

supersonic aircraft would take off at subsonic levels and there would be no sonic boom until, as Secretary Boyd says, you are roughly 100 miles from the airport. Sonic boom is thus an en route problem as distinguished from an airport environs problem. This distinguishes it not only for legal treatment, but also for administration and regulation.

As a matter of physics, too, sonic boom is a quite different phenomenon than noise. True, as one of the courts in Oregon said of noise, "E equals MC²." If you accept the basic laws of physics, you accept the fact that you may have an invasion of air space above property by noise or sonic boom. But it is nevertheless a different phenomenon as a matter of physical effect, in being a shock wave, rather than a sound wave.

For this reason it does seem somewhat strange to mix the two in a single bill. However, as I stated, we don't object to handing the Administrator authority over sonic boom as well at the present time, and doing it under this bill if it is desired.

Mr. KUYKENDALL. Now, are we to understand that general aviation jet airplanes would not come under the bill the way it is now written?

Mr. STEPHEN. Many general aviation aircraft would. Unquestionably, and second-guessing what the Administrator or the Secretary might adopt as a certification level, many existing business jet aircraft would have to comply with any certification level the Administration would probably lay down.

I referred mainly to "public" aircraft as defined in the act, meaning aircraft owned or operated by governmental entities. Those are the aircraft which would not come under this bill, and there are several thousand such aircraft.

Mr. KUYKENDALL. Are you not of the opinion that any nonmilitary jet aircraft should be treated just like any other?

Mr. STEPHEN. Yes, any public nonmilitary jet aircraft ought to be treated the same as any civil jet aircraft.

Mr. KUYKENDALL. One last question. Getting back to sonic boom and the matter of general noise we talk about decibels, but in the matter of sonic boom isn't it in the present state of the art a matter of yes or no? You either do or you don't have it?

Mr. STEPHEN. In a sense that is so.

Mr. KUYKENDALL. In the present state of the art.

Mr. STEPHEN. Let me put it this way, Mr. Kuykendall. That is a good question. The answer is yes. You either have it or you don't have it. But objectionable sonic boom occurs when the shock wave is of sufficient force, measured in pounds per square inch of pressure, called over pressure, to create injury or damage to structures.

Mr. KUYKENDALL. You are talking about altitude there?

Mr. STEPHEN. That is right. It is a function of altitude. It is also a function of number of engines and power, of course.

Mr. FRIEDEL. Mr. Stephen, will this bill cover the noise of foreign aircraft?

Mr. STEPHEN. Actually that point is covered in the prepared statement. I skipped over it in the interest of time, Mr. Chairman. It could. But if the Administrator or the Secretary were to follow the practice now followed with regard to safety certification, then the answer is, it would not be.