

Mr. THOMAS. Well, we have about a \$300 million effort going on right at this moment to automate these large centers, so that they can get altitude and identity information directly instead of by means of the pilot speaking and the controller remembering it. We have gradually been enlarging the radar service that is supplied by the airports that are now equipped, and, obviously, more airports will be equipped with radar. We have been trying to work on a priority basis, where the most need is, to put our efforts there first, and as I mentioned this morning, about 90 percent of the passengers are now covered at the airports with radar service. And the en route environment is essentially covered as far as their air carrier operations are concerned.

The base of the en route coverage may vary from 5,000 above the terrain to 8,000 or 10,000 feet above the terrain, as you move away from the system.

Mr. KORNEGAY. The farther you get—

Mr. THOMAS. The higher, and in the Far West, there are places that we are up to 15,000 or 18,000 feet above sea level, before we have radar coverage.

General McKEE. I think it is very interesting to note, Mr. Korne-gay, that since 1959, the Congress has appropriated over \$1 billion in the area of facilities and equipment, directly traced to air traffic control, and to air safety. My guess is over the next 10 years they will appropriate a significant sum, probably greater than this.

Mr. KORNEGAY. Even greater than that, I would think, with the increase in air traffic.

General McKEE. So the Congress is well aware of the problem.

Mr. KORNEGAY. And the complexity of the system, and everything else.

Now, let me ask you this, Mr. Thomas: I don't believe it has been touched on in the hearings by any of the questions. With reference to paint and lights, in other words, the ability of one aircraft to see and detect another aircraft in the air, in the vicinity, there are rules and regulations, I am sure, on those developments, are there not?

Mr. THOMAS. Yes, sir. Well, not on paint. We have had a lot of experience and experiments with paint, as has the military. A few years ago, we tried fluorescent paints to see if this would attract more attention. We have run tests on patterns of painting that would be most susceptible of being seen.

Actually, if you have contrasting colors on the airplanes, it does somewhat increase their conspicuity. One of the problems here is that color, though, fades out with distance very rapidly, and one is dependent more than not on the silhouette of the airplane and its contrast with its background. This led us into lights, and the rotating beacon that you are so familiar with is one of the most useful things, if the sky is dark, and you are not in bright sunlight. We have tried condenser discharge lights. We are going to do more work on that.

One of the things that we are working at cross purposes on, smoke emitted from an airplane, is the best anticollision device I know, because you can see the smoke trail, and then see the airplane. We have an antipollution problem, so we are trying to get rid of the smoke, so depending on the problem, we work at cross-purposes. But, actually, we are doing a lot of work, trying to improve conspicuity, and my own