

Dr. Hibbard is the author of more than 70 scientific papers and has been widely recognized as a major contributor to the science of metallurgy. In 1957, he was a member of the exchange delegation of United States metallurgists visiting the Soviet Union.

He has been elected to many honorary and professional fraternities including Phi Beta Kappa, Sigma Xi, Alpha Chi Sigma, and Gamma Alpha. He also holds an honorary Doctor of Law degree from the Michigan Technological University, Houghton, Michigan.

Dr. and Mrs. Hibbard have three children and reside in Rockville, Md.

STATEMENT OF DR. WALTER R. HIBBARD, DIRECTOR, BUREAU OF MINES, DEPARTMENT OF THE INTERIOR; ACCOMPANIED BY DR. HARRY ALLEN, ASSISTANT DIRECTOR FOR MINERAL RESEARCH

Dr. HIBBARD. I would like to point out that our mission and responsibility in this important problem area is for research on the control, at the source, of pollutants produced as a result of the production, processing, handling, and utilization of the Nation's mineral and mineral fuels resources. Authority for conducting such research derives from the Bureau's organic act which states that scientific and technologic investigations shall be conducted on the extraction and utilization of mineral substances with a view to conserving resources through the prevention of waste, increasing safety, and on behalf of the Government to investigate mineral fuels. It is important that the science and technology and the economics are generated to assume an adequate supply of mineral raw materials and at the same time to maintain the quality of the environment or improve it in many cases.

Much of the pollution is the result of inefficiencies. If we had really effective processing and utilization, with efficiencies approaching 100 percent, pollution from this source would be reduced significantly.

Moreover, from the standpoint of conservation there is a need to do this.

We work very closely with the Department of Health, Education, and Welfare and with industry. Much of our effort is funded by the Public Health Service. We report regularly to PHS on our program in toto with regard to those aspects which are related to air pollution, and in particular we report quarterly on those activities funded by the Air Pollution Control Center.

Last August, when I testified before your subcommittee, I pointed out that there was a lack of technology. There was much scientific understanding but technology was missing.

I am very pleased to report that the efforts of government, industry, and universities have resulted in a substantial advance in the technical feasibility of controlling and abating some of these sources of pollution.

There are many ways one can attack the SO₂ problem. Many are in a demonstration or pilot stage. It is clear, for example, that automobile exhaust pollution can be solved technologically without changing the basic modes of transportation.

The question of—

Mr. DADDARIO. You say "can be." Do you find some fault with the present control techniques? Is it worth the estimated \$500 million it is costing us in order to add such exhaust mechanisms?