

TABLE B.4.2–2.—Percentage of the TNRCC ESL Consumed by the Estimated Maximum Concentration of Air Pollutants at Pantex Plant Boundary (2,000 Weapons)

POLLUTANT	AVERAGING TIME	ESL $\mu\text{g}/\text{m}^3$	MAXIMUM CONCENTRATION AT BOUNDARY $\mu\text{g}/\text{m}^3$	PERCENT OF ESL
<i>Clean Air Act Listed Air Pollutants</i>				
1,1,2-trichloroethane	Annual	5.50E+01	8.07E-02	0.1
	30-min	5.50E+02	1.73E+01	3.2
1,3-butadiene - 45.4 kg (100 lb) HE	Annual	1.10E+01	9.09E-03	0.1
	30-min	1.10E+02	3.76	3.4
1,3-butadiene - 363 kg (100 lb) HE	Annual	1.10E+01	9.09E-03	0.1
	30-min	1.10E+02	3.76	3.4
2-nitropropane	Annual	5.00	3.56E-02	0.7
	30-min	5.00E+01	8.55	17.1
Alcohols	Annual	NA	7.01E-01	—
	30-min	1.00E+02	1.95E+02	195.0
Benzene	Annual	3.00	5.47E-02	1.8
	30-min	7.50E+01	1.94E+01	25.9
Carbon Disulfide	Annual	3.00	9.39E-02	3.1
	30-min	3.00E+01	2.26E+01	75.3
Carbon Tetrachloride	Annual	1.30E+01	8.19E-02	0.6
	30-min	1.26E+02	1.97E+01	15.6
Chlorobenzene	Annual	4.60E+01	8.13E-02	0.2
	30-min	4.60E+02	1.95E+01	4.3
Chromium - 45.4 kg (100 lb) HE	Annual	1.00E-01	1.91E-03	1.9
	30-min	1.00	9.72E-02	9.7
Chromium - 363 kg (800 lb) HE	Annual	1.00E-01	8.00E-05	0.1
	30-min	1.00	7.62E-03	0.8
Chromium - BGU	Annual	1.00E-01	1.49E-04	1.5
	30-min	1.00	1.33E-01	13.3
Cresols	Annual	NA	1.72E-03	—
	30-min	5.00	4.13E-01	8.3
Cresylic Acid	Annual	NA	2.14E-03	—
	30-min	5.00	5.10E-01	10.2
Dibenzofurans - 45.4 kg (100 lb) HE	Annual	NA	2.00E-05	—
	30-min	NA	9.60E-04	—
Dibenzofurans - 363 kg (800 lb) HE	Annual	NA	0.00 ^a	—
	30-min	NA	8.00E-05	—
Dimethylformamide	Annual	3.00E+01	6.19E-02	0.2
	30-min	3.00E+02	2.80E+01	9.3

TABLE B.4.2–2.—Percentage of the TNRCC ESL Consumed by the Estimated Maximum Concentration of Air Pollutants at Pantex Plant Boundary (2,000 Weapons)-Continued

POLLUTANT	AVERAGING TIME	ESL $\mu\text{g}/\text{m}^3$	MAXIMUM CONCENTRATION AT BOUNDARY $\mu\text{g}/\text{m}^3$	PERCENT OF ESL
Ester Glycol Ethers	Annual	NA	1.50E-01	—
	30-min	NA	3.59E+01	—
Ethyl Acetate	Annual	1.44E+03	6.93	0.5
	30-min	1.44E+04	1.99E+03	13.8
Ethyl Benzene	Annual	4.34E+02	1.29E-01	0.0 ^b
	30-min	2.00E+03	3.11E+01	1.6
Ethylene Dichloride	Annual	4.00	3.99E-02	1.0
	30-min	1.60E+02	9.58	6.0
Formaldehyde - 45.4 kg (100 lb) HE	Annual	1.50	4.03E-03	0.3
	30-min	1.50E+01	3.66E-01	2.4
Formaldehyde - 363 kg (800 lb) HE	Annual	1.50	4.03E-03	0.3
	30-min	1.50E+01	3.66E-01	2.4
Hydrogen chloride - 45.4 kg (100 lb) HE	Annual	1.00E-01	7.59E-02	75.9
	30-min	7.50E+01	5.19	6.9
Hydrogen chloride - 363 kg (800 lb) HE	Annual	1.00E-01	3.06E-02	30.6
	30-min	7.50E+01	3.24	4.3
Hydrogen chloride - BGU	Annual	1.00E-01	6.89E-02	68.9
	30-min	7.50E+01	6.17	8.2
Hydrogen cyanide - BGU	Annual	5.50	1.00E-05	0.0 ^b
	30-min	5.50E+01	7.70E-04	0.0 ^b
Hydrogen fluoride - 45.4 kg (100 lb) HE	3-hour	4.90	4.21	85.9
	12-hour	3.68	1.05	28.6
	24-hour	2.86	7.46E-01	26.1
Hydrogen fluoride - 363 kg (800 lb) HE	3-hour	4.90	2.94E-01	6.0
	12-hour	3.68	7.36E-02	2.0
	24-hour	2.86	5.73E-02	2.0
Hydrogen fluoride - BGU	3-hour	4.90	3.59	73.2
	12-hour	3.68	1.32	35.8
	24-hour	2.86	7.49E-01	26.2
Mercury	Annual	5.00E-02	0.00 ^a	0.0 ^b
	24-hour	2.50E-01	0.00 ^a	0.0 ^b
	30-min	5.00E-01	0.00 ^a	0.0 ^b
Methanol	Annual	2.62E+02	5.75E-01	0.2
	30-min	2.62E+03	2.45E+02	9.3
Methyl Cyanide - 45.4 kg (100 lb) HE	Annual	NA	0.00 ^a	—
	30-min	NA	0.00 ^a	—

TABLE B.4.2–2.—Percentage of the TNRCC ESL Consumed by the Estimated Maximum Concentration of Air Pollutants at Pantex Plant Boundary (2,000 Weapons)-Continued

POLLUTANT	AVERAGING TIME	ESL $\mu\text{g}/\text{m}^3$	MAXIMUM CONCENTRATION AT BOUNDARY $\mu\text{g}/\text{m}^3$	PERCENT OF ESL
Methyl Cyanide - 363 kg (800 lb) HE	Annual	NA	0.00 ^a	—
	30-min	NA	0.00 ^a	—
Methyl Ethyl Ketone	Annual	5.90E+02	5.10	0.9
	30-min	3.90E+03	1.40E+03	36.0
Methyl Isobutyl Ketone	Annual	2.05E+02	1.85E-02	0.0 ^b
	30-min	2.05E+03	4.45	0.2
Methylene Chloride	Annual	2.60E+01	7.37E-01	2.8
	30-min	2.60E+02	1.80E+02	69.2
Naphthalene - 45.4 kg (100 lb) HE	Annual	5.00E+01	1.10E-04	0.0 ^b
	30-min	4.40E+02	5.48E-03	0.0 ^b
Naphthalene - 363 kg (800 lb) HE	Annual	5.00E+01	0.00 ^a	0.0 ^b
	30-min	4.40E+02	4.30E-04	0.0 ^b
Nickel - BGU	Annual	1.50E-02	2.40E-04	1.6
	30-min	1.50E-01	2.16E-02	14.4
Nitrobenzene	Annual	5.00	2.14E-03	0.0 ^b
	30-min	2.40E+01	5.13E-01	2.1
Phenol - 45.4 kg (100 lb) HE	Annual	1.90E+01	5.70E-04	0.0 ^b
	30-min	1.54E+02	2.92E-02	0.0 ^b
Phenol - 363 kg (800 lb) HE	Annual	1.90E+01	2.00E-05	0.0 ^b
	30-min	1.54E+02	2.29E-03	0.0 ^b
Tetrachloroethylene	Annual	3.40E+01	7.33E-02	0.2
	30-min	3.40E+02	1.76E+01	5.2
Titanium - BGU	Annual	NA	6.50E-04	—
	30-min	5.00E+02	5.82E-02	0.0 ^b
Toluene	Annual	1.88E+02	1.73	0.9
	30-min	1.88E+03	5.58E+02	29.6
Trichloroethylene	Annual	1.35E+02	2.12E-01	0.2
	30-min	1.35E+03	5.11E+01	3.8
Triethylamine	Annual	4.00	2.38E-03	0.6
	30-min	4.00E+01	1.08	2.7
Xylene	Annual	4.34E+02	4.74E-01	0.1
	30-min	3.70E+03	1.45E+02	3.9

TABLE B.4.2–2.—Percentage of the TNRCC ESL Consumed by the Estimated Maximum Concentration of Air Pollutants at Pantex Plant Boundary (2,000 Weapons)-Continued

POLLUTANT	AVERAGING TIME	ESL $\mu\text{g}/\text{m}^3$	MAXIMUM CONCENTRATION AT BOUNDARY $\mu\text{g}/\text{m}^3$	PERCENT OF ESL
TNRCC Listed Air Pollutants				
1,1,1-chloroethane	Annual	5.00E+01	5.28E-01	1.1
	30-min	5.00E+02	1.27E+02	25.4
1,3,5-trinitrobenzene - 45.4 kg (100 lb) HE	Annual	NA	0.00 ^a	—
	30-min	2.00	3.00E-05	0.0 ^b
1,3,5-trinitrobenzene - 363 kg (800 lb) HE	Annual	NA	0.00 ^a	—
	30-min	2.00	0.00 ^a	0.0 ^b
1-butanol	Annual	7.60E+01	1.99E-02	0.0 ^b
	30-min	7.60E+02	4.79	0.6
2,4,6-trinitrotoluene - 45.4 kg (100 lb) HE	Annual	NA	0.00 ^a	—
	30-min	5.00	3.30E-04	0.0 ^b
2,4,6-trinitrotoluene - 363 kg (800 lb) HE	Annual	NA	0.00 ^a	—
	30-min	5.00	2.00E-05	0.0 ^b
2,4-dinitrotoluene - 45.4 kg (100 lb) HE	Annual	1.50E-01	0.00 ^a	—
	30-min	1.50E+01	5.00E-05	0.0 ^b
2,4-dinitrotoluene - 363 kg (800 lb) HE	Annual	1.50E-01	0.00 ^a	—
	30-min	1.50E+01	3.00E-05	0.0 ^b
2,6-dinitrotoluene - 45.4 kg (100lb) HE	Annual	NA	0.00 ^a	—
	30-min	1.50E+01	5.00E-04	0.0 ^b
2,6-dinitrotoluene - 363 kg (800 lb) HE	Annual	NA	0.00 ^a	—
	30-min	1.50E+01	4.00E-05	0.0 ^b
2-ethoxyethanol	Annual	NA	3.91E-01	—
	30-min	1.80E+02	9.42	5.2
2-nitronaphthalene - 45.4 kg (100 lb) HE	Annual	NA	1.00E-05	—
	30-min	5.00E+02	4.20E-04	0.0 ^b
2-nitronaphthalene - 363 kg (800 lb) HE	Annual	NA	0.00 ^a	—
	30-min	5.00E+02	2.00E-05	0.0
Acetone	Annual	5.90E+02	3.39	0.6
	30-min	5.90E+03	5.19E+02	8.8
Acetylene - 45.4 kg (100 lb) HE	Annual	2.66E+03	3.33E-03	0.0 ^b
	30-min	2.66E+04	1.11	0.0 ^b
Acetylene - 363 kg (800 lb) HE	Annual	2.66E+03	3.33E-03	0.0 ^b
	30-min	2.66E+04	1.11	0.0 ^b
Aluminum - 45.4 kg (100 lb) HE	Annual	5.00	1.28E-03	0.0 ^b
	30-min	5.00E+01	5.22E-02	0.1

TABLE B.4.2–2.—Percentage of the TNRCC ESL Consumed by the Estimated Maximum Concentration of Air Pollutants at Pantex Plant Boundary (2,000 Weapons)-Continued

POLLUTANT	AVERAGING TIME	ESL $\mu\text{g}/\text{m}^3$	MAXIMUM CONCENTRATION AT BOUNDARY $\mu\text{g}/\text{m}^3$	PERCENT OF ESL
Aluminum - 363 kg (800 lb) HE	Annual	5.00	1.17E-03	0.0 ^b
	30-min	5.00E+01	4.94E-02	0.1
Ammonia	Annual	1.70E+01	2.89E-02	0.2
	30-min	1.70E+02	1.31E+01	7.7
Barium	Annual	5.00E-01	1.25E-03	0.3
	1-hour	5.00	2.93E-03	0.1
Benzo(a)anthracene - 45.4 kg (100 lb) HE	Annual	NA	1.00E-05	—
	30-min	5.00E-01	5.00E-04	0.1
Benzo(a)anthracene - 363 kg (800 lb) HE	Annual	NA	0.00 ^a	—
	30-min	5.00E-01	4.00E-05	0.0 ^b
Benzo(a)pyrene - 45.4 kg (100 lb) HE	Annual	3.00E-03	1.00E-05	0.3
	30-min	3.00E-02	4.10E-04	1.4
Benzo(a)pyrene - 363 kg (800 lb) HE	Annual	3.00E-03	0.00 ^a	0.0 ^b
	30-min	3.00E-02	2.00E-05	0.1
Bismuth	Annual	5.00	3.00E-05	0.0 ^b
	30-min	5.00E+02	1.13E-03	0.0 ^b
Butane	Annual	1.90E+03	2.98E-02	0.0 ^b
	30-min	1.90E+04	1.12E+01	0.1
Butene	Annual	NA	2.81E-01	—
	30-min	1.60E+02	1.18E+01	7.4
Calcium	Annual	5.00	5.00E-05	0.0 ^b
	30-min	5.00E+01	1.90E-03	0.0 ^b
Chlorinated Fluorocarbon	Annual	NA	2.90E-01	—
	30-min	1.80E+04	6.93E+01	0.4
Copper	Annual	1.00	3.08E-03	0.3
	30-min	1.00E+01	1.25E-01	1.3
Cyanogen - 45.4 kg (100 lb) HE	Annual	2.10E+01	1.00E-05	0.0 ^b
	30-min	2.10E+02	2.00E-04	0.0 ^b
Cyanogen - 363 kg (800 lb) HE	Annual	2.10E+01	0.00 ^a	—
	30-min	2.10E+02	2.00E-05	0.0 ^b
Cyclohexane	Annual	3.40E+02	3.68E-01	0.1
	30-min	1.44E+03	9.41E+01	6.5
Cyclohexanone	Annual	1.00E+02	6.09E-02	0.1
	30-min	4.81E+02	1.44	0.3

TABLE B.4.2-2.—Percentage of the TNRCC ESL Consumed by the Estimated Maximum Concentration of Air Pollutants at Pantex Plant Boundary (2,000 Weapons)-Continued

POLLUTANT	AVERAGING TIME	ESL $\mu\text{g}/\text{m}^3$	MAXIMUM CONCENTRATION AT BOUNDARY $\mu\text{g}/\text{m}^3$	PERCENT OF ESL
Dioxane	Annual	9.00E+01	7.88E-01	0.9
	30-min	9.00E+02	3.57E+01	4.0
Ethyl Ether	Annual	NA	3.33E-01	—
	30-min	9.27E+02	7.96E+01	8.6
Ethylene - 45.4 kg (100 lb) HE	Annual	NA	6.04E-01	—
	30-min	1.17E+03	2.53E+02	21.6
Ethylene - 363 kg (800 lb) HE	Annual	NA	6.04E-01	—
	30-min	1.17E+03	2.44E+02	20.9
Formic Acid - 45.4 kg(100lb) HE	Annual	9.40	0.00 ^a	0.0 ^b
	30-min	9.40E+01	8.00E-05	0.0 ^b
Formic Acid - 363 kg (800 lb) HE	Annual	9.40	0.00 ^a	0.0 ^b
	30-min	9.40E+01	2.00E-05	0.0 ^b
Iron - 45.4 kg (100 lb) HE	Annual	NA	4.99E-02	—
	30-min	5.00E+01	1.82	3.6
Iron - 363 kg (800 lb) HE	Annual	NA	2.44E-02	—
	30-min	5.00E+01	1.02	2.0
Isobutane	Annual	1.90E+03	4.01E-02	0.0 ^b
	30-min	4.85E+03	1.39E+01	0.3
Isobutanol	Annual	1.52E+02	2.27E-02	0.0 ^b
	30-min	1.52E+03	5.46	0.4
Ketene - 45.4 kg (100 lb) HE	Annual	9.00E-01	0.00 ^a	0.0 ^b
	30-min	9.00	0.00 ^a	0.0 ^b
Ketene - 363 kg (800 lb) HE	Annual	9.00E-01	0.00 ^a	0.0 ^b
	30-min	9.00	0.00 ^a	0.0 ^b
Ketone	Annual	NA	1.39E-01	—
	30-min	1.00E+02	3.34E+01	33.4
Lithium	Annual	NA	4.00E-05	—
	30-min	1.00E+01	1.84E-03	0.0 ^b
Magnesium	Annual	NA	1.05E-03	—
	30-min	5.00E+01	4.41E-02	0.1
Methane - 45.4 kg (100 lb) HE	Annual	NA	7.16E-01	—
	30-min	3.00E+04	2.64E+01	0.1
Methane - 363 kg (800 lb) HE	Annual	NA	7.16E-01	—
	30-min	3.00E+04	2.61E+01	0.1
N-butyl Alcohol	Annual	7.60E+01	1.35E-01	0.2
	30-min	7.60E+02	3.25	0.4

TABLE B.4.2–2.—Percentage of the TNRCC ESL Consumed by the Estimated Maximum Concentration of Air Pollutants at Pantex Plant Boundary (2,000 Weapons)-Continued

POLLUTANT	AVERAGING TIME	ESL $\mu\text{g}/\text{m}^3$	MAXIMUM CONCENTRATION AT BOUNDARY $\mu\text{g}/\text{m}^3$	PERCENT OF ESL
Non-F Listed Solvents ^c	Annual	NA	9.40E-04	—
	30-min	1.00E+01	2.26E-01	2.3
Ortho-dichlorobenzene	Annual	NA	6.36E-01	—
	30-min	1.50E+03	1.53E+02	10.2
Propane	Annual	1.80E+03	4.21E-02	0.0 ^b
	30-min	1.80E+04	1.32E+01	0.1
Propene	Annual	NA	3.71E-01	—
	30-min	3.00E+04	1.56E+02	0.5
Pyrene - 45.4 kg (100 lb) HE	Annual	5.00E-02	5.00E-04	1.0
	30-min	5.00E-01	1.57E-03	0.3
Pyrene - 363 kg (800 lb) HE	Annual	5.00E-02	0.00 ^a	0.0 ^b
	30-min	5.00E-01	9.00E-05	0.0 ^b
Pyridine	Annual	1.50E+01	3.78E-01	2.5
	30-min	6.90E+01	9.08	13.2
Silicon	Annual	5.00	0.00 ^a	—
	30-min	5.00E+02	2.90E-04	0.0 ^b
Silver	Annual	1.00E-02	1.45E-03	14.5
	30-min	1.00E-01	6.22E-02	62.2
Tetrahydrofuran	Annual	5.90E+02	7.55E-01	0.1
	30-min	5.90E+03	3.42E+02	5.8
Trichlorofluoromethane	Annual	5.62E+03	4.21E-01	0.0 ^b
	30-min	2.80E+04	1.01E+02	0.4
Trichlorotrifluoroethane	Annual	NA	1.77	—
	30-min	7.60E+04	4.73E+02	0.6
Zinc	Annual	NA	1.32E-03	—
	30-min	5.00E+01	5.58E-02	0.1

^aThe ISCST2 air quality model returns a value of 0.00 for any concentration equal to or less than $1.00 \times 10^{-5} \mu\text{g}/\text{m}^3$ (i.e., less than one ten millionth of a part per billion or less than ten parts per quadrillion).

^bPercent of ESL is shown as zero, as it is below 0.05.

^cThose solvents not listed under 40 CFR 261.33 (Hazardous Waste from Non-specific Sources).

Note: Table shows the modeling results (maximum concentrations at boundary) from models ISCST2 and ISCLT2. The above chemicals were modeled with appropriate time periods for Open Burning, Burning Ground Upgrade, and Engine Emission Area.

Source: TNRCC 1996a