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RON CURRY  
Secretary

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

March 11, 2010

Thomas A. Ladd, Director  
Environment and Safety Directorate  
U.S. Army White Sands Missile Range  
White Sands Missile Range,  
New Mexico 88002-5000

**RE: NOTICE OF DISAPPROVAL  
REVISED PHASE III RCRA FACILITY INVESTIGATION (RFI) REPORT  
HIGH ENERGY LASER SYSTEMS TEST FACILITY (HELSTF) SITES  
WHITE SANDS MISSILE RANGE  
EPA ID NO. NM 2750211235  
HWB-WSMR-08-001**

Dear Mr. Ladd:

The New Mexico Environment Department (NMED) has received the White Sands Missile Range's (Permittee) *Revised Phase III RCRA Facility Investigation (RFI) Report HELSTF Sites*, dated September, 9 2009 (Report). NMED has determined that revisions must be made to the Report before a detailed technical review can be conducted. NMED will review the Report once all required information is provided. NMED has conducted a preliminary review and determined that the Report is technically deficient. NMED hereby issues this Notice of Disapproval (NOD). The Permittee must address all comments in this NOD and submit a revised Report. The Permittee is reminded that this is not a full technical review of the Report. The comments included in this letter are intended to result in revisions that will facilitate NMED's review. NMED will have additional comments, following receipt of all information requested in this NOD.

## COMMENTS

### Comment 1

Much of the text in the Report is redundant or repetitive (e.g., Section 6.6.5.2 through Section 6.6.5.2.4). The Permittee must revise the Report to remove all redundancies and repetitions.

### Comment 2

Currently, multiple sampling events are depicted on a single figure. The Permittee must revise the figures so that sample collection dates are clearly identified (e.g., in the title of the figure, by the sample location ID).

### Comment 3

HMW-5 is included on Table C-2 (Historical Water Levels) and was gauged on January 21, 2009. The Permittee must revise Figure 4-4 or 4-5, whichever is appropriate, to include HMW-05.

### Comment 4

The Permittee must review the Report to ensure that information provided on the revised data tables corresponds to the revised figures. For example, Figure 6.25.6-1 indicates that HMW-33 exceeded MCLs in historical vadose sampling events, but HMW-33 is not included in the two data tables of laboratory results.

### Comment 5

The 4DIM maps are extraneous. The Permittee must remove them from the revised Report, or explain how they add value to the Report.

### Comment 6

The Permittee references ePrism as a source for online maps of HELSTF. Online maps are not part of the Report submittal. The Permittee must remove all references to ePrism from the revised Report, or include hardcopies of the ePrism maps in the Report.

### Comment 7

The Permittee must incorporate relevant figures from the "*Submittal of HELSTF Area Well Logs and Presentation Materials...*" dated March 18, 2009 into the revised Report to facilitate NMED's review.

### Comment 8

NMED generally concurs with the conceptual site model (CSM); however, the Permittee's arguments related to mass water balance and stable isotopes do not cite supporting data and draw vague conclusions. The Permittee must remove all unsubstantiated statements from the revised Report or provide the supporting information related to such statements.

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The Permittee must address all comments in this NOD and submit a revised Report. The revised Report must be accompanied with a response letter that details where all revisions have been made, cross-referencing NMED's numbered comments. In addition, an electronic version of the revised Report must be submitted identifying where all changes were made to the Report in red-line strikeout format. The revised Report must be submitted to NMED no later than June 15, 2010.

If you have any questions regarding this letter, please contact Kristen Van Horn of my staff at (505) 476-6046

Sincerely,



James P. Bearzi  
Chief  
Hazardous Waste Bureau

cc: John Kieling, NMED HWB  
D. Cobrain, NMED HWB  
Jerzy Kulis, NMED HWB  
K. Van Horn, NMED HWB  
Robert Peters, WSMR  
José Gallegos, WSMR  
Benito Avalos, WSMR

File: Reading File and WSMR 2010  
HWB-WSMR-08-001

**Comment 9**

The Permittee must either provide documentation which supports the conclusion in Appendix C-3 (e.g., information supporting the statement that head pressures on parts of the system that may be leaking are most likely variable, or reference to water production rates from 1996-2004, why the same amount of water is produced from the R.O. system when less water is produced from the wells) or remove the appendix from the revised Report.

**Comment 10**

In Section 4.3.5.2.2 Stable Isotopes and Mixing Analysis, second paragraph, page 38, the Permittee states “[a] total of 23 samples were collected, including 2 samples from the HELSTF water source, 12 samples from the vadose zone, 2 samples from the Regional Aquifer at the upgradient portion of HELSTF, and 5 samples from the downgradient portion of the Regional Aquifer.” The total number of samples described in this statement is 21. Table 1 of Appendix C-4 states that there were 23 samples collected for analysis; four samples were collected from the Regional Aquifer at the upgradient portion of HELSTF, rather than the two samples described in the text. The Permittee must revise the text or the Table, whichever is appropriate, to resolve the discrepancy. In general the Permittee must conduct a full review of the Report to check for inconsistencies.

**Comment 11**

Section 4.3.5.2.2 Stable Isotopes and Mixing Analysis, second paragraph, page 38, the Permittee states “...the rate of recharge to the Regional Aquifer was estimated to 0.8 to 1.4.” The Permittee did not state in what units the rate was expressed. The Permittee must revise the Report to include the appropriate units.

**Comment 12**

The transmissivity (T) calculated in 1993 was 2.41 to 3.48 ft<sup>2</sup>/day. The Permittee states that this estimated T is not representative on a larger scale because it assumes an ideal infinite aquifer, and drawdown tests indicate there is limited hydraulic connectivity between wells at the site; therefore a lower T is more likely. The T calculated by the Permittee’s pump tests in 2009 was ~25 ft<sup>2</sup>/day; much larger than the T from 1993. This contradicts the Permittee’s statement that the 1993 test did not reflect conditions at the site. The Permittee must discuss this discrepancy in the revised Report.

**Comment 13**

The Permittee has not conducted a comprehensive background study at HELSTF or across the Facility. Therefore, the Permittee must not make comparisons to background. The Permittee must provide justification for asserting that detected concentrations of selenium, boron, lithium, aluminum, iron, and manganese are naturally-occurring, or the Permittee must conduct a background study at the Facility. If the Permittee chooses not to perform a background study at this time, all references to background comparisons must be removed from the revised Report (e.g., Section 4.3.6.1 (Soluble Minerals and their Elements)).