STATEMENT OF THE HONORABLE J. LYNN HELMS, FEDERAL AVIATION ADMINISTRATOR, BEFORE THE HOUSE COMMITTEE ON PUBLIC WORKS AND TRANSPORTATION, SUBCOMMITTEE ON INVESTIGATIONS AND OVERSIGHT, CONCERNING CABIN SAFETY. NOVEMBER 1, 1983.

Mr. Chairman and Members of the Subcommittee:

You have asked me to appear before the Subcommittee today to discuss the FAA's cabin safety program. I am pleased to have this opportunity because I believe it is important that the FAA's side of the story continue to be told. I am aware of some of the views expressed in recent hearings on this subject before this Subcommittee--views which suggest that the FAA has intentionally failed to act on important safety matters, that the FAA ignores new technology which could save lives, that the FAA cares only about the economic consequences of its regulatory actions and not safety. These implications are simply incorrect; in fact, we have recently taken several important safety steps. I will not hesitate to accept responsibility for the actions taken in our cabin safety program during my stewardship of the agency, and I encourage a constructive dialogue on this issue because it can only make our program better to have such an exchange of information and views.

Certainly all of us concerned with improving aviation safety welcome public hearings such as this which enable the Congress

to fulfill its oversight functions and help ensure that the public is informed. I think it is important to demonstrate to the public that our legislative and regulatory decisions are not made in isolation from those who are affected by them. In fact, the public comment period for notices of proposed rulemaking is designed to achieve meaningful input on a national level from all points of view, not just those of any particular group representing a special interest. Our regulations must be even-handed and fair--they cannot unduly burden one segment of society in order to benefit another.

In order to prescribe reasonable regulations, many factors must be assessed, of which one key element is the evaluation of costs versus benefits. It is fundamental to American society that there is an economic factor to be considered in most decisions, and, in fact, we all do this in our daily lives. We mentally trade off costs and benefits in making decisions such as whether to buy a new car or keep the old one for another year, whether to buy a house or rent an apartment, whether to drive to work or use the Metro. Cost-benefit analyses must be made in aviation as well. Therefore, it seems only fair and appropriate that, while a particular group may argue that costs are not relevant, those who are to be regulated should be given the opportunity to be heard on the issue. If they do not agree with our studies, they should be afforded the opportunity to

give us theirs. Then we can turn to the traveling public, the airport operators, the private flyers, the municipalities that represent the local citizenry--and any others who may wish to be heard--to tell us whether they believe the benefits justify the costs. Ultimately, of course, the FAA Administrator must make the final decision concerning safety.

Let me briefly pursue this one step further. With respect to fire-resistant cabin materials, witnesses have appeared before this Subcommittee and indicated that "we had fire-resistant materials years ago." By now, this Subcommittee is no doubt aware that some materials generate toxic gases, and some of the materials that passed the flame test may lose part of their fire resistant properties as a function of wear--the constant sliding of passengers on the seats apparently breaks down some of the cellular properties. There are more problems, but I will use these two alone and show you how the failure to adequately examine this issue could have led the FAA to adopt premature regulations which no reasonable person could accept.

Let me describe what would have happened if we had issued a regulation and required its immediate implementation upon development of the first materials, the polyimides, which produce tolerable levels of toxic gases, and which could successfully function as an improved fire performance cushion.

Each of the airplanes would have had to be taken out of service every 60 to 90 days to replace the materials that decayed due to wear, according to wear tests conducted by industry. The best of those materials costs in excess of $50.00 per pound or approximately $125 per seat, which means approximately $25,000 in material costs and perhaps $15,000 in labor costs per plane every 60-90 days. Due to the lost revenue from that airplane, the prices of all other tickets would have gone up dramatically to offset that lack of revenue and the increased cost. And of course, tens of thousands of people would have lost their jobs, since, even with a rotating plan, the air carriers would have fewer airplanes in the air--which also means fewer options for the traveling public and a further increase in the travelers' costs. On a 90-day schedule, seats would have to be replaced four times a year, and the cost could then be rounded off to $160,000 per aircraft per year. Multiplying that by 2,500 air carrier aircraft results in $400,000,000 per year in aircraft costs alone. It takes little mental effort to see that jobs lost and other items, such as ticket price increases, could easily exceed half a billion dollars every year.

Thus, you can see that a simple statement that "those materials were available years ago" misleads the Congress and misinforms the American public. It is likewise misleading to state that "FAA is concerned only with the economic impact of regulations,

not safety." Certainly, the problems I have outlined to you could be described as economic. But at some point it is critical to realize that our regulations must stand up in the real world. A "wonder" material which wears out every 60 to 90 days is simply not a practical solution to the problem. It would have been irresponsible rulemaking to issue a regulation requiring the use of the material without having done durability studies, or without heeding industry comments that the material wore out in 2 to 3 months. It is unlikely that such a regulation would pass legal scrutiny. Believe me, Mr. Chairman, no one in this room is more anxious than I to see improved fire retardant materials placed aboard aircraft. But I am not going to issue a rule without knowing the consequences of that rule. I am simply not going to use the air traveling public as guinea pigs to test out materials which are flame resistant, but may give off excessive emissions, or which may become ineffective after 2 or 3 months.

At the same time, I could not issue a rule which says materials must meet new standards for fire resistance until we had developed a test that measures these parameters and correlates to the real world conditions encountered in an aircraft fire. We have recently developed such a test, thus giving us, for the first time, the basis for the NPRM we have just issued concerning seat-blocking layers. The materials now available

through additional work by NASA and American industry are lightweight yet durable, and significantly improve the fire resistance of seat cushions while generating less emissions.

When the test method and satisfactory blocking materials became available from our engineering efforts, I did not hesitate to move forward with appropriate regulatory action. Developing a test method was the key, which has allowed industry to come forth with new, more cost-effective materials with the required improvement in fire safety. Since we announced our regulatory intentions, industry has provided over 190 materials for testing to the proposed new standard, and 90 have passed the proposed criteria. Boeing is now conducting wear tests on the promising fabrics.

This example illustrates the point that a research project is not successful unless it solves or ameliorates the problem, and does not create a worse alternate problem. In the case of the early advanced seat cushion materials, there was a worse alternate problem--increased wearout, perhaps even complete failure in 2 to 3 months.

Since the last time the FAA appeared before the Subcommittee on this topic, we have taken several actions to improve occupant

safety in survivable accidents. Such actions include a new Technical Standard Order (TSO) for life preservers incorporating improved donning and bouyancy requirements, a new TSO for child restraint devices, and adoption of a new TSO for crewmember protective breathing equipment. We have recently proposed regulatory action in a number of specific areas relating to cabin safety. For instance, we recently issued an NPRM on Floor Proximity Emergency Lighting. This was based on evacuation tests run at the Civil Aeromedical Institute (CAMI) which demonstrated a significant decrease in evacuation time from an aircraft cabin containing large amounts of smoke--which tends to gather in the upper portion of the cabin and obscure traditional exit markings. We have nearly completed a high priority NPRM requiring at least 2 Halon fire extinguishers on board each air carrier aircraft, and also requiring installation of smoke detection systems and other fire protection measures in lavatories and galleys. Other areas in which we expect to enter rulemaking soon include requirements for crewmember protective breathing equipment and improved cargo compartment fire protection. I will elaborate more on these later in my briefing.

We expect to take a number of regulatory actions in the future which result from our efforts over the last few years. In Spring of 1984, we intend to propose a requirement for shoulder

harnesses on all seats in general aviation aircraft, and issue a notice in the Federal Register suggesting human tolerance limits to be used as performance criteria in improved seat design standards, describing in detail the elements of our crashworthiness program, and soliciting comments on both. In the summer of 1984, we intend to propose improved crash resistant fuel system components for general aviation airplanes. By Fall of 1984, we expect to publish a notice in the Federal Register discussing analytical techniques developed by the FAA that can be used to improve aircraft crashworthiness. By Spring of 1985, we plan to issue NPRM's containing new requirements for seat strength for Parts 23, 25, 27, and 29. For fire safety, we intend to propose new standards for Class "D" cargo compartment fire containment by the end of this year, and standards for anti-misting kerosene (AMK) and interior materials in air carrier airplanes by the end of next year. The agency is committed to these schedules, which are the logical conclusions of our past and present efforts in these areas.

I would now like to give the Subcommittee an updated briefing on our current R&D projects in the area of aircraft safety and the regulatory products we expect to result from that research. Before I do, however, I want to clarify one thing for the record. I understand that some other witnesses before

the Subcommittee have characterized U.S. air carriers as resisting any safety improvements which cost money to implement. Mr. Chairman, this is completely contrary to my experience as Administrator. Since I have been with the FAA, whenever I have called or written the Chief Executive Officer of a carrier to point out a safety item that should be addressed, without exception, they have quickly initiated corrective action.

I believe the carriers fully understand their duty to the traveling public concerning safety. For example, one air carrier began its program to explore conversion of its entire fleet to seat blocking materials even before we issued the NPRM. This does not mean that they will necessarily endorse every aspect of every safety proposal we make. And if they have concerns, we will listen to them and address them - as we do for all interested parties. I will not hesitate to push the carriers to make their operations even safer, and I will issue regulations when I believe they are needed in the interests of safety. But I could not let the record stand with the unfounded implications that U.S. air carriers contest safety improvements simply because they cost money.

At this time, I would like to brief the Subcommittee on FAA's Aircraft Safety Program. This is a very comprehensive program

dealing with a number of subprograms which are each very complex in themselves. Thus, I may not be able to fully convey to you the scope and significance of our efforts in these areas in the time alloted to me. I would like to take this opportunity, therefore, to re-iterate the invitation we have made to you on a number of occasions, to come up to the Technical Center in Atlantic City to examine our efforts first-hand and talk face-to-face with the engineers who are conducting the research we will discuss today. I know that the Chairman and the Ranking Minority Member have visited our Civil Aeromedical Institute (CAMI) in Oklahoma, and I understand that you found this to be a worthwhile and enlightening experience. I am confident that you would find such a trip to the Technical Center to be equally valuable. We would welcome the opportunity to show the Subcommittee and/or your staff our facilities in order to give you a better idea of what our programs involve.

With your permission, I will now proceed with the briefing.