



CAFBC

DEPARTMENT OF THE AIR FORCE  
27TH SPECIAL OPERATIONS WING (AFSOC)  
CANNON AIR FORCE BASE NEW MEXICO



OCT 12 2007

Colonel Timothy J. Leahy  
Commander  
100 N DL Ingram Blvd, Ste 100  
Cannon AFB NM 88103-5214

Mr. James Bearzi  
Chief Hazardous Waste Bureau  
New Mexico Environment Department  
2905 Rodeo Park Drive, East Building 1  
Santa Fe NM 87505-6303

Dear Mr. Bearzi,

Cannon Air Force Base hereby submits the attached response to all General and Specific Comments to the Notice of Disapproval, Corrective Measures Study at Solid Waste Management Units 31, 48a, 77 and 127, dated 18 Jul 07 at Cannon AFB, NM, EPA ID No. NM7572124454.

Please address any questions or comments to my Restoration Program Manager, Ms. Kristi L. Doll, at (505) 784-1091.

Sincerely

RONALD A. LANCASTER  
Chief, Environmental Flight

Attachment:  
Response to NMED's General and Specific Comments

cc:  
NMED HWB Bureau (S.L. Vonteddu) w/o Atch  
EPA Region VI (B. Sturdivant) w/ Atch

1st Ind, 27 SOCES/CC, 1 Oct 07, Ltr to Mr. James Bearzi

Concur/~~Nonconcur.~~

  
STEPHEN D. WOOD, Lt Col, USAF  
Commander, 27 SOCES

2d Ind, 27 SOMSG/CC, Ltr to Mr. James Bearzi

Concur/~~Nonconcur.~~

  
BABETTE M. LENFANT, Colonel, USAF  
Commander, 27 SOMSG

3d Ind, 27 SOW/CC

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who managed the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

  
TIMOTHY J. LEAHY, Colonel, USAF  
Commander

**RESPONSE TO COMMENTS ON PREVIOUS RESPONSES TO COMMENTS  
NOTICE OF DISAPPROVAL (NOD)  
CORRECTIVE MEASURES STUDY AT SWMUS 31, 48A, 77 AND 127  
CANNON AIR FORCE BASE, NEW MEXICO  
EPA ID NO. NM7572124454  
CAFB-06004**

*Comments by James P. Bearzi, Chief Hazardous Waste Bureau, NMED dated July 18, 2007.*

The New Mexico Environment Department (NMED) has reviewed the Department of Air Force's (the Permittee) response to the NMED's Notice of Deficiency dated March 27, 2007. NMED issued the Notice of Deficiency on December 21, 2006 for the *Corrective Measures Study at SWMUs 31, 48A, 77, and 127* (Report), dated June 2000. In the process of reviewing the Report, NMED has also reviewed the documents *Final Corrective Measure Implementation Work Plan for SWMU 31 (AGE Maintenance Pad)* and *SWMU 77 (Civil Engineering Container Storage Area)* dated January 1999, and *Work Plans: SWMUs 31, 48A, 77, and 127* dated November 1998. The Permittee's response to the NMED's comments is adequate except for the responses to Specific Comments 10,13,15,18 and 19 and General Comment 3.

The Permittee, in responding to the Specific Comments 10 and 19, did not indicate that the review of more current toxicity data would be conducted; and there is no indication in the risk assessment that such a review was undertaken. NMED recognizes that the Report was based on the most current methodology available at the time. To ensure that the conclusions drawn from the 2000 analysis have not changed, the Permittee must conduct a thorough review of current toxicity data and United States Environmental Protection Agency (EPA) Region 6 media-specific screening levels (MSSLs) and discuss any differences between the 2000 and current methodologies.

In evaluating the Permittee's response to Specific Comments 10 and 19, NMED conducted a qualitative comparison of the screening values used in the Report to the most current soil screening levels (SSLs) published in NMED's *Technical Background Document for Development of Soil Screening Levels, Revision 4.0*, Hazardous Waste Bureau and Ground Water Quality Bureau, Voluntary Remediation Program, June 2006. SSLs are similar to MSSLs; however, SSLs are based on a target risk level of  $1 \times 10^{-5}$  for carcinogens while risk-based MSSLs are based on a target risk level of  $1 \times 10^{-6}$ . Based on this qualitative comparison of site data against the current NMED SSLs, NMED has determined that the conclusions presented in the Report will not change.

**Response to NMED's comments on previous responses to Comments 10 and 19:**

The maximum concentration of all detected chemicals from SWMUs 31, 48A, 77, and 127 were compared with the most current USEPA Region 6 media-specific screening levels (MSSLs) [USEPA 2007] to ensure that the conclusions based on the 2000 Human Health Risk Evaluation have not changed [see attached Table 1]. Most of the screening levels were equal to or very close to the MSSLs used in the 2000 Human Health Risk Evaluation.

The MSSLs for the following chemicals were significantly higher due to the use of an updated toxicity value:

- 1,1-Dichloroethene – no longer considered a carcinogen
- Acetone – oral and inhalation RfD increased
- Barium – oral and inhalation RfD increased
- Iron – currently uses a provisional RfD

The MSSLs for the following chemicals were significantly lower due to the use of an updated toxicity value:

- Tetrachloroethene – currently uses a provisional SF
- Trichloroethene – currently uses a provisional SF
- Benzo(k)fluoranthene – decreased inhalation SF
- Cobalt – currently uses a provisional SF

These changes did not affect the results of the COPC selection with the exception of one chemical. Benzo(k)fluoranthene now exceeds the residential MSSL (1.5 mg/kg) at SWMU 31 (3.8 mg/kg) and SWMU 127 (1.6 mg/kg). Slope factors for the carcinogenic PAHs were derived from benzo(a)pyrene using toxicity equivalency factors (TEFs). Using this approach, the site-specific target level (SSTL) for benzo(k)pyrene would be ten times higher (43 mg/kg) than the SSTL calculated for benzo(a)anthracene (4.3 mg/kg). None of the detected concentrations exceed the SSTL for benzo(k)fluoranthene at any of the SWMUs; therefore, benzo(k)fluoranthene is not a chemical of concern. Following a thorough review of current toxicity data using Region 6 MSSLs and a comparison of site data, it was determined that the conclusions presented in the Final Corrective Measures Study will not change.

The Permittee, in responding to Specific Comments 13, 15, and 18 and General Comment 3, noted that volatile organic compounds (VOCs) were detected infrequently at low concentrations and that the vapor intrusion pathway was not considered to be significant. The Permittee did not provide any additional supporting information.

NMED utilized EPA's Johnson and Ettinger (J&E) vapor intrusion soil screening model, SL-Screen-Feb04.xls ([www.epa.gov/oswer/riskassessment/airmodel/johnson\\_ettinger.htm](http://www.epa.gov/oswer/riskassessment/airmodel/johnson_ettinger.htm)), to determine if additional analysis of the vapor intrusion pathway is warranted. NMED ran the SL-Screen-Feb04.xls J&E model in back-calculation mode under the following assumptions:

- Maximum detected concentrations of the more toxic VOCs from Tables 5-5, 6-9 and 7-6 (note the highest maxima were identified in Table 7-6) were used;
- NMED target risk of  $1 \times 10^{-5}$  or a target hazard quotient of 1.0 was specified;
- Sandy loam along with leaky soil properties were specified; and
- Average flow rate into the building ( $Q_c$ ) was left blank allowing the spreadsheet to calculate this value.

Based on this qualitative screening analysis, NMED determined that residual concentrations of VOCs at SWMU 127 may pose a potential vapor intrusion concern because the maximum concentrations of a subset of VOCs are above the target screening level concentration as follows (bold indicates the value exceeds the target concentration to be protective from indoor air exposures):

<u>Site</u>	<u>Chemical</u>	<u>Maximum Concentration (mg/kg)</u>	<u>Target Concentration to be Protective from Indoor air exposures (mg/kg)</u>
SWMU-127	Ethylbenzene	<b>54</b>	25
	Benzene	<b>3.8</b>	0.021
	Tetrachloroethene	0.0029	0.021
	Toluene	<b>82</b>	5.8
	Xylenes	<b>260</b>	3

Because application of the currently accepted screening tool for the vapor intrusion pathway suggests the potential for vapor intrusion at some facility sites, the Permittee must perform an analysis of this exposure pathway. This analysis should include additional lines of evidence, other than frequency of detection, that establish the significance of the vapor intrusion pathway at facility sites. Examples of acceptable lines of evidence include but are not limited to, site-specific applications of the J&E model, descriptions of the distribution of the data to support the absence of a VOC source and collection of soil gas samples.

**Response to NMED's comments on previous responses to Comments 13, 15, and 18:**

Only the BTEX concentrations associated with sample CAN127-2710-0000 from soil boring 12710 exceed the target concentrations based on the J&E model. This sample was collected from surface soil (collected at 0 to 0.5 feet immediately beneath concrete). BTEX compounds were not detected in the 5 foot or 10 foot samples, indicating there is not a significant source of BTEX in the subsurface.

The maximum detected VOC concentrations were located immediately beneath the wash rack and as such, existing conditions are not relevant to the enclosed building parameters or to the residential exposure assumptions presently used in the J&E vapor intrusion model.

It should also be noted that a project which includes additional characterization of SWMU 127, potentially followed by a removal action, is currently in the planning phase.

- The period of the occurrence including exact date and time, and, if the noncompliance has not been corrected, the anticipated time it is expected to continue; and,
- Steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance.

**1.5.10.d Unmanifested waste report**

The Permittee shall submit an unmanifested waste report to the Director within 15 calendar days of receipt of unmanifested waste, pursuant to 20.4.1.900 NMAC, incorporating 40 CFR 270.30(1)(8) and 20.4.1.500 NMAC, incorporating 40 CFR 264.76.

**1.5.10.e Other noncompliance**

The Permittee shall report all other instances of noncompliance not otherwise required to be reported above under this permit at the time monitoring reports are submitted. The reports shall contain the information listed in Permit Condition 1.5.10.c.ii, pursuant to 20.4.1.900 NMAC, incorporating 40 CFR 270.30(1)(10).

**1.5.10.f Other information**

Whenever the Permittee becomes aware that he failed to submit any relevant facts in the Permit Application, or submitted incorrect information in the Permit Application or in any report to the Secretary, the Permittee shall promptly submit such facts or information in writing to the Secretary, pursuant to 20.4.1.900 NMAC, incorporating 40 CFR 270.30(1)(11).

**1.5.10.g Signatory requirement**

The Permittee shall sign and certify all applications, reports, or information submitted to or requested by the Secretary or required by this permit, pursuant to 20.4.1.900 NMAC, incorporating 40 CFR 270.11 and 270.30(k).

**1.5.10.h Reports, notifications, and submissions to the New Mexico Environment Department**

The Permittee shall submit by certified mail or hand delivery and electronically all reports, notifications, or other submissions that are required by this Permit to be sent or given to the NMED. The submissions should be sent by certified mail or hand delivered, and also by electronic mail to: