Appendix S: Air Quality

The Department of Defense (DoD) is committed to achieving the highest degree of air quality compliance to protect public health, the environment, and property from harmful pollutants while sustaining the military mission. The Clean Air Act (CAA) is the primary air management statute that establishes regulations to improve the nation's air quality and regulates the activities of federal agencies to ensure that state and federal air pollution control standards are met. Major CAA programs include: the CAA title V operating permit program, the national emission standards for hazardous air pollutants (NESHAP), state implementation plans, new source review, and vehicle inspection and maintenance programs.

The CAA requires the U.S. Environmental Protection Agency (EPA) to set National Ambient Air Quality Standards (NAAQS), which define primary standards for air regulations on six criteria pollutants including carbon monoxide (CO), lead (Pb), nitrogen oxides (NO_X), sulfur dioxide (SO_2), ozone (O_3) and particulate matter (PM_{10} and $PM_{2.5}$). PM_{10} are particles less than 10 micrometers in diameter, while $PM_{2.5}$ are particles less than 2.5 micrometers in diameter. PM_{10} pose a health concern because they can be inhaled and accumulate in the respiratory system. $PM_{2.5}$ are referred to as fine particles and pose the largest health risks because they can lodge deeply into the lungs. Criteria pollutants are generated in large quantities by motor vehicles and industrial operations powered by fossil fuels. Ozone is not typically emitted, but occurs as a result of a chemical reaction between NO_X and volatile organic compounds (VOCs). For this reason, DoD reports VOCs and NO_X with the criteria air pollutants, and not ozone, even though there is not a NAAQS for VOCs.

The CAA also regulates hazardous air pollutants (HAPs), which present a threat to human health and the environment and exist as particulate matter or vapors. Examples of such toxic air pollutants include benzene, which is found in gasoline; perchlorethlyene, which is emitted from some dry cleaning facilities; and methylene chloride, which is used as a solvent and paint stripper. Lead is controlled as both a criteria pollutant and as a HAP, the only chemical on both lists.

Figure S-1

CY2005 Air Emissions (tons/year)

		Criteria Air Pollutants						
Service	**Total HAPs**	**VOCs**	**NO_x**	**PM_{10}**	**$PM_{2.5}$**	**SO_2**	**CO**	**Pb**
Army	1,086.38	5,295.47	5,652.46	42,215.15	0.0	9,184.69	51,334.33	18.86
Navy	212.12	1,299.60	2,742.05	639.40	177.52	3,634.04	1,208.75	1.77
Marine Corps	486.16	279.60	851.34	206.43	0.0	1,410.61	203.40	0.19
Air Force	643.38	2,704.56	8,367.07	1,546.88	98.33	3,657.80	4,125.93	1.10
DLA	0.48	4.65	60.86	6.67	4.76	140.95	11.72	0.0
Total*	**2,428.52**	**9,583.88**	**17,673.78**	**44,614.53**	**280.61**	**18,028.09**	**56,884.13**	**21.92**

* Due to rounding, subtotals may not equal calendar year totals.

DoD

DoD effectively manages its air quality by complying with all CAA requirements to provide its personnel and their families with clean air. Figure S-1 provides an overview of the Components' releases to air in Calendar Year (CY) 2005. The data presented include emissions of HAPs, VOCs, NO_X, particulate matter, SO_2, CO, and Pb.

Army

The CAA requirements impact many Army activities, including maintenance, rework, and inspection of vehicles; operation of new and existing boilers and incinerators; waste disposal; manufacturing; some training activities; air emissions monitoring; decreased use of ozone-depleting substances (ODSs); and the acquisition of alternative fuel vehicles. Army leadership manages HAPs, ODSs, and risk management planning, and ensures compliance with permit conditions, air emissions inventories, and on-site inspections. The Army Environmental Center works to assist installations and support the Army's compliance with air quality regulations by reviewing CAA rulemakings, preparing impact analyses and guidance documents, and maintaining contact with EPA to stay abreast of air quality initiatives.

Navy

The Navy's ability to accomplish its mission requires daily operations in the land, sea, and air. The Navy is committed to operating in a manner compatible with the environment and complies with all applicable federal, state, and local environmental laws and regulations to protect human health and the environment. These compliance measures are necessary to maintain a high level of mission readiness and sustain operations. The Navy is the DoD Executive Agent for CAA matters and, in that capacity, leads the DoD CAA Steering Committee. This committee shares information, directs policy and guidance, and monitors activities specifically related to CAA.

Marine Corps

As an amphibious force with close air support, the Marine Corps has a unique operational relationship with the environment. The Marine Corps is committed to attaining and sustaining compliance with all applicable air management regulations and considers such compliance vital to the successful performance of its mission. Most Marine Corps emission sources are regulated under the NAAQS program. Some of the common emission sources at Marine Corps installations, such as printing or ground equipment coating operations, are not identified as source categories under the CAA.

Air Force

The commitment of the Air Force Air Quality Program is to protect public health, the Air Force workforce, and the environment from harmful pollutants while sustaining its mission. This essential task not only involves reporting air pollutants from base sources, but implementing innovative technologies to prevent or reduce emissions that impact the air. Common sources of air pollution at Air Force installations include boilers, incinerators, fuel storage and transportation, parts cleaning, surface coating operations, and aircraft operations. The extent to which the CAA requirements affect the operation of an Air Force facility depends on the location of the installation and the types of industrial operations.

DLA

The Defense Logistics Agency (DLA) is committed to functioning in a manner that safeguards human health and the environment, providing safe and healthy working environment conditions for employees, and ensuring compliance with applicable laws, regulations, and policies.