

Dr. PICKERING. Mr. Chairman, as you know, about a year later the Marshall Center was transferred into NASA and this was an example of a civil service laboratory being transferred from the Army to NASA, and I believe the transition was made in a reasonable fashion.

The mission in the case of Marshall remained somewhat closer to their original mission than in our case where we had to reorient from weapons to deep space research.

Mr. DADDARIO. You would not see it as restrictive?

Dr. PICKERING. No.

The factors present in the transfer of JPL to NASA sponsorship are those necessary to any successful redirection of a mission-oriented laboratory. There must be a sponsoring agency having the requisite charter and funding. There must be a decision mechanism which can assess the national priorities of new versus old missions, and which has authority to make the decisions for redirection. There must be an appropriate match between the new mission and the existing capabilities of the laboratory. And there must be an understanding within the laboratory of the new mission.

The last factor, the understanding of the new mission, is needed not only for assessment of the match between capability and mission, but also for the formulation of plans and programs, and the motivation of the staff toward involvement in the new mission. Some elements of the laboratory must become immersed in and identified with a mission in order to have an appreciation in depth of its implications.

Mr. DADDARIO. Here you seem to be touching on a laboratory which is changing the direction of its activities, getting involved with new missions, but having had over a period of time an ability to develop experience in this, and it can redirect its activities.

Dr. PICKERING. Yes. I am thinking of the mission-oriented laboratory as distinct from the research laboratory. A research laboratory which is accustomed to performing research in a wide spectrum of activities can gradually evolve that basic research program to other ends.

But in the case of the mission-oriented laboratory, you have a team capable of carrying out a mission in which a large segment of the laboratory is integrated into that team. The question is how does that team get reoriented toward a new mission? For that there must be a real understanding of the mission and a real motivation of the people. This will come about after some elements of the laboratory have had experience and an ability to perform work in the new mission.

Mr. DADDARIO. During the course of our seminars, Dr. Teller and Dr. Weinberg and others have constantly referred to the fact that we do not have the greatest applied research capability in this country. We do extremely well in the basic research area, but we do not do as well as they think we can in the applied area.

What you are saying here is that you do have this kind of a capability and that you can, in fact, accomplish varying types of national goals and objectives.

Dr. PICKERING. Yes, sir. I believe we do have the applied capability in this country. I am a little bit surprised that Dr. Weinberg or Dr. Teller would criticize this because it seems to me in this country over the past couple of decades we have demonstrated some remarkable achievements in the area of applied science.