NEW MEXICO
ENVIRONMENT DEPARTMENT

Water and Waste Management Division

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CERTIFIED MAIL - RETURN RECEIPT REQUESTED

July 2, 2010

David Moody, Manager
Carlsbad Field Office
Department of Energy
P.O. Box 3090
Carlsbad, New Mexico 88221-3090

Farok Sharif
Washington TRU Solutions LLC
P.O. Box 2078
Carlsbad, New Mexico 88221-5608

RE: FINAL DETERMINATION, CLASS 2 MODIFICATION REQUEST
WIPP HAZARDOUS WASTE FACILITY PERMIT
EPA I.D. NUMBER NM4890139088

Dear Dr. Moody and Mr. Sharif:

The New Mexico Environment Department (**NMED**) hereby approves with changes the permit modification request (**PMR**) to the WIPP Hazardous Waste Facility Permit as submitted to the Hazardous Waste Bureau in the following document:

- Request for Class 2 Permit Modification (Revise VOC Cs of C), Letter Dated 4/12/10, Rec'd 4/14/10

The following item was included in this submittal:

1. Revise volatile organic compound concentrations of concern and update these values using current EPA IRIS data.

This Class 2 PMR was evaluated and processed in accordance with the requirements specified in 20.4.1.900 NMAC (incorporating 40 CFR §270.42(b)). It was subject to a 60-day public comment period running from April 19, 2010 through June 18, 2010, during which NMED received written specific comments from a total of six individuals and organizations.

NMED is also incorporating into the revised Permit the following Class 1 modification:

- Notification of Class 1 Permit Modification (Lab Accuracy Standards), Letter Dated 6/7/10, Rec'd 6/8/10

This Class 1 PMR was processed in accordance with the requirements specified in 20.4.1.900 NMAC (incorporating 40 CFR §270.42(a)).

NMED hereby approves this modification with changes as noted in Attachment 1. Attachment 2 contains redline/strikeout pages of the modified permit to help the reader rapidly identify each modification. Language deleted from the permit is ~~stricken out~~. Language added to the permit is highlighted in redline. Specific language changes imposed by NMED are distinguished from language changes proposed in the modification request by yellow highlighting. Also enclosed is a CD-ROM containing the modified files in MS Word redline/strikeout format as well as files with markings and comments removed. An electronic version of the modified permit with markings removed will be publicly posted on the NMED WIPP Information Page at <http://www.nmenv.state.nm.us/wipp/download.html>.

For purposes of version control, please note that NMED has established the date of these modified module and attachment pages as July 2, 2010. The effective date of the permit modification approval is your date of receipt of this letter.

NMED is providing full response to all public comments under separate cover.

If you have any questions regarding this matter, please contact Steve Zappe of my staff at (505) 476-6051.

Sincerely,

Marcy Leavitt
Director
Water and Waste Management Division

ML/soz

Attachment 1 – changes to permit modification request
Attachment 2 – redline/strikeout pages

Cc: James Bearzi, NMED HWB
John Kieling, NMED HWB
Leslie Barnhart, NMED OGC
Steve Zappe, NMED HWB
Thomas Kesterson, NMED DOE-OB/WIPP
Laurie King, EPA Region 6
Tom Peake, EPA ORIA
Connie Walker, Trinity Engineering
File: Red WIPP '10

Attachment 1

Changes to Permit Modification Request

NMED is presenting changes to the permit modification request (**PMR**) below. NMED changes are indicated in yellow highlight here and in Attachment 2 to this letter.

Module IV

- Table IV.F.2.c is changed as follows:

Table IV.F.2.c - VOC Concentrations of Concern		
	Drift E-300 Concentration	
Compound	ug/m3	ppbv
Carbon Tetrachloride	2625	412.5
Chlorobenzene	1015	220
Chloroform	890	180
1,1-Dichloroethene	410	100
1,2-Dichloroethane	175	45
Methylene Chloride	6700	1930
1,1,2,2-Tetrachloroethane	350	50
Toluene	715	190
1,1,1-Trichloroethane	3200	590

NMED did not change any other concentrations of concern as proposed in the PMR that were based upon reapportioning the risk associated with carcinogenic VOCs. NMED's change to the table was limited to revising the concentration of concern for carbon tetrachloride based solely on the March 31, 2010 EPA change to the inhalation risk factor from 1.5 E-05 $m^3/\mu g$ to 6.0 E-06 $m^3/\mu g$.

Attachment 2
Redline/Strikeout Pages

(Volatile Organic Compound Monitoring Plan) and as required by 20.4.1.500 NMAC (incorporating 40 CFR §264.602 and §264.601(c)). The Permittees shall implement repository VOC monitoring within thirty (30) calendar days of issuance of this Permit until the certified closure of all Underground HWDUs.

IV.F.2.b. Reporting Requirements

The Permittees shall report to the Secretary semi-annually, beginning twelve (12) months after issuance of this Permit, the data and analysis of the VOC Monitoring Plan.

IV.F.2.c. Notification Requirements

The Permittees shall notify the Secretary in writing, within seven (7) calendar of obtaining validated analytical results, whenever the concentration of any VOC specified in Table IV.D.1 exceeds the concentration of concern specified in Table IV.F.2.c below.

The Permittees shall notify the Secretary in writing, within seven (7) calendar days of obtaining validated analytical results, whenever the running annual average concentration (calculated after each sampling event) for any VOC specified in Table IV.D.1 exceeds the concentration of concern specified in Table IV.F.2.c below.

Table IV.F.2.c - VOC Concentrations of Concern

Compound	Drift E-300 Concentration	
	ug/m3	ppbv
Carbon Tetrachloride	~~1050~~2625	~~165~~412.5
Chlorobenzene	1015	220
Chloroform	890	180
1,1-Dichloroethene	410	100
1,2-Dichloroethane	175	45
Methylene Chloride	6700	1930
1,1,2,2-Tetrachloroethane	350	50
Toluene	715	190
1,1,1-Trichloroethane	3200	590

Sensitivity. Sensitivity will be defined by the required MRLs for the program. Attainment of required MRLs will be verified by the performance of statistical method detection limit (**MDL**) studies in accordance with 40 *Code of Federal Regulations* § 136. The MDL represents the minimum concentration that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero. An MDL study will be performed by the program analytical laboratory prior to sampling and analysis, and annually thereafter.

Completeness. Completeness will be defined as the percentage of the ratio of the number of valid sample results received (i.e., those which meet data quality objectives) versus the total number of samples collected. Completeness may be affected, for example, by sample loss or destruction during shipping, by laboratory sample handling errors, or by rejection of analytical data during data validation.

N-5a(1) Evaluation of Laboratory Precision

Laboratory sample duplicates and blank spike/blank spike duplicates (**BS/BSD**) will be used to evaluate laboratory precision. QA objectives for laboratory precision are listed in Table N-2, and are based on precision criteria proposed by the EPA for canister sampling programs (EPA, 1994). These values will be appropriate for the evaluation of samples with little or no matrix effects. Because of the potentially high level of salt-type aerosols in the WIPP underground environment, the analytical precision achieved for WIPP samples may vary with respect to the EPA criteria. RPDs for BS/BSD analyses will be tracked through the use of control charts. RPDs obtained for laboratory sample duplicates will be compared to those obtained for BS/BSDs to ascertain any sample matrix effects on analytical precision. BS/BSDs and laboratory sample duplicates will be analyzed at a frequency of 10 percent, or one per analytical lot, whichever is more frequent.

N-5a(2) Evaluation of Field Precision

Field duplicate samples will be collected at a frequency of 5 percent for both monitoring locations. The data quality objective for field precision is 35 percent for each set of duplicate samples.

N-5a(3) Evaluation of Laboratory Accuracy

Quantitative analytical accuracy will be evaluated through performance criteria on the basis of (1) relative response factors generated during instrument calibration, (2) analysis of laboratory control samples (**LCS**), and (3) recovery of internal standard compounds. The criteria for the initial calibration (5-point calibration) is $\leq$ 30 percent relative standard deviation for target analytes. After the successful completion of the 5-point calibration, it is sufficient to analyze only a midpoint standard for every ~~12~~ 24 hours of operation. The midpoint standard will pass a 30 percent difference acceptance criterion for each target compound before sample analysis may begin.

A blank spike or LCS is an internal QC sample generated by the analytical laboratory by spiking a standard air matrix (humid zero air) with a known amount of a certified reference gas. The reference gas will contain the target VOCs at known concentrations. Percent recoveries for the target VOCs will be calculated for each LCS relative to the reference concentrations. Objectives for percent recovery are listed in Table N-2, and are based on accuracy criteria proposed by the

EPA for canister sampling programs (EPA, 1994). LCSs will be analyzed at a frequency of 10 percent, or one per analytical lot, whichever is more frequent.

Internal standards will be introduced into each sample analyzed, and will be monitored as a verification of stable instrument performance. In the absence of any unusual interferences, areas should not change by more than 40 percent over a ~~12~~ 24-hour period. Deviations larger than 40 percent are an indication of a potential instrument malfunction. If an internal standard area in a given sample changes by more than 40 percent, the sample will be reanalyzed. If the 40 percent criterion is not achieved during the reanalysis, the instrument will undergo a performance check and the midpoint standard will be reanalyzed to verify proper operation. Response and recovery of internal standards will also be compared between samples, LCSs, and calibration standards to identify any matrix effects on analytical accuracy.

N-5a(4) Evaluation of Sensitivity

The presence of aerosol salts in underground locations may affect the MDL of the samples collected in those areas. The intake manifold of the sampling systems will be protected sufficiently from the underground environment to minimize salt aerosol interference.

The MDL for each of the nine target compounds will be evaluated by the analytical laboratories before sampling begins. The initial and annual MDL evaluation will be performed in accordance with 40 *Code of Federal Regulations* §136 and with EPA/530-SW-90-021, as revised and retitled, "Quality Assurance and Quality Control" (Chapter 1 of SW-846) (1996).

N-5a(5) Completeness

The expected completeness for this program is greater than or equal to 90 percent. Data completeness will be tracked monthly.

N-5b Sample Handling and Custody Procedures

Sample packaging, shipping, and custody procedures are addressed in Section N-4c.

N-5c Calibration Procedures and Frequency

Calibration procedures and frequencies for analytical instrumentation are listed in Section N-4e.

N-5d Data Reduction, Validation, and Reporting

A dedicated logbook will be maintained by the operators. This logbook will contain documentation of all pertinent data for the sampling. Sample collection conditions, maintenance, and calibration activities will be included in this logbook. Additional data collected by other groups at WIPP, such as ventilation airflow, temperature, pressure, etc., will be obtained to document the sampling conditions.

Data validation procedures will include at a minimum, a check of all field data forms and sampling logbooks will be checked for completeness and correctness. Sample custody and analysis records will be reviewed routinely by the QA officer and the laboratory supervisor.