

the Congress and the executive branch. One of the reasons for the establishment of the National Academy of Engineering was to provide such assistance to the Federal Government in the same way as scientific knowledge had been made available through the National Academy of Sciences. The following excerpts from a letter from me to the other members of the Board describes the principles and procedures which we have adopted.

At our last meeting we discussed at some length the matter of subcommittees which might cover the wide range of problems which are encountered in dealing with pollution and its interrelationships with natural resources. We approved in principle the proposal of the ad hoc committee of the NAE that a committee be set up to deal with the USPHS Office of Solid Wastes and to continue the discussion of possible projects to investigate. The Board also agreed that similar committees should be set up to deal with air pollution and water pollution. This would have the advantage of permitting concentrated attention to be given to existing or anticipated problems in a manner which is organizationally compatible with the existing division of responsibility among the agencies of the Executive Branch (and to some extent within the Congress as well).

In our discussions we have continually emphasized the interdisciplinary character of the problems of environmental pollution, not only among the physical and biological sciences but the social sciences as well. At the same time I think that we must recognize that there are many immediate and urgent instances in which sound quantitative engineering thinking should be made available to the Government as soon as possible.

It seems to me that we are now faced with a kind of planning and organizational problem that is very similar to those encountered in industry. The Government is already committed to a program of regulation and enforcement which is underway. As a basis for this program it must make use of the best data available, and where not enough data are available it must make provisions for the securing of essential data as soon as possible. In a manufacturing industry this would correspond to the final stages of design and construction of a new plant. Although it may be found that some research is necessary, there is such a commitment of resources and such a time schedule that whatever research may be essential must be done on a crash basis. Even though it may be known or felt that additional research would result in an improved process, it is recognized that it would be economically unsound to delay the progress of the work while waiting for the ultimate. Substantial changes must await the construction of a second plant.

This is the kind of work best done by engineers. I think that it is important that the engineering point of view be the dominant one. I think, however, that the very specific nature of the present crisis should be emphasized and that the proposed ad hoc committees be clearly instructed to confine their attention to the immediate short-range problems, with the understanding, of course, that they still have a responsibility for recognizing and defining problems which will need more extensive study.

It is essential to differentiate and separate the responsibilities for immediate technological assistance and long-range planning. Thus