

4.8 AIR QUALITY

This section incorporates by reference information from the Air Quality Baseline Study of Fort Ord, California, which is available for review at the public information repository established at the City of Seaside Branch Library (U.S. Army Corps of Engineers, Sacramento District 1992c). That report describes the existing climate in and around Fort Ord, existing air quality in the Fort Ord area, air quality management in the Monterey Bay area, emissions associated with Fort Ord, and potential emission credits that would result from closure of Fort Ord. The following discussion summarizes the most salient aspects of the baseline study.

Fort Ord is located in the North Central Coast Air Basin, which is contiguous with the Monterey Bay Unified Air Pollution Control District (MBUAPCD). The North Central Coast Air Basin consists of Monterey, Santa Cruz, and San Benito Counties. The MBUAPCD is responsible for air quality management throughout the North Central Coast Air Basin.

The North Central Coast Air Basin currently is in attainment for the federal PM₁₀ (particulate matter less than 10 microns in diameter) standards and state and federal nitrogen dioxide, sulfur dioxide, and carbon monoxide standards. The North Central Coast Air Basin is classified as a nonattainment area for the state and federal ozone standards and the state PM₁₀ standards. The nonattainment designation means that the MBUAPCD does not meet ambient air quality standards and therefore must prepare air quality plans. Those plans must show the steps that will be taken to come into attainment with the state and federal standards.

The MBUAPCD prepared the 1991 Air Quality Management Plan, which is designed to bring the North Central Coast Air Basin into attainment with state ozone standards. That plan, required by the California Clean Air Act of 1988, describes the steps needed to achieve the state ozone standards by 1997. Although the 1991 Air Quality Management Plan includes measures for reducing PM₁₀ emissions, a plan designed to achieve the PM₁₀ standard will not be prepared until 1994. The federal Clean Air Act Amendments of 1990 require that the MBUAPCD prepare a revised state implementation plan by 1993 showing the steps that would be taken to attain the federal ozone standards.

Revisions to the California Air Act (Assembly Bill 2783) were signed into law in September 1992. Those revisions require the MBUAPCD to submit more frequent reports to the California Air Resources Board on progress in attaining the state ozone standards. These revisions also change the MBUAPCD's ozone nonattainment status to nonattainment-transitional, and require the MBUAPCD to evaluate the need for the stationary-source control measures included in the MBUAPCD's 1991 Air Quality Management Plan.

Table 4.8-1 summarizes the total existing (1992) criteria pollutant emissions from all sources at Fort Ord. It contains several revisions to Table 13 included in the Air Quality Environmental Baseline Study, including corrections to range burning emissions, new motor vehicle emissions based on the most recent California Air Resources Board emissions model (EMFACSCF), and changes that account for Phase I vapor recovery emission controls on underground storage tanks.

Table 4.8-2 summarizes emissions from Fort Ord's permitted sources (i.e., sources for which the Department of the Army holds a permit to operate from the MBUAPCD). Total pollutant emissions and total permitted emissions are compared in Table 4.8-3. For each criteria pollutant, permitted emissions are a small percentage of total pollutant emissions.

During closure, the Army will be eligible to obtain emission reduction credits as Fort Ord's emission sources are shut down. Emission reduction credits are surplus emission reductions that represent a permanent, enforceable, and quantifiable decrease in emissions. Emission reduction credits are important to the reuse of Fort Ord lands because credits may be needed to offset emissions associated with future economic growth.

Table 4.8-1 Total Criteria Pollutant Emissions - All Sources

Pollutant Sources	Emissions (pounds per year)				
	NO _x	SO _x	CO	PM ₁₀	ROG
Stationary Combustion Sources					
Boilers - distillate	21,177	7,517	5,294	910	360
Boilers - natural gas	44,869	259	9,259	865	2,190
Boilers - propane	0	0	0	0	0
I.C. engine	243	15	1,356	17	83
Steam cleaner	418	27	90	30	33
Ceramic kiln	0	0	0	0	0
Incinerator	<u>1</u>	<u>0</u>	<u>0</u>	<u>3</u>	<u>0</u>
Total stationary combustion emissions	66,708	7,821	15,999	1,825	2,666
Solvent Sources					
Surface coating/offset printing/ miscellaneous	0	0	0	0	12,105
Pesticides	0	0	0	0	3
Laboratories	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>2,492</u>
Total solvent emissions	0	0	0	0	14,600
Fuel Storage Emission Sources					
Fuel storage tanks	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>16,778</u>
Total fuel storage emissions	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>16,778</u>
Subtotal - Stationary Source Emissions					
Pounds per year	66,708	7,821	15,999	1,825	34,044
Tons per year	33	4	8	1	17
Area Sources					
Nonindustrial natural gas combustion	72,814	484	14,277	2,727	0
Range burning	31,105	0	414,100	45,100	51,250
Range munitions	0	0	25,970	0	0
Residential stationary sources	<u>39,327</u>	<u>6,272</u>	<u>309,986</u>	<u>33,753</u>	<u>569,300</u>
Subtotal - Area Source Emissions	143,246	6,756	764,333	81,580	620,550
Pounds per year	143,246	6,756	764,333	81,580	620,550
Tons per year	72	3	382	41	310
Mobile Sources					
Mobile source combustion	<u>1,923,915</u>	<u>40,369</u>	<u>22,761,583</u>	<u>275,544</u>	<u>2,001,660</u>

Table 4.8-1 Continued

Pollutant Sources	Emissions (pounds per year)				
	NO _x	SO _x	CO	PM ₁₀	ROG
Subtotal - Mobile Source Emissions					
Pounds per year	1,923,915	40,369	22,761,583	275,544	2,001,660
Tons per year	962	20	11,381	138	1,001
Total Pollutant Emissions					
Pounds per day	5,846	151	64,498	983	7,277
Pounds per year	2,133,869	54,945	23,541,915	358,949	2,656,254
Tons per year	1,067	27	11,771	179	1,328

Notes:

- NO_x = oxides of nitrogen.
 SO_x = oxides of sulfur.
 CO = carbon monoxide.
 PM₁₀ = particulate matter less than 10 microns in diameter.
 ROG = reactive organic gases.

This table is identical to Table 13 of the Air Quality Baseline Study of Fort Ord, California (U.S. Army Corps of Engineers, Sacramento District 1992c) except for the following revisions: range burning emissions have been modified to correct an error in estimation method; mobile source emissions of NO_x and ROG have been modified to reflect the new motor vehicle emissions model, EMFACSCF, issued by the California Air Resources Board; and fuel storage tank emissions have been modified to include a 93% control efficiency associated with Phase I vapor controls (U.S. Environmental Protection Agency 1985).

Range burning emissions have been modified to include the fuel loading factor of 5 tons per acre recommended by the MBUAPCD. The emission factors used to estimate range burning emissions are based on EPA's Compilation of Air Pollutant Emission Factors (AP-42). Range burning emissions for ROG, CO, and PM₁₀ are based on emission factors for chaparral shrub communities found in Table 11.1-3 of AP-42 (U.S. Environmental Protection Agency 1985). Emission factors for NO_x are based on Table 11.1-2 of AP-42 (U.S. Environmental Protection Agency 1985).

Sources:

- U.S. Army Corps of Engineers 1991a.
 U.S. Army Corps of Engineers 1991b.
 U.S. Army Corps of Engineers 1992c.
 Institute of Traffic Engineers 1991.
 Institute of Traffic Engineers 1987.
 Monterey Bay Unified Air Pollution Control District 1991.
 Bay Area Air Quality Management District 1985.
 U.S. Environmental Protection Agency 1985.

Table 4.8-2 Total Criteria Pollutant Emissions - Permitted Sources

Pollutant Sources	Emissions (pounds per day)				
	NO _x	SO _x	CO	PM ₁₀	ROG
Stationary Combustion Sources					
Boilers - distillate	17,699	6,283	4,425	761	301
Boilers - natural gas	26,216	149	5,480	497	1,233
Boilers - propane	0	0	0	0	0
I.C. engine	0	0	0	0	0
Steam cleaner	0	0	0	0	0
Ceramic kiln	0	0	0	0	0
Incinerator	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Total stationary combustion emissions	43,916	6,432	9,905	1,258	1,534
Solvent Sources					
Surface coating/offset printing/miscellaneous	0	0	0	0	4,297
Pesticides	0	0	0	0	0
Laboratories	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>1,151</u>
Total solvent emissions	0	0	0	0	5,447
Fuel Storage Emission Sources					
Fuel storage tanks	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>11,187</u>
Total fuel storage emissions	0	0	0	0	11,187
Total Permitted Pollutant Emissions					
Pounds per year	43,916	6,432	9,905	1,258	18,168
Tons per year	22	3	5	1	9

Notes:

- NO_x = oxides of nitrogen.
- SO_x = oxides of sulfur.
- CO = carbon monoxide.
- PM₁₀ = particulate matter less than 10 microns in diameter.
- ROG = reactive organic gases.

Sources: U.S. Army Corps of Engineers 1991a, 1991b.

Table 4.8-3 Permitted versus Total Existing Fort Ord Emissions

	Emissions (tons per year)				
	NO _x	SO _x	CO	PM ₁₀	ROG
Before Credit Devaluation					
Permitted	22	3	5	1	9
Total	1,067	27	11,978	158	1,354
After Credit Devaluation					
Permitted	11	2	1	1	6
Total	533	16	2,635	152	866

Notes:

- NO_x = oxides of nitrogen.
- SO_x = oxides of sulfur.
- CO = carbon monoxide.
- PM₁₀ = particulate matter less than 10 microns in diameter.
- ROG = reactive organic gases.

Permitted emissions based on Table 4.8-2.
 Total emissions based on Table 4.8-1.

Emission reduction credits are based on the following devaluation percentages contained in MBUAPCD Rule 215: NO_x (50%), SO_x (42%), CO (78%), PM₁₀ (4%), and ROG (36%).

Source: U.S. Army Corps of Engineers, Sacramento District 1992c.

MBUAPCD Rule 215 establishes procedures for the creation, banking (storage), and use of emission reduction credits and allows credits to apply only to stationary sources that have been applying best available control technology as defined in MBUAPCD Rule 207.

The MBUAPCD is evaluating proposed changes to Rule 215. One of the proposed changes would allow nonpermitted sources to be eligible for emission reduction credits (Monterey Bay Air Pollution Control District pers. comm.). Changes to Rule 215 are scheduled to be presented to the MBUAPCD's board on December 12, 1992 (Monterey Bay Air Pollution Control District pers. comm.).

Rule 215 requires that when calculating emission reduction credits for a source, an average of the previous 3 years of emissions or operating activity be used. Because of limited data, however, only 1 year of operating activity has been used in this report to estimate potential emission reduction credits. If activity

levels and associated emissions at Fort Ord decrease between now and closure, the amount of emission reduction credits available at closure also will decrease.

If the emission reduction credits are transferred to someone other than the original owner, the credits must be devalued by the amounts shown in the footnote to Table 4.8-3. Also, 3% of the devalued emission reduction credits must be deposited into a community account accessible only by public agencies. Applying the devaluation to the most current estimates of Fort Ord emissions shown in Tables 4.8-1 and 4.8-2 results in the range of potential emission reductions shown in Table 4.8-3.

The amount of potential emission reduction credits that will be available to the Army for the Fort Ord closure depends on whether the MBUAPCD allows only permitted emissions to be counted as emission reduction credits or whether some or all of the nonpermitted emissions also will be counted eligible for credits. Under the current interpretation of MBUAPCD's Rule 215, the amount of emission reduction credits available to the Army for each pollutant would be closer to the total permitted emissions after devaluation. If proposed changes to Rule 215 allow nonpermitted emission sources to be included as emission reduction credits, then the amount of credits available would be closer to the total permitted and non-permitted emission credits after devaluation.

Fort Ord recently completed an Assembly Bill 2588 toxic air emissions study that evaluated the impact of toxic air pollutants on human health (U.S. Army Corps of Engineers, Sacramento District 1992c). That study concluded that air emissions of toxic pollutants from Fort Ord's existing operations pose no risk to human health.