

Dr. MIDDLETON. May I suggest that beyond the relationships within the Government we have the developing relationships with the private sector, and we expect to deeply involve them, not only in developing research and development for control technology purposes, but also for providing the facts as they relate to the production of criteria. In this regard you might be interested in the fact that in fiscal year 1966, about 30 percent of our budget was used in non-Federal research categories.

In 1967 we increased this from 30 percent to about 70 percent. We are marshaling the resources of private industry, all segments of industry, nonprofit institutions, a variety of technical resources, to bring new talent to bear, new ideas, newly involved people, so through the mechanism of the leadership of the Department of Health, Education, and Welfare I think we are not only succeeding in bringing about some Federal relationship improvement but, more significantly perhaps, we have been able to involve more significant external forces to have a concern with air pollution and its control.

Mr. DADDARIO. Mr. Brown?

Mr. BROWN. I do not want to take a great deal of time on this but there are a couple of aspects of the research program that I would like to have you comment on very briefly.

One aspect of the total problem of controlling our environment and its pollution is that action in one field tends to sometimes have an effect in another field; for example, the control of air pollution may have an effect on water pollution or ground pollution.

I would like to know, in your program do you have adequate mechanisms for recognizing and dealing with this problem so that the total environment is maintained at some type of optimum level, and in the effort to provide clean air we do not at the same time produce adverse effects in other aspects of our environment?

Are you coordinating with those people trying to clean up the water and ground at the same time?

Dr. MIDDLETON. May I ask Dr. Ludwig to respond?

Dr. LUDWIG. Mr. Brown, we are quite aware of the interactions between the cleanup of air pollutants with the cleanup of water pollutants or the problems that are involved in solid waste disposal.

In the development of our program we don't look to the transferring of our problems to one of these other forms of disposal as an adequate solution. For instance, there is a great interface with the solid waste people who are interested in the disposal of these wastes by whatever means possible. One of these is incineration.

Of course, we have an interest in controlling pollution from incineration that extends from the development of add-on devices right back through improving the process so that it is nonpolluting to begin with. This requires that we do coordinate our programs with the solid waste programs in this regard.

We have a similar interface with the water pollution program, for instance, the development of one specific area for sulfur control involves the injection of dolomitic materials into the furnace. We are carrying this through to the point of what do you do with the slurry that you get finally which consists of gypsum and limestone and fly ash; how do you dispose of this?