State of New Mexico
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August 25, 1993

Mr. Walter Darr, Chief
Compliance Environmental Management Division
1606 Air Base Wing
Kirtland Air Force Base
Albuquerque, New Mexico, 87117

RE: Notice of Deficiency (NOD) - Technical Adequacy of KAFB's Explosive Open Detonation Permit Application
EPA ID No. NM9570024423

The New Mexico Environment Department (NMED) has reviewed for technical adequacy, the May 1988 Kirtland Air Force Base (KAFB) permit application for the Explosive Open Detonation Unit as required under the Resource Conservation and Recovery Act (RCRA). The July 1993 information submittal was also included in the review.

After reviewing the permit application and additional support information, the NMED has found the application to be technically deficient. The enclosed attachment lists the required information necessary for NMED to begin preparation of a draft permit.

Simple statements will not be acceptable for response to information requested in this NOD. Complete explanations are necessary for fully evaluating the application and generating the RCRA permit. If you have any questions about how detailed any response should be, contact Mr. Cornelius Amindyas at 827-4308 for further discussion.

The information requested in the attachment must be submitted to NMED within thirty (30) days of receipt of this NOD. Failure to submit the required information in this designated time may result in permit denial. Due to time constraint in meeting our FY93 commitments, we do not look favorably to providing extensions. However, we may consider a petition for deadline extension on an item by item basis, provided that a written justification and the expected submittal date are given.

KAFB1327

Sincerely,

Barbara Hoditschek

Barbara Hoditschek, Manager
RCRA Permits Program
Hazardous and Radioactive Materials Bureau

cc: Benito Garcia, HRMB
Tracy Hughes, NMED
David Neleigh, EPA Region 6
File Red-93

ATTACHMENT

NOTICE OF DEFICIENCY
Technical Adequacy Review
August 25, 1993

1. **Environmental Performance Standards for Subpart X Units** (HWMR-7, Part V, §264.601)

   a. **"Volumes and Physical and Chemical Characteristics of Waste in the Unit"** - In the Part A permit application, Item XIV, "Description of Hazardous Waste", KAFB noted that the estimated annual quantity for an open detonation unit and an open burn unit combined would be 180,000 pounds.

      a.1. What is the quantity distribution of waste treated in each of the two units on an annual basis?

      a.2. Explain which particular wastes treated in the open detonation unit are associated with each of the waste codes listed in Item XIV of the Part A permit application.

      a.3. Provide a complete list of chemical names and quantities for each waste code listed in Item XIV of the Part A permit application (e.g. D003 - PETN, RDX, HMX, TNT; D001 - Potassium Nitrate, Single Based Smokeless Powders, Methanol).

      a.4. Provide any available information about past explosive ordnance disposal activities and records of wastes treated at the present site. The purpose of requesting this information is to help with site characterization.

   b. **"Hydrologic and Geologic Characteristics of the Unit and the Surrounding Area"** - Information submitted in response to the May 10 1993 Notice of Deficiency provided regional information extracted from published reports. Additional information specific to the explosive open detonation range is needed for evaluating the potential of hazardous waste constituents to be released to the ground water.

      b.1. Supply site specific data for initially characterizing the open detonation unit and surrounding area. Hydrology and geology supportive of published reports must be confirmed through direct methods of data collection. Any saturated zones must be identified.

      b.2. Expound upon the sampling and analysis plan for monitoring the vadose zone during treatment

operations and for the potential of waste constituents to migrate into the ground water. Partial information was found in Sections 2.5, 3.2 and 8.2 of KAFB's July 1993 information submittal.

Ground water monitoring is typically required for land based treatment unit where secondary containment is not provided. However, since the ground water seems to be at a depth that will not readily be affected from open detonation treatment, a soil sampling and analysis program may be more reasonable for tracking any potential releases. Verification of ground water depths should be accomplished through direct data collection methods.

In order to satisfy that the required information in 1.a. and 1.b. meets the intent for protecting human health and the environment, NMED suggests that KAFB discuss appropriate spacial and temporal intervals for data collection prior to initiating any data collection program.

c. **Releases of Waste Constituents into the Air** - An evaluation for the potential release of untreated waste contaminants from the open detonation unit must be provided considering the following:

1. The volume and physical/chemical characteristics of the waste treated in the unit, including the waste's potential for the emission and dispersal of gases, aerosols and particulates;

2. the effectiveness and reliability of the waste treatment to reduce or prevent emissions of hazardous constituents into the air (This might be demonstrated from soil sampling after each treatment event);

3. the waste management operations of the unit (e.g. placing soil over explosives prior to initiating treatment);

4. The atmospheric, meteorologic, and topographic characteristics of the unit and the surrounding area;

5. The existing quality of the air, including other sources of contamination and the cumulative impact on the air;

6. The potential for health risks caused by human exposure of waste constituents; and

7. The potential for damage to domestic animals, wildlife, crops, vegetation, and physical structures caused by exposure to waste constituents.

Considering that as much as 180 thousand pounds of waste explosives may be treated in the open detonation unit each year, it is suggested that a recognized air modelling demonstration be performed or that published literature be provided that demonstrates that negligible impact will result that could threaten human health or the environment.

2. **Location Standards** (HWMR-7, Part V, § 264.18(b), 264.601 and 270.14(b)(8))

2.a. **Flood Plain** - Explain how surface runoff will be eliminated from the area potentially affected by open detonation treatment. Although flood plain information presented in the July 1993 submittal is acceptable for demonstrating that the open detonation unit is outside the Coyote Arroyo's 100-year flood plain, there are smaller channels that could cause local flooding during the 100 year flood. Ditches, berms or other diversion structures may need to be designed and constructed to prevent vertical and horizontal migration of waste constituents.

2.b. **Prevention of Releases** - Explain what measures will be incorporated into the pit design to exclude water from entering the pit. Direct rainfall entering the firing pit could cause a hydraulic head that would drive waste constituents into the vadose zone. Some facilities have used weather covers over their pits during periods of inactivity.

3. **Design and Operation of Facility** (HWMR-7, Part V, §264.31)

3.a. **Design of Unit** - Numerous references have been provided for design of the open detonation unit. However a complete description of pit design is needed for evaluating the unit's affect on human health and the environment. Examples of missing design elements are: 1)Ramps or other methods for entering the pit as the pit approaches a 30-foot depth; structures noted in items 2.a. and 2.b. above; reasoning for selecting a 30-foot maximum pit depth; reconstruction of the pit after a 30-foot pit depth is reached. Include these examples and any other missing elements in the design description.

3.b. **Operation of Unit** - If earth moving equipment is used to provide pit access (e.g. ramps) or to reconstruct

the pit, a description of how equipment decontamination will be accomplished needs to be addressed. Provide this information.

Also, describe all methods that are used in the treatment process. It is understood that for treatment of certain waste types, a layer of soil is placed over wastes prior to detonation. This is the type of procedure that needs to be described.

3.c. **Health and Safety Plan** - A description of safety procedures (waste management operations) in the form of a stand alone health and safety plan for routine operations needs to be provided. Selected statements throughout the July 1993 submittal would be applicable and useful in formulating such a plan.

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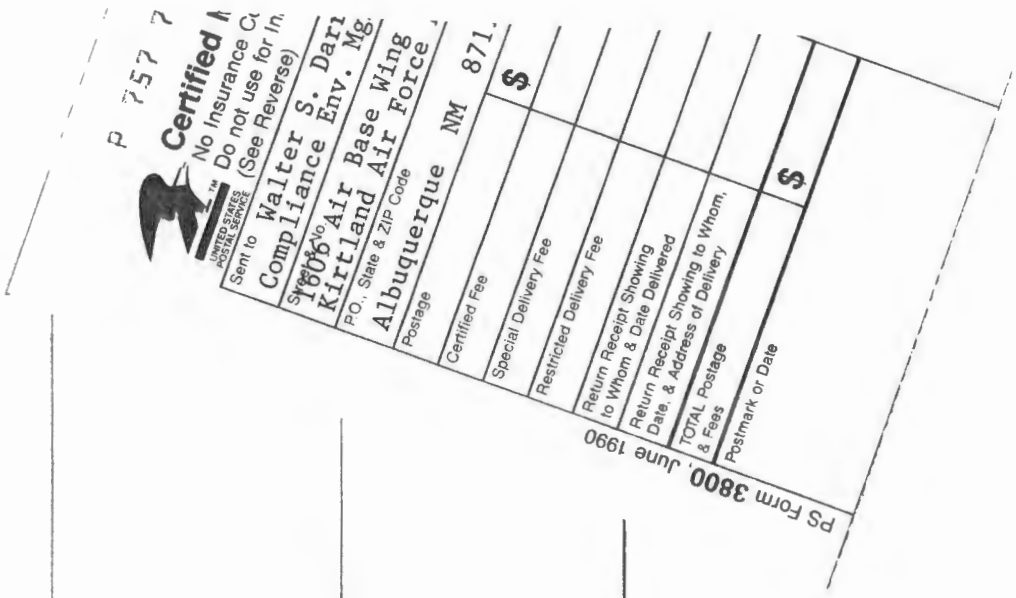

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