The emissions from these sources were included in the site-wide dispersion modeling. As indicated previously, the results of the site-wide modeling indicated that the continued operation of Pantex Plant would produce only negligible impacts to the regional and local air quality (see section 4.7.2.1).

4.7.2.2 *Impacts of New Facility Construction Upgrades*

Construction Impacts

During the construction phase of the new facility upgrades, exhaust emissions from construction equipment would consist of CO, VOCs, NO_2, SO_2, and particulate matter. The calculation of emission rates of exhaust pollutants from construction equipment was based on emission factors provided in the EPA document AP–42, *Compilation of Air Pollutant Emission Factors* (EPA 1995b, volume 2, Table II-7.1). For highway vehicles (worker commuting vehicles and delivery vehicles) emission factors were obtained from the EPA Mobile Source Emission Factor Model (MOBILE 5a) (EPA 1994).

Construction equipment composition that was assumed for the peak construction year, 1999, is shown in Table 4.7.2.2–1. (See section 3.1.1 for description of facility upgrade projects.) Fugitive dust generated during the clearing, grading, and other earth-moving operations is dependent on a number of factors, which include silt and moisture content of the soil, wind speed, and area disturbed. A common procedure to estimate fugitive emissions from an entire construction site is to use the EPA emission factor of 1.2 tons per acre per month of construction activity (EPA 1995b, volume 1, Section 13.2.3.3). This emission factor represents particles less than 30 microns in diameter. A multiplication factor of 0.5 was used to correct the emission rate to one for PM_{10} (EPA 1995b, volume 1, Page 13.2.2-3). Also, it was assumed that water would be applied to disturbed areas. This would reduce emission rates by about 50 percent (EPA 1985). It was estimated that construction of the facilities would disturb a total of 3.2 hectares (7.9 acres) over the construction period. It was assumed that the disturbance would occur in the first 2 years, 1998 and 1999, of the construction period.

TABLE 4.7.2.2–1.—*Assumed Equipment Used for Construction of New Facility Upgrades for 1999, the Peak Construction Year*

TYPE OF EQUIPMENT	NUMBER USED DAILY
Bulldozer	3
Grader	1
Front-End Loader	3
Backhoe	2
Roller	2
Crane	1
Portable Generator	3
Off-Highway Truck	3

The estimated annual pollutant emissions resulting from construction activities for the years 1998 through 2004 are presented in Table 4.7.2.2–2. Construction emissions during the peak year, 1999, increase the Pantex Plant annual emissions (see Table 4.7.1.3–7) by about 8 to 13 percent. The emission increases for the other construction years (1998, 2000, and 2001) are less. These temporary increases are too small to result in violations of the NAAQS beyond the Pantex Plant boundary. Therefore, air quality impacts resulting from construction of the new facility upgrades would be negligible.

Operations Impacts

Emissions resulting from the operation of the new or upgraded facilities have been mostly accounted for in the site-wide air quality analysis for continued operations under the