



Permit

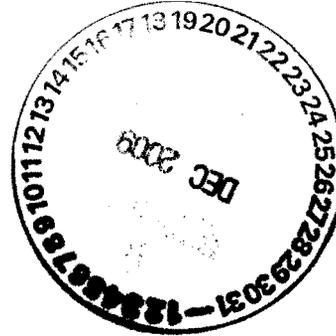
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November 23, 2009

DCN 06280.220.ID.013

Mr. David Cobrain
State of New Mexico Environment Department
Hazardous Waste Bureau
2905 Rodeo Park Drive East
Building One
Santa Fe, New Mexico 87505-6303



Reference: Work Assignment No. 06280.220.0002; State of New Mexico Environment Department, Santa Fe, New Mexico; LANL Public Comment Management; Review of Los Alamos National Laboratory Comment on Section 6.2(9) of the Revised Draft Permit, Los Alamos National Laboratory, Los Alamos, New Mexico, October 2009; Task 2 Deliverable.

Dear Mr. Cobrain:

Enclosed please find the deliverable for the above-referenced work assignment. The deliverable consists of a technical evaluation of the Los Alamos National Laboratory (LANL) comment on Section 6.2(9) of the revised Draft Hazardous Waste Facility Permit issued for LANL by the New Mexico Environment Department (NMED).

In commenting on Section 6.2(9) of the revised draft permit, LANL has asked that the restriction on open burning of wastes capable of generating dioxins and furans at the TA-16 Burn Grounds be deleted. The comment includes information supporting LANL's position. While LANL appears committed to demonstrating that small mammals will not be exposed to furan concentrations in the soil at the TA-16 Burn Grounds, such a demonstration is not included in the comment. TechLaw's evaluation enumerates the minimum requirements for such a demonstration. Further, TechLaw recommends the restriction on burning wastes capable of generating dioxins and furans remain in Section 6.2(9) of the revised draft permit until NMED is satisfied that LANL has successfully demonstrated exposure to furans in the soil at levels potentially harmful to small mammals will not occur.

This deliverable has been submitted in draft form. TechLaw is prepared to discuss this technical evaluation with HWB to clarify any issues or concerns that may arise and will revise the document if instructed by NMED to facilitate the development of effective permit conditions for the TA-16 Burn Ground.



Mr. David Cobrain
November 23, 2009
Page 2

The document is formatted in MS Word and was emailed to you today at dave.cobrain@nmenv.state.nm.us. A formalized hard (paper) copy of this deliverable will be sent via U.S. Mail. If you have any questions, please call me at (312) 345-8966 or Michael S. Smith at (678) 765-0815.

Sincerely,

A handwritten signature in black ink, appearing to read "R. Young", with a stylized flourish at the end.

Robert Young
Division Director

Enclosure

cc: Mr. Michael S. Smith, TechLaw

TASK 2 DELIVERABLE

**REVIEW OF THE LOS ALAMOS NATIONAL LABORATORY COMMENT ON
SECTION 6.2 (9) OF THE REVISED DRAFT PERMIT
LOS ALAMOS NATIONAL LABORATORY
LOS ALAMOS, NEW MEXICO**

OCTOBER 2009

TECHNICAL AREA 16 BURN GROUND

LANL Permit Support

Submitted by:

**TechLaw, Inc.
205 West Wacker Drive
Suite 1622
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Submitted to:

**Mr. David Cobrain
State of New Mexico Environment Department
Hazardous Waste Bureau
2905 Rodeo Park Drive East
Building One
Santa Fe, New Mexico 87505**

In response to:

Work Assignment No. 06280.220.0002

November 23, 2009

**REVIEW OF THE LOS ALAMOS NATIONAL LABORATORY COMMENT ON
SECTION 6.2 (9) OF THE REVISED DRAFT PERMIT
LOS ALAMOS NATIONAL LABORATORY
LOS ALAMOS, NEW MEXICO**

OCTOBER 2009

Los Alamos National Laboratory Comment

The Permittees request the removal of the waste prohibition in Section 6.2(9), which prohibits the treatment of “wastes capable of generating dioxins and furans.” The following presents the Permittees’ support for the removal of this Permit condition.

Air Model Background

To demonstrate that the OB units will not cause adverse effects on human health or the environment, air modeling was performed and reports were generated by both the Permittees and NMED.

The Permittees’ modeling showed that OB treatment operations at Technical Area (TA)-16 are protective of human health and the environment and pose no adverse effects due to migration of waste constituents in the air.

The NMED model showed that open burning treatment of 20,000 pounds (lbs) of bulk high explosive (HE) waste “can be conducted and considered protective of human health and the environment.” However, the NMED conclusion was that burning 20,000 lbs per year of HE-contaminated waste “can be considered protective of human health but not protective of ecological receptors.” The model found that the estimated 10-year soil deposition value for dioxin/furan due to the burning of HE-contaminated wastes would fail the LANL Ecological Screening Level for a Montane Shrew. The NMED model report stated that the “exceedances were driven by the emission factors chosen for furans while the dioxin component did not contribute to the exceedance.” The NMED model report also recommended that the treatment of HE-contaminated wastes at TA-16-388 required “performance of a more refined analysis of ecological risk, restrictions on the types of HE-contaminated wastes treated, and/or implementation of controls or procedures to prevent exposure of small mammals.”

Model screening exceedance only with HE-contaminated combustibles

The NMED model results determined that operations at the open burning treatment units pose no adverse effects for the treatment of bulk HE waste up to 20,000 lbs. Most of the waste treated through open burning at LANL (approximately 90%) is bulk HE from the machining of high explosives components used for testing, research and development projects within the DOE Complex. This waste consists of scraps and chips of explosives from machining mixed with water and the fiber filter socks used to strain the larger chunks of explosives from the water used for cooling. All waste treated at the TA-16-399 Burn Tray is bulk HE and most of the waste treated at the TA-16-388 Flash Pad is bulk HE and filters. The treatment of the HE-contaminated combustible waste makes up a small percentage of the waste treated at the open burning treatment units and in recent years has been less than 2% of the 20,000 lbs. modeled.

Another major factor influencing the result for the open burning of HE-contaminated waste is the uncertainty associated with the emission factors used in the analysis. The emission factors for

Controls to Prevent Small Mammal Exposure

Periodic surveys of the TA-16 Burn Ground were recommended by NMED's model report to identify and relocate nesting areas. The fire break that is described in the comment to Section 6.1.1.1(1) of this document helps to discourage small animals from living in the area and the Permittees are committed to adding a periodic survey to look for signs of small burrowing mammals as an operational requirement that would be documented in the operating record for the permitted units.

See Appendix 3 for supporting documents.

Suggested language change:

Page 83, delete lines 16-24:

~~(9) wastes capable of generating dioxins and furans.~~

~~(i) The Permittees shall provide to the Department, prior to each treatment event, a certification that wastes being treated are not capable of generating dioxins and furans.~~

~~(ii) To remove the prohibition, the Permittees must submit to the Department a Class 3 permit modification request that includes a demonstration that the treatment of waste capable of generating dioxins or furans will be conducted in a manner that will ensure protection of human health and the environment.~~

Technical Evaluation

LANL has committed to performing an ecological risk analysis; however, the methodology that will be employed in the assessment has not been provided. Further, LANL indicates it will use a firebreak and periodic surveys to control exposures to small mammals in the vicinity of the burn pans/trays. Details of the survey were not provided. NMED is unaware of a firebreak at the TA-16 Burn Ground. Please see the evaluation of Comment 6.1.1.1 (1) for more details related to the firebreak.

While the commitment to perform an ecological risk analysis and implement control measures at the TA-16 Burn Ground is acknowledged, the Permittees must demonstrate that the proposed measures are and will be effective in rendering the potential exposure of small mammals to furans in the soil (expressed as 2,3,7,8-TCDD TEQ) at the TA-16 burn ground an incomplete pathway. At a minimum, this demonstration should include submittal of the methodology to be applied in assessing ecological risk before performance of the ecological risk assessment as well as subsequent submittal of the results of the risk analysis. The Permittees should submit information demonstrating the effectiveness of the firebreak in preventing small mammals from nesting near the burn trays. In addition, the Permittees should submit a copy of the survey instrument to be used in documenting signs of small mammals in the vicinity of the burn trays. This should be accompanied by information demonstrating how the survey will be used to ensure small mammals will not be exposed to furan concentrations in the burn ground soils.