

New York Academy of Science and Vice President of the Aerospace Chapter of the Research Society of America (RESA).

Dr. MACARTHUR. Thank you very much, Mr. Chairman. I would first like to introduce Mr. Ed Glass who is the Assistant Director for Laboratory Management in the Office of the Director of Defense Research and Engineering.

I would also like to add that I will be deviating in some places from my prepared statement.

STATEMENT OF DR. DONALD M. MacARTHUR, DEPUTY DIRECTOR, RESEARCH AND TECHNOLOGY, OFFICE OF THE DIRECTOR OF DEFENSE RESEARCH AND ENGINEERING, DEPARTMENT OF DEFENSE, ACCOMPANIED BY EDWARD M. GLASS, ASSISTANT DIRECTOR, LABORATORY MANAGEMENT

Dr. MACARTHUR. Mr. Chairman, members of the subcommittee, your hearings on the effective use of Federal laboratories are both timely and pertinent to the interests of the Department of Defense. It is an important question with which we have been concerned for some time. Today I would like to review for you some of the experiences of the Department of Defense and some of the lessons we think we have learned with respect to the questions which you are addressing.

CHARACTERISTICS OF DEFENSE LABORATORIES

As you know, the Department of Defense has an annual R.D.T. & E. budget of about \$8 billion. We employ about 60 percent of the civil service engineers and 35 percent of the civil service scientists in the Federal service. Thus, I believe that our experience in the management of R. & D. activities will be of some value in your discussions and deliberations.

We have 79 laboratories. In addition, there are 43 test and evaluation activities which are concerned with the evaluation of developed equipment. The fiscal year 1967 R.D.T. & E. obligations for these laboratories were \$1.9 billion, of which \$0.9 billion, 47.4 percent, was for actual in-house work as opposed to contract work. These laboratories employ about 72,000 people, of which 25,000 are scientists and engineers. Our investment in physical plant and equipment is about \$2.2 billion based upon acquisition costs.

As you can see, this is quite an investment and we are quite anxious to see that it is managed judiciously and effectively and utilized in an optimum manner. This was a major reason for establishing our Office of Laboratory Management in 1965 which I will discuss later. In some respects, we have addressed many of the same questions—but on a smaller scale—which are before this committee, in order to assure that the capability of all of our laboratories are available for the highest priority needs of the three military departments and the six defense agencies.

I am not sure that we can examine laboratories in a meaningful way unless we place them in proper perspective, with respect to the other four types of performers we depend upon in DOD to accomplish our mission. Our laboratories represent about 12 percent of our obligations—industrial firms, 68 percent; colleges and universities, 12 per-