

parts. One part relates to those crucial powers to manage and control governmental activities which must be retained in the hands of public officials directly answerable to the President and Congress. Are we in danger of contracting out such powers to private organizations? If so, what should be done about it?

The other part of this question relates to activities which do not have to be carried out by Government officials, but on which there is an option: they may be accomplished either by direct Government operations or by contract with non-Federal institutions. What are the criteria that should guide this choice? And if a private institution is chosen, what are the criteria for choice as among universities, not-for-profit corporations, profit corporations, or other possible contractors?

The second question we deal with is what standards and criteria should govern contract terms in cases where research and development is contracted out. For example, to what extent is competition effective in ensuring efficient performance at low cost, and when—if at all—must special rules be established to control fees, salaries paid, and other elements of contractor cost?

The third question we deal with is how we can maintain strong research and development institutions as direct Government operations. How can we prevent the best of the Government's research scientists, engineers, and administrators from being drained off to private institutions as a result of higher private salaries and superior private working environments, and how can we attract an adequate number of the most talented new college graduates to a career in Government service?

These questions are treated in the sections which follow.

PART 2

CONSIDERATIONS IN DECIDING WHETHER TO CONTRACT OUT RESEARCH AND DEVELOPMENT WORK

Generalizations about criteria for contracting out research and development work must be reached with caution, in view of the wide variety of different circumstances which must be covered.

A great many Government agencies are involved. The Department of Defense, the National Aeronautics and Space Administration, and the Atomic Energy Commission provide the bulk of Federal financing but a dozen or more agencies also play significant roles.

Most Federal research and development work is closely related to the specific purpose of the agency concerned—to the creation of new weapons systems for the Department of Defense, for example, or the exploration of new types of atomic power reactors for the Atomic Energy Commission. But a significant portion of the research financed by the Federal Government is aimed at more general targets: to enlarge the national supply of highly trained scientists, for example, as is the case with some programs of the National Science Foundation. And even the most "mission-oriented" agencies have often found it desirable to make available for basic research to advance the fundamental state of knowledge in fields that are relevant to their missions. Both the Department of Defense and the AEC, for example, make substantial funds available for fundamental research, not related to any specific item of equipment or other end product.