

Kathleen Hartnett White, *Chairman*  
R. B. "Ralph" Marquez, *Commissioner*  
Larry R. Soward, *Commissioner*  
Glenn Shankle, *Executive Director*



## TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

*Protecting Texas by Reducing and Preventing Pollution*

April 25, 2005

**CERTIFIED MAIL #3823  
RETURN RECEIPT REQUESTED**

Mr. Johnny Guelker (PXSO-ESEP)  
Lead for Site Support  
Department of Energy  
Albuquerque Field Office  
P.O. Box 30030  
Amarillo, Texas 79120

Mr. Dennis Huddleston, Manager  
BWXT - Environmental Services Division  
Department of Energy  
Albuquerque Field Office  
P.O. Box 30030  
Amarillo, Texas 79120

Re: U.S. Department of Energy (DOE), Pantex Plant  
TCEQ Solid Waste Registration No. 30459  
TCEQ Hazardous Waste Permit No. HW-50284  
EPA ID No. TX4890110527

*DOE's Response to the TCEQ Letter dated July 29, 2004 - Final Independent Sites Investigation (Soil RFIR) Dated: January 2004*

Dear Messrs. Guelker and Huddleston:

The Texas Commission on Environmental Quality (TCEQ) reviewed the Soil RFIR dated January 2004 and sent technical comments to the Department of Energy (DOE) in a letter dated July 29, 2004. DOE submitted supplemental information (a.k.a., DOE's response) under a cover letter dated November 3, 2004 to address the TCEQ comments. The Soil RFIR and supplemental information details the results from numerous investigations that have been conducted for twenty-two (22) Solid Waste Management Units (SWMUs) located throughout the DOE-Pantex facility and generally are

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not within industrial zones (e.g., Zone 12). Therefore, these units, (a.k.a. independent sites) are usually small miscellaneous units that were utilized by DOE Pantex to support current and past DOE Pantex operations.

The TCEQ evaluated DOE's response dated November 3, 2004 and generated electronic comments to the dated January 19, 2005 (Attachment to Enclosure 3 to this letter). To resolve the TCEQ's comments, the DOE, BWXT, EPA and TCEQ held a comment resolution teleconference on March 11, 2005 (Enclosure 3 to this letter). The technical review of the DOE's response dated November 3, 2004 and the Tier 1 Team teleconference has resulted in final approval of investigation activities for a total of nineteen (19) SWMUs associated with the Independent Site RFIR (Enclosure 1 to this letter). Enclosure 2 to this letter outlines requests for additional information for three (3) SWMUs and identifies the technical information that has been agreed to in the March 11, 2005 teleconference (Enclosure 3) to resolve outstanding technical comments.

In addition, the Environmental Protection Agency (EPA) also is evaluating this report in accordance with the December 21, 1994 Memorandum of Agreement (MOA) between the EPA and the TCEQ. Note that the investigation of radionuclides is being addressed in a separate report (Final Pantex Plant Radiological Investigation Report, January 2004), therefore this letter does not address any radionuclide issues associated with the SWMUs in the Soil RFIR.

Please note that full closure (soil and groundwater) approval for the SWMUs associated with the Soil RFIR is contingent on completion of any remaining investigations, and evaluation under the requirements of the appropriate Risk Reduction Standard (RRS). A final report is required to verify that the requirements of the Risk Reduction Standard (RRS) rule have been met, including those cleanup criteria used to achieve "full closure" under the rule. Those sites recommended in this letter for a RRS 3 closure will go forward for further evaluation of potential risk to human health in the Baseline Risk Assessment. Sites will be further evaluated for uncertainty management and ecological risk as necessary.

To document compliance with the Texas Professional Geoscience Act, the Remediation Division will not review reports and documents received on or after September 1, 2004 that contain unsealed geoscience services or work. Reports and documents with unsealed geoscience services or work will be returned to the submitting party. For further information, see the Texas Board of Professional Geoscientists website (<http://www.tbpg.state.tx.us>). Please direct all questions regarding what constitutes geoscience to the Board (512/936-4400).

Questions concerning this letter should be directed to me at (512) 239-2243. When responding by mail, please submit an original and one copy of all correspondence and reports to the Corrective Action Section at Mail Code MC-127 with an additional copy submitted to the TCEQ Region 1 Office in Amarillo. Please submit responses to this letter within 45 days of the date of this letter or

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an alternate approved date. The TCEQ Solid Waste Registration Number and SWMU information (e.g., Unit Description or Name) should be referenced in all submittals.

Sincerely,



Robert Musick P.G., Project Manager  
Team I, Corrective Action Section  
Remediation Division  
Texas Commission on Environmental Quality

REM/rm

cc: Mr. Jim McWilliams, Region Project Manager, TCEQ Region 01 Office - Amarillo  
Ms. Camille Hueni, Superfund Division, Texas Section (6SF-AP), USEPA Region VI

Enclosure 1: Conditions of Approval

Enclosure 2: Technical Comments and Clarification

Enclosure 3: Pantex Tier 1 Team Teleconference Record Dated March 11, 2005 and TCEQ  
Comments Dated January 19, 2005 (Attached to Teleconference Record)

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Enclosure

**ENCLOSURE 1**  
**CONDITIONS OF APPROVAL**

## CONDITIONS OF APPROVAL

### I. Conditions of Approval

- A. The TCEQ evaluated DOE's response dated November 3, 2004 and has determined that the conditions to attain closure identified in the TCEQ letter dated July 29, 2004 apply to those solid waste units (SWMUs) listed in Table 1 of this enclosure.
- B. The TCEQ has completed the technical review of the DOE's Response dated November 3, 2004 and determined that the following SWMUs have met the site characterization requirements for a RRS No. 2 closure. A final closure letter will be issued to DOE-Pantex once the units have met the deed recordation requirements established by rule:
1. Firing Site 11 (Unassigned SWMU Number) - Firing Site 11 was used to test-fire components. Wastes generated would be signal cables, wood, etc. The investigation consisted of sampling to approximately 5 feet bgs. At FS 11, there are no RRS No. 2 exceedances below 0-2 feet.
  2. Firing Site 16 (Surface Impoundment, SWMU 11) - Firing Site 16 managed cooling water from Building FS-16 operations. At approximately 25 feet bgs, cadmium exceeded the RRS No. 2 action limit in two investigative borings. Twinning of the two borings established no RRS No. 2 exceedances at 40 feet bgs.
- C. The TCEQ has completed the technical review of the DOE's Response dated March 11, 2005 (*Pantex Tier 1 Team Teleconference Record dated March 11, 2005*) that is attached as Enclosure 3 to this letter. The TCEQ has determined that the following SWMU has met the site characterization requirements for a RRS No. 2 closure. A final closure letter will be issued to DOE-Pantex once the unit has met the deed recordation requirements established by rule:
1. Firing Site 10 (Photo Processing Leaching Bed, SWMU 139) - FS-10 has two potential source areas. The first is the original location of the gravel leaching bed removed from service in 1986; and the second is the two 50-foot long leaching lines extending east of the FS-10 used to discharge industrial wastes into the soils. A review of the data and figures indicate the SWMU has met the site characterization for a RRS No. 2 closure.

### II. No Closure Decision - No closure decisions were established for the following SWMU discussed in the Soil RFIR.

- A. Firing Site 24 (Concrete Sump, SWMU 78) - The FS 24 Concrete Sump is still active to test HE components. The concrete sump system was designed for wash down water collection located outside of the building on the south side. The sump has the dimensions of 5 by 5 by 7.3 feet deep. The Phase I investigation conducted on the firing site established that releases to the environment have been detected at approximately 15 feet bgs, but the levels

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of contamination do not appear to be a threat to groundwater. Based on comments in the DOE's response dated November 3, 2004, closure of this unit will not be determined until unit operations cease. Also, based on the data, no interim stabilization measures (ISMs) are warranted at this time.

<b>TABLE 1</b>			
<b>SWMUs AND CLOSURE STATUS ESTABLISHED IN THE JULY 29, 2004 LETTER*</b>			
<b>Description</b>	<b>SWMU No.</b>	<b>Location</b>	<b>Approval Status</b>
<b>Unlined Landfill</b>	<b>FS-1</b>	<b>Unknown Location</b>	<b>Administratively Closed</b>
<b>Landfill No. 11</b>	<b>SWMU 62</b>	<b>Unknown Location</b>	<b>Administratively Closed</b>
<b>Landfill No. 18</b>	<b>AOC NO. 8</b>	<b>Unknown Location</b>	<b>Administratively Closed</b>
<b>Permitted Unit 53</b>	<b>Permit Unit No. 53</b>	<b>Zone 4 Area</b>	<b>Permitted Unit - Follow Permit Conditions</b>
<b>Firing Site (FS-4)</b>	<b>SWMU 69</b>	<b>East of Burning Ground</b>	<b>Active unit- Preliminary Assessment Approved **</b>
<b>Firing Site (FS-10)</b>	<b>SWMU 72</b>	<b>East of Burning Ground</b>	<b>Active unit- Preliminary Assessment Approved **</b>
<b>Firing site (FS-21)</b>	<b>SWMU 74</b>	<b>Zone 5 Area</b>	<b>Active unit- Preliminary Assessment Approved **</b>
<b>Firing Site (FS-22)</b>	<b>SWMU 75</b>	<b>East of Burning Ground</b>	<b>Active unit- Preliminary Assessment Approved **</b>
<b>Landfill No. 7</b>	<b>SWMU 58</b>	<b>Fire Training Area</b>	<b>No Decision Pending Closed by TWC letter dated April 8, 1993.</b>
<b>Temporary HE Burning Ground</b>	<b>SWMU 53</b>	<b>Near Zone 7 Area</b>	<b>RRS No. 2 Soil Closure</b>
<b>Vehicle Maintenance Facility Bldg. 16-1</b>	<b>SWMU 106</b>	<b>East of Playa 2 Area</b>	<b>RRS No. 2 Soil Closure</b>
<b>Landfill 12 (Group III)</b>	<b>SWMU 63</b>	<b>Zone 5 Area</b>	<b>RRS No. 2 Soil Closure</b>
<b>Zone 7 Landfills</b>	<b>SVS 6</b>	<b>Zone 7 Area</b>	<b>RRS No. 3 Soil Closure with Uncertainty Management</b>
<b>Landfill 13 (Group II)</b>	<b>SWMU 64</b>	<b>Zone 6 Area</b>	<b>RRS No. 3 Soil Closure with Uncertainty Management</b>
<b>Landfill 15 (Group III)</b>	<b>SWMU 66</b>	<b>Zone 8 Area</b>	<b>RRS No. 3 Soil Closure with Uncertainty Management</b>

<b>TABLE 1</b>			
<b>SWMUs AND CLOSURE STATUS ESTABLISHED IN THE JULY 29, 2004 LETTER*</b>			
<b>Description</b>	<b>SWMU No.</b>	<b>Location</b>	<b>Approval Status</b>
<b>Playa 3 (recent playa)</b>	<b>SWMU 8 b</b>	<b>Burning Ground</b>	<b>RRS No. 3 Soil Closure with Uncertainty Management</b>

\* The final closure status for units in this table are established in the TCEQ letter dated July 29, 2004.

\*\* The unit was investigated to determine if Interim Stabilization Measures (ISMs) are needed. The assessment of the SWMU does not constitute an evaluation of all exposure pathways required to attain closure.

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Enclosure 2

**ENCLOSURE 2**

**TECHNICAL COMMENTS AND CLARIFICATION**

## TECHNICAL COMMENTS AND CLARIFICATION

- I. **Request for Additional Information** - Sufficient information was not provided in the RFIR DOE's response to comments dated November 3, 2004 or the March 11, 2005 comment resolution teleconference (*Tier 1 Team Teleconference Record, Enclosure 3 to this letter*) to establish a regulatory closure/remediation decision for the following SWMUs. Completion of the site assessment will be contingent on receipt of additional technical information for the three units specified below and outlined in the "Clarification" portion of this enclosure.
  - A. Magazine Demolition Debris (SVS 7a Landfills);
  - B. Magazine Demolition Debris (SVS 7b Landfills);
  - C. Playa 3 -(SWMU 8 a) Historic Playa Basin.
  
- II. **Clarification**
  - A. **General Comments**
    1. Radionuclides - The Soil RFIR does not address the extent of radionuclide releases associated with the Independent Sites. Any radionuclide releases associated with the SWMUs are being addressed by DOE-Pantex in a separate investigation report.
    2. Source Areas - SWMUs and impacted environmental media established by the Soil RFIR will be carried forward for further evaluation in the Groundwater RFIR to better understand the exposure pathways associated with the areas investigated. As per discussions between TCEQ, DOE-Pantex and EPA on July 17, 2003, DOE-Pantex will provide information directly linking soil source areas with known groundwater contamination.
    3. Uncertainty Management - There is uncertainty associated with the definition of vertical extent of contamination for many SWMUs being closed under RRS No. 3. The uncertainty associated with the data gaps in the investigation record will be managed through a long-term monitoring program established in the Compliance Plan. An uncertainty management program associated with data gaps in the investigation record is necessary in order to fulfill obligations in 30 TAC 335.553(b)(1) - *Required Information For RRS No. 3*. Identifying uncertainties in the investigation stage may be necessary to proceed to subsequent steps as prescribed in 30 TAC 335.553(b)(2-4).

B. Specific Comments on SWMUs

1. Magazine Demolition Debris (SVS 7a Landfills)

- a. SVS 7a consists of 12 small landfills (managing approximately 450 cubic feet of wastes) containing debris from storage magazines. Two of the landfills were investigated to determine the general Constituents of Potential Concerns (COPCs) and extent of contaminant releases for 12 landfills. The investigation results from the two landfills (landfills 7a-1 and 7a-12) were extrapolated for closure to all 12 landfills in the SVS 7a area.
- b. As established by the DOE's response letter dated November 3, 2004, the Texas Water Commission (*predecessor to the TCEQ*) approved a work plan for investigation of SVS 7a on April 8, 1993. It should be noted that the Risk Reduction Standard (RRS) rules became effective on June 28, 1993 (after approval of the work plan), therefore the work plan may be inappropriate to attain closure under the Risk Reduction Standard (RRS) rules. In the March 11, 2005 Tier 1 Team teleconference (Enclosure 3 to this letter), DOE agreed to provide portions of the SVS Work Plan dated April 8, 1993 that describe the debris managed in the landfills (i.e., SVS 7a and 7b) as well as the investigation approach. The information in the work plan will be technically evaluated by the TCEQ against the RRS rules to determine if the soil investigation is adequate to attain closure, or if groundwater data alone would be adequate for a closure decision. For further discussion on the SVS 7a site, please see Enclosure 3 to this letter.
- c. Although investigations of 2 out of 12 landfills have been conducted, the investigation is inadequate to assess the extent of contamination associated with the SVS 7a waste management grouping (WMG). To address potential impacts and define releases from the magazine landfills to groundwater, it was agreed in the March 11, 2005 teleconference (Enclosure 3 to this letter) that a minimum of one Perched Aquifer monitor well would be installed to monitor releases from the SVS 7a WMG. If releases are detected, then further assessment would be warranted. DOE indicated that the Perched Aquifer may be absent below the SVS 7a and 7b WMGs. If perched groundwater is not present below the SVS sites, then additional soil investigation will be necessary to complete the soil and groundwater investigations and attain closure. For further discussion, please see Enclosure 3 to this letter.

2. Magazine Demolition Debris (SVS 7b Landfills)

- a. SVS 7b consists of 44 small landfills containing debris from storage magazines. Four (4) landfills were investigated to determine the general COPCs and extent of contaminant releases for all 44 landfills. The

investigation results for the four landfills were extrapolated to determine closure on all 44 landfills. The investigation of the four (4) landfills identified contaminant releases to soils to a depth of approximately 8 feet bgs (limits of investigation). Therefore, it is unknown if the vertical extent of contaminant releases were established for the SWMUs.

- b. As established by the DOE's response letter, the Texas Water Commission (*predecessor to the TCEQ*) approved a work plan for investigation of SVS 7b on April 8, 1993. It should be noted that the Risk Reduction Standard (RRS) rules became effective on June 28, 1993 (after approval of the work plan), therefore the work plan may be inappropriate to attain closure under the Risk Reduction Standard (RRS) rules. In the March 11, 2005 Tier 1 Team teleconference (Enclosure 3), DOE agreed to provide portions of the SVS Work Plan dated April 8, 1993 that describe the debris managed in the landfills (i.e., SVS 7b) as well as the investigation approach. The information in the work plan will be technically evaluated by the TCEQ against the RRS rules to determine if the soil investigation is adequate to attain closure, or if groundwater data alone would be adequate for a closure decision. For further discussion on the SVS 7b site, please see Enclosure 3 to this letter.
  - c. Although investigations of 4 out of 44 landfills have been conducted, the investigation is inadequate to assess the extent of contamination associated with the SVS 7b waste management grouping. To address potential impacts and define releases from the magazine landfills to groundwater, it was agreed in the March 11, 2005 teleconference (Enclosure 3 to this letter) that a minimum of one Perched Aquifer monitor well would be installed to monitor releases from the SVS 7b waste management grouping. If releases are detected, then further assessment would be warranted. DOE indicated that the Perched Aquifer may be absent below the SVS 7a and 7b waste management groupings. If perched groundwater is not present below the SVS sites, then additional soil investigation will be necessary to complete the soil and groundwater investigations and attain closure. For further discussion, please see Enclosure 3 to this letter.
3. Playa 3 -(SWMU 8 a) Historic Playa Basin
- a. The historic boundary of Playa 3 is defined by the topography of the basin (Historic Playa Basin). The historic playa includes portions of the playa basin that are de-watered under normal rainfall conditions. DOE-Pantex has limited investigations only to the southern portion of Playa 3 area designated as "Recent Playa Basin". The data gaps in the subsurface investigation (from approximately 15 feet to groundwater) associated with partial investigation of Playa 3 can be addressed in the Uncertainty Management Program to manage data gap in the investigative record.

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However, soil and sediment sampling must be collected from the unassessed portion of Playa 3 to fully evaluate impacts to surface and near surface soils with the objective to evaluate the surface exposure pathway for human and ecological risk.

- b. To address potential ecological risk, DOE has agreed to collect five samples from the Historic Playa 3 Basin from depths of 0-6 inches and 0-2 feet. DOE will propose to the TCEQ and EPA the sample locations for regulatory concurrence. For further discussion, please see Enclosure 3 to this letter.

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Enclosure 3

**ENCLOSURE 3**

**Pantex Tier 1 Team Teleconference Record Dated March 11, 2005 and  
TCEQ Comments Dated January 19, 2005**

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## Pantex Tier 1 Team Teleconference Record

**Date of Teleconference:** March 11, 2005;      **Date of Conference Record:** March 30, 2005

### Tier 1 Team:

Camille Hueni, EPA-Region 6  
Robert Musick, TCEQ  
Dennis Huddleston, BWXT  
Johnnie Guelker, NNSA-PXSO (DOE)

### Other Participants:

Don Boothby, TCEQ  
Martin Amos, BWXT

Minutes of the conference call prepared by: Kirsten Adams, Sapere Consulting, Incorporated and the Tier 1 Team

### PURPOSE:

The Texas Commission on Environmental Quality (TCEQ) reviewed the Final Independent Sites Investigation (Soil RFIR) Dated: January 2004 and sent technical comments to the Department of Energy (DOE) in a letter dated July 29, 2004. DOE submitted supplemental information (a.k.a., DOE's response) under a cover letter dated November 3, 2004 to address the TCEQ comments. The TCEQ responded in an e-mail dated January 19, 2005 to DOE's response (*Attachment to this Teleconference Record*). The Environmental Protection Agency (EPA) also provided comments to the DOE response in a separate e-mail on January 25, 2005.

The Tier 1 Team conference call focused on the strategy/approach for resolving the technical comments in the January 19, 2005 TCEQ's correspondence. The framework for the discussion focused on:

- o Clarifying specific TCEQ and EPA issues that must be addressed by DOE and BWXT in order to gain concurrence on the Independent Site Soil Investigation;
- o Identifying the specific path forward for comment resolution.

The Tier 1 discussions concentrated on the technical comments (*Enclosure 2 to Attachment*) for three specific units (SVS 7a, SVS 7b, and SWMU 139) and the Playa 3 "historic" basin identified as an Area of Concern (AOC). The conditions of approval in Enclosure 1 to the January 19, 2005 TCEQ letter (*Attachment*) were not discussed in the conference call.

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**SVS 7a (Magazine Demolition Debris) and SVS 7b (Magazine Demolition Debris)**

Sites SVS 7a and SVS 7b consist of numerous landfills managing debris from storage magazines. The investigation at the SVS 7a area was limited to environmental data collected from two magazine landfills and extrapolated to 12 landfills. The investigation at the SVS 7b area was limited to four magazine landfills and extrapolated to 44 magazines. The TCEQ and EPA indicated that although the preliminary investigations were appropriate to define Contaminants of Concern (COCs), the level of investigation was not adequate to characterize nature and extent of contamination for multiple landfill units. Both Agencies requested additional site information that would support DOE's position that all units were similar, with similar waste disposal practices and materials. TCEQ indicated that supplemental environmental data may be needed in each waste management area to determine releases to soils and ground water and to complete the investigation.

DOE and BWXT agreed to provide those portions of the SVS Work Plan dated April 8, 1993 that describe the debris managed in the landfills (i.e., SVS 7a and 7b) as well as the investigation approach. The additional information will be evaluated by the TCEQ/EPA against the appropriate rule (Risk Reduction Standards) to determine if the soil investigation is adequate to attain closure, or if groundwater data alone would be adequate to attain closure. TCEQ and EPA emphasized that DOE must make the case that investigating a minimal number of magazine landfills (2 out of 12; and 4 out of 44) is adequate to characterize two large waste management areas for potential releases to both soils and ground water. If the case can be made, SVS 7a and 7b will be addressed as two Waste Management Groupings (WMGs). TCEQ and EPA stated that protection of groundwater was the driving concern associated with SVS 7a and 7b.

To address potential impacts and define releases from the magazine landfills to groundwater, it was agreed that a minimum of one Perched Aquifer monitor well would be installed in each area (*SVS 7a and SVS 7b*). If releases were detected, then further assessment would be warranted. It should be noted that the monitor well placement and COPCs to be evaluated were not fully discussed during the conference call. The groundwater monitor wells should be installed to address uncertainty management for the SVS 7a and 7b areas and provide additional control wells for the western extent of the perched aquifer, where data gaps have been noted in the Groundwater RFI. Also, the TCEQ and EPA noted during the telephone conference call that fate and transport modeling cannot be used in lieu of an adequate investigation.

BWXT indicated that the Perched Aquifer was probably dry in the area beneath the SVS 7a and 7b sites. The TCEQ and EPA agree that groundwater data is necessary to complete the investigation. If the groundwater wells are dry, additional soil investigation is necessary to complete the investigation and attain closure.

**TASK:**

- A. BWXT will submit the excerpts from the SVS Work Plan dated April 8, 1993, and Draft Final Supplemental Verification Sites RFI, 1996 to the TCEQ and EPA for technical review.
- B. TCEQ and EPA will evaluate excerpts of these documents to determine if the investigation approach is adequate to attain closure in accordance with the Risk Reduction Standard (RRS) rules.

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- C. Prior to commencement of the well installation, the TCEQ, EPA, DOE and BWXT should have agreement on the well locations and constituents of potential concern (COPCs) to be evaluated to complete the investigation.

**FS 10, Photo Processing Leaching Bed - SWMU 139**

The maps in the Soil Investigation Report did not identify the locations of leaching beds/lines at an appropriate scale to make regulatory decisions. It was unclear in DOE's response if the investigation addressed releases from the original leaching bed only; or both the leaching bed and the 50-foot leaching line. During the meeting, DOE established that the investigation addressed releases from both the leaching bed and the 50-foot leaching line.

With the understanding that the sample locations (and sample results) are representative of both the leaching bed and the leaching line, a Risk Reduction Standard No. 2 will be issued for SWMU 139. The data suggest the extent and concentrations meet RRS No. 2 criteria.

**TASK:**

- A. TCEQ reviewed the figure and concurs with a RRS No 2 closure for SWMU 139.

**Playa 3 -(SWMU 8 a) Historic Playa Basin**

The historic boundary of Playa 3 is defined by the topography of the basin (Historic Playa Basin). The historic playa includes portions of the playa basin that are dry under normal rainfall conditions. To address potential ecological risk, DOE will collect samples from the Playa 3 Historic Playa Basin in five locations from depths of 0-6 inches and 0-2 feet. The exact sample locations were not discussed.

The purpose of the samples is to assess the potential ecological risk to surface soils and compare the results to the main Playa 3 basin. Based on information from DOE, this basin receives stormwater by sheet flow rather than preferential flow. The TCEQ requested that the TCEQ Region be notified prior to sampling to allow for an opportunity for observation or collection of split samples.

**TASK:**

- A. DOE should propose to the TCEQ and EPA the sample locations for concurrence.

**OTHER DISCUSSION OF ISSUES:**

Some discussion of the recently submitted draft comments regarding the Groundwater RFIR occurred. These issues will be described in detail in minutes of future meetings focused on resolving questions on the Pantex Groundwater RFI and developing a path forward for the determining and implementing final corrective measures.

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**Attachment to the Tier 1 Team Teleconference Record**

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January 19, 2005

SENT VIA E-MAIL  
ON 01/19/2005

Mr. Johnny Guelker (PXSO-ESEP)  
Lead for Site Support  
Department of Energy  
Albuquerque Field Office  
P.O. Box 30030  
Amarillo, Texas 79120

Mr. Dennis Huddleston, Manager  
BWXT - Environmental Services Division  
Department of Energy  
Albuquerque Field Office  
P.O. Box 30030  
Amarillo, Texas 79120

Re: U.S. Department of Energy (DOE), Pantex Plant  
TCEQ Solid Waste Registration No. 30459  
TCEQ Hazardous Waste Permit No. HW-50284  
EPA ID No. TX4890110527  
DOE's Response to the TCEQ Letter dated July 29, 2004 - Final Independent Sites Investigation  
(Soil RFIR) Dated: January 2004

Dear Messrs. Guelker and Huddleston:

The Texas Commission on Environmental Quality (TCEQ) reviewed the Soil RFIR dated January 2004 referenced above and sent technical comments to the Department of Energy (DOE) in a letter dated July 29, 2004. DOE submitted supplemental information (a.k.a., DOE's response) under a cover letter dated November 3, 2004 to address the TCEQ comments. The Soil RFIR and supplemental information details the results from numerous investigations that have been conducted for twenty-two (22) Solid Waste Management Units (SWMUs) located throughout the DOE-Pantex facility and generally are not within industrial zones (e.g., Zone 12). Therefore, these units, (a.k.a. independent sites) are usually small miscellaneous units that were utilized by DOE Pantex to support current and past DOE Pantex operations.

The TCEQ evaluated DOE's response and has commented on the SWMUs in Enclosures 1 and 2 to this letter. The technical review of the DOE's response has resulted in final approval of investigation activities for a total of eighteen (18) SWMUs associated with the Independent Site RFIR (Enclosure 1). Enclosure 2

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to this letter outlines requests for additional information for four (4) SWMUs and identifies the technical information that would be required before final approval of investigations for these units.

In addition, the Environmental Protection Agency (EPA) also is evaluating this report in accordance with the December 21, 1994 Memorandum of Agreement (MOA) between the EPA and the TCEQ. Note that the investigation of radionuclides is being addressed in a separate report (Final Pantex Plant Radiological Investigation Report, January 2004), therefore this letter does not address any radionuclide issues associated with the SWMUs in the Soil RFIR.

Please note that full closure (soil and groundwater) approval for the SWMUs associated with the Soil RFIR is contingent on completion of any remaining investigations, and evaluation under the requirements of the appropriate Risk Reduction Standard (RRS). A final report is required to verify that the requirements of the Risk Reduction Standard (RRS) rule have been met, including those cleanup criteria used to achieve "full closure" under the rule. Those sites recommended in this letter for a RRS 3 closure will go forward for further evaluation of potential risk to human health in the Baseline Risk Assessment. Sites will be further evaluated for uncertainty management and ecological risk as necessary.

To document compliance with the Texas Professional Geoscience Act, the Remediation Division will not review reports and documents received on or after September 1, 2004 that contain unsealed geoscience services or work. Reports and documents with unsealed geoscience services or work will be returned to the submitting party. For further information, see the Texas Board of Professional Geoscientists website (<http://www.tbpg.state.tx.us>). Please direct all questions regarding what constitutes geoscience to the Board (512/936-4400).

Questions concerning this letter should be directed to me at (512) 239-2243. When responding by mail, please submit an original and one copy of all correspondence and reports to the Corrective Action Section at Mail Code MC-127 with an additional copy submitted to the TCEQ Region 1 Office in Amarillo. A formal response to these comments should be submitted within 45 days after the TCEQ provides comments on the Groundwater RFIR. Please be aware that I will be available to discuss these comments at your convenience.

Sincerely,

*[Signature on File]*

Robert Musick P.G., Project Manager  
Team I, Corrective Action Section  
Remediation Division  
Texas Commission on Environmental Quality

REM/rm

cc: Mr. Jim McWilliams, Region Project Manager, TCEQ Region 01 Office - Amarillo  
Ms. Camille Hueni, Superfund Division, Texas Section (6SF-AP), USEPA Region VI

**Messrs. Guelker and Huddleston**  
**April 25, 2005**  
**Attachment to the Tier 1 Team Teleconference Record**  
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Enclosure 1: Conditions of Approval  
Enclosure 2: Technical Comments and Clarification  
Addressee: Messrs. Guelker and Huddleston,  
Department of Energy,  
P.O. Box 30030, Amarillo, Texas 79120  
SWR: SWR30459  
Date of e-mail: January 19, 2005

**DO NOT SEND THIS PAGE<sup>1</sup>**

bcc list (format revised 9/15/2004):

Mr. Don Boothby, Team 1 Supervisor, Corrective Action Section (MC-127)  
Mr. Robert Musick, Corrective Action Section (MC-127)  
Central Records (MC-199)  
CAS files (MC-127)

**For data entry:**

WWC COMMUNICATION ID:	10793209 / 10856750
This letter is (Pick one):	Conditional Approval
LBB (04 or 07, and number to count):	04 / 2 units (FS 16, FS 11)
Reply from facility needed? If so, give reply due date:	45 days, March 10, 2005
Document Review(s) Complete? (Yes/No)	yes
WWC PROPERTY: CAS Status value changed for entire facility (Put new status or n/a) <sup>2</sup> ?	na
WWC FEATURE UPDATES (n/a, if not applicable) <sup>3</sup> :	na
Feature Name:	
New Feature Status:	ongoing work
For entry into RCRAInfo: Number of units (n/a, if not applicable):	na
Corrective Action Codes (RFI units/areas) CA-	na
or	
Closure Codes (RCRA/Interim Status units) CL-	na

1. Only attach bcc page to the writer's copy and CAS File copy.
2. If facility will no longer be part of workload, change IHW CA 0 Fea status to Complete or Transferred, verify there are no ongoing PM-defined Features, and verify there are no outstanding Communications that need review.
3. If unit/area will no longer be part of workload, update appropriate Status & Characteristics for that unit/area only.

**Messrs. Guelker and Huddleston**  
**April 25, 2005**  
**Attachment to the Tier 1 Team Teleconference Record**  
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**ENCLOSURE 1**

**CONDITIONS OF APPROVAL**

## CONDITIONS OF APPROVAL

### I. Conditions of Approval

- A. The TCEQ evaluated DOE's response dated November 3, 2004 and has determined that the conditions to attain closure identified in the TCEQ letter dated July 29, 2004 apply to those solid waste units (SWMUs) listed in Table 1 of this enclosure.
- B. The TCEQ has completed the technical review of the DOE's Response dated November 3, 2004 and determined that the following SWMUs have met the site characterization requirements for a RRS No. 2 closure. A final closure letter will be issued to DOE-Pantex once the units have met the deed recordation requirements established by rule:
1. Firing Site 11 (Unassigned SWMU Number) - Firing Site 11 was used to test-fire components. Wastes generated would be signal cables, wood, etc. The investigation consisted of sampling to approximately 5 feet bgs. At FS 11, there are no RRS No. 2 exceedances below 0-2 feet.
  2. Firing Site 16 (Surface Impoundment, SWMU 11) - Firing Site 16 managed cooling water from Building FS-16 operations. At approximately 25 feet bgs, cadmium exceeded the RRS No. 2 action limit in two investigative borings. Twinning of the two borings established no RRS No. 2 exceedances at 40 feet bgs.

### II. No Closure Decision - No closure decisions were established for the following SWMU discussed in the Soil RFIR.

- A. Firing Site (FS 24) Concrete Sump (SWMU 78) - The FS 24 Concrete Sump is still active to test HE components. The concrete sump system was designed for wash down water collection located outside of the building on the south side. The sump has the dimensions of 5 by 5 by 7.3 feet deep. The Phase I investigation conducted on the firing site established that releases to the environment have been detected at approximately 15 feet bgs, but the levels of contamination do not appear to be a threat to groundwater. Based on comments in the DOE's response, closure of this unit will not be determined until unit operations cease. Also, based on the data, no interim stabilization measures (ISMs) are warranted at this time.

TABLE 1			
SWMUs AND CLOSURE STATUS ESTABLISHED IN THE JULY 29, 2004 LETTER*			
Description	SWMU No.	Location	Approval Status
Unlined Landfill	FS-1	Unknown Location	Administratively Closed
Landfill No. 11	SWMU 62	Unknown Location	Administratively Closed
Landfill No. 18	AOC NO. 8	Unknown Location	Administratively Closed
Permitted Unit 53	Permit Unit No. 53	Zone 4 Area	Permitted Unit - Follow Permit Conditions
Firing Site (FS-4)	SWMU 69	East of Burning Ground	Active unit- Preliminary Assessment Approved **
Firing Site (FS-10)	SWMU 72	East of Burning Ground	Active unit- Preliminary Assessment Approved **
Firing site (FS-21)	SWMU 74	Zone 5 Area	Active unit- Preliminary Assessment Approved **
Firing Site (FS-22)	SWMU 75	East of Burning Ground	Active unit- Preliminary Assessment Approved **
Landfill No. 7	SWMU 58	Fire Training Area	No Decision Pending Closed by TWC letter dated April 8, 1993.
Temporary HE Burning Ground	SWMU 53	Near Zone 7 Area	RRS No. 2 Soil Closure
Vehicle Maintenance Facility Bldg. 16-1	SWMU 106	East of Playa 2 Area	RRS No. 2 Soil Closure
Landfill 12 (Group III)	SWMU 63	Zone 5 Area	RRS No. 2 Soil Closure
Zone 7 Landfills	SVS 6	Zone 7 Area	RRS No. 3 Soil Closure with Uncertainty Management
Landfill 13 (Group II)	SWMU 64	Zone 6 Area	RRS No. 3 Soil Closure with Uncertainty Management

<b>TABLE 1</b>			
<b>SWMUs AND CLOSURE STATUS ESTABLISHED IN THE JULY 29, 2004 LETTER*</b>			
<b>Description</b>	<b>SWMU No.</b>	<b>Location</b>	<b>Approval Status</b>
<b>Landfill 15 (Group III)</b>	<b>SWMU 66</b>	<b>Zone 8 Area</b>	<b>RRS No. 3 Soil Closure with Uncertainty Management</b>
<b>Playa 3 (recent playa)</b>	<b>SWMU 8 b</b>	<b>Burning Ground</b>	<b>RRS No. 3 Soil Closure with Uncertainty Management</b>

- \* The final closure status for units in this table are established in the TCEQ letter dated July 29, 2004.
- \*\* The unit was investigated to determine if Interim Stabilization Measures (ISMs) are needed. The assessment of the SWMU does not constitute an evaluation of all exposure pathways required to attain closure.

**Messrs. Guelker and Huddleston**  
**April 25, 2005**  
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**ENCLOSURE 2**

**TECHNICAL COMMENTS AND CLARIFICATION**

## TECHNICAL COMMENTS AND CLARIFICATION

- I. **Request for Additional Information** - Sufficient information was not provided in the RFIR and response to comments to establish a regulatory closure/remediation decision for the following SWMUs. Completion of the site assessment will be contingent on receipt of additional information outlined in the Clarification portion of this enclosure:
  - A. Magazine Demolition Debris (SVS 7a Landfills);
  - B. Magazine Demolition Debris (SVS 7b Landfills);
  - C. Firing Site (FS)-10, Photo Processing Leaching Bed (SWMU 139); and,
  - D. Playa 3 -(SWMU 8 a) Historic Playa Basin.
  
- II. **Clarification**
  - A. **General Comments**
    1. Radionuclides - The Soil RFIR does not address the extent of radionuclide releases associated with the Independent Sites. Any radionuclide releases associated with the SWMUs are being addressed by DOE-Pantex in a separate investigation report.
    2. Source Areas - SWMUs and impacted environmental media established by the Soil RFIR will be carried forward for further evaluation in the Groundwater RFIR to better understand the exposure pathways associated with the areas investigated. As per discussions between TCEQ, DOE-Pantex and EPA on July 17, 2003, DOE-Pantex will provide information directly linking soil source areas with known groundwater contamination.
    3. Uncertainty Management - There is uncertainty associated with the definition of vertical extent of contamination for many SWMUs being closed under RRS No. 3. The uncertainty associated with the data gaps in the investigation record will be managed through a long-term monitoring program established in the Compliance Plan. An uncertainty management program associated with data gaps in the investigation record is necessary in order to fulfill obligations in 30 TAC 335.553(b)(1) - *Required Information For RRS No. 3*. Identifying uncertainties in the investigation stage may be necessary to proceed to subsequent steps as prescribed in 30 TAC 335.553(b)(2-4).

B. Specific Comments on SWMUs

1. Magazine Demolition Debris (SVS 7a Landfills)

- a. SVS 7a consists of 12 small landfills (managing approximately 450 cubic feet of wastes) containing debris from storage magazines. Two of the landfills were investigated to determine the general Constituents of Potential Concerns (COPCs) and extent of contaminant releases for 12 landfills. The investigation results from the two landfills (landfills 7a-1 and 7a-12) were extrapolated for closure to all 12 landfills.

Although investigations of 2 out of 12 landfills is acceptable for determination of Constituents of Potential Concern (COPCs), it is not adequate to assess the extent of contamination associated with the other 10 landfills in the SVS 7a grouping. DOE-Pantex should consider evaluating the landfills as a Waste Management Group (WMG) for the purpose of investigating and evaluate the existing monitoring wells in the industrial area to determine if the well density and well placements are appropriate for regulatory decisions.

- b. As established by the DOE's response letter, the Texas Water Commission (*predecessor to the TCEQ*) approved a work plan for investigation of SVS 7a on April 8, 1993. It should be noted that the Risk Reduction Standard (RRS) rules became effective on June 28, 1993 (after approval of the work plan). The compliance plan (CP-50284) issued October 21, 2003 (renewal date) requires that the RRS rules be utilized to attain closure for the RCRA Facility Investigations (RFIs) until May 1, 2005 or an alternate date established by the executive director. Utilization of a Pre-RRS work plan to fulfill the closure requirements under the RRS rules is not applicable.

2. Magazine Demolition Debris (SVS 7b Landfills)

- a. SVS 7b consists of 44 small landfills containing debris from storage magazines. Four (4) landfills were investigated to determine the general COPCs and extent of contaminant releases for all 44 landfills. The investigation results for the four landfills were extrapolated to determine closure on all 44 landfills. The investigation of the four (4) landfills identified contaminant releases to soils to a depth of approximately 8 feet bgs (limits of investigation). Therefore, it is unknown if the vertical extent of contaminant releases were established for the SWMUs.

Although investigations of 4 out of 44 landfills is acceptable for determination of Constituents of Potential Concern (COPCs), it is not adequate to assess the extent of contamination associated with the landfills

in the SVS 7b grouping. DOE-Pantex should consider evaluating the landfills as a Waste Management Group for the purpose of investigating and evaluate the existing monitoring wells in the industrial area to determine if the well density and placement is appropriate for regulatory decisions.

- b. As established by the DOE's response letter, the Texas Water Commission (*predecessor to the TCEQ*) approved a work plan for investigation of the SVS 7b units on April 8, 1993. It should be noted that the Risk Reduction Rules became effective on June 28, 1993 (after approval of the work plan). The compliance plan (CP-50284) issued October 21, 2003 (renewal date) requires that the RRS rules be utilized to attain closure for the RCRA Facility Investigation (RFIs) until May 1, 2005 or an alternate date established by the executive director. Utilization of a Pre-RRS work plan to fulfill the closure requirements under the RRS rules is not applicable.

3. Firing Site (FS)-10, Photo Processing Leaching Bed (SWMU 139)

- a. Two potential source areas are associated with the FS-10. The first is the original location of the gravel leaching bed removed from service in 1986; and the second is the two 50-foot long leaching lines extending east of the FS-10 used to discharge industrial wastes into the soils. The maps in the Soil Investigation Report did not identify the locations of these leaching beds/lines at an appropriate scale to make regulatory decisions. It is unclear if the investigation addressed releases from the original leaching bed only; or both the leaching bed and the 50-foot leaching line. The DOE's response letter dated November 3, 2004 indicates a figure of the photo processing leaching bed with sample locations was submitted as part of the DOE response, but no figure was included with DOE's response. These figures are important to assess the appropriateness of sample locations, etc. Revised figures should be provided as requested in the July 29, 2004 letter.
- b. The investigation established a contaminant release to at least 25 feet below ground surface. Three sample locations oriented east-west (PTX02-0017, -0018, -0019) established exceedances of RRS No. 2 values for cadmium at the bottom of the three borings. Twinning established delineation to background values at approximately 40 feet below ground surface. Attainment of RRS No. 2 closure requirements that the impacted environmental media is protective of groundwater (Media Specific Concentration, MSC-GWP) by comparing the highest concentration for each constituent of potential concern (COPC) to the Synthetic Precipitation Leaching Procedure, Method 1312 of SW 846.

- c. As established by the DOE's response letter, the Texas Water Commission (*predecessor to the TCEQ*) approved a work plan for investigation of the SWMU 139 unit on March 12, 1993. It should be noted that the Risk Reduction Rules became effective on June 28, 1993 (after approval of the work plan). The compliance plan (CP-50284) issued October 21, 2003 (renewal date) requires that the RRS rules be utilized to attain closure for the RCRA Facility Investigation(RFI)s until May 1, 2005 or an alternate date established by the executive director. Utilization of a Pre-RRS work plan to fulfill the closure requirements under the RRS rules is not applicable.
4. Playa 3 -(SWMU 8 a) Historic Playa Basin
    - a. The historic boundary of Playa 3 is defined by the topography of the basin (Historic Playa Basin). The historic playa includes portions of the playa basin that are de-watered under normal rainfall conditions. DOE-Pantex has limited investigations only to the southern portion of Playa 3 area designated as "Recent Playa Basin". The data gaps in the subsurface investigation (from approximately 15 feet to groundwater) associated with partial investigation of Playa 3 can be addressed in the Uncertainty Management Program to manage data gap in the investigative record. However, soil and sediment sampling must be collected from the unassessed portion of Playa 3 to fully evaluate impacts to surface and near surface soils. These samples should be collected with the objective to evaluate the surface exposure pathway for human and ecological risk.