

bility in how the two organizations do business. The problems of liaison, of making sure that the sponsoring organization has effective means of input into the performing organization and vice versa, are distinctly more complicated when a direct line of management control is absent, but when conditions are right, this difficulty can be overcome. It is not unlike the problem of contracting for research outside the Government which is, after all, the way we carry out most federally sponsored R. & D.

Each case must be considered on its merits, but I would hope that we could encourage more of the kind of use OSW has made of capabilities in other agencies, so that we can obtain a broader base of experience on which to make judgments in the future. It is probably no accident that the transfer of work has been most effective when carried out in the large "general-purpose laboratories" such as the Bureau of Standards or the AEC's national laboratories.

Such considerations lead me to the conclusion that it would be a mistake to establish general Federal policies at this time, either legislatively or otherwise, regarding performance of Federal research and development work in Federal laboratories outside the sponsoring agency. I am not aware of any current policies or procedures which hinder one agency from using another's capabilities. As a practical matter, there may be a need to remove or modify personnel ceilings for laboratories which are going to perform research for nonparent agencies. It is also possible that in some cases, one might need to seek further interpretation by the Comptroller General of the Economy Act of 1932. If there are any real obstacles, I would want to work to resolve them.

The temptation to keep all existing laboratories busy and to make maximum use of capital facilities already in existence is strong. However, the simple fact is that in many cases we would do better to start afresh on a new problem. The question of when to start new laboratories, and what to do about those that are obsolescent or too small to be effective, should also receive careful attention on a case-by-case basis. Obsolescent laboratories are inefficient, because the best people leave first. Facilities and equipment established for one purpose often are very difficult and costly to adapt to wholly new missions. It is not at all clear that one gains financially by trying to refurbish old laboratories, and meanwhile one may be losing the dedication and enthusiasm which often go with a wholly fresh start.

In restructuring the Federal laboratory system, it is important to recognize that laboratories need to be of a critical size to be really effective. There should not only be adequate strength in the principal areas of effort, but also enough scientific and technical disciplines represented among the laboratory personnel to yield useful interaction among them—as when the biologist needs the help of a physicist or an engineer to overcome a particular problem. A "critical mass" of people allows for internal redistribution of jobs and people and permits it to take on new assignments without undue strain or complete reorganization. A scattering of small laboratories, such as some in the Department of Agriculture, for example, dissipates this opportunity. One of the recommendations of the PSAC study of agricultural research which I mentioned earlier is that many of the USDA research field stations be either closed or transferred to the State experiment stations.