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IMPACT OF PILOT SHORTAGES ON AIR SERVICE TO SMALLER AND RURAL MARKETS

HEARING

BEFORE THE

SUBCOMMITTEE ON AVIATION

OF THE

COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION
UNITED STATES SENATE

ONE HUNDRED SIXTH CONGRESS

SECOND SESSION

JULY 25, 2000

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ONE HUNDRED SIXTH CONGRESS

SECOND SESSION

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CONTENTS

	Page
Hearing held on July 25, 2000	1
Statement of Senator Burns	60
Statement of Senator Gorton	1
Prepared statement	2
Statement of Senator Rockefeller	3

WITNESSES

Barker, Linda, Vice President, Business Aviation Services	49
Prepared statement	52
Emens, Captain Paul, Chairman, Pilots Against Age Discrimination	21
Prepared statement	24
Inhofe, Hon. James M., U.S. Senator from Oklahoma	3
Jacques, Stephen G., In Support of Senate Bill 1855, prepared statement	26
Lacey, Nicholas L., Director, Flight Standards Service, Federal Aviation Administration	12
Prepared statement	13
McElroy, Deborah C., President, Regional Airline Association	45
Prepared statement	47
Murkowski, Hon. Frank H., U.S. Senator from Alaska	6
Prepared statement	10
Wilkening, Robin MD, MPH In Support of Senate Bill 1855, prepared statement	31
Woerth, Captain Duane E., President, Air Line Pilots Association, International	16
Prepared statement	18

APPENDIX

McCain, John, U.S. Senator from Arizona, prepared statement	65
Woolsey, Samuel D., J.D., prepared statement	66
Response to written questions submitted by Hon. Slade Gorton:	
Nicholas L. Lacey	73
Deborah McElroy (RAA)	74
Captain Duane Woerth	75

IMPACT OF PILOT SHORTAGES ON AIR SERVICE TO SMALLER AND RURAL MARKETS

TUESDAY, JULY 25, 2000

U.S. SENATE,
SUBCOMMITTEE ON AVIATION,
COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION,
Washington, DC.

The Subcommittee met, pursuant to notice, at 2:15 p.m. in room SR–253, Russell Senate Office Building, Hon. Slade Gorton, Chairman of the Subcommittee, presiding.

OPENING STATEMENT OF HON. SLADE GORTON, U.S. SENATOR FROM WASHINGTON

Senator GORTON. This hearing will come to order. This hearing will address a potentially significant problem affecting air service to rural and smaller communities. Although airline deregulation has been greatly beneficial for most consumers, there are areas of the country that struggle to get quality air service. Such markets tend to be fragile, because the airlines serving them operate on thin profit margins. Airlines, like most businesses, go where the customers are. By definition, small towns and remote communities have few potential passengers to offer an air carrier. As a result, air service tends to be infrequent and expensive.

Air travel is no longer the luxury form of transportation it was before deregulation. It is a form of mass transport that many have grown to depend upon. That dependence seems to be inversely proportional to the size of the market. The smaller the community, the more essential air transportation can be. When a marginal market is adversely affected by outside factors, it makes the situation all the more difficult. Such is the case with pilot shortages.

When speaking of such shortages, it is important to be clear, there are many pilots in the United States, and many more individuals who want to be pilots. The problem arises when an airline cannot find qualified and trained pilots.

Major airlines have almost no difficulty finding such pilots. The big air carriers offer salaries, benefits, and career opportunities that make recruiting relatively easy. With the domestic economy doing well over the past few years, the Nation's airlines have been growing significantly, causing the industry to hire a considerable number of pilots.

The heavy demand for pilots by the major airlines has a significant impact on regional airlines because the majors frequently poach the flight crews of the regionals. Although major airlines

have always hired pilots away from small air carriers, the current rate of attrition may be greater than ever before.

There are numerous reports of how pilot attrition among smaller carriers has caused canceled flights. That is why Senator Burns and others have become deeply concerned. Senator Burns chaired a field hearing in Montana last year that began exploring this problem. Since that time, it does not appear that the situation has changed, except perhaps to get worse.

Although my State of Washington has remote towns, we are fortunate to have quality air service at major airports in both the western and eastern parts of the State. Other States do not have that luxury. Potential solutions to this problem are not clear. I know that Senator Murkowski has introduced a bill intended to ease the situation. He proposes changing the mandatory retirement age of pilots from 60 to 65.

The so-called age 60 rule has been controversial since it was first adopted in 1959. The question of how old is too old is not easily answered. Any age restriction is going to be arbitrary to some degree. Changing the age 60 rule would undoubtedly expand the pool of potential pilots, but we must be careful not to do so if it increases the risk of flying for the public.

I look forward to hearing more about the problem and potential solutions from our witnesses. I thank Senator Burns for requesting this hearing. He deserves a great deal of credit for bringing this issue to national attention on behalf of his constituents and the many others affected by the problem.

We have two Senators to start us out. Senator Inhofe is here. Senator Inhofe is a noted pilot, and he is welcomed now as our opening witness. Oh, excuse me. Senator Rockefeller is here, who is the Ranking Member of this Subcommittee, and so if I may I will defer to him for any statement he may have.

[The prepared statement of Senator Gorton follows:]

PREPARED STATEMENT OF HON. SLADE GORTON,
U.S. SENATOR FROM WASHINGTON

This afternoon's hearing will address a potentially significant problem that is affecting air service to rural and smaller communities. Although airline deregulation has been greatly beneficial for most consumers, there are areas of the country that struggle to get quality air service. Such markets tend to be fragile because the airlines serving them operate on thin profit margins. Airlines, like most businesses, go where the customers are. By definition, small towns and remote communities have few potential passengers to offer an air carrier. As a result, air service tends to be infrequent and expensive.

Air travel is no longer the luxury form of transportation that it was before deregulation. It is a form of mass transit that many have grown to depend upon. That dependence seems to be inversely proportional to the size of the market. The smaller the community, the more essential air transportation can be. This is especially the case in the western United States where small towns can be separated by great distances. When a marginal market is adversely affected by outside factors, it makes the situation all the more difficult. Such is the case with pilot shortages.

When speaking of such shortages, it is important to be clear. There are many pilots in the United States, and many more individuals who want to be pilots. The problem arises when an airline cannot find qualified and trained pilots. Major airlines have almost no difficulty finding such pilots. The big air carriers offer salaries, benefits, and career opportunities that make recruiting relatively easy. With the domestic economy doing well over the past few years, the nation's airlines have been growing significantly, causing the industry to hire a considerable number of pilots. The heavy demand for pilots by the major airlines has a significant impact on regional airlines because the majors frequently "poach" the flight crews of the

regionals. Although major airlines have always hired pilots away from smaller carriers, the current rate of attrition may be greater than ever before.

There are numerous reports of how pilot attrition among smaller carriers has caused canceled flights. That is why Senator Burns and others have become deeply concerned. He chaired a field hearing in Montana last year that began exploring this problem. Since that time, it does not appear that the situation has changed, except perhaps to get worse. Although my home State of Washington has remote towns, we are fortunate to have quality air service at major airports in the western and eastern parts of the State. Other States do not have that luxury.

Potential solutions to this problem are not clear. I know that Senator Murkowski, who will be speaking in a moment, has introduced a bill intended to ease the situation. He proposes changing the mandatory retirement age for pilots from 60 years of age to 65. The so-called Age 60 Rule has been controversial since it was first adopted in 1959. The question of how old is too old is not easily answered. Any age restriction is going to be arbitrary to some degree. Changing the Age 60 Rule would undoubtedly expand the pool of potential pilots, but we must be careful not do so if it increases the risk of flying for the public.

I look forward to hearing more about the problem and possible solutions from our witness. Also, I thank Senator Burns for requesting this hearing. He deserves much credit for bringing this issue to national attention on behalf of his constituents and the many others who are affected by the problem.

STATEMENT OF HON. JOHN D. ROCKEFELLER, IV, U.S. SENATOR FROM WEST VIRGINIA

Senator ROCKEFELLER. I will be very brief. This is important, and controversial. I have not yet taken a position on this whole question of age 60 or whether to raise it. The issue began in 1959. It is controversial. We do know that people are not the same today, physically and in other ways, then they were in the late 1950's when the rule was first passed. Medicine has helped to change that. I understand the union position. There are tensions within the pilot groups. First, we should do no harm, and second we should be aware of what is happening in life.

Senator GORTON. Senator Inhofe.

STATEMENT OF HON. JAMES M. INHOFE, U.S. SENATOR FROM OKLAHOMA

Senator INHOFE. Thank you, Mr. Chairman, and I think what Senator Rockefeller said is right, this is important, it is controversial, and I fail to see sometimes why it is. I know it is important because of the shortages and some of the things that I will refer to here in a very brief statement.

I do want to thank you, Mr. Chairman, for allowing me to share with you my views on this issue. You know, I do come with some degree of, I guess, bias, and I have to admit that I changed my views. When this issue first came up to my attention, anyway, it was back when I was in the House in 1987. Now, in 1987, let's see, I would have been 52 years old. It happens that I am 65 years old now, so my views have changed a little bit.

There is something else that has changed also that I want to share with you in just a minute.

First of all, the advances in medicines which have essentially slowed down the aging process and the fact that in life-threatening situations experience is a key to safety. I fail to understand why at an arbitrary age a pilot is deemed no longer able to safely fly. I am not sure anyone knows when that occurs, but if I had my choice I think I would use some of the tests that have been taken

to determine someone's capability, as opposed to just an arbitrary age. Short of that I would go ahead and move it to 65, or maybe a little bit higher, with some physical tests along the way.

I am not alone in my view. James Goodwin, chairman and CEO of United Airlines, has noted, and I am quoting now, "As an industry we are going to have to relook how we source pilots. The factories we have relied on to produce these people are not producing them in the same numbers." And then Richard Branson of Virgin Atlantic Airlines has said, "It is an incredible waste of talent and training to force these pilots to retire."

Now, Mr. Chairman, I chair the Senate Armed Services Subcommittee on Readiness, and I have to take some note of the comment of Mr. Goodman that "factories" used to produce commercial airlines—I assume that we are talking about the factories called the Air Force, the Navy, and Marines—are not producing enough. I am troubled by his remarks, because we have another problem that is unrelated to this but is directly affected by it, and that is our shortages of critical MOS's in the military.

Right now I contend, and George Tenant, who is the Director of Central Intelligence, agrees with me, that we are in the most threatened position in America that we have been in as a Nation in the history of this country, and one of the reasons is, we are losing a lot of our talented people.

Right now we have a sad shortage in pilots. The amount of money our taxpayers have to pay to train a pilot for the services ranges between $5 and $9 million for each one, and yet our retention of pilots in the Navy alone, it is down below 20 percent.

Now, you know, it is a lot cheaper to retain than it is to retrain, so we are going out there where the airlines are going after these individuals, and it makes it very difficult from a taxpayer's perspective in trying to keep the number of pilots, active pilots on duty.

One of the other problems I see is that some airlines I believe are lowering some of their requirements. One airline has reduced by one-third the minimum flying hours for applicants from 1,500 hours of which 300 hours had to be in a multiengine plane to 1,000 hours, of which 200 hours have to be multiengine.

In other words, each group has been reduced by about a third, and while I am not suggesting that safety is necessarily affected by these decisions, you have to wonder if safety is enhanced in any way, by younger pilots less experienced pilots. Allow me to give a personal example, I taught all my kids to fly. They are good pilots, and they have more hours right now than a lot of the airline pilots have, and yet some of the things that they could come up against, they are not experienced enough to handle.

I would suggest that there is no scientific data to support any conclusion to the question of how old is too old for a commercial airline, or perhaps more precisely, when does age necessarily mean that a person is no longer able to safely pilot a commercial airplane, and while a good question to ask, the fact of the matter is that the answer is not the same for everyone. I do not believe that I am breaking any new scientific ground by stating that each individual ages differently.

I have a good friend that is the same age that I graduated from high school with. He was old in high school, Senator Rockefeller. A lot of people are born old, so age itself should not be the determining factor.

Susan Baker, a professor at Johns Hopkins University School of Hygiene and Public Health, who served on the panel of experts appointed by the FAA to look at the age 60 rule and its correlation to health, has noted that—and this is a quote—"there are far better predictors that age to indicate whether a pilot is likely to be suddenly incapacitated by a heart attack. These include stress tests and other noninvasive tests that have been in standard use since the 1980's, as well as more recent tests such as the measurement of C-reactive protein."

Ms. Baker further states that surprisingly enough the FAA does not require any of these types of medical exams for assessment of pilots. She concludes that since there are more reliable tests than mere age available, the rule has nothing to do with age, and I agree. If I had my preference, the life span of a commercial pilot on duty should be related to tests more than age alone. However, if they are unable to do that I would jump it to 65 in a heart beat.

I mentioned that I have had a lot of experience. I have over 8,000 hours and over 45 years in flying. I am an active commercial pilot today. I had the occasion to recently fly a small Cessna aircraft around the world, where I replicated the flight of Wiley Post and ended up going across Senator Murkowski's State of Alaska, and encountered situations that only experience kept me alive.

One was going over Glacier National Park, going into a cloud bank and having to rely totally on the GPS, and I mentioned my sons a minute ago. They are good pilots, but I am not sure they would have been able to handle that.

One last experience, and then I will conclude, and since I am not in a hurry and I want to hear what Senator Murkowski says, and I will stay around for questions if there are any. A year ago last month I had an experience, when President Clinton was coming to visit damage in Oklahoma after our tornado. I know it comes as a shock to these panel members to hear this, but I have not historically been one of the biggest fans of Bill Clinton, and so there was some speculation that I would be the only member of the Oklahoma delegation not to show up at Tinker Air Force Base when he came. I was not going to let that happen.

I live on a little grass strip at a lake, and it had rained the night before so I could not take my big airplane I would normally take, the big twin. I brought my kids' plane, a little Grumman Tiger.

I remember taking off and going toward Tinker Air Force Base, and I recall so well going over Claremore, the birthplace of Will Rogers, the airport there, and hearing some roughness. When you get roughness in a reciprocal engine, it is either something wrong with your prop in terms of balance, or something chipped off of it, or it's a mag. I did a mag check only to find out it had to be the prop.

Well, normally I would have landed, but I thought, well, they are speculating I was not going to show up, and I did not want to be the only member of the delegation to snub the President, so I kept flying, and 5 miles, 6 miles to the West of Claremore, Oklahoma,

there is an explosion, and not just my prop but the whole front end of this airplane came off, and it fell to the ground, 2,500 feet.

Now, it is a single-engine airplane. You do not have a front end to it, and I was by myself, fortunately, and what happens, as you folks know since you are on this Committee, there is a thing called weight and balance. You take 300 pounds off of the front of an airplane and the tail starts to go down, and the only way to keep flying is to drop the nose down, hold it down, and glide as far as you can.

I was able to do a very radical slip and land safely, although it did crash, into Claremore Airport, and it would not have crashed, except what I did not know was, when the prop and all that stuff came off, it also took the nose wheel off, and so when I landed—I think that is pretty good landing—I put the nose down, and that was the end.

Now, I would say this, and I say this in all sincerity. That was my kids' plane. I have not flown that plane in a long time, but with their level of experience, which is equal in terms of flying hours to many, if not most of the commercial airline pilots, I do not think my children, flying that plane, would be alive today if they had been in it, and I am only because of experience.

I say this because there is something to be said about years of experience. They cannot be made up with tests. They cannot be made up with training. It is something that comes just with experience, and so I would think and conclude, Mr. Chairman, that if you had a way of determining what a person's physical capability was, and the fact that that person was not going to have a heart attack, and you have the tests to do this, which we now have available to us today, that age should not be that determinant, and you should not be forced to give up the experience that could save lives tomorrow.

Thank you, Mr. Chairman.

Senator GORTON. Thank you, Senator. Quite a story, isn't it?

Senator Murkowski, the sponsor of the bill.

STATEMENT OF HON. FRANK H. MURKOWSKI, U.S. SENATOR FROM ALASKA

Senator MURKOWSKI. Thank you very much, Senator Gorton, Senator Rockefeller. I very much appreciate your willingness to hold these hearings, and I am very pleased that I could testify on my bill, Senate bill 1855, allowing part 121 pilots to fly up to the age of 65. I personally think that there is an inevitability associated with this legislation, but I believe the time is now, not later.

I certainly want to thank my cosponsors, Senator Inhofe, Senator Enzi, Senator Allard, Senator Thomas, Senator Bond, Senator Grassley. There were others that were on for a while, but I think some of the persuasion of the pilots union caused them to remove their names, but nevertheless, that is part of the democratic process, and I certainly understand that, and I want to thank the hundreds of pilots that have called, and particularly Herb Kelleher, chairman of Southwest Airlines, Roy Rasavage, president of the Helicopter Association International, Richard Haverley, president of Florida West, to name a few.

I think, Mr. Chairman, adoption of this legislation would have a significant impact on the issue before you, and that is the quality and quantity of air service, particularly to America's rural communities. Quite frankly, as we know, there is a serious pilot shortage in America, and its greatest impact is being felt in rural communities, including my home State of Alaska.

I fly a lot in Alaska, and I can tell you, experience counts, and seniority associated with that experience is the name of the game, because that is how you get the experience. I grant you, there are exceptions, but for the most part when I fly with an older pilot the years of experience that that pilot has had, given any situation such as Senator Inhofe talked about, where you have something suddenly happen, and this individual has experienced that, you do not feel good about it, but you feel you are probably in the best hands available.

So I feel strongly that this seniority gained by years of flying should not suggest that there is some magic that occurs at 60 to terminate the ability of that person, assuming they can pass the necessary physical tests to continue to fly and make a contribution, if, indeed, they want to.

What we are talking about here is a simple matter of choice, and I have heard from many small Alaska carriers of the difficulty they are having keeping pilots, and even finding pilots to hire. One carrier in my home town of Fairbanks has asked that I consider changing the HBI visa status of pilots so he can hire pilots from Canada. Well, is that what we want to have happen?

As you all know, pilots are leaving the small carriers, regionals and flight schools because they can earn more money flying for the major commercial air carriers. This has had a devastating effect on service to rural and remote areas because the smaller carriers just do not have the financial resources to compete with the offers of the major airlines.

AirB12 Jet News reports that United Airlines is hiring more pilots and fine-tuning their flight schedules to compensate for a continuing shortage of crews that has forced flight cancellations. Well, just having bounced in and out of Seattle this last weekend I can talk about flight cancellations and spending a night in Denver and flying on one of the airlines that I have already mentioned, so I think the public is beginning to experience the inconvenience associated with this, and pilot shortage is part of it.

Let me quote from that article. I quote, pilots are not calling in sick and not refusing regular assignments. United was advised 6 to 9 months ago they were going to be short of pilots, and now it is happening, according to James Goodwin, chairman and CEO of United Airlines Corporation. In fact, according to Goodwin, quote, the age rules will have to be reexamined. Now, that is certainly a source. The factories we relied on to produce these people are not producing them in the same numbers.

Mr. Chairman, our military used to be the largest supplier of pilots to commercial airlines, but even the armed forces are experiencing a critical shortage, as you have indicated, Senator.

Another reason there is a pilot shortage in rural markets is the 1996 commuter rule, which required age 60 retirement of pilots

who flew scheduled routes in aircraft with a capacity of 10 or more seats.

Well, Mr. Chairman, it has been 41 years sine age 60 was selected as a mandatory retirement age. Why age 60, for heaven's sakes? When is the last time we looked at it? Are things different now? The aircraft are certainly different. Ground and air traffic control and traffic are entirely different.

It is one thing to be flying in a DC–4, fighting ice and an engine and doing a half-dozen other things, as compared to flying a 737 at 34,000 feet and you basically have a lot more systems, and a lot more dependability than they had back when this 60 age was set.

Now, according to the FAA it was set because of medical uncertainties concerning pilot health after age 60. There are several other theories. While public comments were accepted, and this is important, no public hearings were held to debate the issue, ever. Despite broad industry and pilot opposition to the mandatory retirement age, the rule went into effect back in 1960.

Well, I say it is time to change the rule. Since then there have been several studies, sponsored by the FAA, but none of the tests have produced concrete evidence that pilots over 60 years of age are a threat to the flying public. In fact, most of the studies have not even studied pilots over 60. However, the FAA has missed several opportunities to get first-hand information and has let other opportunities lapse. Let me share a couple of examples with you.

The 1996 commuter rule made special provisions to allow pilots who were then flying to continue to fly for 4 more years, at which time the age 60 rule would have become effective. Well, commuter airlines were also allowed to continue to hire pilots 60 and older for another 15 months. The FAA had 4 solid years to test pilots flying over the age of 60 around this country, get scientific data on the skills and reflexes of these pilots. However, the FAA did not conduct such studies. Why?

Second, litigation was brought by the Equal Employment Opportunity Commission under the age discrimination Employment Act against Boeing, Rockwell International Grumman-Lockheed, and McDonnell-Douglas challenging their policies of removing pilots at the age of 60.

All of these companies resolved EEOC litigation by entering into consent decrees lifting the age limit. Part of the decree was to keep records of pilot health. Where are the records? What was the purpose of keeping the information? Where is the FAA on this question?

The Hilton study concluded FAA accident reports did not support the agency's requirement that airline pilots retire on their 60th birthday. They found no increase in the accident rate for pilots of scheduled air service as they neared their 60th birthday.

Mr. Chairman, the FAA administration believes it lacks scientific consensus in favor of changing the age rule of 60. The argument exists that there is no test that can determine the medical and psychological fitness of a pilot to fly after 60. Well, I say, come on, get off of it. Be realistic.

According to Dr. Robin Wilkening, who I believe is in the audience, and I apologize if I have mispronounced the name, and Sue Baker, both from Johns Hopkins University, advanced psycho-

logical and neurobehavioral testing methods do exist to test pilots of any age. Medical science, as we know, has vastly improved since 1959, with improvements in medical diagnosis, which include early detection and prevention, health awareness, exercise, and diet. All of these factors have increased life expectancy, certainly since 1959. In fact, 69 pilots organized and underwent extensive medical testing to force the FAA to drop the mandatory retirement. They still await a decision to their petition. Why, Mr. Chairman?

In supporting documents to their petition in 1982 the FAA relaxed its medical requirements to allow airmen to continue flying with various medical problems not previously acceptable. For example, pilots with hypertension, diabetes, alcoholism, spinal cord injury, defective vision and others. In the area of cardiovascular special issuances, the American Medical Association applauded the FAA as having demonstrated an understanding of the advances in diagnostic treatment and rehabilitation.

In 1999, the FAA granted medical certificates to 6,072 airline pilots under the age of 60 who had significant medical pathological problems, permitting them to operate as airline crewmen. How does the FAA derive its medical consensus that it is safe to allow those pilots to continue to fly, and it cannot derive the same for pilots who have been flying in this country for 41 years without such medical pathology over age 60?

Mr. Chairman, last year 25 countries belonging to the European Joint Aviation Authority raised the mandatory age to 65, joining many Asian countries, who increased the age to 63, or 65. I know of no evidence that those foreign pilots have a worse safety record than American pilots under the age of 60.

If we do not seriously look at raising retirement age for part 121 pilots, I can assure you that many rural communities will find that their aviation lifeline to the rest of the country will be shut down or severely hampered. Residents perhaps of New York City, Los Angeles, and Chicago will not notice any change in air service, but the pilot shortage will deeply affect the residents of Missoula, Montana, or Ketchikan, Alaska and the other small communities who are desperately trying to maintain air service.

We must make this change, Mr. Chairman. I urge Committee action now. It will come. We all know it. Sooner or later it is inevitable. Let us make it happen now.

Senator GORTON. Senator Murkowski, just one question for you. Senator Inhofe, as he started his remarks, said that his preference would be no age limitation at all, simply tests of competence. Would that be your favorite solution, and 65 is just simply a compromise, or do you think 65 is the ideal, specific age?

Senator MURKOWSKI. Well, I personally believe, and I continue to fly in private planes with pilots who are in their early eighties, and I fly with them in total confidence, based on their experience and knowing that they have been able to pass their physical, and if they were not able to pass their physical, obviously they would not be flying and I would not be flying with them, so while my legislation addresses 65 as the next step, I personally feel very comfortable with both my children, my wife, my grandchildren, with certain people who have the experience and the know-how, and I have that kind of a relationship with.

I am sure Senator Inhofe has also experienced those occasions, and I know most of the airline pilots would feel the same way if the circumstances were the same.

Senator GORTON. Thank you. That means the two of you see eye-to-eye. Do you have anything else you would like to add, Senator Inhofe?

Senator INHOFE. No, I do not. Something that I neglected to mention that Frank did is that if it was something that was good in 1959, and if we are going to use age, then everything else in our society has changed. Our social security, everything has changed because the life expectancy is so much higher today than it was at that time. Why should this be singled out as the only thing that does not change?

Senator GORTON. Thank you both very much.

Senator MURKOWSKI. Thank you for holding this hearing.

Senator GORTON. Now we have a panel, five members of the panel, if they would come forward, please. It will go Lacey, Woerth, Emens, McElroy, Barker, but it does not matter where you sit.

Thanks to all of you for showing up to help us with this very important challenge, and Mr. Lacey, we will begin with you.

[The prepared statement of Senator Murkowski follows:]

PREPARED STATEMENT OF HON. FRANK H. MURKOWSKI,
U.S. SENATOR FROM ALASKA

Mr. Chairman and Members of the Subcommittee. I appreciate the opportunity to appear before you to testify on my bill (S.1855) allowing Pt. 121 pilots to fly up to the age of 65.

Adoption of this legislation would have a significant impact on the issue before you—the quality and quantity of air service to rural communities. Quite frankly, there is a serious pilot shortage in America and its greatest impact is being felt in rural communities, including in my home state of Alaska.

I have heard from many small Alaskan air carriers on the difficulty they are having keeping pilots and even finding pilots to hire. In fact, one carrier in my hometown of Fairbanks has asked that I consider changing the HB1 visa status of pilots so he can hire foreign pilots.

As you all know, pilots are leaving small carriers, regionals and flight schools because they can earn more money flying for the major commercial air carriers. This has a devastating effect on service to rural and remote areas because the smaller carriers just do not have the financial resources to compete with the offers of the major airlines.

According to a report in the May 29 issue of *Aviation Week*, to ease the pilot shortage at U.S. airlines and create business opportunities for Canadian-based flight training schools, an informal study is being done by the FAA and Transport Canada to establish equivalent pilot certification standards.

While that may put more pilots in the pipeline, it will not provide the level of experience necessary in the cockpit. How will that enhance safety in the industry?

Airbiz Jet News reports that United Airlines is hiring more pilots and fine-tuning their flight schedules to compensate for a continuing shortage of crews that has forced flight cancellations.

"Pilots aren't calling in sick and not refusing regular assignments. United was advised 6 to 9 months ago that we're going to be short of pilots and now it is happening. according to James Goodwin, Chairman and CEO of UAL Corp. In fact, according to Goodwin the "age rules will have to be re-examined. The factories we relied on to produce these people are not producing them in the same numbers."

Mr. Chairman, our military used to be the largest supplier of pilots to commercial airlines. But even the armed services are experiencing a critical shortage.

Another reason there is a pilot shortage in rural markets is the 1996 commuter rule which required age 60 retirement of pilots who flew scheduled routes in aircraft with a capacity of 10 or more seats.

Mr. Chairman, it has been 41 years since age 60 was selected as the mandatory retirement age. Why age 60?

According to the FAA, it was because of "medical uncertainties concerning pilot health after age 60." There are several other theories. While public comments were accepted, no public hearing to debate the issue was ever held. Despite broad industry and pilot opposition to the mandatory retirement age, the rule went into effect in 1960.

Since then, there have been several studies sponsored by the FAA. None of the tests have produced concrete evidence that pilots over 60 years of age are a threat to the flying public. In fact, most of the studies have not even studied pilots over 60.

However, the FAA has missed several opportunities to get first hand information and has let other opportunities lapse. Let me share some examples with you.

The 1996 commuter rule made special provisions to allow pilots who were then flying to continue to fly for 4 more years at which time the age 60 rule would become effective. Commuter airlines were also allowed to continue to hire pilots 60 and older for 15 months.

The FAA had 4 solid years to test pilots flying over the age of 60 around this country and get scientific data on the skills and reflexes of these pilots. However, the FAA did not conduct such studies.

Second, litigation was brought by the Equal Employment Opportunity Commission under the Age Discrimination in Employment Act against Boeing, Rockwell International, Grumman, Lockheed and McDonnell Douglas challenging their policies of removing pilots at age 60. All of those companies resolved EEOC litigation by entering into consent decrees lifting the age limit. Part of the decree was to keep records of pilot health. Where are the records and what was the purpose of keeping the information?

The Hilton Study concluded FAA accident records did not support the agency's requirement that airline pilots retire on their 60th birthday. They found no increase in the accident rate for pilots of scheduled air service as they neared their 60th birthday.

Mr. Chairman, the FAA Administration believes it lacks scientific consensus in favor of changing the age 60 rule. The argument exists that there is no test that can determine the medical and psychological fitness of a pilot to fly after 60.

However, According to Dr. Robin Wilkening, who is in the audience, and Sue Baker both from Johns Hopkins University, advanced physiological and neurobehavioral testing methods do exist to test pilots of any age.

Medical science has vastly improved since 1959 with improvements in medical diagnosis which include early detection and prevention, health awareness, exercise, and diet. All of these factors have increased life expectancy since 1959.

In fact, 69 pilots organized and underwent extensive medical testing to force the FAA to drop mandatory retirement. They await a decision to their petition.

In supporting documents to their petition, in 1982 the FAA relaxed its medical requirements to allow airmen to continue flying with various medical problems not previously acceptable. For example, pilots with hypertension, diabetes, alcoholism, spinal cord injury, defective vision and others. In the area of cardiovascular special issuances, the American Medical Association applauded the FAA as having demonstrated an understanding of the advances in diagnosis, treatment, and rehabilitation.

In 1999 the FAA granted medical certificates to 6,072 airline pilots under the age of 60 who had significant medical pathology, permitting them to operate as airline crewmen. How does the FAA derive its medical consensus that it is safe to allow those pilots to continue to fly and it cannot derive the same for pilots who have been flying in this country for 41 years without such medical pathology over age 60?

Mr. Chairman, last year 25 countries belonging to the European Joint Aviation Authority raised the mandatory retirement age to 65 joining many Asian countries who increased the age to 63 or 65. I know of no evidence that these foreign pilots have a worse safety record than American pilots under the age of 60.

If we don't seriously look at raising retirement ages for Pt. 121 pilots, I can assure you that many rural communities will find that their aviation lifeline to the rest of the country will be closed down. Residents in New York City, Los Angeles, and Chicago will not notice any changes in air service, but the pilot shortage will deeply affect the residents of Missoula Montana, Ketchikan, Alaska and all the other small communities who are desperately trying to stay alive.

We must make this change and I urge quick Committee action.

STATEMENT OF L. NICHOLAS LACEY, DIRECTOR, FLIGHT STANDARDS SERVICE, FEDERAL AVIATION ADMINISTRATION

Mr. LACEY. Mr. Chairman and Members of the Subcommittee, I would like to thank you for the opportunity to appear before you today to discuss the impact of pilot shortages on air service in certain markets. I am the Director of FAA's Flight Standards Service, and a former military pilot and airline executive.

In my 24-year career with Air Force Transport Operations, pilot recruitment and retention was a constant and significant challenge. I can relate to the concerns of those who believe that a pilot shortage is imminent, and one that could have an adverse impact on small and regional air carriers through high turnover rates. While there may be good reasons to be concerned about future pilot hiring shortages, I would like to reassure the Members of the Subcommittee and the public that we do not anticipate any significant reduction in air service in the United States.

The growth in commercial aviation reflects continued economic expansion in both the U.S. and world economies. The U.S. commercial aviation industry ended the 1990's by recording its sixth consecutive year of traffic growth, while the general aviation industry continued its turnaround by recording yet another record year in terms of aircraft billings.

To accommodate this growth, the large air carrier fleet is forecast to increase 3.3 percent a year. The regional fleet is predicted to expand at a yearly rate of 3 percent. Will the industry have qualified pilots in sufficient numbers to accommodate this growth and to accommodate the growth in every sector? My colleagues from the industry here today are certainly in a better position to provide a perspective on how the market will respond.

We understand that while the major airlines are not having difficulty meeting their pilot hiring goals, there are signs that the regional airlines and those feeding the regionals are starting to see higher turnover and pilot applicants with declining pilot experience. This is not surprising, given the fact that the major air carriers can offer significantly better pay and benefits. However, reducing safety standards or carving out exceptions to established safety standards, in my view, are not appropriate responses.

The regional air carrier industry is both the entry level for airline transport rated pilots and an increasingly important source of experienced new pilots for major commercial jet operators. We recognize that this is a source of concern for small and rural communities, where some speculate that airline service will suffer as pilots are hired away by larger airlines offering better pay and benefits.

The most important thing, however, for the regional airline industry and small carriers such as commuters and on-demand operators is that there is a continuous pool of new pilots to draw upon for training and development. Certainly, it is appropriate for the aviation industry to develop measures to increase its pilot hiring pool. However, we do not believe that part of the solution is to alter FAA safety standards, namely, the FAA's age 60 rule, as some have suggested.

The age 60 rule represents the FAA's best determination of the time when a general decline in health-related functions and overall

cognitive and performance capabilities may begin to reach a level where a pilot's judgment and physical ability may begin to decline, and therefore jeopardize safety. Our rule means that a pilot who reaches age 60 must leave part 121 airline operations, but it does not mean that he or she can no longer play an important role in aviation. Many pilots continue to work for airlines in the screening, recruiting and training of pilot applicants, or fly in non-airline operations, or become flight instructors, or, fortunately for us, work as safety inspectors for the FAA.

Before making any change to a safety rule, the FAA must be satisfied that the regulation will maintain or raise the current level of safety. The question for the FAA is one of public safety and determining acceptable risk. At this time, the FAA cannot be assured that changing the age 60 rule will maintain or raise the level of safety.

Finally, some have argued that the FAA's proposed changes to the rules governing pilot flight time and rest requirements may have an adverse effect on the hiring pool for pilots. The proposed rule generated voluminous public comment, and required further study and analysis. It is currently being revised by the FAA.

The proposed rule would establish the maximum number of hours that a pilot can be kept on duty each day. It would also require that a pilot be provided minimum rest in every 24-hour period. Admittedly, the net effect of these proposed changes may be an increase in the number of pilots required to support today's airline schedules. How much of an effect is still being debated. We are reviewing industry comments and all other comments associated with the proposal, as well as the latest science available on human fatigue and rest, and are developing our revised rule.

Mr. Chairman, the FAA will develop regulations in the context of what is best for public safety, whether that is setting standards to combat pilot fatigue, or determining the best age for retirement of commercial pilots. While economic factors are certainly a part of that calculation, I am sure the Committee and our colleagues in industry would agree that safety must be the priority.

That concludes my prepared remarks, and I think the format then is to answer questions when we are all done, sir.

[The prepared statement of Mr. Lacey follows:]

PREPARED STATEMENT OF L. NICHOLAS LACEY, DIRECTOR, FLIGHT STANDARDS SERVICE, FEDERAL AVIATION ADMINISTRATION

Mr. Chairman and Members of the Subcommittee:

I would like to thank you for the opportunity to appear before you today to discuss the impact of pilot shortages on air service in certain markets. I am a former military pilot and airline executive. As a component of today's discussion, the Subcommittee requested that I address the Federal Aviation Administration's ("FAA") age 60 requirement for retirement of air transportation pilots as well as the FAA's proposed rule on pilot flight time and rest requirements.

The FAA's primary mission is ensuring the safety of the National Airspace System (NAS). We work hard to manage a growth oriented aviation system—and the constraints on the system that growth imposes—in the most efficient and safe way possible. Our ongoing efforts to modernize the air traffic control system will enhance both the safety and efficiency of the NAS. The FAA also establishes, through our regulations, basic safety standards for aircraft and crewmembers that will ensure the safety of our traveling public. We construct our regulations very carefully, taking into account as many factors as we can, but ultimately, always making the decision that will best enhance aviation safety.

In my 24-year career with Air Force transport operations, pilot recruitment and retention was a constant and significant challenge, so I can relate to the concerns of those who believe that a pilot shortage is imminent, one that could have an adverse impact on small and regional air carriers through high turnover rates. While there may be good reasons to be concerned about future pilot hiring shortages, I would like to reassure the Members of the Subcommittee and the public that we do not anticipate any significant reduction in air service in the United States.

The growth in commercial aviation reflects the continued economic expansion in both the U.S. and most world economies. The U.S. commercial aviation industry ended the 1990's by recording its 6th consecutive year of traffic growth, while the general aviation industry continued its turnaround by recording yet another record year in terms of aircraft billings. Using a number of variables to measure growth trends, the FAA publishes an annual summary of forecasts of aviation activity. Our latest forecasts, published in March of this year, show commercial system revenue passenger miles increasing an average of 4.6 percent a year through 2011. Enplanements are expected to increase at a yearly rate of 3.9 percent, while commercial operations at airports with air traffic control service increase 2.7 percent over the 12-year forecast period. Non-commercial activity is forecast to increase an average 1.6 percent annually. To accommodate this growth, the large air carrier fleet is forecast to increase 3.3 percent a year; the regional fleet is predicted to expand at a yearly rate of 3.0 percent.

Will the industry have qualified pilots in sufficient numbers to accommodate this growth, and to accommodate growth in every sector? My colleagues from the industry here today are certainly in a better position to provide a perspective on how the market will respond. However, based on our discussions with industry experts, we understand that, while the major airlines are not having difficulty meeting their pilot hiring goals, there are signs that the regional airlines and those feeding the regionals are starting to see higher turnover and pilot applicants with declining prior experience. This is not surprising given the fact that the major air carriers can offer significantly better pay and benefits. However, reducing safety standards or carving out exceptions to established safety standards, in my view, are not appropriate responses.

A little background information about what is required by FAA regulations to become a commercial pilot may be helpful to the discussion. The FAA's job is to set and enforce pilot qualification and training standards that will ensure public safety. I should note that the commercial aviation industry has an excellent safety record, due in large part to the knowledge, skills and abilities of its pilot workforce. To qualify to be a pilot for an airline, a person usually transitions from student pilot (not allowed to carry passengers), to private pilot (allowed to carry passengers, but not for hire), acquires an instrument rating (allowed to fly in minimum weather conditions), upgrades to a multi-engine rating (allowed to fly aircraft with two or more engines) to a commercial pilot certificate (allowed to fly passengers for hire). A person who acquires a commercial pilot certificate must have logged at least 250 hours of flight time. FAA regulations leading to a commercial certificate, as well as flight time acquired by flight instructing, do not require experience in a crew environment.

The airline transport pilot certificate (ATP) allows a person to act as pilot-in-command of an aircraft in part 121 air carrier operations, which include most commercial passenger and cargo flights for both major and regional airlines. The ATP requires a minimum aeronautical experience of 1,500 hours of flight time as a pilot and a minimum age of 23 years. Under current requirements, part 121 air carriers may not use a pilot who has reached his or her 60th birthday to act as a pilot in part 121 operations.

At the end of 1999, the number of active (meaning those with valid medical certificates) airline transport pilots totaled 137,642. We forecast the number of airline transport pilots to grow at an annual rate of 3.1 percent to a total of 198,100 in 2011. It is difficult to determine whether this potential rate of growth will ultimately lead to a significant shortage of pilots. At present, many individuals with airline transport pilot certificates are not employed by regularly scheduled airlines. Some work as general aviation flight instructors while others are not employed as pilots. An airline transport pilot certificate is required for a pilot-in-command for part 121 operations, but a pilot may act as a co-pilot or first officer with only a commercial pilot certificate in many part 121 operations. Airlines could look to persons with commercial pilot certificates (numbering 124,261 at the end of 1999 and projected to increase to 147,300 in 2011) as potential hires. Air carrier equipage, labor agreements, routes and future changes in these factors further complicate the analysis.

In addition, military downsizing will ultimately reduce the importance of ex-military pilots as a source for civilian airlines. From World War II through the mid-

1990s, approximately 80 percent of major airline new hires were military trained. This is down to approximately 40 to 45 percent today. According to data from AIR, Inc.'s 1997–1998 pilot interview, civilian pilots make up 61 percent of all pilots hired. Non-military sources for pilots are persons with commercial pilot certificates, general aviation pilots, and the more than 200 colleges and universities that offer aviation programs.

The regional air carrier industry is both the entry level for airline transport rated pilots, and an increasingly important source of experienced new pilots for the major commercial jet operators. We recognize that this is a source of concern for small and rural communities, where some speculate that airline service will suffer as pilots are hired away by larger airlines, offering better pay and benefits. The most important thing for the regional airline industry and small carriers, such as commuters and on demand operators, is that there is a continuous pool of new pilots to draw upon for training and development. Regional airlines are increasingly developing "bridge programs" with aviation universities that screen and refer graduates who meet the participating airlines' minimum standards for employment. Also, many of the regional airlines are dropping their "pay for training" programs, which had required their pilot applicants to pay for their training, and reducing their company's minimum qualifications for new hires.

The general aviation industry has taken steps to increase interest in aviation. To help sustain the pool of pilots, the "BE A PILOT" program was initiated in 1996 with a goal of 100,000 new student starts by the year 2000. This program is jointly sponsored and supported by more than 100 general aviation organizations. The program started issuing "introductory flight certificates" to interested respondents in May 1997. The certificates can be redeemed for a first flight lesson for a cost of $35. To date, over 75,000 certificates have been requested. The program has over 1,600 participating flight schools.

Through our regional offices, the FAA in partnership with state transportation officials, offer information and outreach to local communities about careers in aviation. We maintain an Aviation Education Web site at *www.faa.gov/education* where the public may find a host of career and curriculum materials, industry and educational contact listings, and community outreach initiatives.

Certainly, it is appropriate for the aviation industry to develop measures to increase its pilot hiring pool. However, we do not believe that part of the solution is to alter FAA safety standards, namely the FAA's age 60 rule, as some have suggested. The age 60 rule represents the FAA's best determination of the time when a general decline in health-related functions and overall cognitive and performance capabilities may begin and reach a level where a pilot's judgement and physical ability may begin to decline and therefore jeopardize safety. Our rule means that a pilot who reaches age 60 must leave part 121 operations, but it does not mean that he or she can no longer play an important a role in aviation. Many pilots continue to work for part 121 airlines in the screening, recruitment and training of pilot applicants, or fly in non-part 121 operations, or become flight instructors, or, fortunately for us, work as safety inspectors for the FAA.

Since its adoption in 1959, the FAA has reviewed the age 60 rule several times to determine whether new and sufficient evidence exists to warrant a reconsideration of the regulation. The last completed review included a 2-day public meeting, held during September 1993. FAA, assisted by an independent research company, Hilton Systems, reviewed over 4,000 comments, which made assertions and expressed opinions but did not provide the FAA with additional facts or analyses sufficient to support changing the rule. More recently, the Senate Appropriations Committee last year requested the FAA to study and provide data regarding relative accident rates based on pilot age. We are conducting that data review now.

I must emphasize that before making any change to a safety rule, the FAA must be satisfied that the regulation will maintain or raise the current level of safety. What is clear to us from reviewing public comments and relevant literature concerning the age 60 rule is that there is no "right answer." The question for the FAA is one of public safety and determining acceptable risk. At this time, the FAA cannot be assured that changing the age 60 rule will maintain or raise the level of safety.

Finally, some have argued that the FAA's proposed changes to the rules governing pilot flight time and rest requirements, published in a 1995 Notice of Proposed Rulemaking (NPRM), may have an adverse affect on the hiring pool for pilots. The NPRM generated voluminous public comment and required further study and analysis, and is currently being revised by the FAA. We believe that the NPRM will not decrease the number of qualified pilots. The proposed rule, however, would establish the maximum number of hours that a pilot can be kept on duty each day. It would also require that a pilot be provided minimum rest period in every 24 hours. Admit-

tedly, the net effect of these proposed changes may be an increase in the number of pilots required to support today's airline schedules.

The FAA estimated that the NPRM would, if implemented, impose increased labor costs on the airline industry, but would also result in some cost savings as well. The airline industry disagreed with those estimates and commented that cost would be much higher and any cost savings would be only a fraction of what the FAA estimated. The principal difference between the FAA and industry estimates is associated with the issue of how many pilots would be needed under the NPRM. We are taking into account these and all other comments associated with the proposal, as well as the latest science available on human fatigue and rest, in developing our revised rule.

Mr. Chairman, the FAA will develop regulations in the context of what is best for public safety, whether that is setting standards to combat pilot fatigue or determining the best age for retirement of commercial pilots. While economic factors are certainly a part of that calculation, I am sure the Committee and our colleagues in industry would agree that safety must be the priority.

That concludes my prepared remarks. I would be happy to answer any questions the Committee may have.

Senator GORTON. Fine. Thank you.

Captain Woerth.

STATEMENT OF CAPTAIN DUANE E. WOERTH, PRESIDENT, AIR LINE PILOTS ASSOCIATION, INTERNATIONAL

Captain WOERTH. Thank you. Good afternoon, Mr. Chairman. I am Duane Woerth, president of the Air Line Pilots Association International. ALPA represents the special interest of 55,000 pilots who fly for 51 airlines in the United States and Canada, and I appreciate the invitation to appear before the Subcommittee today to represent ALPA's views on the various issues being addressed in this hearing.

These issues are extremely critical to our union, our entire membership, and the safety and convenience of the air-traveling public. It is our understanding that the premise of the hearing is that a critical shortage of airline pilots in the United States is having an adverse effect on air service in rural areas such as Alaska and parts of the upper Midwest, and that changes to certain air safety regulations and labor-management contractual provisions might alleviate this shortage.

Now, as a general rule, ALPA is opposed to proposals to relax air safety rules for economic purposes, and we are naturally concerned about congressional or regulatory interference in legitimate collective bargaining matters. At the outset, however, I would like to make a few general comments about the premise of this hearing, a pilot shortage.

I would prefer to characterize the situation as the difficulties that some air carriers serving rural areas are having in recruitment and retention of qualified pilots. The question is, what is causing this difficulty, and the answer is quite simple. Our Nation has been experiencing unprecedented economic growth for the past 6 years, and the airline industry has been a major beneficiary of this prosperity.

With the growth in air travel has come growth in airline employment, of course, including pilots. Qualified pilot applicants are gravitating to those carriers where wages and benefits and current opportunities are the most attractive. This is, of course, a natural phenomenon in a robust free market economy.

However, as many airline pilots have personally experienced, the converse is also true. When the economy is stagnant or in recession, pilots face layoffs and are forced to seek lower paying jobs that are often not flying jobs. Just a couple of years ago, American Airlines had 500 pilots on involuntary layoff status. Delta had 700 pilots on layoff status. US Airways just recently began hiring pilots after 9 years of not hiring a single pilot.

Just a few years ago, some of the small regional airlines were able to attract pilots even though entry-level wages were so low that they qualified for government financial assistance, and even though new hires were required to pay for their own training, costing thousands of dollars. Today, these airlines are not able to attract pilots on those terms, but that does not translate into a pilot shortage.

The bottom line, pilots, like any other employment applicant in the current economic environment, have the luxury of being more selective in choosing a job. If, as has been suggested, some carriers are having difficulty finding qualified pilots to meet this hiring demand, and if this is determined to be a long-term problem, I would call your attention to the recommendations contained in the August 1993 DOT blue ribbon panel entitled, Pilots and Aviation Maintenance Technicians for the 21st Century, an Assessment of Availability and Quality. This was a report that was done, as you are quite aware, as a meaningful approach to addressing this concern.

Incidentally, virtually no action has been taken on any of the constructive proposals and recommendations in this report, and that is 7 years old. I will provide the Subcommittee with a copy of this report if you would like to, sir.

Senator GORTON. It will be included as part of the record.*

Captain WOERTH. Thank you, sir.

Let me now turn to one specific proposal offered as a remedy to this alleged pilot shortage. S. 1855, introduced last fall by Senator Murkowski, would increase the mandatory retirement age for air carrier pilots from 60 to 65. The theory of this legislation is that pilots who must now retire at age 60, especially those who fly for regional airlines, would be able to continue flying, thereby relieving the pilot shortage in Alaska and sparsely populated areas in the country.

While the alleged justification for the legislation is to address the perceived regional economic problem, the argument for it challenges the efficacy of the regulation itself as applied to pilots on a national basis. ALPA is opposed to this legislation for two basic reasons. First, everyone, not just pilots, should be opposed to the relaxation of a safety rule for an economic purpose, and second, the so-called age 60 rule is justified on its merits as a sound and effective air safety regulation.

The age 60 rule is based on two fundamental principles of medical science that are indisputable. First, the risk of incapacitation and unacceptable decrements in performance increase with age. Second, medical science has not developed a regimen of reliable and FAA-certified tests that can be administered effectively to

* The information referred to was not available at the time this hearing went to press.

identify those aging pilots who are or will become incapacitated, or whose performance will decline to an unacceptable level.

The issues surrounding the regulation have been studied as thoroughly as any medical matter affecting pilots, and after two decades of comprehensive studies and exhaustive review, these two principles are still a valid underlying basis for the rule. Therefore, ALPA's position is firm. The age 60 rule is a well-established safety regulation, substantiated by medical science, and reaffirmed repeatedly by the FAA, and worked effectively for over 40 years.

The justification for the rule is not now, or never has been to enhance the careers of pilots who want to move up the seniority list faster, and it should not be changed for the sake of those who want to continue flying longer, nor should it be used as a regulator of the pilot supply pool for regional economic purposes.

The age 60 rule is a safety regulation, and should not be changed or repealed unless there is sufficient evidence to prove conclusively that such action would not have a negative effect on safety. In ALPA's view that case has never been made.

The Subcommittee has also raised the issue of a possible effect of flight time and duty time regulations, particularly the reserve rest requirements, on availability of pilots on the regional side of the industry. With your permission, I would submit a more comprehensive statement for the record on the topic of pilot fatigue, and the critical need for flight and duty time regulations.

Senator GORTON. We will be happy to have that submission.

Captain WOERTH. Thank you, Senator Gorton.

[The prepared statement of Captain Woerth follows:]

PREPARED STATEMENT OF CAPTAIN DUANE E. WOERTH,
PRESIDENT, AIR LINE PILOTS ASSOCIATION, INTERNATIONAL

Good afternoon Mr. Chairman and Members of the Subcommittee. I am Duane Woerth, President of the Air Line Pilots Association, International (ALPA). ALPA represents the professional interests of 55,000 pilots who fly for 51 airlines in the United States and Canada. I appreciate the invitation to appear before the Subcommittee today to present ALPA's views on the various issues being addressed in this hearing. These issues are extremely critical to our union and our entire membership, and they are important to the safety and convenience of the air traveling public as well.

It is our understanding that the premise of this hearing is that a "critical" shortage of airline pilots in the United States is having an adverse effect on air service in rural areas such as Alaska and parts of the upper Midwest, and that changes to certain air safety regulations and labor/management contractual provisions might alleviate this shortage. As a general rule, ALPA is opposed to proposals to relax air safety rules for economic purposes, and we are naturally concerned about congressional or regulatory interference in legitimate collective bargaining matters. At the outset, however, I would like to make a few general comments about the premise of this hearing—pilot shortage.

Without directly challenging the notion that there is a "critical" pilot shortage affecting rural air service, I would prefer to characterize the situation as the difficulty that some air carriers serving rural areas are having in the recruitment and retention of qualified pilots. The question is: What is causing this difficulty? The answer is quite simple. Our nation has been experiencing unprecedented economic growth for the past 6 years, and the airline industry has been a major beneficiary of this prosperity. With the growth in air travel, has come growth in airline employment, including pilots, and qualified pilot applicants are gravitating to those carriers where wages, benefits, and career opportunities are the most attractive. Some of them are leaving jobs in the commuter airline industry and accepting higher-paying positions with the major carriers. This is a natural phenomenon in a robust free market economy.

However, as many airline pilots have personally experienced, the converse is also true. When the economy is stagnant or in a recession, pilots face lay-offs and are forced to seek lower-paying jobs, often non-flying jobs. Just a few years ago, commuter airlines were able to attract pilots even though entry-level wages were so low that they qualified for government financial assistance, and even though new-hires were required to pay thousands of dollars to cover their training costs. Today, these airlines are not able to attract pilots on those terms, but that doesn't translate into a pilot shortage. The bottom line—pilots, like any other employment applicants in the current economic environment, have the luxury of being more selective in choosing a job.

Recently, Aviation Information Resources, Inc. (AIR Inc), an Atlanta firm that studies various trends in the commercial airline industry, projected that there will be over 19,000 pilots hired this year. If, as suggested, carriers are having difficulty finding qualified pilots to meet this hiring demand, and if this is determined to be a long-term problem, I would call your attention to the recommendations contained in the August, 1993, DOT Blue Ribbon Panel Report entitled, "Pilots and Aviation Maintenance Technicians for the 21st Century—An Assessment of Availability and Quality", as a meaningful approach to addressing this concern. As a matter of fact, your full Committee Chairman, Senator John McCain, provided the impetus for this study back in 1989, as a member of the Manpower and Personnel Subcommittee of the Senate Armed Services Committee as well as a Member of this Subcommittee on Aviation. I will provide the Subcommittee with a copy of this report for your review.

Mandatory Retirement Age—Age 60 Rule

Let me now turn to one specific proposal that has been offered as a remedy for this alleged pilot shortage. S.1855, introduced last fall by Senator Frank Murkowski (R–AK), would increase the mandatory retirement age for air carrier pilots from 60 to 65. The theory of this legislation is that pilots who must now retire at age 60, especially those who fly for regional airlines, would be able to continue flying, thereby relieving the pilot shortage in Alaska and other sparsely populated areas of the country. While the alleged justification for the legislation is to address a perceived regional economic problem, the argument for it challenges the efficacy of the regulation itself as it applies to pilots on a national basis. ALPA is opposed to this legislation for two basic reasons. First, everyone—not just pilots—should be opposed to the relaxation of a safety rule for an economic purpose. And second, the so-called Age 60 Rule is justified on its merits as a sound and effective air safety regulation. The first reason should be self-explanatory and widely accepted; the second has been the subject of considerable debate.

The Age 60 Rule is based on two fundamental principles of medical science that are indisputable. First, the risks of incapacitation and unacceptable decrements in performance increase with age. Second, medical science has not developed a regimen of reliable tests that can be administered effectively to identify those aging pilots who are, or will become, incapacitated, or whose performance will decline to an unacceptable level. The issues surrounding the regulation have been studied as thoroughly as any aeromedical matter affecting pilots, and after two decades of comprehensive studies and exhaustive review, these two principles are still valid as the underlying basis for the Rule.

In late 1979, the House of Representatives rejected a proposal to relax the Rule, and directed the National Institutes of Health to conduct a study to determine if there was sufficient medical evidence to support it. In August of 1981, the National Institute of Aging Review Panel on the Experienced Pilots Study that was responsible for reviewing the study and submitting a report to Congress concluded: "The Panel attaches no special medical significance to age 60 as a mandatory age for retirement of airline pilots. It finds, however, that age-related changes in health and performance influence adversely the ability of increasing numbers of individuals to perform as pilots with the highest level of safety and, consequently, endanger the safety of the aviation system as a whole. Moreover, the Panel could not identify the existence of a medical or performance appraisal system that can single out those pilots who would pose the greatest hazard because of early or impending deterioration in health or performance."

Following completion of the NIA review, the Rule was contested in Federal Court and reconsidered by the FAA. In 1989, in response to a directive by the U. S. Court of Appeals for the 7th Circuit, the FAA reviewed the evidence and reaffirmed its support of the Rule. In the decision, the FAA's Director of Flight Standards stated: "Based upon all of the studies discussed, we conclude that an older pilot's edge in experience does not offset the undetected physical infirmities associated with the aging process. Notwithstanding that most pilots who are approaching or have

passed age 60 report that their health is excellent and they do not experience any physical or cognitive limitations which would prevent them from continuing their flying career, the research of aging indicates that there is often a sharp decline in physical and cognitive performance after age 60. . . . There is substantial scientific evidence which indicates that the greater experience of the pilots who have reached or passed age 60 does not outweigh the increased risk of incapacitation or skill deterioration which accompanies seniority."

Since 1994, the FAA itself has sponsored at least five studies on issues related to the Rule (see Appendix). The most comprehensive consideration of the Rule by the FAA occurred between 1993 and 1995. In late 1990, the FAA initiated a statistical study on the relationship between pilot age and accident rates. Following the release of the so-called Hilton Study in March 1993, the FAA convened a public meeting in September to solicit comments on the study and the Age 60 Rule in general. Two years later, in December of 1995, the FAA concluded an exhaustive rulemaking proceeding, commonly known as the "one level of safety" review, in which the safety regulations governing the commuter airlines (Part 135) were harmonized with the major carrier regulations (Part 121). One component of that review and subsequent order was a reaffirmation of the Age 60 Rule and the application of it to the commuter airlines. Recognizing that this change might pose a hardship for some commuter pilots and operators, the FAA granted a 4-year phase-in of the new rule. At the time of the order, the FAA estimated that there were approximately 8,000 pilots in the commuter category, and of those, approximately 200 were over 60 years of age. The grace period expired on December 20, 1999, at which time those pilots who were over 60 years of age were required to retire. During this same time frame (1993–1995), the FAA considered and denied a petition for rulemaking to repeal the Rule that was filed by a group of pilots, both active and retired, who have been fighting it for years.

ALPA's position is firm—the Age 60 Rule is a well-established safety regulation that has been substantiated by medical science, has been reaffirmed repeatedly by the FAA, and has worked effectively for over 40 years. The justification for the Rule is not now and never has been to enhance the careers of pilots who want to move up the seniority list faster and it should not be changed for the sake of those who want to continue flying longer. Nor should it be used as a regulator of the pilot supply pool for regional economic purposes. The Age 60 Rule is a safety regulation and should not be changed or repealed unless there is sufficient evidence to prove conclusively that such action would not have a negative effect on safety. In ALPA's view, that case has never been made.

Flight and Duty Time Regulations and Reserve Rest Requirements

The Subcommittee has also raised the issue of the possible effect of flight and duty time regulations, particularly the "reserve rest" requirements, on the availability of pilots on the regional side of the industry. With your permission, I will submit a more comprehensive statement for the record on the topic of pilot fatigue and the critical need for changes in the flight and duty time regulations. I would simply add here that, despite the fact that in 1995 the FAA issued a notice of proposed rulemaking to revise these outdated regulations, it has been almost 5 years now and we still do not have a final resolution of this important safety issue. Virtually everyone in the industry and in the scientific community, as well as the NTSB and NASA, agrees that new regulations are necessary, and we once again would implore the FAA to take immediate action.

On "reserve rest", the FAA last December, began to enforce its rules requiring that domestic pilots assigned to reserve duty receive appropriate minimum rest before accepting a flight assignment. It is our understanding that, contrary to the dire predictions of the airlines, this rule was implemented without any disruption to flight schedules and at minimal cost. ALPA applauds the FAA for this action, but it needs to do more. We believe that the flight and duty time regulations must be revised to take into consideration modern science and to provide maximum hours of service that will ensure that pilots are not pushed to fly beyond demonstrated levels of safety.

Pilot Scope Clauses and Regional Jets

Finally, some have alleged that scope clauses in our pilots' collective bargaining agreements are impeding the ability of carriers to deploy so-called "regional jets" in small, underserved markets. We submit that is clearly not the case. In our view, pure economics—not pilot scope clause—is driving where and with what frequency these jets are being used, and will be used in the future. Frankly, ALPA believes that the term "regional jet" is a misnomer because these airplanes are not being operated exclusively in regional markets. We prefer to call them "small" jets because

they are simply smaller gauge, turbine-powered aircraft that are being used by the carriers with greater frequency in markets of various sizes to attract more high-end business travel, generate profits and benefit the bottom line.

In January, I participated on a panel on labor and employment issues at the annual ABA Forum on Air and Space Law, and presented a paper on the subject of pilot scope clauses and RJ's. With your permission, I will include a copy of this paper with my testimony. I might also mention that the General Accounting Office is currently engaged in a study of the "regional jet" phenomenon, and I would encourage the Subcommittee to look forward to GAO's report as an objective analysis of this subject.

This concludes my statement, and I would be pleased to answer your questions.

Appendix

Ramon Miller, James Becker, Peter Lambrou, The Effects of Age and Practice on Aviation-Relevant Concurrent Task Performance (1999) (DOT/FAA/AM-99/22); Robert Besco, Satya Sangal, Thomas Nesthus, Stephen Veonneau, A Longevity and Survival Analysis for a Cohort of Retired Airline Pilots (1995) (DOT/FAA/AM-95/5); D.T. Hyland, E.J. Kay, J.D. Deimler, E.B. Gurman, Age 60 Study, Part II: Airline Pilot Age and Performance—A Review of the Scientific Literature (1994) (DOT/FAA/AM-94/21); E.J. Kay, D.J. H.illman, D.T. Hyland, R.S. Voros, R.M. Harris, J.D. Deimler, Age 60 Study, Part Ill: Consolidated Database Experiments Final Report(1994) (DOT/FAA/AM-94/22); D.T. Hyland, E.J. Kay, J.D. Deimler, Age 60 Study, Part IV: Experimental Evaluation of Pilot Performance (1994) (DOT/FAA/AM-94/23). *See also* Michael Heil, An Investigation of the Relationship Between Chronological Age and Indicators of Job Performance for Incumbent Air Traffic Control Specialists (1999) (DOT/FAA/AM-99/ 18).

Senator GORTON. Captain Emens. Emens, is that correct?

STATEMENT OF CAPTAIN PAUL EMENS, CHAIRMAN, PILOTS AGAINST AGE DISCRIMINATION

Captain EMENS. Emens.

Senator GORTON. Emens.

Captain EMENS. Close enough, Senator.

Good afternoon, Senators. My name is Paul Emens, and I am chairman of the Pilots Against Age Discrimination, PAAD. seated behind me in the audience are Captains Nancy Bruce, Ron Richmeyer, and Barry Barrell of PAAD, Captain Steve Jacques of ALPA Pilots Against Age 60, APAAS, Captain Ed Moon, from the Organization of Black Airline Pilots, who is opposed to the age 60 rule, and Dr. Robin Wilkening, chief resident of occupational medicine at Johns Hopkins University. We would all welcome any questions that you have at the close of these presentations.

PAAD represents all pilots who believe that the age 60 rule is age discrimination, that the age 60 rule should be changed, and that doing so will not only reduce the Nation's critical shortage of pilots, but will dramatically increase experience levels, thus improve safety.

I am 51 years old. My father flew for Pan American World Airways. I mention my father because he walked these same halls as a member and officer of ALPA, trying to overturn the discriminatory and arbitrary age 60 rule just as I am now doing. This was 30 years ago. Today, ALPA is my opponent.

The purpose of this hearing is to examine the issue of pilot shortage, and there is a pilot shortage. Not only are there fewer numbers of pilots to fill the needs of air carriers and provide for the needs of Alaska and other underserved States, there is a critical shortfall in experienced pilots Nation-wide. This hazardous situation is an immediate problem for your constituents, your families, and every passenger in every State.

ALPA agrees. In May 1998, ALPA published an article that said in part, quote, large numbers of captains will be retiring from most U.S. carriers and, indeed, European ones as well, at the turn of the century and soon after. This will cause the majors to hire a further mass of new pilots in a relatively short period of time.

The effects on the air transportation system could be disastrous, as a sudden surge of poor-caliber pilots is dragged from the bottom of the system, perhaps all the way to the majors. The real loses will be the air taxi and regional operators that must fly their aircraft with the pilots the majors cannot attract.

In fact, Senators, the real losers are the passengers of your States, whose lives are placed at risk by pilot inexperience. Currently, it is not uncommon for pilots to be hired straight out of aviation colleges and into the first officer's seat of a regional airliner. Within a year, these novices can be promoted to captain. Inexperienced pilots make three times as many critical errors as more experienced pilots. A pilot with but 1 year of line flying experience, coupled with a co-pilot straight out of flight school, is a recipe for disaster in commercial aviation.

Some regional carriers have turnover rates as high as 100 percent annually, as pilots move on to fill slots opened by expansion and vacated by an increasing volume of age-driven retirements.

In the mid-1990's the FAA elected to apply the age 60 rule to regional carrier pilots, who for decades have been transporting the citizens of your States without a single age-related incident. Pilots who were 60 at the time the one level of safety program went into effect were given a grace period. The last of this group of pilots was grounded at the age of 71 at the end of 1999, again without a single age-related incident.

During that period of time, this group of highly skilled and experienced pilots demonstrated beyond question the safety record that has been validated in study after study. Older, experienced pilots are as safe as or safer than younger pilots.

The FAA's own study, bought and paid for by the FAA, known as the Hilton study, said, and I quote, accidents decreased with age, leveling off for older pilots. Our analysis provided no support for the hypothesis that the pilots of scheduled air carriers had increased accident rates as they neared the age of 60. Most of the analysis indicated a slight downward trend in accident rates with age, end quote.

The most experienced pilots, those over 60, have been removed from the ranks in order to make room for pilots with minimal flight time and little other school experience. I ask you, is this the pilot you want for your family's next flight?

ALPA would like you to believe that the age 60 rule is about safety. They would have you believe that anyone 60 and above suffers, as one ALPA letter on Capitol Hill said, quote, unacceptable decrements in performance, end quote. This is ridiculous. A pilot is not incompetent with the passage of 24 hours, and yet this is precisely the way commercial airline pilots are treated.

The age 60 rule, rather, is about economics. Pilots want to advance up the seniority and pay ladder as quickly as possible. In the late 1970's, a younger and more junior group of pilots gained control of ALPA. A former ALPA president, Hank Duffy, in court testi-

mony said, quote, pilots over age 55 comprise only 5 to 6 percent of the total membership. The other 95 percent selfishly view the forced retirement of older pilots as their guaranteed path and a God-given right to their own early promotion, end quote.

How ironic. It was ALPA that fought for and won the right of 60-year-old pilots to keep their jobs in 1959, the year the age 60 rule came into being. It is now ALPA who champions the discriminatory retirement of our Nation's most experienced pilots.

Another economic issue concerns a special tax provision that protects a pilot mandated to retire at the age of 60 from taking an onerous pension cut. A summary solution is included in your information packets. This can be fixed.

Federal air surgeon Dr. Frank Austin knew the truth when he wrote, quote, there is no basis for the age 60 rule. I believe this, and Admiral Engen, the FAA Administrator at the time, believes this. It is an economic issue, end quote.

ALPA sits here today as a powerful advocate of the age 60 rule. Congress can change this. First, recognize that there is, indeed, a pilot shortage. It affects every Senator and every Representative because it affects every citizen who flies or who has a family member who does so.

What Senator Murkowski's bill does is give working commercial pilots more years of productive careers. In a perfect world, I would say there should not be an age. It should be test-driven. But this is not a perfect world, and as 44 other countries have already done, already raised the rule to 65, 65 is a good first step.

Changing the rule, in a time of stress due to shortages of pilot numbers and experience, gives us time to address the issue properly, time to initiate and fund pilot-training programs, and time to study a group of dedicated, experienced, and highly skilled pilots over the age of 60 who are permitted to continue in the work they are supremely qualified to do.

There is no question that the evaluation of this group of older pilots will show what those other 44 industrialized nations already know and have put into daily practice. There is no rational or defensible basis for the mandatory retirement of pilots at the age of 60.

Senator John McCain said on July 17, 1996, before the Senate Commerce, Science, & Transportation Committee the following: Quote, this administration has been critical, and rightfully so, about the inexperience of flight crews in commercial air carrier cockpits. One obvious way to increase the experience levels of cockpit crews would be to increase the discriminatory maximum age for pilots which is limited by the age 60 rule. However, when the administration recently issued a notice of proposed rulemaking for flight and duty time, the strong lobbying effort of the pilot unions kept the age 60 rule intact, a position that reportedly is at odds with the FAA Administrator's own position on whether to change the rule. I hope the FAA and DOT will work with Congress to significantly change this way of operating, end quote.

Senator McCain hit the nail on the head a full 4 years ago. We have lost the luxury of getting ahead on this problem. Alaska feels its impact today, and every State in this country may feel it in the near future. The shortage is here, now, as the most experienced pi-

lots are forced prematurely from their cockpits against their will. It is time the FAA listens and acts. Maintaining the status quo because it is awkward for some parties is unacceptable. To provide for a more experienced work force, and to end discrimination in the commercial airline industry, it is time to address the age 60 rule.

Let me end with the motto of the Air Force's 89th Airlift Wing, which flies the President and other top government officials on Air Force One. Experto Crede—trust one who has experience. Your constituents deserve any less.

[The prepared statement of Captain Emens follows:]

PREPARED STATEMENT OF CAPTAIN PAUL EMENS,
CHAIRMAN, PILOTS AGAINST AGE DISCRIMINATION

Good afternoon, Senators. My name is Paul Emens and I am Chairman of the group known as Pilots Against Age Discrimination (PAAD). Seated with me are Captain Nancy Bruce, Captain Ron Richtsmeier, and Dr. Robin Wilkening. PAAD represents all pilots who believe that the Age 60 Rule is age discrimination, that the Age 60 Rule should be changed, and that changing it will not only reduce the nation's critical shortage of pilots but will dramatically increase the level of experience brought to commercial aviation.

I am 51 years old. My father's career was with Pan American World Airways.

I mention my father because he walked these same halls, as a member and officer of ALPA, trying to overturn—the discriminatory and arbitrary Age 60 Rule . . . just as I am now doing. Today, ALPA is my opponent.

The purpose of this hearing is to examine the issue of pilot shortage. And there IS a pilot shortage. Not only are there fewer numbers of pilots to fill the needs of air carriers—and provide for the needs of Alaska and other underserved states—there is a *critical shortfall in experienced pilots nationwide.* This hazardous situation is an immediate problem for *your* constituents, *your* families, and *every passenger in every state.*

ALPA agrees. In May 1998 ALPA published an article that said, in part:

> **". . . Large numbers of Captains will be retiring from most US carriers, and indeed European ones as well, at the turn of the century and soon after. This will cause the majors to hire a further mass of new pilots in a relatively short period of time. The effects on the air transportation system could be disastrous as a sudden surge of poor-caliber pilots is dragged from the bottom of the system, perhaps all the way to the majors. The real losers will be the air-taxi and regional operators that must fly their aircraft with the pilots the majors cannot attract."**

In fact, Senators, the real losers are the passengers of your state whose lives are placed at risk by pilot inexperience. Currently it is not uncommon for pilots to be hired straight out of aviation colleges and into the First Officer's seat of a regional airliner. Within a year these novices can be promoted to Captain. Inexperienced pilots make three times as many critical errors as more experienced pilots. A pilot with but one year of line-flying experience coupled with a co-pilot straight out of flight school is a recipe for disaster in commercial aviation. . Some regional carriers have turnover rates as high as 80 percent annually as pilots move on to fill slots opened by expansion and vacated by an increasing volume of age-driven retirements. In the mid-1990's the FAA elected to apply the Age 60 Rule to regional carrier pilots, who for decades had been transporting the citizens of your states without a single age-related safety problem. Pilots who were 60 at the time the One Level of Safety program went into effect were given a grace period. The last of this group of pilots was grounded at age 65 this year, again without a single age-related incident. During that period of time this group of highly-skilled and experienced pilots demonstrated beyond question the safety record that has been validated in study after study: *older, experienced pilots are as safe as or safer than younger pilots.*

The FAA's own study, known as the Hilton Study, **"accidents *decreased* with age, leveling off for older pilots" . . . "Our analyses provided no support for the hypotheses that the pilots of scheduled air carriers had increased accident rates as they neared the age of 60. Most of the analyses indicated a slight downward trend [in accident rates] with age."**

The most experienced pilots—those over 60—have been removed from the ranks in order to make room for pilots with minimal flight time and little other than school experience. Is this the pilot you want for your family's next flight?

ALPA would like you to believe that the Age 60 Rule is about safety. It isn't. It's about economics. Pilots want to advance up the seniority and pay ladder . In the late 1970's a younger and more junior group of pilots gained control of ALPA. A former ALPA President, Hank Duffy observed, **"Pilots over age 55 comprise only 5–6 percent of the total membership. The other 95 percent selfishly view the forced retirement of older pilots as their guaranteed path and a God-given right to their own early promotion."** How ironic! It was ALPA who fought for and won the right of 60-year-old pilots to keep their jobs in 1959, the year the Age 60 Rule came into being. It is now ALPA who champions the discriminatory retirement of the nation's most experienced pilots.

Another economic issue concerns a special tax provision that protects a pilot mandated to retire at the age of 60 from taking an onerous pension cut.

Federal Air Surgeon Dr. Frank Austin knew the truth: **"There is no basis for the Age 60 Rule. I believe this and Admiral Engen [the FAA Administrator] believes this . . . . It's an *economic* issue."**

ALPA sits here today as a powerful advocate of the Age 60 Rule.

Congress can change all this.

Recognize that there is indeed a pilot shortage. It affects every Senator and every Representative because it affects every citizen who flies. What Senator Murkowski's bill does is give working commercial pilots more years of productive careers. In a time of stress due to shortages of pilot numbers and experience, his bill gives us time to address the issue properly: time to initiate and fund pilot training programs, and time to study a group of dedicated, experienced, and highly-skilled pilots over the age of 60 who are permitted to continue in the work they are supremely qualified to do. There is no question that the evaluation of this group of older pilots will show what other industrialized nations already know and have put into daily practice: there is no rational or defensible basis for the mandatory retirement of pilots at age 60.

I would like to close with Senator John McCain's statement of July 17, 1996 given before the Senate Commerce, Science and Transportation Committee:

"This administration has been critical, and rightfully so, about the inexperience of flight crews in commercial air carrier cockpits. *One obvious way to increase the experience levels of cockpit crews would be to increase the discriminatory maximum age for pilots, which is limited by the "age 60 rule".* However, when the Administration recently issued a Notice of Proposed Rulemaking for flight and duty time, the strong lobbying effort of the pilot unions kept the age 60 rule intact—a position that reportedly is at odds with the FAA Administrator's own position on whether to change the rule. I hope the FAA and DOT will work with Congress to significantly change this way of operating."

Senator McCain hit the nail on the head a full 4 years ago. We have lost the luxury of getting ahead of this problem. Alaska feels its impact today and every state in this country will feel it in the near future. The shortage is here, now, as the most experienced pilots are forced prematurely from their cockpits against their will. It's time the FAA listens—and acts. Maintaining the status quo because it is awkward for some parties is clearly unacceptable.

To provide for a more experienced workforce and to end age discrimination in the commercial airline industry it is time to address the Age 60 Rule. Now.

Alpa Pilots Against Age Sixty

APAAS is an organization composed of ALPA pilots, retired ALPA pilots, and associate members, who believe that the "Age 60 Rule" is unfair, and should be changed.

APAAS members believe that there are solutions available that would allow the rule to be changed, and satisfy the concerns of the majority of ALPA members.

APAAS members believe that every pilot should have the right to retire at 60 (with no degradation of retirement benefits), if he or she so desires.

APAAS members believe that every pilot should have the right to work BEYOND 60, if he or she so desires.

APAAS members believe in the continued quick pace of upgrades for all ALPA pilots.

APAAS members believe that if ALPA members work together, there is absolutely no doubt that we can change the "Age 60 Rule" so that the majority's concerns will be addressed and fulfilled.

If you would like to join our efforts, or simply would like more information about our modest goals, please contact the APAAS member listed below, or visit our web site.

Stephen G. (Steve) Jacques
UAL 727 Pilot Instructor
Web site—*www.apaas.org*

PREPARED STATEMENT OF STEPHEN G. JACQUES IN SUPPORT OF SENATE BILL 1855

Good afternoon, Senators. My name is Stephen Jacques and I am co-founder of the group known as Alpa Pilots Against Age Sixty (APAAS). [Although I am not on the agenda to speak to you this afternoon,] I thought it imperative to relay important information with regard to a segment of the ALPA membership, and how they feel about SB 1855. [Therefore, I have prepared this presentation for you.]

APAAS is a pure grass roots organization, which has sprung up within the greater ALPA organization. APAAS members currently represent 18 ALPA airlines. The ALPA leadership does not recognize APAAS, or our singular goal, which is to overturn FAR 121.383c (age 60 rule). Indeed, this singular goal of ours runs directly contrary to the wishes of the ALPA leadership, and to the ALPA PAC.

I wear the ALPA pin on my tie today, and every day that I fly because I believe in what ALPA stands for and what ALPA has accomplished for aviation. However, I wholeheartedly disagree with my Association with regard to the stand that it has taken on the age 60 rule. It is my belief, and that of the APAAS membership, that ALPA is supporting the age 60 rule for the sole purpose of political expediency, and not for safety, as the ALPA leadership has stated time and time again.

I will not reiterate the examples given by my esteemed colleague, Captain Paul Emens, which clearly show that changing the age 60 rule will enhance safety, not degrade safety as the ALPA leadership has so strenuously stated time and time again. I will not reiterate more examples that indicate a critical pilot shortage is already impacting safety in our skies. And I will not quote additional paragraphs of the Hilton Study, which clearly show that turning 60 does not make someone a "basket case". I would, however like to make 3 additional points.

ALPA does not represent all of its members when it continually flexes its political muscle to stop Congress from changing an outmoded rule from the 50's. ALPA has traditionally been an Association for change; a change for safety, a change for the better. ALPA is, however "stuck", with its tire spinning in the mud of the past, on this issue. It is time for Captain Duane E. Woerth (president of ALPA), and the ALPA Board of Directors to extricate the Association from this quagmire, and get back on the road to the 21st Century.

Furthermore ALPA, in my opinion, is a party to blatant age discrimination. I have a copy of a letter from Mr. Tony Gallegos, Chairman of the US Equal Employment Opportunity Commission in 1993, to the Office of the Chief Council of the Federal Aviation Administration, dated October 14, 1993. The letter states in part "In sum, the Age 60 rule should be lifted by the FAA. Medical and proficiency tests on an individual basis arc effective and non-discriminatory ways to assure that commercial pilots maintain the highest standards of safety at all ages". Since ALPA has lobbied so hard and spent so many PAC dollars over such a long span of years to help the FAA keep the age 60 rule in place, it becomes obvious that ALPA has had no respect for Commissioner Gallegos' official opinion as the top US officer in the matter of discrimination, and has placed the good of the few over the good of the many in this particular matter.

Finally, ALPA once championed the cause for change in an age 60-labor dispute. In 1959, when American Airlines pilots (once represented by ALPA) were forced to retire at 60, ALPA fought and won their return to the pilot's seat. In a letter dated April 14, 1959, to Mr. C. R. Smith (then president of American Airlines) from then ALPA president Clarence M. Sayen, it was stated "These individuals should be returned to active duty in accordance with the same standards of physical fitness and technical proficiency as applied to other pilots, irrespective of age". One must wonder why if ALPA's official stand was such in 1959, it has changed? With all the advances in medical health and more than 5 years additional life expectancy now than in 1959, why has ALPA changed it's mind?

In closing, I ask the Members of the Committee to consider my points when reflecting on all the information gathered today. Please do not let "political expediency", and the "good of the few", dominate your decisions.

Respectfully submitted,

STEPHEN G. JACQUES,
Co-founder APAAS,
ALPA member in good standing,
United Air Lines Pilot Instructor.

Attachments:

- Letter from Mr. Tony E. Gallegos, EEOC Commissioner, to FAA Office of Chief Council, October 14, 1993
- Letter from Mr. Clarence M. Sayen, President of ALPA, to Mr. C. R. Smith, President of American Airlines, April 14, 1959

AIR LINE PILOTS ASSOCIATION
April 14, 1959

Mr. C. R. Smith,
President,
American Airlines, Inc.,
New York, NY.

Dear Mr. Smith:

Thank you for your letter of April 3, received April 6, 1959, in response to my correspondence of March 24 concerning the actions of the Company in connection with the case involving Messrs. Burns, Cutrell, and Rentz.

Although I frankly do not understand why there should be any confusion in this problem, your letter demonstrates that sone still exists. The following, therefore, is an effort to clarify our position completely and bring this matter to a conclusion.

You are correct that the neutral sitting with the System Board of Adjustment did not pass on the question of what constitutes a proper retirement age for air line pilots. He did., however, rule that there was no mandatory retirement at age 60 and that the Company could not unilaterally and arbitrarily establish such an age, and, therefore, the Company had acted wrongfully in attempting to force Messrs. Burns, Cutrell, and Rentz to retire at age 60. Our position, therefore, has been. very simple. The Company is required to abide by this decision and return these individuals to service under the same conditions which existed at the time the company attempted to retire them because they had attained age 60.

In all of our conversations with you on this subject, we have explained, that our immediate interest was the Company's compliance with the System Board of Adjustment decision. If individual pilots should subsequently resign from the Company on their own initiative and for whatever reason, this was their prerogative. We have noted. that you have made certain offers to these individual pilots in an effort to induce them to take such a course of action. This is your prerogative. However, you have no right to deny these pilots the rights to which they are entitled under your contract with this Association and the System Board award.

We note with encouragement your decision to now return Captains Burns, Cutrell, and Rentz to active flying duty. Insofar as the understandings which you have stated are concerned, we do not see any great problem except we believe the following should be clearly understood:

1. These individuals should be returned to active duty in accordance with the sane standards of physical fitness and technical proficiency as applied. to all other pilots, irrespective of age.
2. It is the responsibility of the officials of the Federal Aviation Agency to certify as to the physical fitness and technical proficiency of all air line pilots, and we have no objection to their doing so in this instance subject to the conditions of Number 1 above.

We note your continued interest in the establishment of a mandatory retirement age. As indicated to you in our previous conversations, you have a number of alternatives available to you which you are at liberty to exercise if you desire. As we see it, they are the following:

1. You may serve a Section 6 notice of intended change in our contractual relations under the Railway Labor Act for the purpose of negotiating on this subject.

2. You may attempt to persuade the Federal Aviation Agency to establish a rule or regulation on this subject.

These are your prerogatives and you may exercise them as you see fit.

We know that you are aware that the federal government has already established standards which must be met by all pilots relative to their physical fitness and their proficiency. All individuals must be examined at least every 6 months to determine whether such standards are being met. Any individual pilot in your employ must meet these standards regardless of his chronological age.

We are hereby transmitting copies of your letter and this reply to Messrs. Burns, Cutrell, and Rentz and requesting that they immediately report once again for service with the Company. In doing so, we are advising them that, in our view, they are entitled to all of the benefits flowing from the award of the System Board of Adjustment and that they will be expected to meet the normal requirements for pilots in the employ of American Airlines, including federal certification as to physical fitness and proficiency as required. by the Civil Air Regulations.

Sincerely yours,

CLARENCE M. SAYEN,
President,
Air Line Pilots Association.

cc:
J. H. Burns
E.A. Cutrell
R.J. Rentz
P.G. Atkins
J.R. Lyons

OFFICE OF THE CHAIRMAN
U.S. EQUAL EMPLOYMENT OPPORTUNITY COMMISSION
Washington, DC, October 14, 1993

Federal Aviation Administration,
Office of Chief Counsel,
Washington, DC.

ATTENTION: RULES DOCKET (AGC–10)
DOCKET NO. 27264

To Whom It May Concern:

As Chairman of the U.S. Equal Employment Opportunity Commission (EEOC or Commission), I am writing in response to notices published in the Federal Register[1] soliciting comments about whether the Federal Aviation Administration (FAA) should initiate rulemaking about its regulation commonly referred to as the Age 60 Rule, 14 C.F.R. 121.383(c)(1993). The Age 60 Rule bars individuals who have reached their 16th birthday from serving as pilots or co-pilots in flight operations governed by Part 121 of the FAA's rules, typically commercial flights.

The Commission has long been concerned about the impact of the Age 60 Rule on pilots and co-pilots.[2] The Commission enforces the Age Discrimination in Employment Act of 1967, as amended, 29 U.S.C. 621 *et seq.* (ADEA) and also provides leadership and coordination for all federal agencies' EEO programs under Executive Order 12067. The Executive Order requires the FAA to coordinate with EEOC to insure that its rules are consistent with the Commission's interpretation of the ADEA. For the reasons set forth below, I urge the FAA to initiate rulemaking about its Age 60 Rule and to lift the age 60 limit for commercial pilots and co-pilots.

The ADEA prohibits employment discrimination against individuals at least 40 years of age. Under the ADEA, it is unlawful for an employer to have a maximum age limitation for its employees unless the employer can establish that the age limi-

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[1] 58 Fed. Reg. 21,336 (1993) and 58 Fed. Reg. 33,316 (1993).

[2] The Commission's longstanding interest in the Age 60 rule is demonstrated in public testimony, comments, and statements including: Testimony of Constance L. Dupre, Associate General Counsel, EEOC, Panel on the Experienced Pilots Study, National Institute on Aging, National Institutes of Health, May 27, 1981; EEOC'S Final Interpretations of the Age Discrimination in Employment Act of 1967, 49 Fed. Reg. 47,724 (1981); EEOC Comments on the FAA's Advanced Notice of Proposed Rulemaking at 47 Fed. Reg. 29,784 (1982); Testimony of former EEOC Chairman Clarence Thomas before the House Select Committee on Aging, October 1985; August 12, 1986 letter from former EEOC Chairman Clarence Thomas to former FAA Administrator Donald Engen urging the FAA to grant a petition by 39 pilots for exemptions from the Age 60 Rule so they could participate in a controlled study envisioned by the National Institute of Aging panel.

tation is a bona fide occupational qualification (BFOQ) "reasonably necessary to the normal operation of the particular business." 29 U.S.C.A. 623 (f) (1) (West 1985). An EEOC regulation sets forth what an employer must prove to establish that age is a BFOQ:

> That (1) the age limit is reasonably necessary to the essence of the business, and either (2) that all or substantially all individuals excluded from the job involved are in fact disqualified, or (3) that some of the individuals so excluded possess a disqualifying trait that cannot be ascertained except by reference to age. If the employer's objective in asserting a BFOQ is the goal of public safety, the employer must prove that the challenged practice does indeed effectuate that goal and that there is no acceptable alternative which would better advance it or equally advance it with less discriminatory impact.

29 C.F.R. 1625.6(b) (1992).[3]

The EEOC does not believe that a chronological age limitation for commercial pilots is a BFOQ because pilot skills and health can be assessed accurately on an individual basis, regardless of age. Indeed, the FAA itself relies on individualized testing as a basis for issuing medical certificates to people of all ages, including those age 60 and above, who serve as pilots in non-Part 121 flight operations. Moreover, in Commission litigation challenging pilot age limits imposed by employers whose flight operations are not governed exclusively by Part 121, the EEOC'S experts have testified that Class I medical testing is fully sufficient to identify health or performance problems that may surface for pilots regardless of age. These experts also have stated that, to the extent further testing may be desirable, cardiac stress tests, enhanced blood work-ups, and neuropsychological screening could be added to the standard battery of Class I tests for all pilots.[4]

As a result of the Commission's enforcement efforts under the ADEA, pilots over the age of 60 who had been restricted by company age limitations now fly in a variety of flight operations not governed by Part 121. Individuals over the age of 60 serve as pilots of experimental test flights in high performance military aircraft, fly jumbo jets both in testing and in certain passenger operations not subject to Part 121, and pilot corporate jets.

In litigation brought by the Commission under the ADEA challenging the Boeing Company's policy of removing pilots at age 60 from flight status in non—Part 121 operations, the U.S. Court of Appeals for the Ninth Circuit held that the FAA'S Age 60 Rule did not establish a BFOQ as a matter of law. *EEOC v. Boeing,* 843 F.2d 1213 (9th Cir. 1988). This litigation was resolved in 1990 with a consent decree under which qualified Boeing pilots are permitted to remain on flight status up to their 63rd birthdays. Boeing will reassess this age policy in 1995. Subsequent to the entering of a similar consent decree in *EEOC v. Rockwell Int'l. Corp.,* C.A. No. 91—0760 MRP (C.D. Cal.), the Commission has refused to consider any settlement that would involve a pilot age limitation of less than age 65.[5] In fact, in the most recent consent decree of this type, which was entered in *EEOC v. Grumman Corp,* C.A. No. 92–1034 (E.D.N.Y.), all pilot age limitations were eliminated.[6]

The report titled "Age 60 Project, Consolidated Database Experiments, Final Report" (Hilton Report), recently prepared for the Civil Aeromedical Institute of the FAA, supports the conclusion that the age 60 limit for pilots is not defensible as a BFOQ under the ADEA. Based on careful statistical analysis, this report found "no hint of an increase in accident rate for pilots of scheduled air carriers as they

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[3] The EEOC's standard was cited with approval by the Supreme Court in *Western Air Lines, Inc. v. Criswell,* 472 U.S. 400, 416–17 (1985) (affirming a judgment that Western Airline's mandatory retirement rule for flight engineers did not qualify as a BFOQ).

[4] Those employers that have resolved EEOC litigation by entering into consent decrees lifting age 60 policies are using such additional tests for certain groups of pilots, including but not limited to those over age 60, to develop data about their health. *See infra* discussion of EEOC litigation.

[5] *See EEOC v. Lockheed Corp.,* C.A. No. 90–5253 TJH (C.D. Cal.)(consent decree raised age limit to 65); *EEOC v. McDonnell Douglas Corp.,* C.A. No. 91–0450 TJH (C.D. Cal.)(consent decree raised age limit to 65 for pilots at Douglas Aircraft Company Division).

[6] The Commission also entered into a conciliation agreement with McDonnell Douglas Corporation to eliminate pilot age limitations at the company's McDonnell Aircraft Company Division. During the course of directed investigations, Northrop Corporation, General Dynamics Corporation, United Technologies Corporation, and General Electric eliminated their pilot age limitations.

neared their 60th birthday."[7] This conclusion is especially significant in light of the report's avowedly conservative interpretation of the data.[8]

In sum, the Age 60 Rule should be lifted by the FAA. Medical and proficiency tests on an individual basis are effective and non-discriminatory ways to assure that commercial pilots maintain the highest standards of safety at all ages.

Because the Age 60 Rule has precluded the development of data about pilots in Part 121 flight operations who are age 60 and older, raising the age limit for Part 121 pilots to age 65 for a specific period of time as a transitional measure may be a reasonable interim step.[9] This would allow commercial pilots to continue flying beyond age 60 while the FAA plans a full transition to individualized testing. While the Hilton Report cautiously recommends raising the age limit to 63, the data presented does not support an age 63 limitation under the ADEA. Moreover, an age limit of 63 would likely bar development of sufficient health and safety data about commercial pilots over the age of 60 to assess the need for any pilot age limits at all.

I look forward to working together with the FAA on this important matter in the future.

Sincerely,

TONY E. GALLEGOS,
Chairman.

ORGANIZATION OF BLACK AIRLINE PILOTS

Captain Paul Emens,
Government Affair Committee,
Southwest Pilots' Association,
Dallas, TX.

Dear Captain Emens:

The Organization of Black Airline Pilots, Inc. opposes § 121.383 (c) of Title 14, Code of Federal Regulations (14 CFR), commonly referred to as the Age 60 Rule. We fear that if a federal agency is able to establish and continue a rule or practice that discriminates in contradiction of federal non-discrimination laws respecting age, similar unfair and unlawful practices may arise or expand to discrimination on the basis of race, gender, ethnicity or national origin.

We believe the Rule was instituted, and is maintained, for political rather than safety reasons, That position is supported by;

- The fact that other countries have abandoned mandatory retirement at age 60.
- The International Civil Aviation Organization (ICAO) allows pilots to fly past age 60.
- These pilots are allowed to fly Into U.S. airspace and airports.
- The Directors of the National Institute on Aging of the National Institute of Health testified that medical science can adequately protect public safety.
- The Hilton Study (commissioned by the Federal Aviation Administration (FAA)) recommended increasing the retirement age.
- The FAA grants waivers to airmen younger than 60 who have the same and other maladies from which the flying public is suppose to be being protected by the Age 60 Rule.
- The FAA refuses to grant the waivers necessary to conduct studies of the capabilities of pilots age 60 and older.
- The FAA allows its own pilots to fly past age 60.

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[7] Hilton Report at 6–2.

[8] *Id.*

[9] The Commission's position is that age cannot be a BFOQ for commercial or any other pilots because pilot skills and health can be accurately assessed on an individual basis, regardless of age. However, as noted earlier, the Commission has settled litigation after the employer agreed to increase the pilot age limitation to age 65, thereby allowing the development of data about the health and safety record of pilots over age 60. *See infra* at pages 2–3.

We support your, and any other efforts, to rescind this arbitrary and egregious rule which owes its longevity, in a large part, to political action contributions from an organization which does not mention "safety" in its Policy Resolution opposing any change.

Very truly yours,

CLOVIS JONES, JR,
President, OBAP.

The Organization of Black Airline Pilots, Inc On FAR 14 CFR § 121.383(c)

"The Age 60 Rule is unfairly and unlawfully discriminatory, and if a federal agency is able to establish and continue a rule or practice that discriminates in contradiction of federal non-discrimination laws respecting age, similar unfair and unlawful practices may arise or expand to discrimination on the basis of race, gender, ethnicity or national origin."

This is the position stated by The Organization of Black Airline Pilots, Inc. in the Petition to the U.S. Supreme Court.

March 27, 2000

Senate Commerce, Science, and Transportation Committee,
United States Senate,
Washington, DC.

Dear Senators:

The Organization of Black Airline Pilots is opposed to discrimination on any basis, including age. Age, as the sole determining factor, is no more accurate in judging capability as a pilot, or anything else, than is race or gender. Fortunately, we have moved beyond the latter two, let's do the same for age.

We support Senator Murkowski's Bill, S. 1855 because it provides temporary relief to a segment of the population. Along with bringing the U.S. closer to the standards of much of the rest of the world, we see it as moving m the right direction of eventually removing age as the sole criteria for judging one's capability.

Over 60 airline pilots are flying in the U.S. on a daily basis—but they fly for foreign carriers. Over age 60 FAA pilots are flying daily in the same skies as the airliners. Yet the FAA has not warned the U.S. public about the "dangers of the over 60 foreign airline or FAA pilots" (i.e. the foreign airport security warnings).

With the elimination of three pilot airplanes, new pilots are being put in the position of being "one heartbeat away" from Captain in today's two pilot crews. We feel that maintaining the cockpit experience level is the better approach to safety.

Thank you for your attention. I trust you will move in favor of safety for the public, anti age discrimination for the U.S. pilots, and not be persuaded to succumb to the political pressure the major unions and corporations are sure to direct at you.

Sincerely,

RAY DOTHARD,
Chairman,
Board of Directors, OBAP.

PREPARED STATEMENT OF ROBIN WILKENING, MD, MPH
IN SUPPORT OF SENATE BILL 1855

Mr./Madam Chairman and distinguished Members of the Committee: Thank you for allowing me the opportunity to speak on this most timely issue. My name is Dr. Robin Wilkening, and I address you today as an Occupational Medicine physician, public health professional, and frequent flyer.

As you are well aware, the Federal Aviation Administration insists that commercial airline pilots who reach their 60th birthday pose an unacceptable safety risk to air travelers. For the past 40 years the Age 60 Rule has purposely and systematically excluded highly trained pilots from employment based on age alone, thus exemplifying the very definition of age discrimination, an unacceptable situation in our modern society. That our most experienced pilots are forced prematurely from positions of command has the frightening potential to render the skies more hazardous for all travelers and thus represents a serious public health concern.

Historically there have been 3 major hypotheses of interest in the medical arena regarding the employment of older pilots.

1. Older pilots could have a greater likelihood of experiencing sudden incapacitation (primarily from cardiovascular causes) thus placing the aircraft and passengers at risk.
2. Older pilots could experience subtle incapacitation (decrements in cognitive abilities) resulting in dangerous judgment errors that could compromise safety.
3. Medical and psychological testing procedures may not identify older pilots at risk for adverse health events.

Sudden incapacitation secondary to underlying cardiac or cerebrovascular disease was the stated reason the actual age of 60 was chosen. In the general population of the United States in the late 1950's there were, according to the FAA, higher death rates from heart attack and stroke comparing 60–64 year old men with 55–59 year old men. However, the select subset of the population comprised of airline pilots was never specifically evaluated. Moreover, the fact that actively employed pilots were well known, even in the 1950's, to exceed the national standards for health, fitness, and longevity was not acknowledged.[1] In other words, it was an error then to assume that the characteristics of the general population applied to the population of pilots, and it remains incorrect to assume the same today. In fact, studies from the United States, England, Canada, Japan, Portugal, and the province of British Columbia demonstrate quite convincingly that pilots are not only healthier overall than the population from which they come, but enjoy significantly lower rates of heart disease, and thus the risk of sudden incapacitation from that cause, than do their countrymen.[2,3,4,5,6,7,8] Simulator data have estimated the risk of incapacitation due specifically to a cardiac complaint as only one event in more than 20 million flight hours, with a calculated probability of an accident occurring as a result of incapacitation once in every 8,307,082,800 flight hours (or, stated another way, *one episode every 400 years*) assuming that all incapacitations occur in a critical point in the flight.[9] Sudden in-flight incapacitation is clearly a far less threat to aviation safety than are mishaps due to inexperienced pilot error.[10] Forty years of medical scrutiny reveal no justification for maintaining the Age 60 Rule based on the fear that the pilot-in-command of a multi-crew aircraft will compromise passenger safety due to sudden incapacitation.

In terms of subtle incapacitation there is little argument that the normal, healthy, successful aging process is accompanied by decreases in cognitive function over time in all population groups. However, these decreases are rarely manifested prior to the age of 70, even in non-pilot populations.[11,12] In addition, it is well known that many truly elderly persons—never mind 60–65 year olds—have outstanding cognitive abilities. There is considerable variation in cognitive functioning within age groups; some individuals simply show significantly better mental agility than their peers. Pilots demonstrate consistently superior task performance across all age

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[1] Ruppenthal KM. Compulsory Retirement of Air Line Pilots. *Industrial and Labor Relations Review,* 1961;14:528–547.

[2] Kulak L.L., Wick, Jr. RL, Billings CE. Epidemiological Study of In-flight Airline Pilot Incapacitation. *Aerospace Medicine* 1971:42(6):670–672.

[3] Besco RO, Sangal SP, Nesthus TE. Veronoeau SJH. A Longevity and Survival Analysis for a Cohort of Retired Airline Pilots. *DOT/FAA/AM–95/5* February 1995.

[4] Irvine D, Davies DM. The Mortality of British Airways Pilots, 1966–1989: A Proportional Mortality Study. *Aviation Space, and Environmental Medicine* 1992;63:276–9.

[5] Band PR, Le ND, Fang R, Deschamps M, Coldman AJ, Gallagher RP, Moody J. Cohort Study of Air Canada Pilots: Mortality, Cancer Incidence, and Leukemia Risk, *American Journal of Epidemiology* 1996; 143(2): 137–143.

[6] Kaji M, Tango T, Asukata N, Tajima N, Yamamoto N, Yamamoto Y, Hokari M. Mortality Experience of Cockpit Crewmembers from Japan Airlines. *Aviation, Space, and Environmental Medicine* 1993;64:745–750.

[7] Castelo-Branco A. Cabral-Sa A, Coelho Borges 3. Comparative Study of Physical and Mental Incapacities Among Portugesc Airline Pilots Under and Over Age 60.*Aviation, Space, and Environmental Medicine* 1985;56:752–757.

[8] Salisbury DA. Band PR, Threlfall WJ, Gallagher RI'. Mortality Among British Columbia Pilots. *Aviation, Space, and Environmental Medicine* 1991;62:351–352.

[9] Chapman PJC. The Consequences of In-flight Incapacitation in Civil Aviation. *Aviation, Space, and Environmental Medicine* 1984:55:497–500.

[10] Froom P. Benbassat J. Gross M, Ribak J, Lewis B. Air Accidents, Pilot Experience, and Disease-Related Inflight Sudden Incapacitation. *Aviation, Space, and Environmental Medicine* 198819:278–281.(*See note below.)

[11] Shock NW, Greulich RC, Adrus R., Arenberg D, Costa. Jr. PT. Lakatta EG, Tobin ID. Normal Human Aging: The Baltimore Longitudinal Study of Aging. *NIH Publication Number 84–2450* November 1984.

[12] Stuck, AE, van Gorp WG, Josephson KR, Morgenstern H, Beck JC. Multidemensional Risk Assessment versus Age as Criterion for Retirement of Airline Pilots. *Journal of the Americal Geriatric Society* 1992;40:526–532.

groups when compared to age-matched non-pilots.[13] Simulator studies have shown that pilot expertise eliminates age differences in some aviation-related tasks and moderates age differences in others.[14] Most importantly, actual flight performance data, the measure of greatest significance to public safety, demonstrate convincingly that *older pilots are as safe as, and in some cases safer than, younger pilots,* [15, 16, 17, 18] In other words, highly educated and highly trained pilots who have successfully passed periodic comprehensive medical examinations and flight evaluations retain the psychomotor skills essential for safe operation of jet aircraft beyond the age of 60 years. Most industrialized nations have abolished 60 as a mandatory retirement age for commercial pilots, and at least one of these used United States data to justify that decision. There remains no scientific rationale for maintaining the Age 60 Rule based on the fear of unrecognized subtle incapacitation of the pilot-in-command.

In 1979 the United States Congress authorized funding for the project that was to become the 1981 National Institutes of Health/National Institute on Aging Panel on the Experienced Pilot Study. This report that concluded that the age 60 limit be retained for pilots in command and for first officers, though the report stated quite plainly that no *special medical significance could be attached to age 60 as a mandatory retirement age for airline pilots.* The concern of this panel was not the presence of known risk in this group of healthy individuals but rather the inability of the medical science of the time to identify potentially unsafe pilots *at any age.*[19] In the twenty years since this study, however, significant advances in diagnostic technology have rendered the panels concerns moot. Sophisticated yet commonly available diagnostic tests can, along with regularly scheduled aviation medical evaluations, adequately identify airmen either at risk for catastrophic events[20] or who have subtle decrements in cognitive performance.[21] In fact, since the early 1980's medical tests have been used routinely to justify the return to flying of thousands of pilots *under* age 60 who have coronary artery disease. valvular heart disease, hypertension, alcoholism, psychological and neurological impairments, sensory perception deficits, and other conditions.[22] Pilots who have had heart attacks, who have had heart surgery, and who have had transplants have been returned to unrestricted duty. Despite the common use of these diagnostic measures on behalf of *unhealthy* younger pilots these same standards are not applied to healthy 60 year olds. This unethical double standard in medical evaluations based on age alone is not defensible!

Forty years of medical science soundly refute the notion that the age of 60 heralds a universal, inevitable, and precipitous decline in commercial airline pilots' physical health and mental proficiency. Still, the FAA clings irrationally to the notion that

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[13] Tsang PS, Shaner TL. Age, Attention, Expertise, and Time-Sharing Performance. *Psychology and Aging* 1998; 13(2):323–47.

[14] Morrow D, Leirer V, Altieri P, Fitzsimmons C. When Expertise Reduces Age Differences in Performance *Psychology and Aging* 1994;9(1):134–148.

[15] Mohler SR, Bedell RHS, Ross A, Veregge E.J. Aircraft Accidentsby Older Persons. *Aerospace Medicine* 1969: May:554–6. (*Demonstrations referred to are at the end the prepared statement.)

[16] Predicting Pilot-Error Incidents of US Airline Pilots Using Logistic Regression. *Applied Ergonomics* 1997; 28(3):209–12.

[17] Rebok GW, Grabowski JO, Baker SP. Lamb MW, Willoughby S. Li G. Pilot Age and Performance as Factors in Aviation Crashes. Presented at American Psychological Association meeting, Boston MA. August 1999. (*Demonstrations referred to are at the end the prepared statement.)

[18] Kay EJ, Hillman DJ, Hyland DT, Voros RS, Harris R.M., Deimler JD. Age 60 Study. October 1994: DOT/FAA/AM–94/22.

[19] Report of the National Institute on Aging Panel on the Experienced Pilots Study. National Institutes of Health Bethesda MD. August 1981.

[20] Bruce PA, Fisher LD. Exercise-Enhanced Risk Factors for Coronary Heart Disease vs. Age as Criteria for Mandatory Retirement of Health Pilots. *Aviation, Space, and Environmental Medicine* 1987:58:792–798.

[21] Taylor JL, O'Hara R., Mumenthaler MS, Yesavage, JA. Relationship of CogScreen—AE to flight simulator performance and pilot age. *Aviation, Space, and Environmental Medicine* 2000;71(4):373–80.

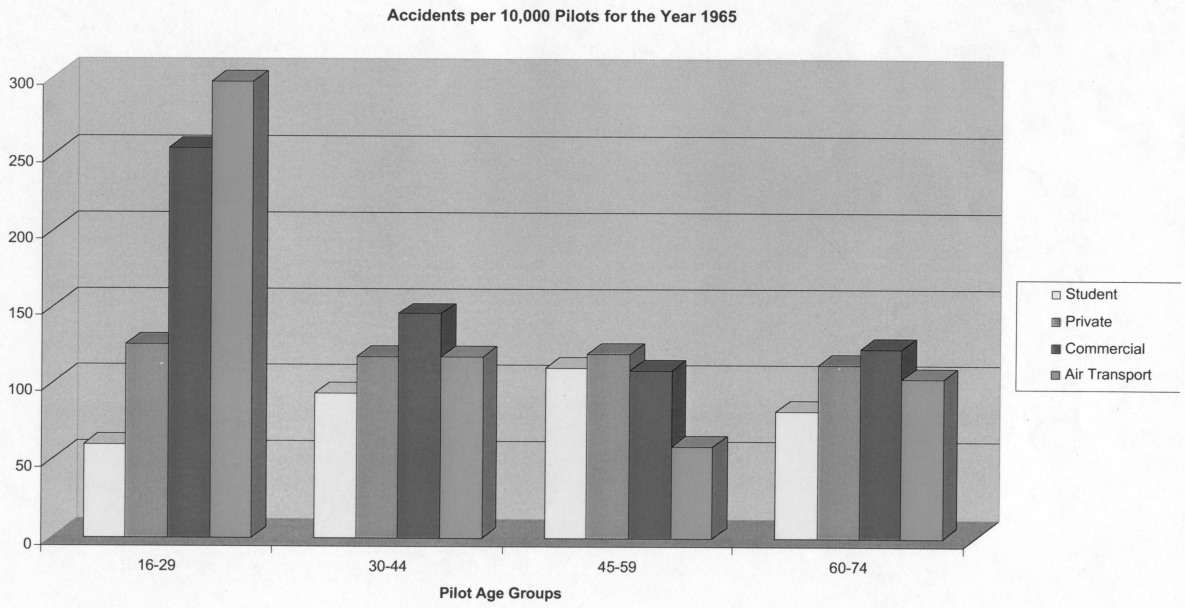
[22] Mohler SR. Aircrew Physical Status and Career Longevity. *Human Factors Bulletin* 1984;31(1):l–8.

[1] 58 Fed. Reg. 21,336 (1993) and 58 Fed. Reg. 33,316 (1993).

[2] The Commission's longstanding interest in the Age 60 rule is demonstrated in public testimony, comments, and statements including: Testimony of Constance L. Dupre, Associate General Counsel, EEOC, Panel on the Experienced Pilots Study, National Institute on Aging, National Institutes of Health, May 27, 1981; EEOC'S Final Interpretations of the Age Discrimination in Employment Act of 1967, 49 Fed. Reg. 47,724 (1981); EEOC Comments on the FAA's Advanced Notice of Proposed Rulemaking at 47 Fed. Reg. 29,784 (1982); Testimony of former EEOC Chairman Clarence Thomas before the House Select Committee on Aging, October 1985; August 12, 1986 letter from former EEOC Chairman Clarence Thomas to former FAA Administrator Donald Engen urging the FAA to grant a petition by 39 pilots for exemptions from the Age 60 Rule so they could participate in a controlled study envisioned by the National Institute

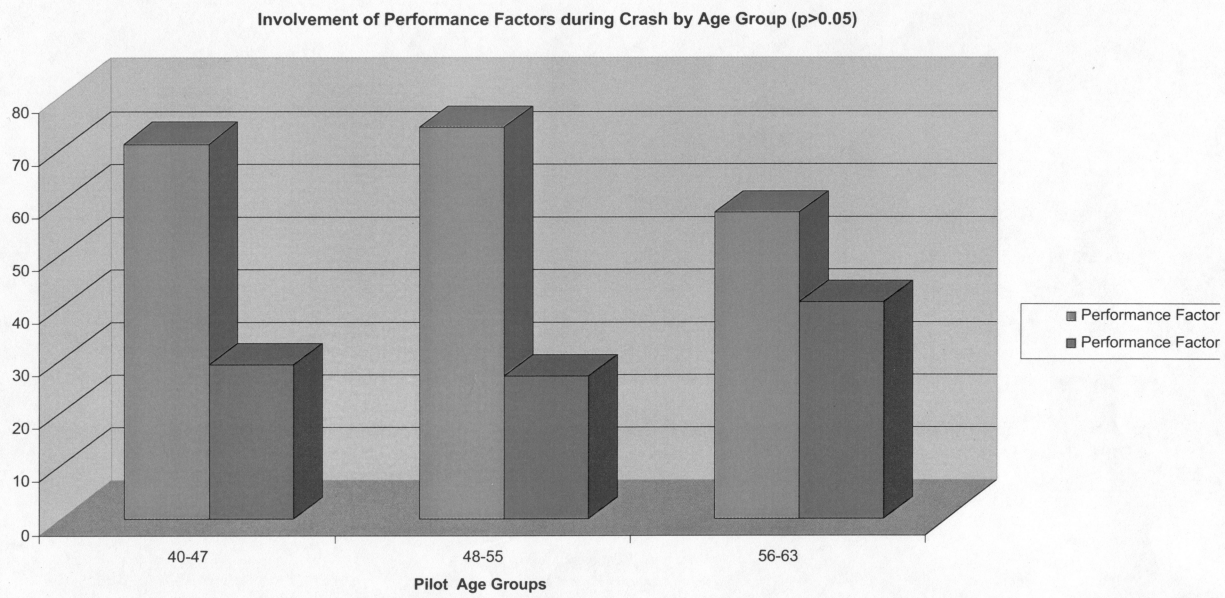
age of 60 *alone* represents an appropriate single standard for the evaluation of older pilot fitness. If any one of you were to undergo cardiac surgery or bone marrow transplantation tomorrow you would naturally want your life be in the hands of the most knowledgeable and skilled doctor, regardless of his or her age. When I fly—no, when my *children* fly—I want that very same level of professional ability and experience in the Captain. The archaic and discriminatory Age 60 Rule prohibits the most experienced pilots from performing the work they know and do better than anyone else in the business, thereby compromising your safety, my safety, and the safety of all passengers. Thank you.

*Demonstrations referred to in the footnotes follows:



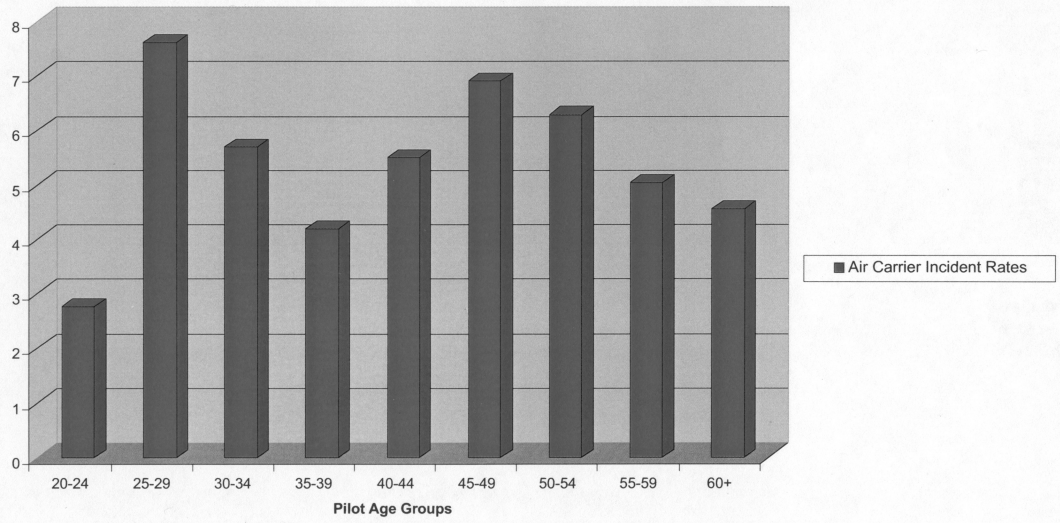
"An analysis of the accident record of older general aviation pilots (over sixty) for 1965 reveals that this age group has an accident record essentially comparable, and in some cases superior, to that of the younger pilot group."

Mohler SR, Bedell RHS, Ross A, Veregge EJ. Aircraft Accidents by Older Persons. Aerospace Medicine 1969; May: 554-6.



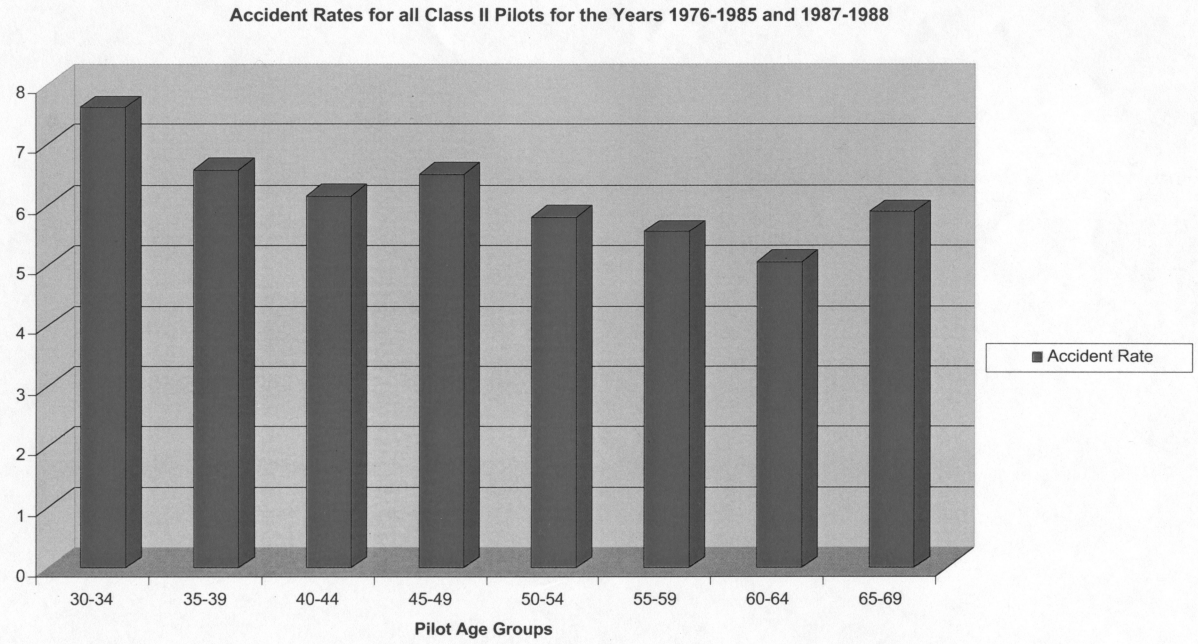
"There appear to be no significant age differences in the pilot performance factors contributing to aviation crashes."

Rebok GW, Baker SP, LiG, Grabowski JG, Willoughby S, Lamb M. Pilot Age and Performance as Factors in Aviation Crashes. Presented at the American Psychological Association meeting in Boston, MA August 1999.

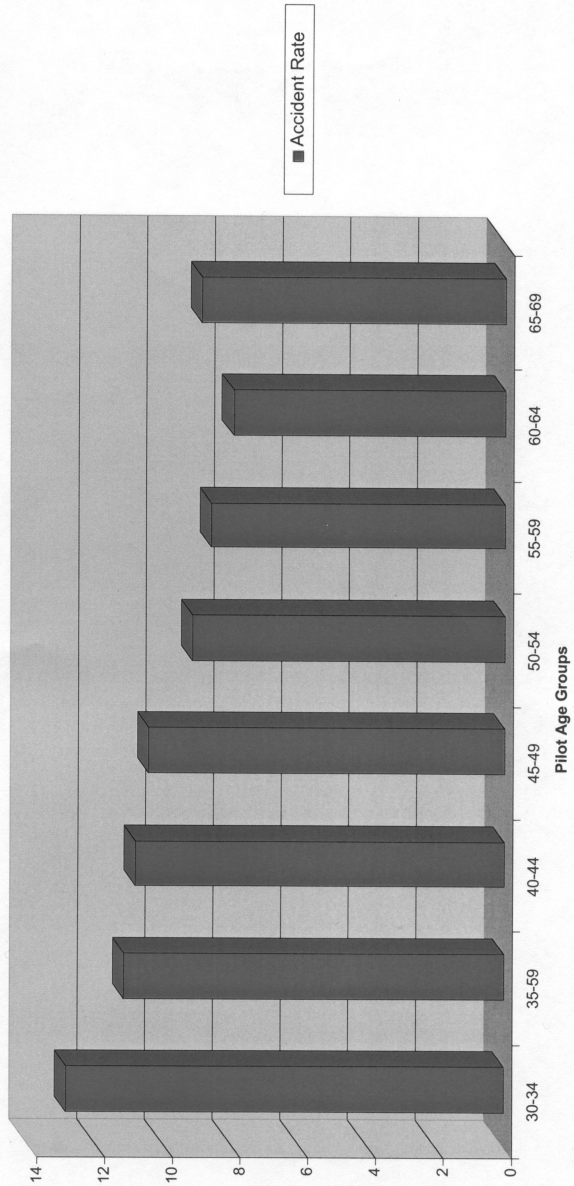


Although the US forces airline pilots to retire years earlier than those in many developed countries, FAA statistics show that older pilots are among the safest in the skies. On July 1, 1999 most European countries and Israel raised their mandatory retirement age to 65."

Data source: FAA; Chicago Tribune July 11, 1999



Hilton Study: For Class II pilots the accident rate for age group 60-64 did not differ from that of group 50-59 (p>.05).



Hilton Study: For Class III pilots the overall accident rate for group 60-64 did not differ from that of group 55-59 (p>.05). Note: for Class III pilots with more than 500 total flight hours and more than 50 recent flight hours the accident rate for group 60-64 did not differ from that of group 55-59 or from that of group 65-69 (p>.05).

(*Note: Referred to in footnote number 10.)

TECHNICAL NOTE

Air Accidents, Pilot Experience, and Disease-Related Inflight Sudden Incapacitation

Paul Froom, M.D., Jochanan Benbassat, M.D.,

Moshe Gross, M.D., Joseph Ribak, M.D., and

Basil S. Lewis, M.D.

Israel Air Force Aeromedical Center, Tel Hashomer; Department of Medicine, Hadassah University Hospital, Mt. Scopus, Jerusalem; and the Department of Cardiology, Lady Davis Carmel Hospital, Haifa, Israel

Froom P, Benbassat J, Gross M., Ribak J, Lewis BS. *Air accidents, pilot experience, and disease-related inflight sudden incapacitation Aviat. Space Environ. Med. 1988; 59:278–81.*

The epidemiology of sudden death, the etiology of inflight sudden incapacitation, and the influence of pilot age and experience on air accident rates are reviewed in order to determine the aeromedical emphasis needed to minimize accidents. Sudden deaths in men over age 35 are nearly all due to coronary artery disease, whereas in those under 35 years they are mostly due to hypertrophic cardiomyopathy. The incidence of fatal accidents from human error is, however, far greater than that from physical illness. Since inexperienced pilots have a 2–3 times increased incidence of mishaps due to pilot error, the estimated risk of disease related in-flight sudden incapacitation should be balanced by consideration of pilot experience. Therefore, it may be preferable to grant waivers to experienced pilots with an increased incidence of disease-related inflight sudden incapacitation than to replace them with novices. We conclude that overly strict medical criteria may paradoxically increase accident rates.

The major causes of inflight sudden incapacitation in civil and military pilots are acute coronary events (18,20,23,27,28), new onset idiopathic epilepsy, and physiological problems including spatial disorientation, hypoxia, and improper G-protection techniques (27,33). Although less than 1 percent of all air accidents are due to sudden incapacitation (23,27), pilots receive extensive health risk assessments because, while accidents involving ground transport generally result in minimal damage (19), sudden incapacitation in the air is costly in terms of loss of life and aircraft (1,7,18).

The role of the flight surgeon in detecting latent disease in order to prevent inflight sudden incapacitation is controversial. Some authors emphasize the necessity for continued vigilance by the flight surgeon for pilots who may have clinical or subclinical coronary artery disease (23), and stress the importance of routine medical examination of pilots in order to detect those likely to experience acute coronary events (12). Others believe that "routine medical examinations are not, and presumably never will be, capable of preventing incapacitation on duty" (18).

The flight surgeon faces a dilemma when detecting a cardiovascular abnormality (e.g., a run of ventricular tachycardia) in apparently healthy young men on annual or biannual testing. The risk of disease-related sudden incapacitation may be minimally increased, whereas further evaluation of an abnormal test result is often expensive and stressful with associated morbidity and mortality. In addition, the effect on the accident rate of grounding such asymptomatic pilots is uncertain, especially if an experienced pilot is replaced by a novice. In order to define the role of the annual screening physical examination in preventing accidents, we review the epidemiology of sudden death and the etiology of air accidents due to either human error or inflight sudden incapacitation.

Epidemiology of Sudden Death

The incidence of sudden death in the general population is age-dependent (6,11,13); the risk of sudden death in a 40-year-old man is 10 times that of a 20-year-old (Table I). Other risk factors are much less predictive (6,11). Using a combination of risk factors, Kannel *et al.* (11) were able to define a group in the Framingham cohort with a risk high profile (3-fold increase in the incidence of sudden death), and a group with a low risk profile who had one-fifth the incidence of expected sudden death. These data can be used in conjunction with incidence figures (Table I) to determine an estimated incidence for any given individual. For example, a 40-year-old man in the high risk group would have an estimated incidence of sudden death of 30 per 1000 men per 10 years (10/1000/10 years x 3). On the other

hand, a 40-year-old man in the low risk group would have an estimated incidence of sudden death similar to men in their twenties and thirties (2/1000/10 years).

Table I. Incidence of Sudden Death in the General Population.

Age	Sudden deaths	
	No/1000/10 years	No/1000/1000 hours
20–29	1	0.011
30–39	3	0.034
40–49	10	0.11
50–59	20	0.22
60–69	60	0.67

Table II. Etiology of Sudden Death According to Age.

Disease	<35 years old	Over 40
CAD*	10–30%	over 90%7
Cardiomyopathy	66%	rare
Anomalous LCA	14%	rare
unknown	3–16%	rare
Marfan's with aortic rupture	6%	rare
ICH**	9–17%	2.4%

*CAD = coronary artery disease.
**ICH = intracranial hemorrhage.

The cause of sudden death is variable, but age is the most important variable in predicting its etiology (3,6,11,13,21,24); coronary disease is the usual cause after age 35, while hypertrophic cardiomyopathy is the most common cause of sudden death in those under 35 years of age (Table II). Coronary artery disease may occur in men under age 35 and cause sudden incapacitation (7), but coronary disease is responsible for only 10–30 percent of sudden deaths in that age group (21,24). The low incidence of coronary artery disease and associated sudden death in young men limits the importance of risk factors in its prediction.

Coronary Artery Disease in Pilots

It may not be possible, however, to extrapolate from studies of sudden death of unselected populations to those of air force personnel. For example, uncontrolled studies of U.S. Navy and airline transport pilots, have shown that pilots have a lower incidence of coronary events than does the general population (12,17). The reported decreased incidence may be due to selection factors resulting in a cohort with higher socioeconomic status, higher educational level, and in better physical condition (10), or could be a result of under-reporting (5). Autopsy studies have not shown differences in significant coronary artery disease in pilots of both civilian and military aircraft compared to age matched control subjects, with a 10–20 percent prevalence of 50 percent (30,32) or even 75 percent (29) stenosis of one or more coronary arteries. Pilots also show the same steep increased incidence of symptomatic coronary artery disease after age 35 (10). It appears safe to assume, therefore, that latent atherosclerosis is prevalent in current fighter pilots (20).

Extrapolation from studies of the general population to cohorts of pilots may also be unwarranted because of the hostile flight environment to which the pilot is subjected. Strenuous activity probably increases the risk of sudden death in people suffering from coronary artery disease (24,25). Pilots are exposed to many flight-induced stresses, including high-sustained G forces, which could lead to myocardial ischemia in men with coronary artery lesions (16). In civilian pilots experiencing inflight myocardial infarction, the event was more likely to occur during critical stages of the flight such as takeoff or landing, rather than during the cruising phase (18,23). Recently, however, it has been shown that aviators with no lesions greater than 30 percent and no aggregate of lesions greater than 50 percent can be safely returned to flying status (22). The lesions progressed, however, in some of these pilots who were subsequently grounded. Further study in this area is clearly indicated.

Fatal Aircraft Accidents Due to Sudden Incapacitation

Sudden incapacitation is rarely implicated in fatal aircraft accidents (12,15,18,27,28,32,35). Only 13 of 1,404 fatal general aviation accidents (0.93 percent) were reportedly due to inflight incapacitation (23), and sudden incapacitation due to disease is equally uncommon in the military (27,28,30). The cause of sudden incapacitation leading to fatal accidents differs in the military and civilian pilot populations due to the different ages of the pilot cohorts and the different demands of the flight profiles. The civilian pilot population is older, and acute coronary events are responsible for nearly all cases of sudden incapacitation (18,20,23), usually occurring in men over age 40. In the military environment the most common causes of sudden incapacitation are "physiologic," including spatial disorientation, hypoxia, and improper G-protection techniques (27,33). New-onset epilepsy is the most common disease-related cause of sudden incapacitation (27), while cases due to coronary artery disease are rare, occurring almost exclusively in pilots over age 35 (28). The incidence of fatal accidents due to inflight sudden incapacitation is about 0.5/1000 pilots/l000 hours (27), while the incidence due to coronary artery disease is no more than 0.01/1000 pilots/l000 hours (28).

Age, Experience and the Incidence of Error-Related Air Accidents

The largest single cause of premature mortality in pilots is aircraft accidents (l5,35), with human error being responsible for 50–75 percent of these preventable deaths in both civil and military flying personnel (1,33). In the British Army Air Corps, the helicopter accident rate is 1/13,600 hours and the fatality rate 1/35,000 hours (33). In the USAF there is one fatal accident per 40,000 hours (28) which is equivalent to 25 fatal accidents per 1000 pilots averaging 1000 hours of flight time. This is 50 times greater than fatal accidents due to inflight sudden incapacitation of all etiologies (27,28).

The accident rate is effected by both the age and experience of the pilots. The incidence of accidents for fighter pilots is lowest at 30–33 years of age, 3-fold less than in pilots under 26 years of age (9). Transition flying may be particularly hazardous (2,35). Fighter and attack pilots with less than 300 hours have nearly twice the incidence of mishaps compared to pilots with over 500 hours in the same plane (2). Therefore, assuming that human error is responsible for 50 percent of fatal accidents (1,33) and an even age distribution of pilots, replacing a pilot 30–33 years old with one under 26 years old would result in an increased accident rate of 12.5 per 1000 pilots per 1000 hours of flight time [(37.5 − 12.5) x 50% = 12.5].

Balancing Risks

Current medical practice in aviation medicine dictates grounding the pilot with a medically related increased risk of sudden incapacitation. The influences of age and pilot experience, however, are generally not taken into consideration. Most flight surgeons, for example, would restrict a 30-year-old fighter pilot with a run of ventricular tachycardia (4,8) to non-high-performance aircraft because of a possible, but not established, increased risk of subsequent sudden death (14,26), even after a normal exercise test, echocardiogram, and coronary arteriogram. Although there is justified concern that +Gz forces could lead to worsening of the arrhythmia, since complex and repetitive ventricular premature beats (VPBs) are commonly observed in asymptomatic centrifuge riders during +Gz stress (31), we are aware of only one report of loss of consciousness during +Gz forces associated with ventricular tachycardia, this in a centrifuge rider whose echocardiogram, exercise test, and Holter monitoring were normal (34). Studies need to be done in pilots with complex VPBs to test their response to +Gz forces. Still, even if there was a 10-fold increased incidence of disease-related inflight sudden incapacitation and sudden death, replacing the 30-year-old fighter pilot with a novice would probably result in an increased accident rate (Table III). Fatal accidents due to human error could be estimated to increase from 6.25 to 18.75 per 1000 pilots flying an average of 1000 hours (assuming 50 percent of the fatal accidents are due to human error), while the decrease in incidence of inflight sudden incapacitation would be only from 5 to 0.5 per 1000 pilots per 1000 hours, and from all causes of sudden death from 0.34 to 0.01 per 1000 pilots per 1000 hours. The net result would be an increase in the accident rate of 7.7 (18.75 − 6.25 − 5 + 0.5 − 0.34 + 0.01 = 7.7). This net increase may be even greater since there is overlap between causes of sudden death and those of inflight sudden incapacitation. Secondly, most cases of inflight sudden incapacitation are not disease related and may not be affected by the risk factor. Granting a waiver to the experienced pilot with 3 consecutive VPBs, therefore, necessitates a shared medical and nonmedical command decision. This is contrary to accepted practice where the medical establishment often takes unilateral responsibility for its decisions.

In most countries the line commander may overrule medical decisions. Flight surgeons, on the other hand, may take into consideration the importance of experience as part of the "art' of aeromedical practice. Furthermore, flight surgeons may ignore "incidental" findings if they believe the increased risk is only minimal. These approaches, however, leave the line commander and flight surgeon at Considerable risk of being accused of negligence. Despite the fact that the likelihood of a medically-related air accident is remote, unexplained accidents are common (28). Shared responsibility, however, based on a balanced risk assessment would justify such decisions by the line commander and medical establishment. These decisions should be made only after the pilot is informed of the increased risk due to his medical condition, and agrees to continue flying despite the risk.

Table III. The Effect on the Accident Rate If an Experienced Pilot with a 10-fold Increased Risk of Sudden Death or Inflight Sudden Incapacitation Is Replaced by a Younger, More Inexperienced Pilot (Fatal Accidents per 1000 Pilots per 1000 Hours of Flight Time).

Age of Pilot	Sudden Death	In-flight Incapacitation	Fatal Air Accidents Due to Human Error*
20–26	+0.011	+0.5	+18.75
30–33	–0.034 x I0**	–0.5 x 10	–6.25
Results**	–0.3	–4.5	+12.5 = + 7.7

*Assuming that 50 percent of accidents are due to human error and that data on mishap rates can be extrapolated to fatal air accidents.
**The net increased risk of accidents caused by replacing a 30–33-year-old pilot, who has a I0x increased risk of sudden death or inflight incapacitation, with a younger and more inexperienced pilot.

The above calculations are based on results derived from both unselected and selected cohorts and should be interpreted with caution. There may be differences in the incidence of disease in pilots of different countries, and accidents due to pilot error may also vary due to different flight profiles. Experience and age-related mishap rates may not necessarily be extrapolated to rates of fatal accidents. In addition, the effect of age on accident rates has been shown to be aircraft specific. Helicopter pilots, for example, have a steady increase in mishap rates with age (2). Finally, studies on inflight sudden incapacitation were completed over 15 years ago and the results may not be applicable to flying conditions today. Still, even if the figures vary, the concept that medical decisions should be balanced by consideration of pilot age and experience remains valid.

We conclude that, even in countries where manpower and cost are not limiting factors, overly strict medical criteria may result in an increased rather than decreased accident rate. Lamb pointed out that a "hardnosed attitude" may lead pilots to conceal symptomatic disease, increasing the accident rate (29). We conclude that replacing experienced, asymptomatic fighter pilots found to have an abnormal incidental finding on routine examination may also paradoxically increase the accident rate. Furthermore, research in accident prevention is warranted in order to more clearly identify those pilots with the lowest accident rates and to provide the proper incentives to keep them on active flying duty. These efforts would be more likely to have an effect on accident rates than would additional efforts to prevent disease-related inflight sudden incapacitation.

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Tax Issues—Excerpted Opinion of a Consulting Actuary

(full Issues document available from PAAD)

There is a very simple method for implementing a mandatory retirement age increase without adversely affecting retirement benefits for any class of pilots. These classes include pilots wishing to retire at age 60 regardless of any rules change as well as those electing to make use of any relaxation in current rules. Section 415 of the Internal Revenue Code prescribes limits on benefits or contributions for anyone participating in a tax qualified retirement plan.

A special provision substitutes a different key date in the case of commercial airline pilots retiring at or after age 60. This is a crucial provision, and I quote: "415(b)(9)(A)(ii) if, as of the time of the participant's retirement, regulations prescribed by the FAA require an individual to separate from service as a commercial airline pilot after attaining any age occurring on or after age 60 and before the Social Security retirement age, paragraph (2)(c) . . . shall be applied by substituting such age for the Social Security retirement age."

If the mandatory retirement age is to be increased without adversely affecting pilots' retirement benefits, this provision must clearly be changed.

The Ideal Change

Under the ideal change, 415(b)(9)(A)(ii) would be amended to read simply "415(b)(9)(A)(ii) Paragraph (2)(c) shall be applied by substituting age 60 for the Social Security retirement age.

Senator GORTON. Thank you. Ms. McElroy.

STATEMENT OF DEBORAH C. McELROY, PRESIDENT, REGIONAL AIRLINE ASSOCIATION

Ms. MCELROY. Thank you. Good afternoon, Mr. Chairman, Senator Rockefeller, and Members of the Committee. Thank you for providing me the opportunity to address pilot hiring, training, and retention as it affects the regional airline industry.

The regional airline industry is growing at a very impressive rate. Last year, regionals carried 78 million passengers, an increase of 10 percent over 1998, and more than 50 percent over the last decade. Today, one out of every eight domestic passengers flies on a regional airline.

This growth is projected to continue, with passenger enplanements expected to reach 104 million by the year 2005. By this time regional jets may represent over 50 percent of the regional fleet, and may carry more than 70 percent of our passengers.

Regional airline growth in the continued integration of regional jets offers improved access to the national air transportation system for the small and medium-sized communities. However, such growth does not come without challenges, including maintaining adequate staffing levels during increased periods of pilot attrition.

Significant growth by the major and regional airlines last year meant pilots were leaving their positions at regional carriers with greater frequency than had been projected. As a result, a few regional carriers canceled a number of flights last summer, creating a situation that was unacceptable to the management of our member airlines, as well as to the customers we value and endeavor to serve.

Though attrition appears to have decreased this year, pilots continue to progress from regional carriers to major airlines, their natural career path. Pilot attrition is a fact of life for regional airlines. We are better managing that attrition to ensure adequate staffing to provide the safety and schedule integrity important to our passengers.

There are several reasons for the difficulties experienced by some airlines last year. Significant growth for both the major and regional airlines was one factor. Additionally, the FAA's revised policy on reserve duty caused many major and some regional carriers to hire additional pilots not previously planned for, but that is in the past.

Today's regional airlines have refined their recruiting policies, adopted continuous hiring practices, and invested heavily in enhanced training programs designed to provide a constant supply of highly trained, qualified pilots to alleviate the strain of increased turnover.

There has been some discussion of pilot shortage, but we would disagree. Regional airlines continue to recruit and hire pilots from a very qualified pool of applicants from general aviation, corporate aviation, and the military. Additionally, several airlines have established relationships with aviation universities and with pilot recruiting firms. These relationships assist airlines in attracting talented pilot candidates who will succeed through the intensive training programs our airlines require.

While such pilot attrition presents a great challenge to some smaller airlines, the growth in our industry means all carriers must stay ahead of the pilot hiring curve. To do so, we have adopted measures aimed at preventing a recurrence of crew-related flight cancelations since last summer, and have taken steps to protect schedule integrity during times of high pilot turnover.

Regional airlines spend more than $13,000 to train a new hire pilot and more than $12,000 to train a new captain. Additionally, several carriers have invested millions of dollars in designing educational centers for initial and recurrent training, some of which house full-motion flight simulators and advanced training devices. We expect these carriers to lead the industry in providing state-of-the-art tools and technology to enhance training.

While the regional carriers have taken steps to overcome some of these staffing challenges accompanying our industry's growth, the carriers have identified a role for the federal government to play as well. The Nation's flight training structure, including colleges, universities, training academies, and independent flight schools are a valuable resource, yet no federal financial aid programs to finance flight training are currently available.

Because potential pilots are not eligible for federal student loan programs for flight training, the interest on loans obtained from private sources raises the cost of learning to fly considerably. Expanding eligibility of Federal Student loans to include flight training could help increase the number of pilots available. Likewise, increasing the VA benefits for flight training, which currently pay only 60 percent of pilot training costs, might similarly expand the pool of available pilots.

The FAA can play a role as well by revising the existing flight training requirements to incorporate more efficient use of simulators and flight training devices. Additionally, with the increased number of flight simulators expected to come online this year, FAA should prioritize inspection and certification so the new simulators can be immediately available to training new hire and captains.

Finally, due to budget constraints, FAA has in some cases limited the travel and therefore the availability of some inspectors to conduct pilot qualification checks. Prioritization of these inspections could result in fewer delays in the training process for regional airlines.

We recognize the crew shortages resulted in some canceled flights last year, inconveniencing our customers. That is not a situation that we want to recur. Regional carriers have made significant investments in order to maintain the high level of safety, while providing travelers with schedule integrity and reliable air service.

Mr. Chairman, thank you very much. I will be glad to answer any questions later.

[The prepared statement of Ms McElroy follows:]

PREPARED STATEMENT OF DEBORAH C. MCELROY,
PRESIDENT, REGIONAL AIRLINE ASSOCIATION

Good morning, Mr. Chairman, Senator Rockefeller, and distinguished Members of the Committee. Thank you for giving me this opportunity to comment on the issue of pilot hiring, training, and retention as it affects the regional airline industry.

Background

I am President of the Regional Airline Association, a trade association representing 60 regional airlines in the United States. Regional airlines operate short and medium-haul scheduled airline service linking smaller communities with larger cities and connecting hubs, operating modern and technically advanced turboprop and regional jet aircraft. RAA member airlines carried over 97 percent of the regional airline passengers in the United States last year.

Our industry is growing. Today, regional carriers serve 429 commercial airports in the lower 48 states, and at 244 of these airports, regional carriers provide the sole source of scheduled air service. In 1999, regional airlines carried 78 million passengers, which means that approximately 1 out of every 8 domestic passengers traveled on a regional carrier. The number of passengers traveling by regional aircraft has increased dramatically, up 10 percent from 1998 and up more than 50 percent over the last decade. We expect this growth trend to continue, with passenger enplanements projected to reach 104 million and revenue passenger miles to grow to 31 million by the year 2005. By this time, regional jets may represent over 50 percent of the regional fleet and may carry 70 percent of our passengers.

Impact of Growth

This growth in our industry will mark an improvement in our nation's air transportation system overall, as small and medium sized communities reap the benefits of increased access to the national air transportation network. Likewise, the growth will be good for our 60 airline members, for their employees, and for those who take advantage of new job openings across the nation, as our industry becomes stronger still. Along with this growth, however, our carriers have faced certain challenges. One such challenge is maintaining adequate staffing levels to preserve schedule integrity during the increased periods of pilot attrition that inevitably follow industry growth in both major and regional airlines.

The industry's record growth last year meant pilots were leaving their positions with greater frequency than usual. As a result, a few regional carriers had to cancel a number of flights last summer, creating a situation that was unacceptable to the management of our member airlines as well as to the customers we value and endeavor to serve. As you know, flight cancellations are undesirable. They disrupt schedules and impact profitability. In just a moment, I am going to outline several steps my carriers are taking to prevent a recurrence of last year's cancellations. Let me first describe the circumstances. Though pilot attrition is down (our carriers reported a 19 percent attrition rate so far this year, compared to 29 percent in 1999), pilots continue to progress from regional carriers to major airlines with larger aircraft. This natural career path means that pilot attrition will always be a factor for regional airlines; however, we are not experiencing a pilot shortage.

Last June FAA amended its enforcement policy regarding flight time limitations and rest requirements, issuing a Notice of Enforcement Policy. Specifically targeted at crewmembers on reserve duty, the new interpretation required operators to pro-

vide a protected rest period, free from a "present responsibility for work," for reserve crewmembers. The impact of this action varied among RAA members, ranging from minimal impact to as high as requiring the hiring of an additional 15 percent of pilots. Even those carriers reporting minimal impact from the interpretation, however, may have been indirectly affected, as the policy caused the major airlines to hire additional pilots and in turn contributed to the higher turnover rate experienced by regional airlines in the last 6 months of 1999.

I would like to take this time to point out a fact: Regional Airlines continue to recruit and hire pilots from a qualified pool of applicants. Just this year, 25 of our largest regional airlines hired a total of 2,187 new pilots. We recruit pilots from several sources, including other regional airlines when a pilot makes a progression from a smaller regional carrier to a larger regional carrier, from general aviation, from corporate aviation, and from the military. Moreover, several airlines have established relationships—including internship programs—with aviation universities, such as Embry-Riddle and the University of North Dakota, and with pilot recruiting firms. These relationships assist airlines in attracting talented pilot candidates who will succeed through the intensive training procedures our airlines require.

If there is a "pilot shortage," it is not a lack qualified applicants, but rather a period of time that is needed between pilot departures and the length of time required to train replacements. Most pilots move to a major carrier and provide a notice of 2 weeks' time, yet airlines need at least 4–6 weeks to accommodate the pilot training cycle for new pilots and upgrades from first officer to captain. In the past, this time differential has created difficulties in staffing some flights.

Addressing Pilot Turnover

While such pilot attrition presents a great challenge to smaller airlines, the growth in our industry means all carriers must stay ahead of the pilot hiring curve. To do so, our members have adopted measures aimed at preventing a recurrence of crew-related flight cancellations since last summer, and have taken steps to protect schedule integrity during times of high pilot attrition, while maintaining and even enhancing pilot training procedures. While I will paint a more detailed portrait of these training procedures momentarily, I would like to mention now that these measures have already been met with great success. Through June of 2000, our members have seen improvement in schedule integrity.

To address pilot attrition, airlines have adopted continuous hiring practices. Moreover, our carriers have invested heavily in enhanced training procedures designed to provide a constant supply of highly trained, qualified pilots to alleviate the strain of increased turnover. While the FAA requires only 250 hours of flight time to earn a commercial pilot's license, regional airlines require new hires to possess between 1,000 to 1,500 total flying hours or more, with several hundred hours devoted to multi-engine aircraft. In addition, 75 percent of our carriers require pilot candidates to undergo a flight simulator evaluation as part of the selection process.

I've already alluded to the rigorous training process our pilots undergo as they prepare for a job with a regional carrier. Our airlines spend an average of $13,122 in order to train a new-hire, and an average $12,133 in order to train a new captain. Several carriers have also invested millions in designing centers for initial and recurrent training, some of which house full-motion flight simulators and other advanced training devices. We expect these carriers to lead the industry in providing state-of-the-art tools and technologies to enhance training.

In addition to these advanced, in-house training facilities, carriers have additional resources available to assist with pilot training and recruiting. For instance, many carriers contract outside training facilities, where airlines send new hires and upgrade pilots for intensive training on advanced, full motion aircraft flight simulators. Each carrier tailors course curricula according its own training and aircraft specifications, which is then incorporated into a proven contract training program.

To deal with the increase in pilot attrition, these training facilities have adopted adjunct training programs with longer courses; most courses have been lengthened by 1–3 simulator sessions, with typically 20–22 hours of simulator time per pilot, supplemented by 20–22 hours of additional simulator experience performing non-pilot duties. During a typical course, each crew receives a total of 22–44 hours of simulator instruction over 4–6 weeks. In the past, some carriers have had difficulty attaining simulator time, especially for training regional jet pilots. We expect this situation to improve considerably over the next year, as one training facility will have doubled the number of the flight simulators available for regional jet training.

Solutions

While the regional airlines have already taken steps to overcome the flight-staffing challenges accompanying our industry's growth, our carriers have identified a

role for the federal government to play, too. The nation's flight training structure, including colleges, universities, training academies, and independent flight schools, are a valuable resource. Yet, no federal financial aid programs to finance flight training are currently available. Because potential pilots are not eligible for federal student loan programs for flight training, the interest on loans obtained from private sources raises the costs of learning to fly considerably. Expanding eligibility of federal student loans to include flight training could help increase the number pilots available. Likewise, increasing the VA benefit for flight training, which currently pays only 60 percent of pilot training costs, might similarly expand the pool of available pilots.

The FAA can play a role, as well, by revising the existing flight training requirements to incorporate more efficient use of simulators and flight training devises. Additionally, with the increased number of flight simulators expected to come on line this year, FAA should prioritize inspection and certification so the new simulators can be immediately available for training new hires and new captains. Finally, the FAA field offices that oversee and support the regional airlines continue to limit the travel and therefore the availability of inspectors to conduct pilot qualification checks. Prioritization of these inspections would result in fewer delays in the training process and help regional airlines address pilot staffing challenges.

Summary

We recognize that crew shortages stopped flights last summer, inconvenienced customers, and hindered airlines striving to maintain schedule integrity. I have outlined the investments regional airlines have made in enhanced training programs and continuous hiring practices in order to maintain the highest level of safety while providing travelers with reliable air service. While the pilot attrition rate may fluctuate from time to time, our industry will always continue to provide safe, convenient air service.

Mr. Chairman, this concludes my prepared statement. I would be glad to respond to any questions that you or any Member of the Committee may have.

Senator GORTON. Thank you. Ms. Barker.

STATEMENT OF LINDA BARKER, VICE PRESIDENT, BUSINESS AVIATION SERVICES

Ms. BARKER. Thank you, Mr. Chairman, Senator Inhofe, Senator Rockefeller. My name is Linda Barker, and I am now serving as the chairperson of the National Air Transportation Association, which represents 2,000 aviation businesses that operate and service aircraft. You might say our business is at the beginning of the pilot supply line.

I am the owner and vice president of Business Aviation Services, a fixed-base operation in Sioux Falls, South Dakota, so I know what it is like to run a business in rural South Dakota, and I know what it is like to face the pilot shortages on a daily basis, because it is our pilots that start out on your typical career path to work up, to work in these wonderful places that are represented at the table today.

We have 145 employees, and 53 of those are pilots. Some of them serve as certified flight instructors, some of them are air taxi or charter operators, and some of them are air cargo pilots, but they are all very integral in the operation of our business.

Typically, you see that young people take flying lessons because they have this dream of becoming an airline pilot, but they have to spend many long hours learning to fly, getting their pilot and private and multiengine, and then certified flight instructors.

From there, we typically hire them, or other companies such as mine, into the air cargo or charter business, which is really critical to the economic viability of rural small America. We need these pilots, and we need companies like mine to operate, not only for our

own good and for our own health, but the health and viability of our communities.

Not only do they work for us, but they fly air ambulances, which are so critical in getting patients to regional hospitals, and they fly organs and these types of things to get to the critical needs in the larger facilities, so we see that these people are so critical and so important to us that we do not want to be just the training ground that continually moves on.

When I talk to our membership, they say that the historical turnover rates for on-demand air charter operators was about 5 to 10 percent annually. That was up until about 5 years ago. Now we are seeing that during the last 2 years the rates of turnover have climbed to 50 percent or more.

In fact, in my own small company, where we have 27 air cargo operators, in 1998 24 of those pilots left for other opportunities, and you know, I cannot deny them those opportunities. These are very good, ambitious young pilots that want to move on.

Senator GORTON. Ms. Barker, what is your pay scale for pilots?

Ms. BARKER. It starts anywhere, from the beginning pilots around $25,000, our more experienced get around $50,000 to $55,000. Our director of flight operations is $55,000, and then we try and get the benefits to a retirement plan, those types of things as well.

So we are constantly hiring. In fact, we—I mean, our human relations director, we did not even realize there was such a position until a few years ago, and we have a contract person that does nothing but search and advertise on web sites and different periodicals and trade journals for pilots, and so we are constantly interviewing and hiring pilots, even if we are up to capacity. If we get a good pilot, we will hire that person, because in a week or two that position may again be open, or may be needed.

In fact, our director of flight operations, who we just hired in February, who promised to be with us 6 years, we gave him a special benefit package and all kinds of incentives, just resigned last week after 6 months on the job because he had a better opportunity, and it is like, we like your company, and you are nice people, but I feel I have to move on, and that is just what is happening in the industry. We are in a very healthy economy, but we also have to be mindful of these things.

Now, I know I cannot just go on and tell you all the lows we are having. I think you know you are looking for answers or ways that Congress can lead, some of the ideas and suggestions.

Certainly when you talk about the age 60 rule, that does not directly affect our air charter business or our air cargo operation because our pilots do not qualify, but I must say, some of the best pilots we employ that fly in all kinds of South Dakota weather, and you know what the weather can be like in the northern plains, are older pilots that have been experienced and been flying for many, many years, and so the whole age discrimination thing I do not want to get into, but to me I think 60 is a very arbitrary rule, and I certainly hope no one tells me to retire when I am 60, and that is only 5 years away, but that is another issue.

The other thing that I think the Senate and Congress can look at are, you know, some of the regulatory issues. I served on the Na-

tional Civil Aviation Review Commission that was held in 1997, and we talked about some of these issues, and I guess I spent most of my time as the loan general aviation representative on that commission saying, but we are not the commercial airlines.

And we are not—you know, our flight and duty time is a total different issue than what ALPA and the commercial airlines are talking about, and when the FAA or Congress tries to put all of us under one category, we always have to stop and say, but look, we are an on-demand operator. We have certain issues. We have area ambulance programs to run, you have duty times.

And so we cannot always fall into the same categories, and that would be one of the considerations when you talk about the impact in rural communities and how Congress or the FAA or the regulators can look at us, that you know, when we say we are different, it is because we are. We are not trying to be contrary or arbitrary or whiny. It is just a different world out there than what you are seeing when you fly a big commercial airlines for one of the large commercial carriers.

So the flight and duty time is a really big issue, and a few years ago when the FAA tried to put all of us together, that would have meant a 50 percent increase in the number of pilots that on-demand operators would have to have hired. Well, we cannot absorb that. There is just no way we can do that without cutting back our services and having almost a no-growth mentality, when there is more and more demand for our kinds of services.

As we get gridlock in the air, as the commercial hubs become more and more congested, you see that businesses and just everyday people that live in communities like Sioux Falls, South Dakota, or Alaska, or Oklahoma, or West Virginia are looking to fractional ownerships, and looking at ways of getting around some of these issues.

We want to be able to meet that demand. We want to do it safely, we want to do it economically, and we want to provide the service to our constituents, as you well do, too, so give us this opportunity, and when these certain issues come up, whether it is the age of pilots, flight and duty time, there is a whole harmony issue of, that we have to train pilots the same as they do in Europe. That would close down so many flight schools, where you are getting so many of these pilots coming through the ranks right now.

So I guess I feel very passionately, and I get carried away by these things because I see it day-in and day-out. I mean, I am the one that has to talk to the pilots as they come through, or their exit interviews, and I see what it does to our business, and it is expensive.

The one thing I would like to say on a more positive aspect before I end my testimony is, because we have seen such a turnover and such a need for certified flight instructors—that is where you bring these high school and college kids into your program—that this past year the Business Aviation School of Aeronautics, which is the flight school that we operate, had a joint partnership with South Dakota State University College of Education, and we joined a joint partnership between the university and a private business, that the College of Education there would not only grant a degree in education, but then we would certify the flight instructors.

So flight instructors are now coming out with a degree in education. They are not just pilots that are moving on up the rank. Hopefully we are going to find some young individuals that have a passion for teaching and flying, and they can be an impetus to teach new people coming out and using educational background as well as pilot training in training pilots, and hopefully keeping these young people.

But there again, you know, universities all need money. You need to chair or know the chairmanships of these committees, or these education programs, and you need financial aid for the students, because it is very expensive to learn how to fly, and when you are young individual coming from a farm in rural South Dakota, or a ranch in the western part of the State, and you have a passion, and you may have the mechanical abilities, you still need the financial aid to get there.

That may be another area that we can look at for some joint partnerships between Congress and our State legislators as well, encouraging these young people to go into the profession of aviation, especially flying.

Thank you so much for your time and for giving me this opportunity. I really appreciate it.

[The prepared statement of Ms. Barker follows:]

PREPARED STATEMENT OF LINDA BARKER, VICE PRESIDENT, BUSINESS AVIATION SERVICES

Mr. Chairman, my name is Linda Barker, and I currently serve as chairperson of the National Air Transportation Association (NATA). NATA represents nearly 2,000 aviation businesses that own, operate and service aircraft. These companies provide for the needs of the traveling public by offering services and products to aircraft operators and others such as fuel sales, aircraft maintenance, aircraft parts sales, airline servicing, aircraft storage, flight training, Part 135 non-scheduled air charter, aircraft rental, and scheduled commuter operations in smaller aircraft. NATA members are the vital link in the aviation industry that provides services to the general public, airlines, general aviation, and the military.

I am also an owner and vice president of Business Aviation Services in Sioux Falls, South Dakota. We employ 145 people and provide a full complement of general and commercial aviation services at the Sioux Falls Regional Airport. Like many of my fellow NATA members, our company is facing an enormous challenge in hiring and retaining qualified pilots for our flight school, as well as our air freight and passenger air charter operation.

As members of the Subcommittee may know, there is a typical career path in the aviation industry for developing and training pilots. While this may not hold true for all, it certainly is the path followed by many pilots. An individual will begin by taking flight lessons and after obtaining a pilot's license build up enough hours to become a Certified Flight Instructor (CFI). After working as a CFI and accumulating flight time, the pilot may then seek a position with a regional airline or begin flying for an on-demand air charter operator. Subsequently, based on the pilot's skill and total hours, a position with the major airlines may then become available to them. Of course, not all pilots want to work for a major airline, but for most this is the ultimate goal. It is this "pilot supply line" that has been and is expected to continue to be at an all time low.

Almost 3,000 businesses are certificated by the FAA as Part 135 on-demand air charter air carriers. The majority of companies in the industry are small businesses providing a vital transportation link for medical services, important cargo needed to promote commerce, and personal travel supporting the growth of the economy. These companies use smaller aircraft to meet the customized needs of the traveling public for greater flexibility in scheduling and access to almost every airport in the country. In passenger service, flights are planned according to the customer's schedule, not the operator's. Likewise, air charter serves a vital role for commerce across the country and the world providing short notice delivery of parts, important documents, supplies and other valuable cargo. On-demand air charter saves lives as air

ambulance operators are ready at a moment's notice to fly to an accident scene or remote area to transport those in need to hospitals that can provide necessary care. In addition, on-demand air charter flights transport vital organs for those requiring transplants. All of these services are contingent upon the ability to respond quickly to the needs of customers.

Our members tell us that the historical turnover rates for on-demand air charter operators was about 5 to 10 percent annually. Each company may experience different rates based on variables such as equipment operated (piston, turbo-prop or jet engine), pay and benefits, and hours of operation. During the last 2 years, these rates have climbed to 50 percent or higher. One member in particular suffered 70 percent turnover in their pilots last year. Whatever the actual rate, most of our members have reported a doubling in their pilot turnover.

The national statistics are substantiated by what we see in our operation in Sioux Falls. We are continually recruiting, hiring, and training new pilots in all departments. This includes CFIs in our Flight School who traditionally instruct until they have enough hours to move into the freight or charter aircraft. More recently, we see some students that move from CFIs and go directly to the regional airlines. Right now, we are advertising for a new Director of Flight Operations in our Charter operation.

At Business Aviation, we employ 53 pilots: 17 air charter and air ambulance pilots, 25 freight pilots with positions open for 2 more freight pilots, 9 flight instructors, and 2 aircraft salespeople who are also pilots. Finding pilots for freight operation is our greatest challenge because the flying is generally at night and does not have the same appeal as transporting passengers. Over the last 4 years, we experienced the following turnover:

- 1996, 15 of our freight pilots resigned for other positions
- 1997, 19 freight pilots left our company
- 1998, 24 pilots left for other opportunities
- 1999, an additional 15 pilots were replaced

The shortage of pilots has caused our company to constantly advertise and spend a great deal of our resources recruiting pilots. Frankly, we even overstaff if qualified pilots are interested, knowing that only too soon there will be positions available.

I participate in an organization known as The Midwest Air Freight Association. Based on a recent poll of other air cargo companies, every member of that organization is experiencing pilot shortages. One member related that 5 years ago he would receive 50 responses from advertisements placed in industry publications along with local advertising. Today, they have almost no responses or maybe two or three for the same type of advertisement. The pilot shortage has caused this company to change its philosophy on growth and to reduce the number of freight routes.

This is echoed across the NATA membership. The uncertainty over whether your pilots employed today will be there tomorrow is stifling many air charter operators from expanding their services to meet the growing demand for air transportation. This disproportionately impacts on the less populated areas of the country that receive little airline service.

The shortage of pilots becomes critical when you consider the need for medical access provided by emergency medical services that may be the only link for smaller communities to medical specialists. The shortage threatens the expansion of medical services to smaller and rural communities. For example, one of our members regularly flies doctors to areas outside of Denver, Colorado, as the means for smaller communities in Colorado, Kansas and Wyoming to get access to specialty health care.

Commerce and the economic viability of communities are likewise dependent upon access to air transportation. If qualified pilots are not available for air charter operators, this link is severed. Finally, the high value cargo, mail and express package services provided to communities across the country by companies like ours is directly affected by the ability to have pilots able to safely operate our aircraft.

There are no silver bullets to solve this complex issue, and I do sincerely appreciate the leadership shown by the Commerce Committee for drawing attention to this most important national issue. We are just one part of an industry that needs qualified, trained professionals.

While the aviation industry attempts to bring the pilot supply and the demand for their services into balance, external factors such as federal government regulatory initiatives can exacerbate the problem. It is important to ensure that FAA regulatory initiatives do not hamper or impair the industry. One troubling issue

that continues to concern the Part 135 on-demand air charter community is the FAA's anticipated revisions to flight crewmember flight and duty limits.

There is a great deal of anxiety that the FAA will attempt to subject Part 135 on-demand air charter operators to a "one-size-fits-all" flight and duty regulation identical to the regulations for the scheduled airlines. This would have devastating effects on the industry. An attempt by the FAA in 1995 to do so would have required a minimum of a 50 percent increase in the number of pilots required to continue operating our businesses. Although safety is the highest concern of aviation businesses, the design of regulations must be tailored to fit the various operating environments to achieve this goal. The Association maintains that Part 135 certificate holders must have versatility to comply with the on-demand nature of unscheduled FAR Part 135 operations. We urge the Subcommittee to encourage the FAA to recognize the uniqueness of the Part 135 on-demand air charter operators in its oversight of the aviation industry.

Another area of FAA activity that could adversely affect the industry is the Agency effort to harmonize flight crew licensing with the European standards. The aviation system and pilot supply line in Europe is not like that in the United States. The FAA should not take any action that would threaten the affordability and efficiency of pilot training and licensing that has been the hallmark of our country. Regulatory changes that impair the ability to train pilots and adversely affect flight schools would then ripple across the entire industry.

Congress should consider whether the current requirement for airline pilots to retire at age 60 is still necessary. As you can imagine, allowing pilots to continue working for an airline past 60 would decrease the demand for new pilots. Likewise, it would provide for these pilots with thousands of hours of accumulated flight time experience to continue serving the traveling public.

One other idea that is important for the FAA to analyze that could affect the availability of pilots is whether certain requirements for pilots contained in Part 135 are appropriate. There is a petition on file with the FAA requesting a decrease in minimum hours of flight time for cargo carrying flights in single-engine aircraft. In order to maintain an equivalent level of safety, this petition also requires increased pilot training by the operator. If the FAA were to move forward in this area with rulemaking, these additional provisions would ensure that a pilot is appropriately trained.

Creative partnerships are important for the industry to respond to the need for additional pilots. We ask that the FAA be encouraged to be receptive to ideas developed that may be unique and do not fit the traditional pattern for training.

As an example, our company has a joint program with our Business Aviation School of Aeronautics and South Dakota State University's College of Education. Under this new program, students can receive a Bachelor of Science degree in Career and Technical Education with a specialization in Aviation Education. The impetus for the program stemmed from a growing public interest in general aviation and a nationwide shortage of certified flight instructors. Graduates will not only be Certificated Flight Instructors, but also Certified Teachers. By focusing on flight instruction as a career goal, this program encourages those with educational aspirations to consider becoming a professional flight instructor. However, like many other educational issues, university programs of this type need funding and scholarship programs to provide both staff and financial aid to students.

As previously stated, the membership of NATA, like my company, is diverse in purpose and operation. However, all operations, from those utilizing CFIs to commercial pilots, are affected by the pilot shortage. Despite industry efforts such as the Be A Pilot program, whose sole mission is to increase student pilot starts, the disparity between supply and demand requires Congressional attention to a growing problem plaguing the air transportation industry. The potential resolutions presented can provide some relief, with proper and timely implementation, to small business operators I represent on behalf of NATA.

Thank you for giving me this opportunity to be with you today. I would be pleased to respond to any questions related to this important issue.

Senator GORTON. Captain Woerth, perhaps the heart of your testimony is in this sentence: the age 60 rule is safety regulation and should not be changed or repealed unless there is sufficient evidence to prove conclusively that such action would not have a negative effect on safety.

How will such proof ever be adduced if there is not a way to determine on the ground, or in the air, that flying above age 60 is

safe? haven't you put us in a catch-22 situation—no one above age 60 can fly, therefore we cannot prove they are safe, therefore we cannot change the rule?

Captain WOERTH. I do not believe so, Senator. I think the studies that were exhaustive, once again, not just in 1959 but also in the eighties and nineties, the Hilton study which was reviewed by my colleague, could not prove conclusively what to do next and, as Senator Rockefeller said at the beginning of the hearing, he said, at first do no harm, so if you can make it better, we are interested in improving safety, and I do not think anybody, as Nick Lacey (from the FAA), said will take a risk with it.

If we are certain we can improve safety, we should do something, but if all we have is that medical evidence says it is inconclusive, we should not.

Senator I would like to also talk about——

Senator GORTON. Well, if we go—now that Europe and many other countries have raised the ages to 65, 5 years from now, if they do not have any higher accident rate, will your views be different?

Captain WOERTH. I think we should understand the difference between what pilots really do in Europe and what the regulatory process about licensure age means.

Within Europe, the bulk of the airlines—you would recognize British Airways, Lufthansa, KLM—most of those pilots retire by contract at 55 or 56. Richard Branson hires some of these retired pilots for his Virgin Express because he can get them cheaper, but that is about economics, it is not about anything else. So to think out of the 189 carriers who signed on to ICAO, that 44 nations have got an exemption from that rule and allow a licensure age differently, that most pilots in Europe are suddenly over 60, is simply not true.

Even within the United States the average airline pilot in a major airline does not make it to age 60. My own airline, which I am no longer employed by as president of ALPA, but at Northwest we have done an exhaustive study over the last decade, and the average age is only 57. That is when most pilots retire, and 50 percent of those retire for medical reasons. The others say they have just had enough; they felt they have lost a step; they mostly are just tired.

This is a very debilitating career. There are extremely long hours, especially when you fly internationally, and they just decide that they have had enough, in the interest of safety, in the interest of their families and their own professional pride, they hang it up.

So most pilots are not making it to age 60 now. There is some conclusive evidence that the real world is demonstrating, and in Europe as well, that they have agreed with their companies that 55 or 56 is a preferred age to step down as a captain. There is some real world evidence that we are using, not studies, not hooking up to wires in some laboratory. The real world of a pilot understands how debilitating, how demanding this job is, and that is why their experience has been very different, Senator.

Senator GORTON. Well, apparently, at least if Captain Emens is correct, we had regional airline pilots up to the age of 71 flying

until last December 31. Is there any indication that they were less safe than their younger compatriots?

Captain WOERTH. Well, there were only 200 of them, Senator. When they changed the rule, the study I saw, of the 100-some thousand pilots in the United States, when the new rule came into effect in 1995 and they grandfathered the commuter pilots until December 20 of 1999, there were only 200 of them. They attrited very slowly.

So out of 200 pilots I guess if they did not have an accident I'd say there was no difference, but I did not see any evidence at this hearing that somehow those 200 pilots over a 4-year period affected a pilot shortage. The largest group I think was at Comair.

Senator GORTON. Did they affect pilot safety?

Captain WOERTH. I do not know how we measure that, just from the 200 pilots out of over 100,000 pilots flying.

Senator GORTON. Mr. Lacey, Captain Emens made a brief reference. Do you have the slightest inclination or information with respect to the attitude on this rule of the present FAA Administrator?

Mr. LACEY. I think the Administrator's position would be, as I have articulated, Senator, that there has to be at least a safety equivalency, or preferably a benefit, in order to change the rule. I think, as we can see here, that the opinions and anecdotes and kinds of things that are offered in the debates that surround these kinds of issues do tend to reach a kind of inertia around what is there that is darned good. There is an economic cost, so to speak, to changing it, and the safety equivalency and benefit is fairly vague. There are 2 different arguments along that line.

In both of these issues, age and fatigue, we are getting into human performance areas which we do not have a lot of good science on, so you have to go on operational experience and the record that is kind of left behind, and continue to probe and look at the science to see how that may push the boundaries of it. We are committed to doing that.

Senator GORTON. Since I have a conference committee I am going to turn this over to you, Senator Burns. Senator Rockefeller was here before you. I think it is his turn to question, but you can finish and adjourn the hearing, if you will, but I think it is Senator Rockefeller's turn at this point.

Senator BURNS. (presiding) I will give him 5 minutes.

Senator ROCKEFELLER. That is all I ever get from you!

This is a really interesting subject. Duane and I have talked before about pilot issues. Today, we are talking about the situation where we have a shortage of pilots. Linda Barker has made that very clear, and I do not think any of us doubt that.

Senator Inhofe said it in one way. Every time I walk through an airport now, the only thing that comes to my mind is 10 years from now, when there will be double the number of people, double the number of planes waiting at the gates, not even counting UPS and FedEx and all the rest of them. You know, FedEx is what, the second biggest airline in the world, I think. We have a shortage of many things, and we will need more workers at every level.

Captain WOERTH. I do not think in terms of certainly pilot employment, but total employment, probably, very large.

Senator ROCKEFELLER. Just the number of airplanes, and you just think of the tremendous demand—tremendous demand. So clearly we have got to come up with pilots. I mean, you cannot sort of bring down the American economy. I do not mean you, but I mean, one cannot bring down the American economy.

Now, I do not take any position on this age cut-off because I do not know enough to do that, and it is very difficult for me, because on the one hand, when you or the FAA say you cannot prove that pilots either get better or get worse at the age of 60, you then have to introduce empirical evidence to show averages.

Now, again, I am not taking any position on this, but I want to sort of bring you and others out on this, because this whole question of arbitrary and discriminatory, and the court of appeals decision, et cetera, and technology and drugs, and things that make us healthier, and all of that is still—you know, we do not know what causes Alzheimer's. We do not know what causes people to be either healthier or less healthy.

But when you say average retirement age is 57 years old, of course, that means that others stay on, and they stay on until they are 60. Then that raises the question in my mind, well, in this world we have sort of got to get whatever we can get. I am not taking a position on this. I reiterate that, because I do not know enough to, but I do know enough to be scared of what is happening in rural West Virginia.

I want to discuss the scope clause with you in a second. I do know enough to know that the people that are going to get the short end of the stick are people like us in West Virginia, because the pilot food chain works down from there, or down to there.

What if 55 percent of pilots decided that they wanted to fly beyond 60? Would that make a difference?

Captain WOERTH. I do not believe so, Senator, and I think what we have been focusing on is the wrong end of the equation. If I could refer again—when the Congress asked for a DOT study, a blue ribbon commission on the shortage of pilots and aviation maintenance technicians—they correctly focused it on the other end of the equation, on incentivizing young people, on encouraging (aviation) schools even tax incentives.

They primed the pump the correct way we have done with our economy in other industries before to encourage people to build the pool at the bottom and have a larger pool of trained young people to be available to come into the ranks.

Senator ROCKEFELLER. Which I like, but as I hear that I have to factor into my mind that in West Virginia our Governor has just put a freeze minus 3 percent on all institutions of higher education, because even in a good economy, that does not mean that West Virginia participates. Probably Montana is a little bit the same.

So we have a college that is trying to do that, but I will bet that nobody else will, and I will bet they have to cut back their program.

So I agree with you that you always try to give people incentives and then try and get them away from the .com world, which is where most people are headed.

It just seems to me there ought to be some way we can work this through. I do not know what difference technology does make. Ac-

tually, I would be interested in what any of you think about the technology, the pharmaceuticals. I am over 60. Conrad is still in his late forties, and he does not have to worry about this yet.

[Laughter.]

Senator ROCKEFELLER. But I mean, there is a burn-out for something which is stressful—and my job is full of stress, and there are people that quit the Senate for the same reason, not the same percentage as in the airline industry, but there are people who do not quit the Senate, or quit the kind of life that I lead, which nonstop, without days of rest, which is another subject which I will not get time to discuss.

But I am just interested in sort of, technology, pharmacology, and 60 and 65, what any of you think.

Captain WOERTH. I would like to give an opinion on that, Senator.

Senator ROCKEFELLER. Sure.

Captain WOERTH. One of the things I think has been acknowledged, there is a tremendous amount of drugs on the market. Pharmaceuticals, medicine has changed a lot of things, but in aviation medicine it has not had its true effect. A great deal of those medicines are prohibited to be used by a pilot while you are flying or engaged in aviation.

In fact, if you look at the back of most drugs, even common drug prescriptions, it says "Do not operate heavy machinery." That would be us. So even some over-the-counter medicine you cannot use. You are violating your aviation certificate if you take some over-the-counter medicine, Contac, anything like that, all sorts of pain relievers for example, for back pain, and all sorts of heart medicine. It has to be strictly regulated and monitored by an aviation medicine advisor, so there is a whole host of things that your average citizen can use and perform his daily function.

But, a great many of those drugs are prohibited to be used by an airline pilot. You lose your certificate, or at least it is suspended until you are off that medication, so it has not had the same effect and benefit to our profession, because of its medical limitations, and rightly so, by the FAA who is concerned, number 1, about safety and taking no chances.

Senator ROCKEFELLER. Any other—yes, sir.

Captain EMENS. Senator, I think we get a little off-track if we start to talk about medication, et cetera. Duane here is exactly right on medication and pilots. It does not much mix, but that is not needed. I mean, in 40 years, study after study has shown that pilots, as is the general population, is a whole lot healthier than it was 40 years ago. We are basically caught in a time warp here. We are stuck in 1959, and pilots are healthier. They have always been healthier than the general population.

This rule was promulgated based on worries of sudden incapacitation and stroke, and it used the general population of the United States, ages 60 and 64, to make that rule. It did not apply to pilots who, even in 1959, were healthier than the general population, and that is even more so today.

Now, an Israeli Air Force Medical Center—I think we all agree that the Israeli Air Force is top-notch. They say here in a study, the incidents of fatal accidents from human error is, however, far

greater than that from physical illness, since inexperienced pilots have a 2-to-3 times increased incidence of mishaps due to pilot error. The estimated risk of disease related to in-flight sudden incapacitation should be balanced by consideration of pilot experience, and we are all agreed we have got a pilot experience problem.

As far as cognitive problems go, which is what Captain Woerth here and the FAA talked of, mental changes occur and we all kind of start to lose it as we get older. Well, studies have shown consistently that those decreases rarely manifest themselves before the age of 70. We are not talking about anything close to that.

We are also talking about pilots who are healthier than the general population, so it does not apply to pilots.

We are also talking about a thing called domain relevance, which basically means that if someone does something over and over again, like you fly, you work the checklists, you are in the system, you function even better even longer. This cognitive decline is a red herring. It is not going to affect a pilot age 60 to 64.

Are the guys bailing out at 57? Yes. I have got good friends that are leaving at 57. Their 401(k) and their profit-sharing is fat, and they are playing golf. It has nothing to do with health, and they are really perky. They are not burned out.

Senator ROCKEFELLER. Well, but they are gone by their own decision.

Captain EMENS. They are going out because they do not want to fly any more, but it is not health, and they are not burned out, and I dare say that there are a whole lot of United pilots, et cetera, that feel the same, but Captain Moon back here, he does not feel that way. He is a United pilot. He is 61. He is flying side-saddle. He is back there, and he is not burned out. He is the head of OBAP, the Organization of Black Airline Pilots.

Senator ROCKEFELLER. Senator Burns, with your permission can I ask one more question, and then I will forever hold my peace for this afternoon.

You mentioned, Mr. Woerth, in your testimony that you do not think that scope clauses are necessarily—and I did not hear your testimony, but I am looking at it, are not the problems for small communities, and you and I have talked about this before, sort of privately, and you know I worry about that. You know that aviation in and out of West Virginia is the make-or-break deal for West Virginia. It is not highways, it is aviation, and it is not turbo-props, it is regional jets.

I can virtually prove that if I just go back and take notes on conversations that I have had, and I am just kind of wondering, generally speaking, what you do think will happen with the scope clause, and if there is any possibility, through negotiations or through whatever happens, that West Virginia can have more hope for regional jets. I mean, that becomes a big factor now with the purported merger, because DC Air is going to put up nothing but regional jets, after 2 years, into West Virginia.

Now, that is like remaking West Virginia's future and, I suspect, Montana's too, I mean if that were to happen. Can you just guide me along that——

Captain WOERTH. Yes, sir, and I believe that—well, first of all there are over 500 small jets in service, commonly referred to as

regional jets. I tend to think that is a misnomer, because they have a multitude of missions, but let us call them small jets for the purpose of this discussion. You refer to them as RJ's.

There are over 500 in service, and there are none of them parked, so they are all being flown, so any pilot job security provision or scope clause, certainly is not restrictive. There are no parked airplanes, so they are all flying.

I think as our study that we did and I presented a paper to an American Bar Association Seminar—I will submit it, if you would like—that paper shows that clearly the marketing departments of the airlines decide where they deploy those airplanes, and so far they deploy them in fairly big markets.

Some small communities have gotten a lot of the benefit of them, and I understand the reasons for it, Senator, and I would want one, too, in my community, but I do not think it is the pilot scope clause that has been the limiter, since there are none parked, they are all flying.

And I think what we are seeing is all of the additional deliveries that were scheduled, and airlines are taking delivery of them as fast as they can be built. And if the recent negotiations by our colleagues at American are any indication, I think the job security provisions or scope clauses are evolving and opening up, and I see, especially in the 50-seater and below category, the most popular model of that small jet, that there will be more and more of them. None of them will be parked, and they will all be flying, and I am hoping your communities get what they need.

Senator ROCKEFELLER. OK. I am, too. I know they are all flying, but I also know there is an enormous demand for a lot more of them. I mean, United is stuck behind American. That is their fault, but in the order business. This just becomes tremendously important.

Thank you, Mr. Chairman.

Senator BURNS. Thank you, Senator Rockefeller.

STATEMENT OF HON. CONRAD BURNS, U.S. SENATOR FROM MONTANA

As I listen to this conversation here—and I am a little older than he says. I am just circling the drain here, you know, sort of lap time—I think we are concentrating on the wrong end of this thing.

I think if we want to promote aviation and do some things about getting some qualified people in the air and alleviate some of Ms. Barker's problems at Sioux Falls—of course, I am not real sure you can solve all of your problems at Sioux Falls.

Ms. BARKER. Oh, we can. We can.

Senator BURNS. Being as I am from Montana. I think we may be looking at the wrong end of things, but I have a question for Mr. Lacey. Given the potential significant impact on rural air service, when you promulgated some new rules, did you consult with DOT's Essential Air Service Office when it was analyzing the societal cost of its proposed rules of pilot flight and duty time? Do you all ever talk to those folks?

Mr. LACEY. Senator, I cannot address that specifically, but I would be glad to check. Certainly we are aware of the Essential Air Service. We certainly do what I believe is a thorough economic

evaluation and impact on these rules, but specifically on the proposed rule for flight duty, and how we are doing vis-a-vis Essential Air Service, I would like to get back to you on that.

DOT does not have a record showing that the Office of Essential Air Service received the 1995 proposed rule on pilot flight and duty time for review. DOT's list of rules that they reviewed goes back only to 1996. However, the FAA is currently revising the flight and duty time rule and will coordinate with Department once it is ready for review.

Senator BURNS. Well, that would be fine, but I will tell you, what just absolutely—I guess it is very disgusting to me whenever I come to Washington, which was 11 years ago, and it looks like I should get over it by now, but I never do, you cannot get people in different agencies to talk to one another. Everybody thinks they are king of the hill, and we are going to do it, and that is it, and they do not visit with one another, and I really get upset about that.

Tell me about—I got some notes here. The training of new pilots. Young men and women that want to become pilots, and they find a school. How important would the situation with the student loan program—that was financed through Sallie Mae, or whatever we use now. Would that alleviate some of the problems of finding and training new people?

Ms. BARKER. Senator, if I could comment.

Senator BURNS. Yes.

Ms. BARKER. Just on the limited experience we had, just starting this program last year, there was just an incredible interest in students. In fact, without any advertising—we wanted to start slowly—we had 38 students in the program, and I notice that it does slow down in the summers, because it would be helpful if they could just keep flying and taking their flight instruction throughout the summers.

Most of these students cannot afford it. They have to stop and work during the summer. I think any type of student loan program or assistance, even as small as it may be, would be a great help, because that would turn attention to this problem, too, and it would say, you know, here are some programs for students, and it would give them some help, at least to start out with.

Senator BURNS. Give me an idea of the cost to get, say, a young person, 21, 22-year-old, a young person to multiple engine and instruments. How long?

Ms. BARKER. Oh, I think you are talking a couple of years, and probably $8,000 to $10,000, and that is very economically, in addition to their other tuition.

Senator BURNS. Well, you mean—tell me—would it take 2 years if they just went to school at this, say academy, or—now, we have got a school at Rocky Mountain College in Billings for pilots.

Ms. BARKER. I think 2 years, 2 to 3 years would be a good——

Senator BURNS. Anybody else want to address that?

Ms. MCELROY. I would, Senator. A number of the regional carriers have established relationships with aviation universities and training facilities. The timeframe is about right, and I think it is important, because these individuals are trained as airline pilots from the beginning.

They are schooled in crew resource management. They are trained in the aviation environment, the air traffic control environment in which they will be operating, and so it is a very intensive, high technology approach to pilot training as opposed to some of the individuals who are now going through the process, building time, and having to have a second job, as Ms. Barker mentioned, in order to pay to do this.

So I think that the loans, whether they are through Sallie Mae or another vehicle, would help greatly in this.

Senator BURNS. Well, I say this from a very greedy standpoint. I am concerned about the retirement of pilots out of the military. They are leaving the Air Force and the Navy to go in to be commercial pilots, and we are having a terrible time hanging on to all kinds of pilots, whether it be helicopter or whatever, through tactical pilots, and I am saying that maybe this is an area where we should be making an investment as a government to set up some sort of a situation where we can train and make available loans to young people who want to go into aviation and maybe do not want to go into the service, into military service, but I know we have got to address that some way or other.

On the age of 60 situation, it seems to me that once you get to be 60 years old, I mean, just from a common sense standpoint, I think your yearly physical maybe should come down to a semiannual, or whatever, and then we can go on from there and probably use some of those people, but I know there is a time in your life—and of course you know I come from Montana, and it is pretty disgusting to get to the age where you are running triple A kids with a AA horse. Some of you folks will figure that out, but it is disgusting.

Yes, sir. Mr. Emens, do you want to comment on that?

Captain EMENS. Yes. I come from a civilian background, and I think your idea of school programs, Sallie Mae programs loans, ginning that up was a wonderful idea, because good quality aviation training in a condensed, closed environment, much like the military is, is very much lacking.

There are not very many places in this country that do it, and that same ALPA article that I quoted talked about ab initio programs that regional carriers, as she mentioned, provide are also very good, but we need to get started on it now, because the lag time is 2 to 3 years. Do we have that time, and those are rookies that we are turning out.

Senator BURNS. Well, I just think that we—you know, I do not understand why maybe the airlines themselves, American, United, Northwest, they should not start looking at scholarship situations.

Captain EMENS. Southwest Airlines does.

Ms. MCELROY. Some regionals are doing that as well.

Senator BURNS. Are they?

Ms. MCELROY. Yes, sir.

Senator BURNS. That makes a lot of sense to me, if there are promising young people that are willing to fly and want to make the—maybe save some of them from working, and a couple of years they are going to be on the flight line, so I think maybe that on the other end of it, we are paying too much attention to the other end of it, and we had better be recruiting some qualified people to

step in and some young people—I have always said that aviation is the secret to this thing.

I think that is about all the questions that I have. I know we had a hearing in Montana on this. It is very important to my State, because we rely either on the Essential Air Service for our smaller communities, or we depend on general aviation, and I know we are very lucky in Montana. I think our commercial air service is very good, and we are very lucky because we have got about five different airports that have solid jet service, into five airports in Montana. You just do not have that in a lot of States.

Look at the State of Washington. They have only got two cities that have got that kind of service, but we have, and we are very happy about that, but we got a deal with distances in Montana, as you well know.

I get the biggest kick—you can tell people, you know, it is about 2 hours and—oh, what, 2 hours and 10 minutes from Kalispell to Minneapolis on Northwest. Half of that trip is spent in Montana, so you know, when you get to the little Missouri River, you are half-way to Minneapolis, so we got some distances to deal with.

Senator do you have any more questions? I want to thank the panel this afternoon. I am sorry I was a little late in hearing some of the statements, but we will go over this, we will leave the record open, and then I think should any of you have any recommendations on what we should be doing legislatively, or what we can do administratively to alleviate some of these problems, but I personally come down on the side that we had better get started looking at academies and ways to train young people to come into the industry, rather than fiddle around with the other end of this thing too much. I mean, you guys can argue 60 and 60-over. That is for you guys to argue about. I want to train people. I want to get them into the workplace.

Thank you for coming.

[Whereupon, at 3:45 p.m., the Subcommittee adjourned.]

APPENDIX

PREPARED STATEMENT OF HON. JOHN MCCAIN, U.S. SENATOR FROM ARIZONA

For several years I have been concerned about pilot shortages in our armed forces, which can affect our combat readiness. Some of the same factors that influence military pilots are now having an impact on certain parts of the private sector. A strong economy has lead to record numbers of pilots being hired by the airline industry. Just as the generous pay scales and benefits of the major airlines have attracted pilots out of the military, smaller carriers are losing flight crews to the big players in the industry.

But the supply of qualified pilots has been negatively affected by the fact that there are now fewer ex-military pilots on the market. For decades, the industry has been able to take advantage of highly skilled and experienced pilots who came out of military service. Airline expansion has been traditionally supported by large numbers of ex-military pilots who became available after major conflicts. Over the next five years, however, the pilots who joined the airlines after the Vietnam War are set to retire in particularly large numbers because of the Federal Aviation Administration's (FAA) Age 60 Rule.

We must remain open minded about proposals to change the Age 60 Rule. They have the potential to ease the shortage of civilian pilots and reduce the pressure for military pilots to leave the service early. However, we are dealing with a rule that has been in effect for many years. Any modifications should not come at the expense of safety.

I recognize that many pilots and others strongly oppose this rule. There are clearly divided opinions among policy makers and within the aviation community. Because the FAA has decided that the Age 60 Rule is an appropriate standard, Congress must be cautious before taking any action that would substitute its views for those of the agency responsible for aviation safety. I am aware that there are legitimate views on both sides of this issue, but it is one that tends to fall within the authority of the FAA.

Balancing the needs of smaller and rural communities against safety considerations is difficult at best. Regional airlines and on-demand operators are an essential transportation link for many areas of the country. We must be aware that they sometimes have special needs.

I hope that this hearing and our witnesses will be able to generate workable ideas to help us ease the pilot shortage problem. I appreciate Senator Burns efforts on this subject, and I thank Chairman Gorton for holding this hearing. It is an issue that deserves the careful attention of all aviation policy makers.

WRIGHT STATE UNIVERSITY
SCHOOL OF MEDICINE
DEPARTMENT OF COMMUNITY HEALTH
Dayton, Ohio, July 20, 2000

Hon. SLADE GORTON,
Chairman,
Subcommittee on Aviation,
Senate Commerce Committee,
Washington DC.

Dear Senator Gorton:

This letter is in strong support of S. 1855 that proposes to increase to age 65 the present four-decades-old age 60 limit on pilots operating under § 121.383(c) of Title 14, U.S. Code of Federal Regulations.

During these past four decades, there have been (1) a substantial increase in the U.S. population health and life expectancy; (2) major advances in the health assessments of individual pilots; (3) major advances in the treatment of any developed medical condition; (4) advanced flight simulator and onboard flight recording equip-

ment for individual pilot skill and judgment assessments, and; (5) an across-the-board increase in regular healthy lifestyle practices by pilots.

Countries in Europe and Asia have recognized that their prior age 60 limit on airline pilots was discarding experienced, healthy, and skilled pilots from the overall pilot population. Accordingly, many of these countries have raised the age to 65 and have, accordingly, enhanced the overall safety of their airline operations.

It is now time to enact into law, in the interest of public safety, S.1855. On request, I would be pleased to furnish considerable supporting detailed data.

Sincerely yours,

STANLEY R. MOHLER, M.D.,
Director, Aerospace Medicine,
Professor and Vice Chair,
Department of Community Health.

PREPARED STATEMENT OF SAMUEL D. WOOLSEY, J.D.

I appreciate these written remarks urging legislative action to repeal the FAA's Age 60 Rule being included in the formal record of the above hearing. I am a former military and airline pilot, having flown twenty years for Pan Am, and the last eight of a 40-year career as a pilot with United Airlines. After retirement, I entered law school, earning my Juris Doctor degree from John F. Kennedy University School of Law in 1998.

In 1990, I began to research the factual history of, the practical effects of, and both the logical and legal rationales underlying the Federal Aviation Administration's (FAA's) so-called "Age 60 Rule," 14 C.F.R 121.383(c) (the Rule). I have an extensive library of materials gathered from the medical community and the legal arena, as well as from both the legislative and administrative branches of government. My research (and materials) are available, at no cost, to any who ask.

The Age 60 Rule states simply that no person may operate an aircraft in U.S. air carrier operations as a pilot (or co-pilot), and no U.S. air carrier may employ such a person as a pilot (or co-pilot) in its air carrier operations after his or her 60th birthday. Without exemption or waiver for its entire 40-year history, it imposes—a mechanical process that compels—through forced retirements—the replacement of senior air carrier pilots with less senior pilots.

By this mandatory process, the FAA's Age 60 Rule is the proximate cause of both today's and yesterday's experienced pilot shortages—shortages that have adversely impacted our Nation's military readiness, and today ration the aviation lifeline to our smaller and rural communities, particularly among our Western states and Alaska. Moreover, the problems this Committee struggles with today are but a continuation of those it faced in a similar hearing more than a decade ago. (*See, Pilot Supply and Training,* S. Hrg. 101–307, August 3, 1989.)

The Age 60 Rule Is a Financial Disaster, Unrelated to Either Safety or Medicine

The Age 60 Rule is not a safety issue, nor a medical certification issue, nor a licensure issue. Neither the airman's First Class medical certificate, nor his or her pilot's license, nor his or her Airline Transport Pilot's rating, nor any aircraft type ratings are limited or restricted by the Rule. The Age 60 Rule is an ancient albatross limiting the FAA's ability to remain abreast of both science and economics and literally "gifts" a discriminatory financial "windfall" to ALPA's junior members (at the expense of its seniors) while imposing a horrendous economic burden upon the air carrier industry as a whole.

Economics of the Age 60 Rule:

In 1993 I prepared an analysis of the economic impact of the FAA's Age 60 Rule on one carrier—United Airlines.[1] For this endeavor, I am indebted to the Vice President, Flight Operations at United, Captain Hart Langer, for making available to me certain information regarding transition training times and costs, age 60 mandated retirement schedules, immediate pilot hiring programs, and pilot pension plans. I used my own (then) 27 year career as an airline pilot (and personal observations) for estimating the other variables considered—transition steps per senior pilot departure, monthly/annual flight times, vacation accrual, sick-leave exposure, and

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[1] Woolsey, S.D., *Economic Impact of the FAA's "Age 60 Rule."* 1993. Copy available on request. I make no claim to any expertise as an economist. But observing that no such analysis had been made by any qualified parties, I set out to apply my personal knowledge of the air carrier pilot's career and eventual retirement to the question. This analysis is the result of that effort.

other contractual issues. Compared to the other published estimations of training steps (between 16 and 20),[2] my calculations based on only 6–8 are extremely conservative. Nevertheless, the economic impact revealed is dramatic: a total annual cost to just one airline of $53.2 Million in 1993, alone.

To place these findings in context, recall that Julius Maldutis of Salomon Brothers had noted in 1992 that airline industry losses over the prior two years had obliterated all the profits made since the "Wright brothers spun the first wooden prop," and the Air Transport Association (ATA) was projecting a $1.7 *Billion* loss for 1992. In this difficult economic environment, I felt that the FAA had a positive obligation to lessen financially onerous regulatory impacts wherever possible. One such area was in flight crew utilization.

The FAA's Age 60 Rule, I discovered, imposes a heavy economic burden on the entire aviation industry by unnecessarily shortening the productive careers of the safest, most experienced, and most expensively trained pilots. Should this Rule be altered (preferably eliminated altogether) to permit those healthy and motivated airmen at this airline who choose to remain "in grade" as pilots, rather than being forced to retire, or fall back to the lesser flight engineer position on their 60th birthday, and just 30 percent of those eligible did so, United would realize these savings in 1993:

Real Permanent Savings (costs):

Staffing levels:	$2,251,320.00 (savable in 1993)
Pay differentials:	$16,380,000.00 (savable in 1993)

Temporarily Deferred Expenditures (costs):

Training costs:	$34,579,124.00 (deferrable in 1993)
1993 Total Savable/Deferrable:	**$53,210,444.00 (annual cost)**

At 5 percent net from receipts, $53.2 Million in *savings* represents annual *revenues* of $10.6 Billion. Moreover, for this one carrier alone, these savings will easily exceed $250 millions over 5 years, largely through savings in transition training costs—which are available to all carriers!

Altering the Age 60 Rule to permit extended careers for those healthy and capable airmen who are so motivated, would provide similar economic benefits to the entire aviation industry in a multitude of ways: (i) to the individual airlines through deferral of transition training steps and longer amortization of training costs, (ii) to the individual pilots through enhanced career choices, (iii) enhanced safety by extending the careers of the industry's safest airmen, and (iv) reduced costs that can be passed on to the consuming public!

The FAA and Age 60:

Despite its clear an unequivocal knowledge to the contrary (see *Airline Pilots and Age 60,* below), the FAA has consistently publicized the Rule as being "in the interest of safety" made necessary by "medical uncertainties" that increase, indeed accelerate, with advancing age. But these arguments were/remain nothing more than a disingenuous "cover" to hide the Rule's true beginning—money—as suggested by the FAA's Office of Chief Counsel. (Enacted initially to enable a single Air Carrier (American Airlines) to better manage its transition training costs, the Rule is today vigorously defended by the Air Line Pilots Association (ALPA) to protect and enhance the promotional opportunities (thus financial welfare) of its junior members—who now constitute a voting majority in their union.)

Even as originally instigated by the CEO of American Airlines (C.R. Smith), it was pure economics that was "justified" with operational arguments—neither medical nor safety. Smith wanted to replace his (American's) original barnstorming era Captains with younger, military trained pilots because he was introducing jet powered aircraft (the Boeing 707) into his fleet. Smith's argument to the FAA's Administrator (Retired Gen. Elwood Quesada, a long-time, personal friend) was data showing that these younger, "especially selected; for intelligence" pilots required less transition training time (*i.e.,* less cost), into these new-fangled aircraft than did the older line pilots. (Source: "Dear Pete" note to "General Elwood Quesada, Washington, D.C.," dtd. 30 Apr, 1959, three pages, with notation "Mail to home address:"), and that he (Smith) had just lost both a labor grievance and a bruising, 20 day pilots strike on the issue, thus needed a federal regulation to save his skin.

[2] See additional discussion under *ALPA and Age 60,* below, for specific references.

> . . . It appears obvious that there must be some suitable agre [sic] for retirement. It appears equally obvious that as men become older the result of the usual physical examination becomes less conclusive.

(Source: Letter, Smith to Quesada, Smith's personal letterhead, dtd. 5 February, 1959)[3]

Within days, Quesada had ordered that two proposals be prepared: (1) maximum age of 55 for transition into jet aircraft, and (2) mandatory retirement at age 60. Smith's "transition time" data was fashioned into "charts," and a hand-picked panel of medical experts was convened to lend "authority" to the effort. Shown Smith's data/charts,these experts refused to endorse the first proposal—limit transition into the new aircraft to age 55—but did endorse a temporary maximum age of 60. (FAA Staff Memorandum, Acting Civil Air Surgeon to Administrator, *Medical Resume of the Advisory Panel on Aging Meeting,* June 8, 1959. *From Reighard files.*)

Four months later, the same data/charts were presented to the FAA's General Counsel's office for their review. Their legal conclusion was that the data would not support even the age 60 limitation. The lawyers then recommended that the charts be abandoned, and future presentation, if any must be made, should focus on "*such medical data as is available concerning deteriorations in specific functions such as a reaction time, glare tolerance, night visual acuity, learning times, accuracy of learning, etc.*" (FAA Staff Memorandum, Chief, Medical Standards Division to Civil Air Surgeon, *Review of Aging Charts by the Staff of the General Counsel's Office,* Oct. 9, 1959. Emphasis added. *From Reighard files.*)

FAA published the Rule on December 5, 1959, just ten months (to the day) following Smith's ex parte request, falsely (some would say *fraudulently*) bundled with "medical trappings"—not in the interest of either medicine or safety, but "on advice of counsel." One year later, Quesada left the FAA and immediately became a Director on Smith's (American's) BOD. (Ruppenthal, K.M., *Compulsory Retirement of Air Line Pilots, 14 Indus. & Lab. Rel . . . Rev. 528*, (1961)

Airline Pilots and Age 60:

Even the FAA asserts, voluntarily, after decades of its own research, that airline pilots, as a group, are essentially purged of the pathologies that contributes to higher rates of medical disqualifications than the general population. Yet, it was by reference only to "generally understood" information that the Rule was proposed, and eventually enacted.

> . . . Despite the fact that knowledge of the aging process specifically related to piloting aircraft is incomplete, certain applicable observations have been made and generally understood.
>
> Physical deterioration with age can, for the most part, be attributed to a progressive degenerative process termed arteriosclerosis, a condition affecting blood vessels in a manner quite compatible to the progressive accumulation of scale and rust in water pipes.

24 Federal Register 5247, June 27, 1959.

Since that inauspicious beginning, the medical community has studied the health and fitness of airline pilots ad infinitum. And found consistently, as did the National Institutes of Health (NIH), the National Institute on Aging (NIA), and the Institute of Medicine (IOM) in August, 1981, that "there is *no convincing medical evidence* to support age 60, *or any other specific age,* for mandatory pilot retirement." (*Report of the National Institute in Aging Panel of the Experienced Pilots Study,* Department of Health and Human Services, Public Health Service, National Institutes of Health, National Institute on Aging, August, 1981. At 2, emphasis added, underlining in the original.) *See also* Besco, R.O., *A Longevity and Survival Analysis for a Cohort of Retired Airline Pilots,* FAA Contract No. 92–P–13371, 1994; MacIntyre, N.R., *et al, Longevity in Military Pilots: 37-Year Followup of the Navy's "1000 Aviators," Aviat., Space & Environ. Med.,* September 1978, 49(9):1120–1122;

In 1961, just one year after the Age 60 Rule had been instituted, a prestigious aeromedical research institute in Albuquerque, NM (The Lovelace Foundation) received funding from the NIH for a long-term study of "normal human aging." Ignor-

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[3] This letter from C.R. Smith (and the "memo" referenced immediately above) were retained in the files of Dr. Homer Reighard, a major participant in the preparation of the Rule, and later Federal Air Surgeon. When Dr. Reighard retired in 1984, he was permitted to take these letters, and other materials related to the Rule, its formation and history with him. During a civil suit under the Freedom of Information Act, Civ. Action No. 85–1943, (D.C., D.C., 1985), the court found that this release had abrogated agency privilege with respect to these materials, and ordered them released.

Other materials similarly released by this order and referenced in this statement are identified as "*From Reighard files.*"

ing the "generally understood" principles referenced by the FAA when preparing the Rule, Lovelace restricted its study population to civilian test pilots, military pilots, and air carrier pilots because they considered this cohort to consist of

> a highly select group [being] more free of serious pathology that a sample of the general population of similar age . . . . Furthermore, pilots are subjected routinely to periodic re-examination which provides a basis for followup and extended longitudinal studies.

House Report No. 2080, *Better Management Needed of Medical Research on Aging,* Committee on Government Operations, 89th Congress, 2d. Sess., September 26, 1966, at 19.

The NIH added that "air transport pilots represent less of an attrition of dropout problem in a protracted study than almost any other adult group in the normal population with a comparably wide age range." (*Id.,* at. 23.)

Lovelace's initial tests of this group revealed that these individuals were physiologically much younger than their chronological ages, suggesting that the FAA's age 60 rationale was invalid on its face. When this became known, FAA's Federal Air Surgeon first sought to convince the Foundation to abandon its study of older pilots, and concentrate on younger ones, instead. (Letter, P. V. Siegel, M.D., Federal Air Surgeon to A. H. Schwichtenberg, M.D., Head, Dept. of Aerospace Medicine and Bioastronautics, The Lovelace Foundation, dtd. January 12, 1967. *From Reighard files.*) When Lovelace refused, and seeing strong legal challenges to his Rule forthcoming (Internal FAA Memo, Gordon K. Norwood, AM–200 to AM–1 [Dr. Siegel], dtd. 30 July, 1969, *from Reighard files),* Dr. Siegel engineered a "hatchet job" on the Lovelace study by a personal friend (Letter, C. I. Barron, M.D., Medical Director of Lockheed-California Company (a personal friend of Dr. Siegel's) to Peter V. Siegel, M.D., Federal Air Surgeon, dtd. May 1, 1969, from Reighard files), leaked this "report" to NIH (Letter, John P. Sherman, Ph. D., Deputy Director, NIH to Peter V. Siegel, M.D., Federal Air Surgeon, dtd. Jan. 27, 1970, *from Reighard files*), whereupon NIH terminated its funding for the Lovelace study. (*Ibid.*)

With the threatened legal challenge looming (later to become *O'Donnell v Shaffer,* 491 F.2d 59 (D.C. Cir., 1974)), FAA asked NIH for a copy of the "Site Review Committee Report," the basis for NIH terminating the Lovelace study funding. Citing the confidentiality of its internal records and peer review program, NIH refused—observing that it believed the FAA was well aware of the contents of the site review report (from FAA's own earlier analysis), and wanted a hard copy only for use in its defense of a court challenge to the Age 60 Rule. (*Ibid.*) Unable to secure this useful report from NIH, FAA "lost" the entire 1959 "docket" on which the Rule had been based, instead. (FAA Memorandum, Louise Coomes, AGC–24 to Associate General Counsel, Regulations and Codification Division, Subject: Missing Regulatory Dockets 40, 41 and 42, dtd., July 11, 1973.)

Over the next two decades, however, (1971 through 1988) the FAA came to agree with Lovelace (but without admitting the relationship) on the health of air carrier pilots after studying their airman medical certification (and disqualification) data. (c.f., Booze, C.F., *Characteristics of Medically Disqualified Airmen Applicants During Calendar Year 1971,* FAA Office of Aviation Medicine, AM–74–5, May 1974; Dark, S.J., *Medically Disqualified Airline Pilots,* FAA Office of Aviation Medicine, AM–84–9, August 1984; Downey, L.E., Dark, S.J., *Medically Disqualified Airline Pilots in Calendar Year 1987 and 1988,* FAA Office of Aviation Medicine, AM–90–5, June 1990.) In each paper, the FAA's Civil Aeromedical Institute researchers declared that:

> prescreening by airline companies before employment [as air carrier pilots] and FAA requirements for the issuance of a first-class medical certificate result in [airline pilots] *being essentially purged of disease prevalence that contributes to higher rates* [of medical disqualifications than] *other groups.* (*e.g.,* Dark, 1984, at 2, emphasis added)

ALPA and Age 60:

Today, the Air Line Pilots Association (ALPA) is (aside from the FAA) the only major support for retaining the Rule unchanged. ALPA's *public* position, simply stated is that raising (or eliminating) the fixed retirement age would compromise "the public interest in ensuring the highest degree of safety." Nothing could be further from the truth. Neither the statement that raising the age to 65 would compromise "safety in the public interest" nor that ALPA's opposition to S. 1855 is based on that premise.

By imposing a "date certain" retirement upon its senior members,. the Age 60 Rule guarantees somewhere between 6 or 8 and 20 promotional advancements for a given air carriers less senior pilots.[4]

In 1959–60, ALPA membership included only Captains and Co-Pilots (First Officers). And historically, Captains had always dominated union administration and policy. Needless to say—the senior Captains' desires for career longevity prevailed, and the union vigorously fought imposition of this now 40 year-old Rule. Between 1960 and 1979, ALPA initiated and/or supported no fewer than eight (8) major lawsuits seeking to bar the enforcement of, overturn, and/or secure exemptions from the Rule.[5]

But in the late 1960's and early 1970's, ALPA "raided" the membership of the Flight Engineers International Association (FEIA), the flight engineer's (Second Officer's) union—the third "seat" in the cockpit of large commercial airliners. Although sanctioned for this action under the Fair Labor Standards laws, ALPA prevailed as the jet era brought new-hire *pilots* into that position, displacing the original aircraft mechanics as flight engineers. This move, alone, swelled the non-Captain membership of ALPA, forever altering its political dynamic. The new ALPA goal became career advancement for its younger members, rather than career longevity for its seniors.

In 1982, for example, TWA voluntarily began allowing its senior Captains approaching age 60 to "fall back" as Second Officers (flight engineers). In a hard fought contract negotiation, the new ALPA coerced TWA into retracting this policy. The affected pilots sued both TWA and their union and prevailed, winning the right to fall-back, with ALPA found to be in violation of its duty of fair representation, and a restraining order was issued against the union. (*ALPA v TWA,* 713 F.2d 940 (2d Cir., 1983), affirmed, *TWA v Thurston,* 469 U.S. 111 (1985).)

This "new" ALPA support for "age 60" is not difficult to understand. With the "step-ladder" seniority system in place at virtually all of the nation's air carriers, the guaranteed date-certain departure of a single senior Captain guarantees a multitude of promotional steps among the junior membership. (*See above*—estimates of between 6–8 and 20.)

During a 1979 legislative attempt to raise the age limit (H.R. 3948), ALPA was still ostensibly opposing the Rule, but covertly pulling every string it could to sustain it. Calling out its "big guns" (AFL–CIO), ALPA flooded the halls of Congress with an army of lobbyists when the Bill came to the floor for a vote and successfully reduced the legislative outcome to a mere "study." Former Congresswoman Pat Schroeder (Colo), is said to have declared it one of the heaviest-handed muscle jobs she had witnessed.

Testifying before the House Committee on Public Works & Transportation in 1979, ALPA's then President, J.J. O'Donnell declared that ALPA's devotion to the status quo was economic, they feared the imposition of a more strict medical examination (that would "unfairly" catch medically unfit younger pilots), and no vote of the membership had been taken prior to the adoption of this position, and none would be taken 'cause polls can be made to say anything you want. (At pp. 343–348.) One decade later, ALPA again proclaimed its support for the Rule, unchanged, and its rationale therefor, also unchanged.

Testifying ten years later (1989) before this Committee's earlier hearings on Pilot Supply and Training (S. Hrg. 101–307), ALPA's then President, Henry Duffy, reiterated Mr. O'Donnell's negative argument almost verbatim. Moreover, Mr. Duffy did so with the additional declaration that his union cared not a whit that their position frustrated the (even then) admitted "increasing demand for commercial airline pilots," that this shortage had (even then) "hit the regional airlines hard," and that

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[4] The actual number depends, primarily, upon the fleet mix of aircraft flown by that particular air carrier. The more different types of aircraft, the more promotional steps opened up as pilots move up from smaller to larger (higher paying) aircraft, and through the various cockpit seats (Second Officer to First Officer to Captain).

A more thorough explanation of this process, estimating 16 promotional steps resulting from the premature retirement of a single senior pilot at American Airlines in 1992, appears in: McCall, N.J., *et al, A Survey of Blood Lipid Levels of Airline Pilot Applicants, Aviat., Space & Environ. Med.,* June 1992, 63(6):533–537.

The author in Kasperzak , R.M., *Mandatory Retirement of Airline Pilots: An Analysis of the FAA's Age 60 Retirement Rule, 33 Hastings L. J. 241,* (1981) cites to other estimates as high as 20 promotional steps per senior Captain retirement.

[5] *ALPA v Quesada,* 182 F.Supp. 595 (S.D., N.Y., 1960), *Chew v Quesada,* 182 F.Supp. 231 (Dist. C., D.C., 1960), *ALPA v Quesada,* 286 F.2d 319 (2d Cir. 1961), *O'Donnell v Shaffer,* 491 F.2d 59 (D.C. Cir., 1974), *Starr v FAA,* 589 F.2d 307 (7th Cir., 1978), *Rombough v FAA,* 594 F.2d 893 (2d Cir., 1979), *Keating v FAA,* 610 F.2d 611 (9th Cir., 1979), and *Gray v FAA,* 594 F.2d 793 (10th Cir., 1979).

"recent accidents [had] demonstrated the importance of pilot experience levels." (S. Hrg. 101–307 at 23.)

But even more egregiously, Mr. Duffy also declared ALPA's refusal to even consider a minimal, temporary relaxation of the Rule after listening to, Ms. Karen Keesling, Asst. Secty. for Manpower and Reserve Affairs, U.S. Air Force, testify that the military was the single largest producer of pilots in the United States, yet was losing (primarily to the air carriers) "1,000 more pilots per year than they train[ed]"; that this pilot drain cost the military "in the billions of dollars," and posed the "potential to greatly affect our [military] readiness posture." (At p. 7.)

When his turn came before the Committee, Senator McCain asked Mr. Duffy if ALPA would

> . . . [j]ust explore with me the possibility of some kind of a 'test pilot' program, of taking a number of pilots that would be interested in remaining an extra couple of years and placing them under a special set of conditions concerning physical examinations, et cetera.
>
> Would you be willing to at least explore something like that with me and the other members of the Committee? (At p. 50.)

Mr. Duffy's reply was—*No.*

> . . . the additional physical requirements that are going to have to come with [change in the Rule], starting at age 55, or whenever—at age 50—and the inaccuracy of the predictive nature of these tests, are going to expose pilots [under age 60] to being eliminated prior to age 60 and I am not sure that we are going to get a net gain out of the whole thing. (At p. 50.)

Read again Mr. Duffy's reply to Senator McCain. To paraphrase:

> No. ALPA refuses to place at risk its under-age-60 pilots, some of whom we know are medically unfit, so that an equal number of over-age-60 pilots who have greater experience and will be proven to be medically fit may continue in their careers—even though doing so would alleviate a critical nation-wide shortage of experienced commercial airline pilots, ease the greater burden on the regional carriers, contribute to the safety of the traveling public, ease a billion-dollar expense item in the military budget, contribute to this Nation's military readiness posture, and be in the interest of "this Nation's national security."

Senator McCain was left to lamely plead as a final comment: "But I would like to explore it with you some more and the organization, because I think given the criticality of the situation [Ed: recall—this is in 1989, not 2000], at least it is worth looking at again." (At 50.)

At the end of yet another decade, the same 1989 issues still trouble us. And ALPA's intractable, arrogant and incredibly selfish 20-year support for mandatory retirement at age 60 dictates blind disregard for the plight of Alaska, Wyoming, and other sparsely populated areas. Its opposition to S. 1855 threatens, again, to exacerbate a chronic shortage of experienced air carrier pilots, compromise safety, and cost the Nation billions—if not continue to negatively impact our Nation's security interests.

ALPA's disingenuous argument opposing change to the Age 60 Rule, advanced on its supposed "risk of incapacitation," "unacceptable decrements in performance" occurring "at an accelerating rate" among demonstrably fit and highly experienced pilots over age 60, while protecting even from examination its potentially un-fit members under age 60 should be accorded the consideration it so richly deserves. None.

Operational Regulations, Training, and Procedures Have Solved Any Pilot Psychophysiological Deficiencies, If Such Ever Existed

The Age 60 Rule is an operational limitation, buried in the operational regulations promulgated by the FAA. Moreover, it has been the operational studies, tests, and experiments that have devised solutions to the unique operational questions regarding pilot incapacitations that may have once existed.

Age, per se, and Aircraft Accidents:

In the entire history of American commercial aviation, only two air carrier aircraft have crashed with incapacitated pilots. Both occurred after, not before the Age 60 rule was adopted—one in 1962, the other in 1966. Both pilots expired from heart attacks, but there the similarity ends. One pilot was 38, with no medical history, the other 58, having hidden from the FAA for 3–4 years a heart problem. The 38-year old pilot died on short final, during a VFR approach. The 58-year oldster died at altitude, before beginning an IFR (weather) approach. The only common factor—and actual cause of both accidents—was that both co-pilots were unqualified and incompetent. The FAA soon amended its performance (operational) standards for co-pilots, and no pilot-incapacitation induced accidents or incidents have since oc-

curred—despite a multitude of in-flight pilot incapacitations, including deaths, even during the "critical phases" of flight.

Procedures, Training, and Risk:

In 1969–70, ALPA's Flight Safety Chairman (Capt. Harry Orlady) collaborated with the Medical and Flight Training departments at United Airlines in a series of simulator exercises to address the pilot incapacitation problem—both sudden and subtle. During these exercises, United developed operational procedures to preclude accidents from occurring should a pilot become incapacitated (suddenly or subtly) at any time during flight. (Harper, C.R., *et al, Study of Simulated Airline Pilot Incapacitation: Phase I—Obvious and Maximal Loss of Function, Aerospace Medicine,* October 1970, 41(10):1139–1142; Harper, C.R., *et al, Study of Simulated Airline Pilot Incapacitation: Phase II, Subtle or Partial Loss of Function, Aerospace Medicine,* September 1971, 42(9):946–948.) The *operational* procedures developed and tested during this series of studies have been incorporated into the FARs, and are now industry standards. No pilot-incapacitation induced accidents have been recorded since.

The *Report of the President's Task Force on Crew Compliment,* July 2, 1981, recognized the above when finding: "[P]ilot incapacitation is an ever-present possibility in the cockpit, but success in dealing with it *depends more on pilot training and procedures* than [other factors]." (p. 57, emphasis added.) This review of the 2-pilot vs 3-pilot cockpit controversy was ordered by President Reagan more than 20 years after the FAA had certified the first 2-pilot aircraft with minimal examination, and in the face of a federal arbitrator's ruling that the third pilot would contribute to safety, at least "during the aircraft's introductory period." (Appendix E.) No pilot-incapacitation induced accidents have been recorded since.

In 1984, a major review of IFALPA (International Federation of Air Line Pilots Associations) experience in actual, in-flight incapacitations, together with extensive simulator flight segments with "surprise" pilot incapacitations determined that, with 35,000 thousand pilots flying some 20.8 *million* flight hours *annually,* the whole of the international community would experience, statistically, 400 years between pilot incapacitation induced accidents. (Chapman, J.C., *The Consequences of In-Flight Incapacitation in Civil Aviation, Aviat., Space & Environ. Med.,* June 1984, 55(6):497–500.) Chapman was compelled to use simulator exercises to develop his "incapacitation accident" rates because none had been reported during his study's 13-year window. Moreover, the "actual" time-between-accidents should be considerably greater, because Chapman had very conservatively considered: (1) that all reported "actual" pilot incapacitations had been sustained by the pilot-flying; and (2) that they had occurred at the "critical point" in the flight (i.e., on takeoff or landing) used in his simulator experiments. No pilot-incapacitation induced accidents have been recorded by IFALPA since Chapman's study was published.

Quite simply, the Age 60 Rule is an operational issue—and, of course, blatant age discrimination—but not one of medicine or safety—that has been made superfluous, if ever it was relevant, by operational procedures and training.

Advanced Simulation:

The first recorded instance (of which I am ware) in which a "medical" assessment of the "pilot age" question was begun in 1953 or 1954, some 5 years before the Age 60 Rule was contemplated. A "panel" of medical experts was appointed by the Aerospace Medical Association in response to a gratuitous suggestion contained in a 1952 Presidentially directed study of airports and their surrounding communities. This panel's first interim report (no others can be located):

> expressed great interest in the possibility of using the Dehmel Flight Simulator as a possible method of checking the abilities of pilots in the older age range . . . . These electronic devices are designed so that any flight problem can be simulated under very realistic conditions. These trainers reproduce the exact cockpit instrumentation and include motion and sound effects. It is obvious that any procedure which can be developed to appraise pilot ability on a more objective basis . . . will contribute to flight safety and to a more precise appraisal of changes involved in the ageing [sic] process.

Report of the Committee on Pilot Ageing [sic] *and Allied Problems,* March 30, 1954, at 3.

Despite the (accurate) praise given here, the Dehmel simulator, certainly by today's standards, was an incredibly archaic device. Modern simulators are nothing less than state-of-the-art virtual reality—simulating not only motion and sound, but the more subtle senses of momentum, coordination, equilibrium, spatial orientation in a visual recreation of the "real world," etc. You can take a B–747 off of New

York's Kennedy airport, and fly "between" the twin towers of the World Trade Center! From San Francisco you can fly "under" the Golden Gate Bridge. When United's Flight 232 lost all hydraulic power and landed at Sioux City, Iowa, one of United DC–10 simulators was immediately configured to replicate, and did replicate the handling characteristics of the real aircraft. When, 25–30 years ago, the industry began to recognize "microburst" phenomena (severe up and down drafts near airport landing flight path as causing several fatal takeoff and landing crashes), simulators were programmed to first develop protective techniques, then train pilots in these avoidance procedures.

Twenty years ago (1980), the FAA approved total transition training for air carrier pilots using "advanced simulators. (44 Fed. Reg. 65550–57 (Nov. 13, 1979) NPRM, *Plan to Permit Additional Flightcrew Training in Advanced Flight Training Simulators;* 45 Fed. Reg. 44176–86 (Jun. 20, 1980) *Final Rule, Advanced Simulation.*) In some 18 pages of 3-column, fine print discussion extolling the virtues of advanced simulator flight training of air carrier flight crews, two comments stand out:

> *Safety.* In the past few years significant developments in simulator technology have made it possible to realistically simulate a specific airplane and its ground and flight environment. By taking advantage of the developments in state-of-the-art of airplane simulators, flightcrew training could be upgraded from a strictly maneuver and procedures-oriented program to a program where crewmembers can also gain experience in dealing with abnormal flight system and environmental situations.

45 Fed. Reg. 44177, June 30, 1980 (Italics in the original.)

and:

> 15. [Public] *Comment*—. . . One important factor has been overlooked in the study contained in the NPRM: . . . . An atmosphere of complacency is prevalent while operating a simulator irrespective of its sophistication . . . because of the knowledge that, regardless of what mistakes are committed . . . a simulator cannot crash.
>
> [FAA] *Response*—In point of fact, almost the exact opposite is true. Pilots do not fly airplanes out of a sense of fear . . . . If a pilot makes a tragic mistake in a simulator, the simulator will dramatically simulate a crash and there is no doubt as to who made the mistake. The pilot's self esteem, peer pressure, and the pressure of being observed by one's employer and possibly the FAA can exceed the psychological pressure of flying the airplane.

45 Fed. Reg. 44182, June 30, 1980

What this means is that the FAA considers its advanced simulators to be so complete and realistic that when an air carrier pilot "transitions" into a new aircraft (one in which he has never before flown), all of his training flights are conducted in these "advanced" simulators. Then, *the first flight, the very first time this pilot flies the real aircraft* (wings, engines, tires, bolts, etc.) *the FAA considers the training to be so complete and adequate that he (or she) is permitted to do so on a revenue flight with paying passengers on board!*

Conclusion

There is no rational basis for retaining any vestige of the FAA's Age 60 Rule, and much harm flows from it. The Rule is an economic disaster. It is founded upon myth and deception. It is currently supported by raw greed. It is discriminatory. It has adversely impacted the national security. It rations the lifeline service available to rural and isolated communities as exist in Alaska, Wyoming, and other States in our Nation's far West.

The Age 60 Rule should be legislated out of existence—because the FAA either can not, or will not face reality and do so on its own authority.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. SLADE GORTON TO NICHOLAS L. LACEY

Question 1. Until 1996, the FAA allowed pilots at smaller carriers to fly past the age of 60. Were there ever any indications that pilots over that age suffered incapacities or had an unacceptable decline in performance?

Answer. In 1995, the FAA issued a final rule (effective March 1996) which transferred some air carrier operations from part 135 to part 121 of the FAA's safety regulations. Scheduled passenger-carrying operations that used propeller airplanes with a passenger seat configuration of 10 to 30 seats or that used jet airplanes with a passenger seat configuration of 1 to 30 seats have moved out of part 135 and into

part 121. Part 121 generally governs air carrier operations of larger aircraft. Because the accident rate for part 121 operations was smaller than the overall accident rate for part 135 operations, it was concluded that safety would be increased by moving certain scheduled passenger carrying operations from part 135 coverage to the more demanding standards found in part 121. One of the long-standing rules in part 121 is the Age 60 rule. Although the FAA has no data that indicates that pilots of smaller aircraft over age 60 suffered incapacities *in flight* or had declines in performance *in flight,* there are many scientific studies that establish that people are more susceptible to incapacitating medical events as they age and that cognitive functioning declines with age. Also, as people age, their ability to react to situations in a timely fashion diminishes.

Question 2. Are there any age restrictions in other modes of commercial transportation, such as for bus or truck drivers, train engineers, or captains of cruise ships?

Answer. We are unaware of any mandatory retirement age restrictions imposed by governmental regulations in other modes of transportation.

Question 3. Why have other countries determined that pilots can fly over age 60? Is flying overseas less safe because pilots over 60 may be in command? Should the FAA recommend that U.S. citizens not fly overseas because some foreign airlines use older pilots?

Answer. Acceptance of age 65 by other countries (e.g. the Joint Aviation Authority (JAA), which governs European aviation matters) may be due to the submission of Dr. Ken Edgington of the United Kingdom (U.K.), at a hearing back in 1993 on the age 60 study, known as the Hilton study. He discussed risks in association with several medical conditions and mortality rates with to respect cardiovascular disease. It also discussed risk amelioration by having a second pilot on board. Dr. Edgington concluded that (statistically speaking), allowing one pilot to fly to age 65, so long as the other pilot is under age 60, has allowed the U.K. to meet its safety objectives, provided that no more than 10 percent of pilots are age 60 or over or are already flying on a medical waiver.

It appears that JAA followed the U.K. philosophy when it adopted the age 65 approach. On the other hand, the International Civil Aviation Organization (ICAO) did a survey several years ago and decided to retain age 60 or over as the rule on the basis of replies from member states (over 50 percent "voted" to retain the rule).

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. SLADE GORTON TO DEBORAH MCELROY (RAA)

Question 1. What impact, if any, as been documented by your members regarding the change in pilot reserve rest requirements that you mentioned in your testimony? Were flight schedules significantly disrupted?

Answer. The interpretive change in FAA policy on rest for reserve pilots meant that pilots on reserve began to accrue duty time for those days, shrinking their availability dramatically. Under the new interpretation, some carriers now have pilots who fly only 6 or 7 days in a month, yet accrue 15 or more duty days because of reserve time.

The impact of this interpretation varies among regional carriers, and correlates to reserve time management practices rather than size. Some carriers reported no impact, ostensibly because these carriers called reserve pilots for duty more frequently than those airlines reporting an impact. Among those impacted, staffing needs increased by about 12 percent. Flight schedule disruptions attributable to the new requirements have been minimal, as impacted carriers have staffed up rather than allow disruptions.

Question 2. Have regional airlines been lowering their flight time requirements in reaction to the high pilot attrition rate?

Answer. Some airlines have indeed reduced the minimum number of hours required for in response to changing market conditions. All such reductions have been accompanied by enhancements in both the pilot selection process and airline training requirements.

Question 3. In your testimony, you mention the investments being made by regional airlines in enhanced training programs. When will these investments pay off? How common are they among your members?

Answer. The investments made by carriers in our industry have already begun to pay off. The enhanced programs provide a more efficient and productive training environment, which allows airlines to incorporate high tech training methods needed for the technically advanced cockpits of the new aircraft many carriers are incorporating into their fleets.

RAA is aware of at least five regionals that have made such investments. Additionally, many others have partnered with flight training companies such as Flight Safety Academy and Pan Am to take advantage of the significant investments in flight simulators and computer based training that these companies have made.

Question 4. Are you aware of any routes that have been canceled because of pilot attrition?

Answer. Yes. Several carriers have had to cancel routes to accommodate the additional time requirements for pilot recruiting, selection, and training.

Question 5. Have regional airlines had to forgo expansion plans as a result of pilot attrition?

Answer. RAA does not have specific information attributable to any particular carrier, however, we know of several that have not been able to increase frequency or add new markets, due to increased pilot attrition. Others have cited no impact.

Question 6. Your testimony states that your airlines spend an average of $13,122 in order to train a new hire, and an average of $12,133 in order to train a new captain. Do your airlines get enough return on their investment before the pilots make moves to major airlines?

Answer. Regional airlines have always been one step in the natural career path of a pilot. Our paramount concern, when making such investments in training, is safety. Such training expenditures are necessary in order to ensure very qualified, proficient pilots for the safety of our passengers and crew regardless of the amount of time these pilots spend working for regionals. Nonetheless, training costs have increased exponentially, placing an added cost burden on regional airlines, especially among smaller carriers.

Question 7. Is there any consensus among your members with respect to proposals to change the Age 60 Rule?

Answer. No. RAA has member airlines with strong feelings on both sides of the rule.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. SLADE GORTON TO CAPTAIN DUANE WOERTH

Question 1. In your prepared statement, you state that, as a general rule, ALPA is opposed to relaxing air safety rules for economic purposes. Under what specific circumstances has ALPA gone against its general rule and supported changing a safety rule for economic purposes?

Answer. There is not an instance that comes to mind when ALPA has knowingly supported relaxation of a safety rule for economic purposes. Of course, the FAA is charged with promoting rules that are cost-effective and an economic analysis is part of any rulemaking. But the ALPA motto is "Schedule with Safety" and our general position is to argue for the safety benefit. We believe that our membership and the traveling public demand such vigilance for safety.

Question 2. ALPA used to fight for changing the Age 60 Rule. If it has always been a safety issue, was ALPA just wrong before? Why the change of heart?

Answer. It is true that ALPA fought the Age 60 Rule over forty years ago, during the period immediately after the Rule went into effect. But in fairness, ALPA's actions have to be put into the proper context. The Rule was proposed in the middle of 1959, and it went into effect less than a year later, in March 1960. With that limited warning, some ALPA members found their aviation careers ended, and others found their career plans changed dramatically. As a labor organization charged with protecting its members' career expectations, ALPA understandably challenged the Rule.

But ALPA's mission has always encompassed more than just the economic welfare of its members. After ALPA began the process of negotiating revisions to collective bargaining agreements to adjust to the Age 60 Rule (primarily by giving up immediate income in exchange for deferred income, in the form of pension benefits), ALPA's members were able to view the Rule at a distance from the initial shock it imposed. From that distance, the safety implications of the Rule became clear, and ALPA's governing bodies changed their opposition to support.

The simple answer to this question is that the Age 60 Rule "has always been a safety issue," and ALPA changed its position on the Rule when its members were able to recognize the safety implications of the Rule, apart from its economic impact.

Question 3. Many counties in Europe and Asia have increased the mandatory retirement age for pilots well above the age of 60. I presume that many if not all of these pilots are represented by unions. Did pilots' unions in those countries oppose changing the retirement age? If so, do pilots refuse to fly after the age of 60 because it is unsafe? If those unions did not oppose the change, why are they wrong on this

issue? Is ALPA advocating that Americans not fly in foreign countries because there may be older pilots older than 60 in command?

Answer. The International Federation of Air Line Pilots' Associations, which has over 90 individual country pilot unions as members, has a long-standing policy that a pilot should not fly in air transport operations past age 60. The only pilot unions that did not ratify this policy were Chile, Hong Kong, Iceland, Israel, Japan, Poland, Trinidad, Tobago and the United Kingdom. We presume that all other countries that ratified the policy opposed changes in their individual countries.

ALPA has no information whether foreign pilots refuse to fly past age 60 because it is unsafe. ALPA has taken no position regarding U.S. pilots flying in countries where pilots older than 60 may be in command and U.S. pilots do fly in those countries.

Question 4. Would ALPA be opposed to a carefully designed study that allowed a few U.S. pilots to fly after the age of 60 to test whether or not cognitive and performance capabilities drop off after that age?

Answer. ALPA would not support such a study. The question is not whether cognitive and performance capabilities drop off after age 60. It is well accepted and demonstrated that cognitive and performance capabilities decline with age. The significant issues are the rate of decline and when the diminished capabilities become a flight safety issue. At the present time, there are not any testing protocols that can address successfully those issues.

Any study that would propose to change the requirement for retirement at age 60 must address all relevant issues. In addition to the cognitive and performance capabilities mentioned in your question, there are medical changes that occur as a part of the aging process. These medical changes must also be studied and a medical appraisal system must be available to identify and evaluate pertinent age-related medical changes.

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