 Central Avenue, Suite 101, Los Alamos, New Mexico, (Mondays through Fridays from 9:00 am to 12:00 Noon, then from 1:00 pm to 5:00 pm); and at the New Mexico Environment Department (NMED), Hazardous and Radioactive Materials Bureau (HRMB), 525 Camino de los Marquez, Suite 4, Santa Fe, New Mexico 87502 (Mondays through Fridays between 8:00 am and 5:00 pm). Requests for hearing should include a statement of the nature of the issues proposed to be raised in the hearing and must include the requestor's name and address. Only comments and requests for hearing received by **January 14, 1994** will be considered. The NMED will publish a thirty day (30) notice of a public hearing, if scheduled.

Final
Decision:

All comments received on the draft Permit during the public comment period will be considered in reaching a final Permit approval decision. The NMED will notify LANL and each person who submitted a written comment, of any changes made in finalizing the Permit.