

of personnel are directly involved in environmental pollution detection and abatement activity for part of the time incident to their other military functions and duties. As an example, although there are numbers of Medical Service and Civil Engineering specialists working full time in environmental pollution work, many environmental engineering personnel (such as sanitary engineers and industrial hygienists of the U.S. Army, industrial hygienists and sanitarians of the U.S. Navy, and bioenvironmental engineers, USAF) are broadly trained and because of the scarcity of such personnel, work on all aspects of the environmental health problem not just restricting their work to environmental pollution abatement. The nature of their combined engineering and health educations fit them for this type of activity and to accept the responsibility of supervising and managing technicians. Similarly in the civil engineering functions, while there are some personnel exclusively concerned with design, operation, and maintenance of pollution abatement works, a considerable number are involved in broader responsibilities. With increasing emphasis on air, water, and solid wastes disposal problems, a greater degree of full time specialized effort and activity will be necessary. All of the military departments have currently pending program change proposals for the first incremental increases to meet these new responsibilities. Information on the current full time equivalence of DOD environmental pollution control personnel are shown in Table I.

TABLE I.—Average man-years—DOD environmental pollution control¹

	U.S. Army	U.S. Navy	U.S. Air Force	Total military departments
Medical service:				
Professional.....	23	30	82	135
Technicians.....	100	20	100	220
Civil engineering.....	27	12	10	49
Total.....	150	62	192	404

¹ Does not include plant operators, or miscellaneous support personnel, whose salary costs are included in table II.

The majority of the professional personnel of the three military Medical Services are commissioned officers, whereas the majority of the professional personnel for the Civil Engineering functions are civil servants. This reflects the traditional requirement of the military medical departments for personnel who are competent in the field of environmental health and who can be utilized world wide in a military situation. The relatively larger number of such individuals currently utilized by the U.S. Air Force reflects environmental pollution and control programs associated with the development and deployment of strategic missiles in the operation of the three regional environmental health laboratories.

In the case of cost of pollution abatement, fairly precise information is available regarding waste water disposal operations, on the general cost of environmental surveillance and as to construction which has been approved for waste water works. With regard to costs associated with systems development, toxicology, and some of the research and development programs, information is available although some of these costs are not directly identified with environmental pollution. In the case of air pollution, control procedures associated with industrial operation and for power plants, no specific identification has generally been made as to the cost since these items are included as part of an overall building or facility design. Greater attention will be paid to these items as a result of the recent Executive Order on air pollution and the proposed implementing instructions regarding identification of problems and development of cost estimates for correction. Similar estimates will be developed with regard to cost of disposal of solid wastes which at the present time, due to the variation in disposal procedures and in internal identification of costs therefore this subject is not included. A summary of typical expenditures for the most recent fiscal year is provided in Table II. The cost reflected therein should be expected to increase in view of the previously discussed need for additional personnel and as a reflection of the five "Phased and Orderly Plans" for installation of waste water treatment facilities now being studied by the Bureau of the Budget and as a result of the plan for air pollution which will be submitted in 1967. The