

Executive Office leadership and coordination are clearly essential, both to assess the impact of major decisions and to promote continuing improvement in the utilization of scientists and engineers. The Committee does not propose that the collection of information about scientific and engineering manpower be accomplished by a single agency; centralization of this kind, in fact, is to be avoided. It does propose that the data now being collected from various sources be made more compatible. In some areas, additional data must be obtained. In support of this objective, extensive and continuing analysis is needed to ensure that information related to scientific and engineering manpower is both adequate and useful for making major decisions in all sectors, and especially in the federal government.

Another task of Executive leadership should be to strengthen research in the field of scientific and engineering manpower. A considerable increase in expenditures for development of organized information would yield a high return in better utilization of scientists and engineers. Particularly urgent is the need for research that will identify and help to resolve certain critical problems. For example, convertibility and occupational mobility of scientists and engineers critically affect their utilization; yet there is little useful information on this subject.

The machinery and the precise arrangements required for the development of an integrated federal policy on all manpower are not the proper concern of this Committee. Nevertheless, it sees an acute need for a continuing assessment of the total impact of government policies and activities on the development and utilization of manpower in the United States. The Committee is encouraged by the recent establishment by the President of a cabinet-level Committee on Manpower.

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3. Each department and agency charged with major scientific or engineering activities should assign to one of its top officials responsibility for improving the utilization of civilian scientists and engineers, both those the agency employs and those whose work it finances. The duties of that official should include: (a) participating in government-wide scientific and engineering manpower planning activities; (b) bringing to the attention of his colleagues the implications, in terms of scientific and engineering manpower, of proposed new programs; (c) assessing the impact on manpower of cancellation, curtailment, or alteration of major programs; (d) analyzing the influence of various management practices and policies on the effectiveness with which scientific and engineering manpower is utilized; (e) providing for the collection and analysis of the information he needs to meet his other responsibilities. Specifically, the Committee recommends that an official be assigned these responsibilities in the Department of Defense in order to improve the utilization of civilian scientists and engineers working on defense programs both within and without the department.

Decisions made within the departments and agencies of the government are of key importance in determining how effectively a very large proportion of the nation's scientific and engineering manpower outside the government is utilized. At the present time, the direct attention paid to the utilization of scientific and engineering manpower varies widely from agency to agency. The National Aeronautics and Space Administration, for example, as required by statute, has actively sought and organized information on the numbers and kinds of scientific and engineering personnel that are involved in its programs, including those employed by its contractors. The Department of Defense has very little information of this kind. It has, however, actively examined the impact of various management policies and practices on project effectiveness, although not directly on utilization of manpower. Responsibility for efficient use of scientific and engineering manpower tends to be widely diffused within most agencies, and is regarded by most program managers as incidental to other tasks. If this responsibility is to be fulfilled effectively, it must be made the principal concern of designated officials at the highest level of department and agency management.

4. The Department of Defense, the National Aeronautics and Space Administration, the Federal Aviation Agency, the Atomic Energy Commission, and other agencies with major technological programs should continue to place great emphasis on improving the management of major projects by assigning to these projects identifiably top-quality managers with both technical and administrative skills, and giving them authority, responsibility, and resources necessary for successful completion of projects.