

TABLE 3.2-1.—Summary Comparison of Environmental Impacts at Pantex Plant

PROPOSED ACTION ALTERNATIVES (Includes Storage of Up to 20,000 Pits)			NO ACTION ALTERNATIVE (Includes Storage of Up to 12,000 Pits)	PIT STORAGE RELOCATION ALTERNATIVE (Pantex Plant Impacts of Relocating 8,000 or 20,000 Pits [See Table 3.2–2 for Impacts to Other Sites])
2,000 WEAPONS LEVEL	1,000 WEAPONS LEVEL	500 WEAPONS LEVEL		
PLANT FACILITIES AND INFRASTRUCTURE (SEE SECTION 4.3 IN MAIN TEXT)				
The annual utility usage for this activity level and six new projects would be: Steam - 181M kg (398M lb) Electricity - 90,400 MWh Natural Gas - 16.2M m ³ (573M ft ³)	The annual utility usage for this activity level and six new projects would be: Steam - 145M kg (319M lb) Electricity - 68,200 MWh Natural Gas - 13.0M m ³ (458M ft ³)	The annual utility usage for this activity level and six new projects would be: Steam - 73M kg (160M lb) Electricity - 57,100 MWh Natural Gas - 6.5M m ³ (229M ft ³)	Lower than the Proposed Action because no new facilities are proposed.	Same as the Proposed Action.
LAND RESOURCES (SEE SECTION 4.4 IN MAIN TEXT)				
New facilities would require an area of 15,902 m ² (171,160 ft ²), equal to 0.04 percent of the total DOE-owned area of Pantex Plant.			No impacts to land resources.	Same as the Proposed Action. New facilities would require an area of 15,902 m ² (171,160 ft ²), equal to 0.04 percent of total area of Pantex Plant.
GEOLOGY AND SOILS (SEE SECTION 4.5 IN MAIN TEXT)				
Temporary disturbance of 31,800 m ² (342,000 ft ²) of soils resulting from construction of new facilities.			No new facilities are proposed.	Temporary disturbance of 31,800 m ² (342,000 ft ²) of soils resulting from construction of new facilities.

TABLE 3.2-1.—Summary Comparison of Environmental Impacts at Pantex Plant-Continued

PROPOSED ACTION ALTERNATIVES (Includes Storage of Up to 20,000 Pits)			NO ACTION ALTERNATIVE (Includes Storage of Up to 12,000 Pits)	PIT STORAGE RELOCATION ALTERNATIVE (Pantex Plant Impacts of Relocating 8,000 or 20,000 Pits [See Table 3.2-2 for Impacts to Other Sites])
2,000 WEAPONS LEVEL	1,000 WEAPONS LEVEL	500 WEAPONS LEVEL		
WATER RESOURCES (SEE SECTION 4.6 IN MAIN TEXT)				
The increase in Pantex Plant annual water usage (currently 0.7 percent of withdrawal from the Ogallala aquifer in Carson County) would not significantly affect the ongoing regional depletion of the aquifer.	The amount of annual water usage would decrease from 1994 levels, reducing Pantex Plant's contribution to ongoing regional depletion of the Ogallala aquifer.	The amount of annual water usage would decrease from 1994 levels, reducing Pantex Plant's contribution to ongoing regional depletion of the Ogallala aquifer.	Water and wastewater annual usage and impacts for 2,000, 1,000, and 500 weapons levels would be lower than for the Proposed Action because no new facilities are proposed.	Water and wastewater annual usage and impacts for 2,000, 1,000, and 500 weapons levels would be the same as for the Proposed Action.
Wastewater - 647M liters (171M gal) Water - 1,011M liters (267M gal)	Wastewater - 522M liters (138M gal) Water - 791M liters (209M gal)	Wastewater - 439M liters (116M gal) Water - 689M liters (182M gal)		
The new facilities represent 3.9M liters (1.0M gal) of the total water usage.	The new facilities represent 3.9M liters (1.0M gal) of the total water usage.	The new facilities represent 3.9M liters (1.0M gal) of the total water usage.		The new facilities represent 3.9M liters (1.0M gal) of the total water usage.
AIR QUALITY (SEE SECTION 4.7 IN MAIN TEXT)			Same as the Proposed Action except temporary increases in emissions during construction of new facilities would not occur. <th rowspan="2">Same as the Proposed Action. The impacts from temporary increases in emissions during construction of new facilities would be negligible. Pollutant emissions from increased SST activity from relocation of the pits would be a small fraction of the total emissions from Pantex Plant.</th>	Same as the Proposed Action. The impacts from temporary increases in emissions during construction of new facilities would be negligible. Pollutant emissions from increased SST activity from relocation of the pits would be a small fraction of the total emissions from Pantex Plant.
Offsite concentrations of air pollutants would be below the TNRCC Effects Screening Levels (ESLs) and no adverse impacts to human health are expected. Onsite air quality levels are below those that would pose health risks to workers. The impacts from temporary increases in emissions during construction of new facilities would be negligible.				

TABLE 3.2-1.—Summary Comparison of Environmental Impacts at Pantex Plant-Continued

PROPOSED ACTION ALTERNATIVES (Includes Storage of Up to 20,000 Pits)		NO ACTION ALTERNATIVE (Includes Storage of Up to 12,000 Pits)	PIT STORAGE RELOCATION ALTERNATIVE (Pantex Plant Impacts of Relocating 8,000 or 20,000 Pits [See Table 3.2-2 for Impacts to Other Sites])
2,000 WEAPONS LEVEL	500 WEAPONS LEVEL		
ACOUSTICS (SEE SECTION 4.8 IN MAIN TEXT)			
Except for airblast from high explosives detonation, noise levels from Pantex Plant activities would be below 65 dBA at the plant boundary. The detonations could be audible at a distance of 5 to 10 kilometers (3 to 6 miles).		Same as the Proposed Action except no new facilities are proposed.	Same as the Proposed Action.
Due to the size of the site, noise from construction of the new facilities would not reach the public.			Due to the size of the site, noise from construction of the new facilities would not reach the public.
BIOTIC RESOURCES (SEE SECTION 4.9 IN MAIN TEXT)			
The construction of the new facilities would result in loss of 15,900 m ² (171,000 ft ²) of common plant and animal habitat.		No new facilities are proposed.	The construction of the new facilities would result in loss of 15,900 m ² (171,000 ft ²) of common plant and animal habitat.
SOCIOECONOMIC RESOURCES (SEE SECTION 4.11 IN MAIN TEXT)			
For this weapons level, 3,800 direct jobs and 6,257 secondary jobs would continue. A total personal income of \$564 million (in 1994 dollars) would continue to be added to the economy annually.	This weapons level would support 3,000 direct jobs and 4,925 secondary jobs. Personal income additions to the economy would be reduced to \$445 million annually.	The socioeconomic impacts for the 2,000, 1,000, and 500 weapons levels would be the same as discussed for the Proposed Action.	The socioeconomic impacts for the 2,000, 1,000, and 500 weapons levels would be the same as discussed for the Proposed Action.
Construction of the new facilities would temporarily generate 1,227 direct and indirect jobs. A total of \$56 million of personal income would be added to the economy in the peak construction year.	Construction of the new facilities would temporarily generate 1,227 direct and indirect jobs. A total of \$56 million of personal income would be added to the economy in the peak construction year.	No new facilities are proposed.	Construction of the new facilities would temporarily generate 1,227 direct and indirect jobs. A total of \$56 million of personal income would be added to the economy in the peak construction year.

TABLE 3.2-1.—Summary Comparison of Environmental Impacts at Pantex Plant-Continued

PROPOSED ACTION ALTERNATIVES (Includes Storage of Up to 20,000 Pits)			NO ACTION ALTERNATIVE (Includes Storage of Up to 12,000 Pits)	PIT STORAGE RELOCATION ALTERNATIVE (Pantex Plant Impacts of Relocating 8,000 or 20,000 Pits [See Table 3.2-2 for Impacts to Other Sites])
2,000 WEAPONS LEVEL	1,000 WEAPONS LEVEL	500 WEAPONS LEVEL		
INTRASITE TRANSPORTATION (SEE SECTION 4.12 IN MAIN TEXT)				
Approximately 50 workers would be involved in these activities. This weapons level would have an estimated worker exposure of 61 person-rem, and a group excess cancer fatality risk for 10-year exposure of 0.024. ¹ No impact to the public would result from intrasite transportation.	Approximately 50 workers would be involved in these activities. This weapons level would have an estimated worker exposure of 48 person-rem, and a group excess cancer fatality risk for 10-year exposure of 0.019. ¹ No impact to the public would result from intrasite transportation.	Approximately 50 workers would be involved in these activities. This weapons level would have an estimated worker exposure of 41 person-rem, and a group excess cancer fatality risk for 10-year exposure of 0.016. ¹ No impact to the public would result from intrasite transportation.	Approximately 50 workers would be involved in these activities. The No Action Alternative would have the following impacts for the three weapons levels: 2,000 weapons - worker exposure of 44 person-rem, and a group excess cancer fatality risk for 10-year exposure of 0.018. ¹ 1,000 weapons - worker exposure of 31 person-rem, and a group excess cancer fatality risk for 10-year exposure of 0.012. ¹ 500 weapons - worker exposure of 25 person-rem, and a group excess cancer fatality risk for 10-year exposure of 0.010. ¹ No impact to the public would result from intrasite transportation.	Approximately 50 workers would be involved in these activities. The Pit Storage Relocation Alternative would have the following impacts for the two relocation amounts. These exposures include the impacts for the rest of the activities (equivalent to Proposed Action 2,000 weapons level). 20,000 pits - worker exposure of 344 person-rem, and a group excess cancer fatality risk for 10-year exposure of 0.14. ¹ 8,000 pits - worker exposure of 174 person-rem, and a group excess cancer fatality risk for 10-year exposure of 0.07. ¹ No impact to the public would result from intrasite transportation.

TABLE 3.2-1.—Summary Comparison of Environmental Impacts at Pantex Plant-Continued

PROPOSED ACTION ALTERNATIVES (Includes Storage of Up to 20,000 Pits)			NO ACTION ALTERNATIVE (Includes Storage of Up to 12,000 Pits)	PIT STORAGE RELOCATION ALTERNATIVE (Pantex Plant Impacts of Relocating 8,000 or 20,000 Pits [See Table 3.2-2 for Impacts to Other Sites])
2,000 WEAPONS LEVEL	1,000 WEAPONS LEVEL	500 WEAPONS LEVEL		
WASTE MANAGEMENT (SEE SECTION 4.13 IN MAIN TEXT)				
This weapons level would result in the annual generation of the following amounts of waste: LLW - 249 m ³ (326 yd ³) LLMW - 183 m ³ (240 yd ³) HW - 192 m ³ (251 yd ³) NHW (Class 1) - 742 m ³ (970 yd ³) NHW (Class 2) - 574 m ³ (751 yd ³) Additional LLMW storage could be required in 2004, if no shipment of waste offsite occurs.	This weapons level would result in the annual generation of the following amounts of waste: LLW - 132 m ³ (172 yd ³) LLMW - 118 m ³ (155 yd ³) HW - 108 m ³ (141 yd ³) NHW (Class 1) - 525 m ³ (687 yd ³) NHW (Class 2) - 453 m ³ (593 yd ³) This activity level would not require additional LLMW storage space until after 2007.	This weapons level would result in the annual generation of the following amounts of waste: LLW - 72 m ³ (94 yd ³) LLMW - 81 m ³ (106 yd ³) HW - 64 m ³ (84 yd ³) NHW (Class 1) - 388 m ³ (508 yd ³) NHW (Class 2) - 363 m ³ (475 yd ³) This activity level would not require additional LLMW storage space until after 2007.	The waste management impacts for the 2,000, 1,000, and 500 weapons levels would be the same as the Proposed Action.	

TABLE 3.2-1.—Summary Comparison of Environmental Impacts at Pantex Plant-Continued

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2,000 WEAPONS LEVEL	1,000 WEAPONS LEVEL	500 WEAPONS LEVEL		
HUMAN HEALTH (SEE SECTION 4.14 IN MAIN TEXT)				
Approximately 330 workers would be involved in weapons-related activities associated with exposure to radiation. This weapons level would have an estimated worker exposure of 330 person-rem, and a group excess cancer fatality risk for 10-year exposure of 0.13.	Approximately 330 workers would be involved in weapons-related activities associated with exposure to radiation. This weapons level would have an estimated annual worker exposure of 165 person-rem, and a group excess cancer fatality risk for 10-year exposure of 0.07.	Approximately 330 workers would be involved in weapons-related activities associated with exposure to radiation. This weapons level would have an estimated worker exposure of 82 person-rem, and a group excess cancer fatality risk for 10-year exposure of 0.03.	The human health impacts for the 2,000, 1,000, and 500 weapons levels would be the same as the Proposed Action.	The human health impacts for the 2,000, 1,000, and 500 weapons levels would be the same as the Proposed Action. See Table S-2 (or 3.2-2) for impacts at the other sites.
AIRCRAFT ACCIDENT (SEE SECTION 4.15 IN MAIN TEXT)				
An aircraft accident capable of causing a release from a pit storage or weapons storage magazine is extremely unlikely (frequency of occurrence less than 10 ⁻⁴ but greater than or equal to 10 ⁻⁶). A person in the vicinity of the plant has an approximately 3.0 x 10 ⁻¹² increase in fatal cancer risk from potential aircraft crash plutonium dispersal accidents from pit storage magazines only.	The risks of an aircraft accident at Pantex Plant are dependent on the number of weapons or pits present at any time at the plant, not on the weapons level. The impacts for this weapons level would be equal to or less than those described for the 2,000 weapons level.	The risks of an aircraft accident at Pantex Plant are dependent on the number of weapons or pits present at any time at the plant, not on the weapons level. The impacts for this weapons level would be equal to or less than those described for the 2,000 weapons level.	The No Action Alternative would involve the storage of only 12,000 pits, which would require all 18 Modified Richmond magazines and 18 of the 42 SAC magazines. With fewer magazines used, the likelihood of an aircraft crash into a magazine containing pits is reduced by 44 percent.	The risks of aircraft accidents in Zone 4 are partly dependent on the pit storage level. 20,000 Pit Storage Relocation - With no pits stored at Pantex Plant, the likelihood of an aircraft accident capable of causing a release from a pit storage magazine is reduced to zero. 8,000 Pit Storage Relocation - The likelihood of an aircraft accident capable of causing a release from a pit storage magazine is the same as discussed for the No Action Alternative.

TABLE 3.2-1.—Summary Comparison of Environmental Impacts at Pantex Plant-Continued

PROPOSED ACTION ALTERNATIVES (Includes Storage of Up to 20,000 Pits)			NO ACTION ALTERNATIVE (Includes Storage of Up to 12,000 Pits)	PIT STORAGE RELOCATION ALTERNATIVE (Pantex Plant Impacts of Relocating 8,000 or 20,000 Pits [See Table 3.2-2 for Impacts to Other Sites])
2,000 WEAPONS LEVEL	1,000 WEAPONS LEVEL	500 WEAPONS LEVEL		
INTERSITE TRANSPORTATION OF NUCLEAR AND HAZARDOUS MATERIALS (SEE SECTION 4.16 IN MAIN TEXT)				
For the current baseline 10-year weapon shipment schedule, the public would receive an exposure of 2.0 person-rem with a corresponding excess cancer fatality risk of 9.0×10^{-4} . SST crew members would receive 1.6 person-rem with an expected number of excess cancer fatalities of 6×10^{-4} .			Impacts would be the same as for the Proposed Action.	In addition to the impacts described for the Proposed Action, the following impacts would result with this alternative: 20,000 Pit Storage Relocation - Public would receive an additional exposure of 3.0 person-rem (maximum) for a total of 7.0 person-rem with a corresponding increase in excess cancer fatalities of 1.5×10^{-3} for a total number of expected excess cancer fatalities of 3.3×10^{-3} . 8,000 Pit Storage Relocation - Public would receive an additional exposure of 1.2 person-rem (maximum) for a total of 5.2 person-rem with a corresponding increase in excess cancer fatalities of 6.0×10^{-4} for a total number of expected excess cancer fatalities of 2.4×10^{-3} .
For a 100-percent increase from the current shipment schedule, the public exposure would be 4.0 person-rem and excess cancer fatality risk would be 1.8×10^{-3} . SST crew members would receive 3.2 person-rem with an expected number of excess cancer fatalities of 1.3×10^{-3} .				
ENVIRONMENTAL JUSTICE				
Minority and low-income populations in the Pantex Plant Region of Influence would not be disproportionately affected.				

¹For the approximately 50 people involved with transportation and staging activities historical dosimetry records indicate a maximum individual dose of 300 mrem with an individual excess cancer fatality risk for 10-year exposure of 1.2×10^{-3} .

FY - fiscal year

HW - Hazardous waste

LLW - Low-level radioactive waste

LLMW - Low-level mixed waste

SST - Safe Secure Tractor Trailer

ER - Environmental restoration

M - Million

NHW - Nonhazardous waste

MW/h - Megawatt-hour