

U.S. DEPARTMENT OF ENERGY  
FINDING OF NO SIGNIFICANT IMPACT  
WASTEWATER TREATMENT FACILITY UPGRADE  
PANTEX PLANT

AGENCY: Department of Energy

ACTION: Finding of No Significant Impact

SUMMARY: The U.S. Department of Energy (DOE) has prepared an Environmental Assessment (EA) for upgrading the existing Wastewater Treatment Facility (WWTF) at Pantex Plant near Amarillo, Texas. In accordance with the Council on Environmental Quality requirements contained in 40 CFR 1500-1508.9, the Environmental Assessment examined the environmental impacts of the Proposed Action and potential alternatives.

FINDING: Based on the analysis of impacts in the EA, conducting the proposed action, upgrading the existing Wastewater Treatment Facility, would not significantly affect the quality of the environment within the meaning of the National Environmental Policy Act of 1969 (NEPA), 42 U.S.C 4321, et. seq., and the Council on Environmental Quality regulations in 40 CFR 1508.18 and 1508.27. Therefore, the preparation of an Environmental Impact Statement is not required, and the DOE is issuing a Finding of No Significant Impact.

ADDRESSES AND FURTHER INFORMATION: Persons requesting additional information regarding this action or desiring a copy of the Environmental Assessment should contact:

Mr. Thomas Walton, Public Affairs Officer  
Amarillo Area Office  
P.O. Box 30030  
Amarillo, Texas 79120-0020  
(806) 477-3120

Copies of the Environmental Assessment are available for public review at the following Department of Energy reading rooms:

U.S. Department of Energy  
Freedom of Information Reading Room  
Forrestal Building, Room 1E-190  
1000 Independence Avenue, SW  
Washington, DC 20585  
(202) 586-6020

U.S. Department of Energy  
Reading Room  
Amarillo College  
Lynn Library/Learning Center  
P.O. Box 447  
Amarillo, Texas 79178  
(806) 371-5400

U.S. Department of Energy  
Reading Room  
Carson County Library  
P.O. Box 339  
Panhandle, Texas 79068  
(806) 537-3742

For information regarding the Environmental Assessment and this Finding of No Significant Impact please contact:

Ms. Vicki C. Battley  
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P.O. Box 30030  
Amarillo, Texas 79120-0020  
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For general information regarding the Department of Energy National Environmental Policy Act process, please contact:

Ms. Carol M. Borgstrom  
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Office of National Environmental Policy Act Oversight  
1000 Independence Avenue, SW  
Washington, DC 20585  
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PROPOSED ACTION: The existing Wastewater Treatment Facility (WWTF) at Pantex Plant needs to be upgraded to meet the future needs of Pantex Plant. The proposed facility would be designed to meet existing regulatory requirements and reasonably foreseeable changes in these requirements. Treatment capability would be sufficiently flexible to allow increases or decreases in treatment volumes while meeting permit requirements, if the Pantex Plant mission changes or if State or Federal wastewater treatment permit requirements become more restrictive. DOE also proposes to use the existing WWTF lagoon for storage of irrigation water.

The proposed action would result in design, construction, and operation of two new lagoons and interconnecting piping, using approximately 8 acres of grazing land now used by Texas Tech University. One of the lagoons would function as a facultative lagoon for treatment of wastewater. Construction materials of the lagoons would be primarily earthen, including a clay liner installed and maintained in accordance with 30 TAC, Chapter 317, and other applicable regulations. The second lagoon would serve as an irrigation storage impoundment, with the alternative use as a facultative lagoon if the first lagoon were out of service for any reason. Revegetation would be implemented, as required, to restore disturbed areas resulting from construction. The existing lagoon was originally constructed using storage criteria for design, but the new facultative lagoon and irrigation water storage pond would be designed specifically for wastewater treatment and would be sited outside of the 100-year floodplain. The existing WWTF lagoon would be used as a supplemental storage pond for treated wastewater effluent and non-regulated water as irrigation water.

Non-regulated water (including treated water from the groundwater treatment system) would go into the storage ponds as capacity allows, for subsequent pumping to DOE-owned or Texas Tech-owned agricultural land. The perched aquifer groundwater is undergoing treatment, via a pump and treatment

system, and is expected to become a long-term project. The use of this water (non-regulated groundwater and effluent water from a new WWTF) for irrigation would serve as a beneficial agricultural use of the water.

The proposed action would comply with the applicable portions of Title 30 TAC, Chapter 309, "Domestic Wastewater Effluent Limitation and Plant Siting," specifically Subpart C, "Land Disposal and Sewage Effluent." The sulfuric acid equipment would be removed with the discontinuation of the existing lagoon as a treatment facility. Disinfecting the effluent would not be required; however, the chlorine contact chamber at the existing WWTF would remain.

Three types of irrigation systems are considered for land disposal (land application) in the proposed action, in which one or more systems would be employed. Existing irrigation pipelines would be used where feasible. A water-use balance, in cooperation with Texas Tech University Research Farm, would be developed during the design phase of this alternative so that sufficient storage capacity would be available when there are decreased irrigation needs.

Playa 1 would no longer receive flow of treated wastewater, but would continue to receive storm water runoff and irrigation runoff, depending on method of irrigation, thus returning the playa to a more natural ephemeral condition. The open-water areas used by local and migratory waterfowl that would be lost by discontinuing treated wastewater effluent discharges into Playa 1 would be mitigated by the new facultative lagoon and storage ponds, and the existing WWTF that would be used for storage of treated wastewater. The construction and maintenance for this proposed action would comply with the requirements of 30 TAC, Chapter 317.

The terrestrial wildlife habitats may be reduced or altered in the 8 acres; however, some additional aquatic habitat for waterfowl may be provided. This affected area was previously disturbed land; therefore, impacts to wildlife are expected to be minimal. Domestic and industrial wastewater from Plant operations would enter the south end of the facultative lagoon by means of a lift station. Gravity flow would carry the effluent through the lagoon and designated storage basins. Algae-eating fish could be continued on an experimental basis, depending on existing experiment results and permit renewal, within the new facultative lagoon and storage pond.

**ALTERNATIVES CONSIDERED:** Several reasonable alternatives to the proposed action, "Construction of Lagoons and Land Disposal System for Zero Discharge," are considered in this document. These alternatives include (1) a no-action alternative (that is, continuing the use of the existing aerated lagoon in its current condition without another facility), (2) construction of a new facility that would consist of a new lagoon designed specifically for wastewater treatment, and constructed wetlands cells, all of which would be sited outside of the 100-year floodplain, and (3) construction and operation of new secondary treatment device(s) at the existing wastewater treatment facility.

The "No-Action Alternative" consists of the continued use of the existing WWTF, although the facility will be 17 years into its 20-25 year design life. No construction activities are required for this alternative, and therefore, impacts associated with construction are avoided. Actions to improve effluent quality would be limited to operational modifications, leaving resolution of permit compliance related to exceedances in question. The top of the existing WWTF berm would remain 6 inches below the elevation of the 100-year flood level for Playa 1, a designated wetland. Treated wastewater from the existing WWTF would continue to flow to Playa 1. The No-Action Alternative has the potential

for wastewater discharge permit exceedances and would not provide sufficient operational flexibility to meet Pantex Plant's anticipated future needs, including potential Plant mission changes and alternative effluent uses.

Alternative 1, "Construction of Lagoon and Wetland Cells," would also result in a new WWTF. The new WWTF would consist of a new lagoon designed specifically for wastewater treatment, and constructed wetlands cells (approximately 15 acres), all of which would be sited outside of the 100-year floodplain. Also, the existing WWTF lagoon could be used as a storage pond for treated groundwater and treated effluent. Water would flow to the wetlands cells and flow to Playa 1 would be reduced. However, additional storage capacity (a water storage basin) could be required depending on final design requirements. Construction for the water storage basin could disturb an additional 4 acres, if the water storage basin is not constructed in the vicinity of the wetlands cells.

Alternative 2, "Construction of Secondary Treatment Facility," would result in design, construction, and operation of new secondary treatment device(s) at the existing wastewater treatment facility. Examples of secondary treatment systems include a multichannel oxidation ditch system and a skid-mounted unit; both are mechanical treatment systems. Construction, operation, and maintenance of the secondary treatment facility would comply with 30 TAC, Chapter 317, and other applicable regulations. Flow of treated effluent from the WWTF to Playa 1 may be reduced, depending on the design. Additionally, sludge not currently generated by the existing wastewater treatment facility would have to be managed separately. This alternative would not be anticipated to affect more than 8 acres. Such an expansion would not encroach upon the 100-year floodplain and would require less than the 8 acres estimated for the proposed action or the 15 (or 19) acres estimated for the constructed wetlands alternative. This alternative was not considered further since the Pantex Plant does not have

a high enough pollutant concentration to justify the use of a secondary treatment facility. The Pantex Plant would have to mitigate for a 100-year flood event around the current facility.

**SUMMARY OF ENVIRONMENTAL IMPACTS:** Several environmental issues have been evaluated with respect to each alternative. They are as follows:

- Wastewater discharge permit exceedances
- Floodplain Management, Protection of Wetlands
- Amount of disturbed acreage
- Existing terrestrial habitat or agricultural areas
- Use of water and treated effluent for irrigation of agricultural land
- Aquatic and wetlands habitat for wildlife/migratory birds.

#### Wastewater discharge permit exceedances

Under the No Action Alternative, the potential for wastewater discharge permit exceedances at the existing WWTF would continue. Under the Proposed Action, "Construction of Lagoons and Land Disposal System for Zero Discharge Alternative," and Alternatives 1 and 2, the potential for wastewater discharge permit exceedances at the WWTF would be reduced.

#### Floodplain Management, Protection of Wetlands

The No Action Alternative would extend the presence and use of the existing WWTF, and the chlorine and sulfuric acid treatment equipment in the 100-year floodplain. The Proposed Action and Alternative 1 would remove the sulfuric acid equipment (but not the chlorine treatment equipment) from the 100-year floodplain, and remove the wastewater treatment activities from the 100-year



floodplain. Under Alternative 2, Pantex Plant would have to mitigate for a 100-year flood event around the current facility.

#### Existing terrestrial habitat or agricultural areas/amount of disturbed acreage

The No Action Alternative would not disturb existing terrestrial habitat or agricultural areas. Under the Proposed Action, the terrestrial wildlife habitats may be reduced or altered in the 8 acres; however, some additional aquatic habitat for waterfowl may be provided. This affected area was previously disturbed land; therefore, impacts to wildlife are expected to be minimal. Under Alternative 1, the terrestrial wildlife habitats may be reduced or altered in 15 acres; however, an additional 4 acres could be disturbed if a water storage basin is required and it is not located in the vicinity of the wetlands cells. Some additional aquatic habitat for waterfowl may be provided. This affected area was previously disturbed land; therefore, impacts to wildlife are expected to be minimal. Under Alternative 2, it is anticipated that less than 8 acres would be affected.

#### Use of water and treated effluent for irrigation of agricultural land

The No Action Alternative would not allow for irrigation of agricultural crops with treated effluent and non-regulated water. The Proposed Action would provide flexibility for the existing WWTF lagoon to be used as a holding pond for irrigation of existing agricultural land. Alternatives 1 and 2 would not provide the flexibility for irrigation of agricultural land.

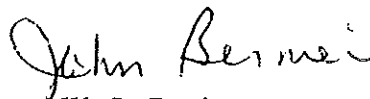
#### Aquatic and wetlands habitat for wildlife/migratory birds

The No Action Alternative would continue to provide aquatic and wetlands habitat for wildlife and migratory birds at Playa 1. Under the Proposed Action, since Playa 1 would be an ephemeral wetland, available waterfowl habitat would be dependent upon precipitation, and/or moist soil management.

Alternatives 1 and 2 would increase open-water areas, which would result in additional aquatic and wetlands habitat.

DETERMINATION: Based on the information contained in the Environmental Assessment, the DOE determines that upgrading the existing Wastewater Treatment Facility (WWTF) at Pantex Plant at Pantex Plant does not constitute a major Federal action significantly affecting the quality of human environment within the meaning of the National Environmental Policy Act, 42 U.S.C. 4321 et seq. Therefore, an Environmental Impact Statement is not required.

Issued Amarillo, TX, on this 27 day of May, 1999.

*for*   
W. S. Goodrum  
Manager  
Amarillo Area Office