

STATEMENT OF THE HONORABLE DONALD D. ENGEN, FEDERAL AVIATION
ADMINISTRATOR, BEFORE THE SENATE COMMITTEE ON COMMERCE, SCIENCE,
AND TRANSPORTATION, SUBCOMMITTEE ON AVIATION, CONCERNING AVIATION
SAFETY. JANUARY 29, 1987.

Mr. Chairman and Members of the Subcommittee:

I welcome the opportunity to appear before the Subcommittee to
discuss the topic of aviation safety.

At the outset, I would like to make clear my firm conviction that
our airways today are safely operated. The American travelling
public continues to receive the highest level of air safety in the
world, and the U.S. continues to serve as the air transportation
model for the world aviation community. Our system, for all of its
outstanding features, however, depends on human factors and is not
perfect. No system is. That is why the FAA exists, and why this
subcommittee provides oversight--to find ways to make an
outstanding system even better. Today, I would like to briefly
describe for you the level of safety provided this past year by
our air transportation system, and then highlight a few areas
where I believe we need to continue to focus additional efforts to
achieve safety improvements.

This past year proved to be one of the safest in the history of
aviation. During 1986, there were no fatal accidents on any of
the U.S. major airlines. Scheduled air carriers as a whole

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experienced the lowest fatality rate in the past six years. The commuter airlines had the lowest accident rate and the lowest number of fatalities since their inception. Charter carriers had no fatal accidents throughout the year. The only significant accident involving a U.S. scheduled carrier, other than commuters, was a cargo aircraft accident in which there were three fatalities. The general aviation accident record also reflected a positive trend by setting a record for the lowest accident rate and number of fatal accidents. Because of the way safety statistics are kept by the NTSB, the midair collision of a Mexican airliner and a U.S. private aircraft is counted as a general aviation accident. Even counting this accident, general aviation showed a decrease in fatalities for 1986.

Last year's safety performance is one in which everyone in the aviation community can be proud. A positive achievement such as this can result only from intense efforts and a dedication to safety from each segment of the aviation community. I would say once again, aviation safety is a shared responsibility. The FAA establishes rules, enforces compliance, and operates the air navigation system, but it is those who fly and maintain aircraft in the aviation system that really establish safe operating performance. Consequently, to achieve high levels of safety, it requires that every segment of the aviation community demonstrate a strong commitment to safety. The FAA is the agency charged with

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responsibility for keeping that commitment to safety as high as possible.

In discussing the safety record achieved in 1986, I would never imply that our job is done. Clearly it is not. Equally clear to me is the fact that a one-year safety record does not fully reflect the overall safety of our air transportation system, since the system and its users offer such a high level of safety that a small number of incidents can drastically change the safety record from one year to the next. Therefore, I believe it is important to look at the safety afforded in the system over a longer period of time. Given the focus that has frequently been given to the relationship of airline deregulation and safety, I believe it worthwhile to contrast the timeframe immediately before deregulation with the safety record in the deregulated era.

For the 8 years prior to the Airline Deregulation Act (1978 to 1978), the accident rate in commercial aviation per 100,000 flight hours was 2.34; the fatal accident rate was 0.51. In the 8 years following the Deregulation Act, the accident rate fell to 1.65 and the fatal accident rate dropped to 0.36. This same improving trend holds true for virtually all facets of aviation, including the commuters, unscheduled operators, and general aviation.

The actual safety record post-deregulation has been a distinct improvement over the years prior to deregulation. A clear trend

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emerges: despite a rapidly transitioning aviation environment, despite steadily increasing traffic, and despite what is perhaps a heightened public awareness and sensitivity to aviation safety, the safety record of the system has steadily improved. This has not been by luck. It has been accomplished through hard work by all segments of the aviation community, and that same spirit along with the FAA's watchful eye will continue to provide the travelling public with the highest levels of safety afforded anywhere in the world.

Last week, Secretary Dole announced a comprehensive drug testing program intended to promote safety in all facets of transportation. For employees within the Department of Transportation, the program includes extensive drug awareness and education campaigns; drug testing of Departmental employees in critical safety and security positions whose functions have a direct impact on public health and safety, the protection of life and property, or national security; and the opportunity for rehabilitation assistance. Employees in critical safety and security positions, which in the FAA would include such groups as air traffic controllers and aviation safety inspectors, will be subject to pre-employment, random, reasonable suspicion, and accident or unsafe practice testing. The Secretary also announced that employees whose jobs require periodic medical examinations will be routinely tested as part of that procedure, and all other

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DOT employees will be subject to post-accident testing and will continue to be subject to reasonable suspicion testing.

Secretary Dole also indicated that rulemaking efforts concerning pre-employment, post-accident, and random testing will continue for commercial airline pilots and crew, and other employees directly responsible for the safety of flight operations. Moreover, her policy contemplates that periodic testing will be required for those who are required by FAA regulations to have annual physicals.

During the past year, we began to reap some of the fruits of many earlier efforts we began to improve our safety programs within the agency. For example, one of the areas in which I have devoted substantial effort has been our inspection program. Last year, we experienced dramatic improvements in that critical program. Our efforts to increase the staffing of our aviation safety inspector workforce resulted in a solid increase in staffing over fiscal year 1985. Our aviation safety inspector staffing at the end of the fiscal year was 11.4% higher than in 1985, increasing to 1,813 aviation inspectors. This year we are authorized an additional 222 positions in inspector and support staffing over FY 1986.

Both our training programs and program guidance for our inspectors saw improvement in 1986 as did our method of assigning work to

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these individuals. We became much more focused and structured in our efforts to oversee the entire industry. Our inspection program was targeted at key areas within the industry, and, by establishing inspection goals on a national basis, we were able for the first time to assure that every facet of the industry was inspected by the FAA during the year. In short, the planning and refinements we began several years ago manifested themselves last year in tangible improvements in our inspection efforts although more remains to be done.

We also continued our policy of strengthened enforcement to help ensure that each segment of the aviation community will achieve greater compliance with our safety regulations. During 1986, we initiated 63 actions to suspend or revoke air carrier certificates. We also initiated against air carriers civil penalty cases amounting to nearly \$15,000,000 during that same time. We have bolstered our enforcement actions against unauthorized incursions into terminal control area airspace, to enhance compliance by general aviation pilots in this critical area. We have launched a major pilot education program called Back-to-Basics. All of these measures contribute toward a safer system. We will continue to strive for greater safety compliance by administering our regulations in a firm, evenhanded way.

In the air traffic area this past year, we handled more traffic at our en route centers than ever before. In 1986, operations at our

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continental en route centers increased 5% over 1985. Whereas in 1981, we achieved a record by having one day in which operations exceeded 100,000 at our centers, we had 160 such days last year. Operations at our 32 pacing airports were up 4% over 1985. On the downside, however, delays were up this past year over 1985, increasing from 294,975 at our 22 pacing airports to 367,464. Although still unacceptably high to me, the increase in delays was relatively modest for the growth in traffic we have experienced since 1981 contrasted with the delay problems we experienced then. Comparing delays at these pacing airports from 1984 to 1986 indicates that traffic climbed by 560,294 operations over that time while delays only increased by 4,351.

On the topic of delays, I would add that I am intent on finding additional ways to help mitigate the problem. I know that delays are of a magnitude now during bad weather that they are both frustrating and burdensome to the airlines and passengers as well. Projections for the next decade indicate that this problem will worsen to an intolerable situation, if not resolved. I can assure you, that we will take active measures to deal with this problem. For example, we convened a group of air traffic control facility managers last month to assess a variety of recommendations developed by the Air Transport Association to deal with delays, and to develop recommendations on their own. In February, we will convene a meeting of over 100 air traffic control specialists and traffic management officers to review the

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smaller groups efforts and to develop a strategy for dealing with traffic in the Summer of 1987. A significant element of this process will include a more detailed assessment of the ATA proposals and recommendations to headquarters on those proposals. Our foremost priority in developing means of reducing delays or in accommodating delays which do occur in the system must be to ensure that the system remains safe, and I can assure you that we will not permit any action to interfere with the safety of the system.

We also have worked toward additional capacity improvements in our airport system through grants provided under the Airport and Airway Improvement Act of 1982. In FY 1986, we provided \$170.9 million in grants for capacity-related projects, such as runway improvements, at 299 airports. We view capacity improvements, in addition to helping reduce delays, as a means of ultimately enhancing safety by helping to reduce congestion.

We also saw an increase in the number of pilot-reported near midair collisions (NMACs) this past year, which is our second year of full reporting. The total of such reports increased from 758 to 828. Despite this apparent increase, however, there were some positive areas of improvement for 1986. I want to stress, though, that this review of 1986 data is preliminary since not all reports have been closed from 1986.

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One area of improvement concerns the percentage of critical reports, which predominately are those with less than 100 feet of separation between aircraft. These critical reports declined from 23.7% of reports filed in 1985 to 20.9% last year. In another positive trend, it appears that the number of no_hazard reports, which are those reports which realistically do not represent any threat of a potential collision at all, increased significantly in 1986. Subtracting the total no hazard reports from the total number of NMAC reports for 1985 and 1986, respectively, indicates that the number of realistically potential NMACs is virtually the same for both years. Also, with the increased flight hours flown in 1986, the actual rate of NMACs in these categories shows virtually no change. Preliminary data also indicates that the rate of NMACs involving two air carrier aircraft per 100,000 air carrier flight hours has remained unchanged at .27. This is not to say that I am in any way satisfied by these numbers, even with a few positive indicators. More clearly remains to be done by the FAA and those pilots flying in the aviation system to address the potential for midair collisions.

One key program we have been pursuing as a means of reducing the threat of midair collisions has been the Traffic Alert and Collision Avoidance System (TCAS), which is a collision avoidance system that will work independently of and as a back-up to the air traffic control system. We have made significant progress with

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TCAS II, which will provide traffic advisories to pilots and will tell pilots what vertical maneuvers to undertake to avoid another aircraft when there is a conflict. TCAS II is now in the implementation phase of development. During this past year, we certificated a prototype TCAS II for operational evaluation in a Piedmont B-222. We also continued our efforts in the Limited Installation Program (LIP), which is proceeding simultaneously with the Piedmont effort. Under the LIP program, 14 TCAS II commercial quality units will be manufactured by Allied Bendix and Sperry/Dalme for installation in United and Northwest Airlines aircraft. Flight evaluation under this program is expected to begin in May 1987. As I announced last September, I intend to issue a Notice of Proposed Rulemaking (NPRM) later this year to propose the requirement that TCAS II units be carried by air carriers.

In the meantime, we are continuing our efforts with respect to TCAS III, which will provide both vertical and horizontal traffic resolutions. We initiated engineering flight tests of TCAS III at our Technical Center in February 1986, and conducted a series of flight tests in the Los Angeles Basin area to determine operational characteristics in the highest air traffic density. These tests led to improvements in the threat evaluation and maneuver selection logic, which is being tested in current flight tests. We expect performance specifications to be completed for

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TCAS III in September 1987, and anticipate that improvements offered by TCAS III will be easily adaptable to TCAS II.

We continued our progress in restaffing our air traffic control facilities last year. Systemwide our on-board full performance level controller staffing had increased by December 31, 1986, to 9,555, up 1,030 from December 1985, and our overall controller workforce had grown to 14,805. In another positive vein, for the second year in a row, we have achieved reductions in the number of operational errors by our air traffic facilities, although there was an 11.7% increase in surface errors. From 1985 to 1986, operational errors declined by 13.3%. Operational errors in the en route environment dropped by 18.2%, and in the terminals by .7%.

On the whole then, we achieved very positive results last year. But as I noted earlier, we need to strive for an even better system by continuing the strong momentum we have initiated. Let me elaborate on that point by citing some of the areas where we will continue to focus attention this year.

First, we need to continue our building program in the flight standards area by completing the recruitment and initial training of new aviation safety inspectors in order to achieve the appropriate staffing complement within the agency. I also will be watching to see that we continue the key progress we have made in

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programming our resources in a way that achieves maximum surveillance of the entire aviation industry. We must continue placing our valuable human and fiscal resources where they will do the most good in behalf of the travelling public. I am pleased with the new programs we got underway last year to revitalize our flight standards area, but we will need to continue monitoring the many changes we have in process to see that the "products" of these programs come on line in a timely way and to ensure that we make real-time changes to these programs to reflect added experience and knowledge on our part. With the dynamic aviation industry we have today, the FAA cannot afford to let an imbalance occur again in terms of safety personnel nor can we afford to lose sight of changes occurring in the industry.

We also must continue to address the training of our air traffic controllers in our facilities throughout the country. Not all facilities have recovered as quickly or as well as others have from the 1981 strike. With expectations of increasing traffic in the future, we must always look ahead in our planning. Additional controllers will help meet that need. Further, by bringing additional controllers up to the full performance level, particularly in selected facilities, we can enhance management's ability to schedule controllers for peak periods and ease the burden on some of our controllers who, in some cases, are working more hours than they would like. Therefore, we will continue to devote significant efforts toward the training of controllers.

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This month, there was a midair collision just south of Salt Lake City. That tragedy highlights, as do subsequent occurrences, the need to dedicate ourselves in every way we can to reducing the threat of midair collisions. In that regard, I remain concerned about the number of near midair collision reports. Last year, I initiated a study of our terminal control areas (TCAs), the airports where the greatest number of air carrier operations are conducted. We are taking steps in response to that effort to reduce the complexity of TCAs, to standardize the equipment required in TCAs, and to make TCAs more recognizable by pilots who want to avoid the congested airspace encountered there. This effort must continue on in a timely way, as it will contribute to the safety of the terminal area airspace. We must, also, continue to find other solutions, whether operational, procedural, or equipment-oriented, to further reduce the threat of midair collisions anywhere in our domestic airspace. Clearly, one significant aspect of this will be the implementation of TCAS II, which will offer significant safety benefits to airspace users. Therefore, this program will continue to occupy a high priority with me.

We also are continuing our efforts to drive down operational errors. This is perhaps the best measure of how our controllers are performing. I have devoted significant effort to the problem of reducing "surface" errors. We remain committed to reversing the trend of increasing surface errors, and will focus additional time and resources on this problem during the course of this year.

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Lastly, we are looking at ways, including as I noted the ATA proposals, in which delays may be reduced. Unfortunately, the lack of adequate numbers of runways and little likelihood of much change in this key area make this a vexing problem. Further, it should be noted that the majority of delays are caused by bad weather conditions, and not by shortcomings in our enroute system. A major facet of the delay problem has been scheduling by the airlines. There has been an unfortunate tendency for airlines to overschedule departures and arrivals during peak times, which inevitably results in a failure to meet the published schedule. Notwithstanding the difficult nature of dealing with delays, we are addressing the problem of delays in a variety of ways, including the provision of technical assistance by specially constituted teams, and hope to accomplish some progress this year.

In closing, Mr. Chairman, I want to reiterate my view that our air transportation system is working well, but not perfectly. We cannot be content to dwell on the success of last year. We must address the particular areas we know about, and we must be vigilant in identifying and correcting other areas where problems may occur. I am confident we are doing well, and I am confident in the continued support of the Administration and Congress to achieve additional gains.

Mr. Chairman, thank you for my prepared statement. I would be pleased to respond to questions you and Members of the Subcommittee may have at this time.

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