

Secretary BOYD. That is correct.

Mr. ADAMS. Basically buffer zones not over the end of the runway. I am trying to be certain and I want you to give us some assurance that in what we are drafting now we are not changing the concepts of liability. In safety regulations there is no liability, but for navigation easements there has been and for noise there might be.

Secretary BOYD. It is our opinion that the liability would not be changed as the result of this legislation being enacted.

Mr. ADAMS. Thank you very much.

Thank you, Mr. Chairman.

Mr. FRIEDEL. Congressman Kuykendall.

Mr. KUYKENDALL. Welcome to the committee, Mr. Secretary. I want to say that I think your report to us was very comprehensive. You got into one of the areas here that I have been wanting to get someone to discuss in pointing out that we have been able to make considerable progress with our rapid climb and then a level off and then another climb. Of course, the rapid climb takes place within the area of the old airport concept. Those people knew the problems when they built close and I guess they expect it. But you stated that you are going to get into and have not yet made any progress in the area of the problem created by the long low approach. Of course we all know, particularly here in Washington, because those of us who live either up or down the Potomac know that this long low approach is our biggest problem.

Could you tell me if within the present state of the art there is any real safety problem by increasing the angle of the glide path coming into where we can have the shorter approach and affect this particular problem somewhat. What is the state of the art in the particular problem of increasing the glide angle and approach?

Secretary BOYD. In the laboratory NASA has been able to develop the state of the art to an extent whereby a much steeper glide angle—

Mr. KUYKENDALL. Could you give us an angle of comparison, tell us what it is now and what it might be in degrees?

Secretary BOYD. Let me ask Mr. Foster.

Mr. KUYKENDALL. How much improvement we might expect here.

Mr. FOSTER. Now we are using two and a half as a standard with maximum of 3°.

Secretary BOYD. Two and a half up to 6°.

Mr. KUYKENDALL. What altitude difference would that be at 2 miles, let us say?

Secretary BOYD. Oh, boy.

Mr. KUYKENDALL. Can you guess? I can't either, but I thought maybe some technician back here might guess because this is one of our major problems; is it not?

Mr. FOSTER. Approximately 1,100 feet for 6° versus 550 feet for a 3° glide slope.

Mr. KUYKENDALL. Which is considerably different when they are flying in your open window; right?

Secretary BOYD. I want to make it clear, though, that while I say this is in the state of the art and it is a concept which I understand is called direct lift control, it can't be done with conventional aircraft as they are now. There would have to be very major redesign of the