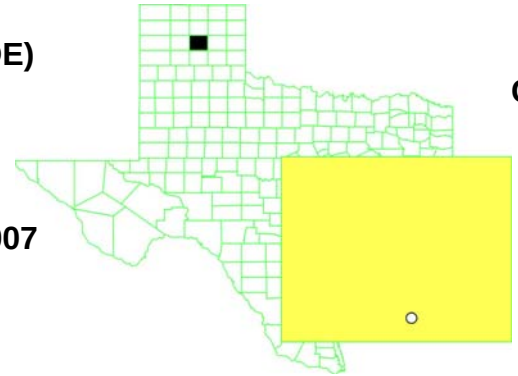
PANTEX PLANT (USDOE)
Carson County, Texas
EPA ID# TX4890110
Site ID: 0604060

Updated: November 2007



EPA Region 6
Congressional District 13

Contact: Camille Hueni
214.665.2231

Current Status

In 2005, the U.S. Environmental Protection Agency (EPA) and the Texas Commission on Environmental Quality (TCEQ) completed technical reviews of investigations for 251 Solid Waste Management Units (SWMUs) across the Pantex complex, including operational Zones 11, 12, and the Burning Grounds Area. In an April 10, 2006, letter to the U.S. Department of Energy (DOE), EPA concurred with TCEQ that investigations had been completed for the Pantex Plant facility, and that no further action was required for 105 units identified for Risk Reduction Standard (RRS) 1, 2, or administrative closure. Closures for 16 active sites were deferred. The majority of the site will, however, close to RRS 3. Those 130 units/areas were further evaluated in the Burning Grounds (BG HHRA) and the Sitewide Human Health Risk Assessment (SW HHRA). (See Site Map below.)

The EPA and TCEQ issued approval letters for the final Burning Grounds HHRA (September 2006), on October 2, 2006, and September 29, 2006, respectively. Four primary risk contributors (RDX, TNT, barium, and U-238), and areas of unacceptable risk, were identified for the Burning Grounds and Playa 3. Those areas, and Contaminants of Concern (COCs), and are further addressed in the Sitewide Corrective Measures Study (CMS)/Feasibility Study (FS).

The *Baseline Human Health Risk Assessment Report for Zones 10, 11, and 12; Fire Training Area; Ditches and Playas; Independent Sites; Ground Water (March 2006)*, also referred to as the "Sitewide HHRA," was submitted May 31, 2006, for regulatory review. Both EPA and TCEQ have reviewed the document and have had discussions with DOE on initial comments. DOE just submitted a revised document (January 5, 2007) for final regulatory review and concurrence. TCEQ has formally approved the document; EPA approval is pending.

FFA Status: Negotiation of the Federal Facilities Agreement (FFA) was initiated June 29, 2007, with the issuance of a Notice Letter and draft FFA to Department of Energy, and copied to TCEQ. DOE formally responded, indicating their election to enter into negotiation. The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) §120(e) (2) requires that EPA enter into Interagency Agreements with responsible Federal agencies or departments (in this case, DOE), to detail roles and responsibilities for remedial actions, including long-term monitoring, at NPL sites. States may also be signatories to the FFA, and TCEQ has been participating in negotiations as a potential signatory to the Pantex agreement. Final negotiations on FFA language were recently completed, with signature pending (as of November 2, 2007) from the three participating Agencies. The FFA focuses on the CERCLA post-Feasibility Study (FS) process that summarizes remedial options for the Site in the Proposed Plan, selects a remedy through the public participation process and the Record of Decision, and provides for coordinated remedial design and construction of the selected remedy.

Current Core Team Actions: The (Sitewide) Corrective Measures Study/Feasibility Study (CMS/FS) (May2007) draft final revision is being reviewed by EPA and TCEQ. Initial comments provided by both Agencies have been addressed through document revisions and discussions. The CMS/FS provides an analysis of remedial alternatives, which will be summarized in the CERCLA Proposed Plan. The current schedule tentatively projects completion of EPA and TCEQ review by the end of November 2007.

Benefits

Remediation of contamination at the Pantex Plant site will ensure that human health and Regional ground water resources are protected into the future. Those source areas with potential to affect the Ogallala Aquifer have been assessed in the Sitewide Human Health Risk Assessment, and will be further evaluated in the Feasibility Study/Corrective Measures Study and the remedy selection process.

National Priorities Listing (NPL) History

NPL Inclusion Proposal Date:	July 29, 1991
NPL Inclusion Final Date:	May 31, 1994
HRS Score:	51.22

Site Description

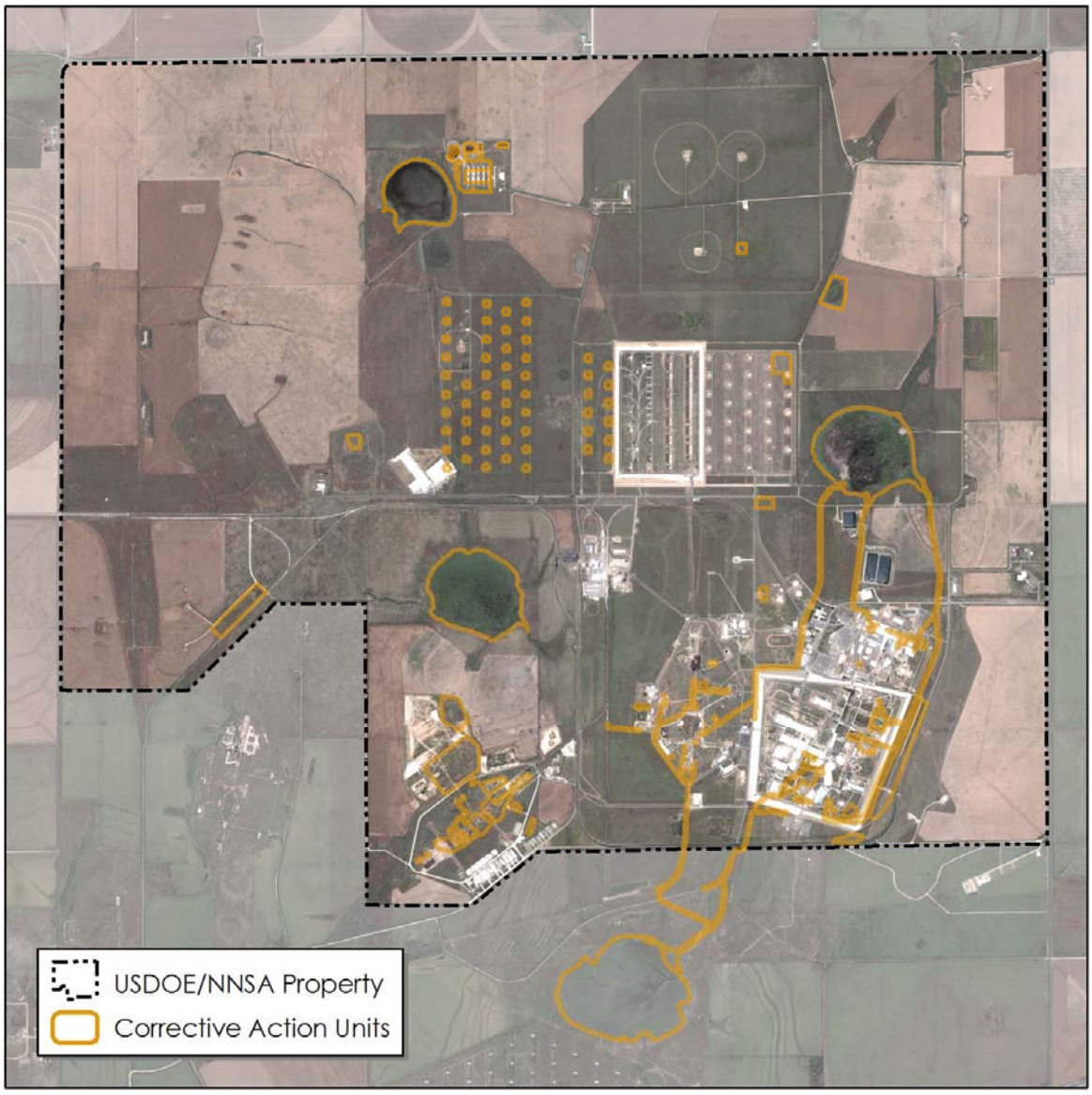
Pantex Plant (hereinafter “the Site”) is a Department of Energy (DOE) facility located 17 miles northeast of Amarillo (pop. 180,000), Carson County, Texas, near the town of Panhandle (pop. 2500). The area surrounding Pantex is primarily agricultural.

The facility occupies approximately 16,000 acres with approximately 10,000 of these acres owned by the U.S. Department of Energy (DOE) and 6,000 acres leased from Texas Tech University (TTU). The acreage leased from TTU serves as a buffer zone for site safety and security.

Plant began in 1942 as an Army Ordnance Corps facility. The plant is now owned by the U.S. Department of Energy (DOE)/National Nuclear Security Administration (NNSA) and operated under contract by BWXT Pantex, L.L.C. DOE began nuclear operations in 1950. Pantex continues as an active facility, with current operations that include fabrication of nuclear weapon ammunition and assembly, testing, and disassembly of nuclear weapons. Past waste practices included burning of chemical wastes in unlined pits, burial of wastes in unlined landfills, and discharging of plant wastewater into unlined ditches and surface impoundments on-site.

Currently, the main mission of the facility is the assembly, disassembly, and maintenance of nuclear weapons; interim plutonium pit storage; and the production of high explosives (HE) components.

36% of Amarillo's water supply is received from a well field 4 miles from the Site. 20 domestic water wells are located within one mile of the site. The Ogallala Aquifer at Pantex occurs at a depth that ranges from 390 to 480 feet below ground surface. This aquifer serves as the primary source of domestic and municipal water supplies. A perched aquifer, averaging about 10 to 30 feet thick, occurs at approximately 270 feet below ground surface.



Regulatory Framework: DOE is the designated lead federal agency to investigate, assess, and remediate environmental releases at the Pantex Plant. Site remediation is addressing both the requirements of the Resource Conservation Recovery Act (RCRA) Compliance Plan and the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) §120(e) for sites listed on the NPL. The Texas Commission on Environmental Quality (TCEQ) is currently overseeing a corrective measures assessment required by a RCRA Compliance Plan, which was issued to Pantex in 2003. The Compliance Plan defines requirements for corrective action, ground water monitoring, and interim corrective measures, and includes scheduling provisions. The EPA is also overseeing further assessment of releases at the site under the Superfund CERCLA authority. A 1994 Memorandum of Agreement (MOA) between TCEQ and EPA established TCEQ as lead for oversight of remediation chemical releases; EPA retained lead for oversight of radionuclide-related remediation. The MOA provided a coordination tool to integrate similar regulatory actions under both RCRA and CERCLA, which effectively consolidated actions required for both statutory authorities. The Federal Facilities Agreement (FFA), previously discussed, summarizes the roles of both regulatory Agencies for the CERCLA response actions at the Site. The FFA supports the coordinated effort between the EPA and the State to implement a remedy for the Site, through both the CERCLA process and the State's RCRA permitting process.

Wastes and Volumes

The principal soil contaminants at Pantex are HE and heavy metals. Explosives, trichloroethylene (TCE), 1, 2-dichloroethane and chromium are present in the perched aquifer.

TCE, toluene, and several heavy metals have been detected in the Ogallala Aquifer. In August 2001, benzene was detected in off-site monitor wells for the first time. DOE has since demonstrated that the benzene and toluene were introduced through materials used in the low flow/multi-port monitoring wells; the multi-port systems have since been removed and those wells re-developed.

DOE/NNSA has used Interim Corrective Measures (ICMs) to address higher risk soil and ground water contamination across the site. Since 1996, near-surface soils above health screening levels have been removed at over 100 sites. Two ground water ICMs are addressing contaminants at the Burning Grounds and southeast of Zone 12. A Soil Vapor Extraction system (SVE) was installed in February 2002 to address volatile organic compounds present in the unsaturated zone beneath the Burning Grounds area. A Perched aquifer pump and treat system was installed in 1995 to extract contaminated ground water and remove chromium (VI), volatile organics, explosives in the southeast corner of the Plant. Both systems are ongoing.

According to DOE, approximately 900 acres will have residual soil contamination at closure. The volume of impacted perched ground water requiring corrective action is estimated at 1.5 billion gallons.

Health Considerations

The ground water pumped from the Ogallala Aquifer provides drinking and irrigation water to the City of Amarillo and the surrounding area.

Explosives; TCE; 1, 2-dichloroethane; chromium; and perchlorate are present in the perched aquifer which is approximately 100 feet, on average, above the Ogallala Aquifer. Pumping of the city water wells has created a cone of depression, causing ground water in the Ogallala underlying Pantex to flow toward the city well field.

Surface water run-off from the facility is directed into on-site playas. All on-site playas are considered wetlands. Texas Tech University Agricultural Research Station uses surface water from Playa 4 for both irrigation of crops and watering livestock.

Interim actions have mitigated potential impacts to ground water and exposure to contaminated soils.

Record of Decision

No Record of Decision (ROD) has been signed for the Pantex Plant. The proposal of remedial actions for soils and ground water considers the conclusions of the Burning Grounds and Sitewide Human Health Risk Assessments, and the Ecological Risk Assessment, and is formally presented in the Pantex Plant Corrective Measures Study/Feasibility Study. The Burning Grounds Human Health Risk Assessment (BG HHRA) has been approved by both EPA and TCEQ. EPA approval of the Ecological Risk Assessment and the Sitewide Human Health Risk Assessment is anticipated later this month (November 2007). The Corrective Measures Study/Feasibility Study draft final revision is being reviewed by EPA and TCEQ. Regulatory revisions of the draft final report are now tentatively projected for the end of November 2007.

Community Involvement

DOE and TCEQ host a quarterly environmental restoration meeting in the Amarillo area to discuss project status. The next meeting will be held on December 3, 2007; details and location are pending from DOE.

Technical Assistance Grant

Availability Notice: N/A
Letters of Intent (LOI)

1) 6/1/99 - Serious Texans Against Nuclear Dumping (STAND)
2) 6/25/99 - Amarillo Chamber of Commerce
3) 6/25/99 - Amarillo Hispanic Chamber of Commerce
4) 6/25/99 - Baptist St. Anthony's Health System

LOI Newspaper Notice: 6/16/99`
Grant Award: Awarded on 1/20/00 to STAND.
7105 W. 34th Avenue, Suite E
Amarillo, TX 79109
Pamela S. Allison is the TAG Administrator
Final TAG application for second grant received from STAND on February 6, 2003.
2nd TAG awarded May 2003 for $100,000. Budget/project period: 5/12/03 - 4/12/06.
An additional $51,417 was added to the award in February 2005, extending the budget/project period to 4/11/07.
STAND selected 3 Technical Advisors (TAs).
A compliance review was conducted in mid-summer 2005.

Contacts

EPA Remedial Project Manager:	Camille Hueni	214-665-2231
EPA Community Involvement Coordinator	Duke Ducote	214-665-6658
EPA Site Attorney:	George Malone	214-665-8030
EPA Regional Public Liaison:	Arnold Ondarza	214-665-8454
TCEQ Project Manager:	Kera Bell	512-239-6875
TCEQ Field Operations	Jim McWilliams	806-468-0520

EPA Superfund Region 6 Toll Free Number: 1-800-533-3508
TCEQ Superfund Toll Free Number: 1-800-633-9363

Information Repositories: Amarillo College Lynn Library
2201 S. Washington
Amarillo, Texas 79109-2411

Carson County Library
401 Main
Panhandle, Texas 79068