

idea of their resources and what work they are doing. This assumption is, of course, not entirely true. For this reason, the plan to establish an inventory of Federal laboratories will be put into effect.

Question 3. What consideration has been given to applying the standards and procedures devised for appraisal of contractor research and development performance to government-operated laboratories? To what extent would this be desirable?

Answer. Appraisal of in-house laboratory performance is a normal responsibility of agency management and does not differ in any important way from the appraisal of contractor research and development performance. Procedures in use in the Government for both in-house and contractor R&D appraisal commonly involve such techniques as visits to the laboratory by teams of agency management representatives; evaluation of results by agency management and—especially where more basic research is involved—by outside advisory groups; and continuing reviews of laboratory operations through reports, audits, conferences, day-to-day contacts, and so on. In some cases, development activities lend themselves to controlled scheduling procedures such as PERT, but such control methods are generally not applicable to research near the basic end of the spectrum. Evaluations are necessarily qualitative rather than quantitative to a considerable degree, and involve judgments based on such factors as experience and comparison with good practice elsewhere.

The prime objective is not the application of any specific set of administrative techniques, but the elevation of the quality and efficiency of administration of Federal laboratories totally, including such matters as maintenance of challenging and relevant laboratory missions, elevation of salary scales to attract first class managers, and securing sufficient freedom for laboratory managers.

Question 4. What was the experience of the Federal Council Committee for Long-Range Planning in its attempts to put together a long-range plan for the research and development planned by the various agencies? Are there alternative approaches to this goal of long range planning?

Answer. The answers to these questions have been well stated in a 1967 report, "The Office of Science and Technology" of the Science Policy Research Division of the Legislative Reference Service of the Library of Congress for the Military Operations Subcommittee of the Committee on Government Operations.

"Planning is one of the commonly accepted elements of modern administration. As such, planning has held the attention of the White House Science structure. Long-range planning for research and development has been described by the Federal Council as: * * * the process of identifying the major alternative strategic paths that programs might follow, weighing the technical knowledge and resource commitments required if each alternative path were followed, assessing the full consequences of following each path, assessing the major contingencies that might arise if each path were followed, and making sets of decisions in the light of all of these considerations.¹

According to the Council, two considerations tend to extend the time scale for Federal long-range planning for research and development. First, the required resources take a long time to create. Second, once created, many of the important resources for science have a long life.

The Committee on Long-Range Planning.—In September 1961 the Federal Council concluded that more systematic, continuing planning was necessary for all the departments and agencies active in research and development. Accordingly it recommended appointment of a Committee on Long-Range Planning. The recommendation was approved and the Committee was established. Its functions are to:²

1. Identify and coordinate long-range goals of Federal agencies in science and technology.
2. Foster preparation of an inventory of research resources—manpower and facilities.
3. Project future demands for resources and funding.
4. Develop techniques for Government-wide planning to minimize gaps and redundancies, and to achieve maximum utilization of resources.

¹ The Role of the Federal Council for Science and Technology: Report for 1963 and 1964. Office of Science & Technology. Washington, U.S. Government Printing Office, 1965, p. 19.

² Federal Council for Science and Technology: 1962 Annual Report. Office of Science and Technology. Washington, U.S. Government Printing Office, 1963, p. 12. Departments and agencies represented on the Committee on Long-Range Planning are: Agriculture; Commerce; Defense; Health, Education, and Welfare; Interior; and the Atomic Energy Commission; the Federal Aviation Agency; the National Aeronautics and Space Administration; the National Science Foundation. The Bureau of the Budget may observe its meetings.