

important step ahead in the kind of space system which we can deploy with the steerable antennas.

And there is really no debate about the appropriateness of that. The alternatives for a decision to procure differed in the treatment of the terminals. Those were the four alternatives considered.

Mr. ROBACK. Then it is fair to say that as far as the technology of the space segment is concerned, within this time frame, that technology is optimized and there is no serious question about that.

Dr. TUCKER. That is true.

Mr. ROBACK. But any budget compromise or adjustments that are made apply to the terminal population.

Dr. TUCKER. Yes.

Mr. ROBACK. But that is not a degrading feature, because as soon as funds become available, you increase the population to its cost effective number, is that right, Dr. Tucker?

Dr. TUCKER. I think, Mr. Roback, that we should say that the terminal buy which we have decided on is cost effective in the sense which Mr. Benington described. It does get you to a minimum cost per additional terminal.

The further buy is therefore predicated on the question of displacing other systems with a cost advantage, or picking up new requirements and capabilities which are justified in themselves, so the decision on further terminal acquisitions is one of economic tradeoff or functional requirement.

Mr. ROBACK. You referred in your statement to the fact that this decision would be made after consultation with appropriate committees. Does this suggest you have some reprogramming decisions that have to be made?

Dr. TUCKER. There will be some effect in the fiscal 1969 apportionment, but I think the point is that in initiating any major new program of this sort, we do review it with the appropriate congressional committees as a matter of policy and procedure.

Mr. ROBACK. But there isn't any qualification on the decision, Dr. Tucker, as far as Defense Department is concerned?

Dr. TUCKER. The Defense Department has made a clear decision, Mr. Roback. We must review that decision with Congress.

Mr. ROBACK. Would you characterize the Defense sponsorship of R. & D., of technological progress in this field, as lagging behind that of NASA or Comsat or ahead of it?

Dr. TUCKER. No, sir; I certainly would not. I think we are playing a very large role in the sponsorship of R. & D. throughout this pool. We have a cooperative program with NASA. We review the total effort with them, and we share their results, and they share ours.

I believe the Department of Defense made a large and leading contribution in the field.

#### NATO COOPERATIVE PROGRAM

Mr. ROBACK. What is the nature of the joint research effort with NATO? What are you seeking in that research area?

Dr. TUCKER. In the cooperative program with NATO in the tactical—

Mr. ROBACK. That is in the tactical applications?