

STATEMENT OF THE HONORABLE LANGHORNE M. BOND, FEDERAL AVIATION ADMINISTRATOR, BEFORE THE HOUSE GOVERNMENT OPERATIONS COMMITTEE, SUBCOMMITTEE ON GOVERNMENT ACTIVITIES AND TRANSPORTATION, CONCERNING FAA ACTIONS IN RESPONSE TO THE DC-10 ACCIDENT WHICH OCCURRED ON MAY 25. JUNE 11, 1979.

Mr. Chairman and Members of the Subcommittee:

You have asked me to appear today to provide information concerning the FAA actions taken in response to the tragic accident which occurred at Chicago on May 25th. In the aftermath of this catastrophe, we have taken a number of actions, predicated on information as it has become available to us, to assure that safety of the flying public is not compromised.

The probable cause of the accident has not yet been determined, and that function is assigned by statute to the NTSB. Necessarily then, my statement will be confined to a chronology of major events, and the actions we have taken in response to the preliminary conclusions we have made based upon the information which has come to light.

As you are aware, the accident occurred when American Airlines Flight 191 crashed on takeoff from O'Hare International Airport at 4:03 p.m. Eastern Daylight Time (EDT). The point of impact

was approximately one-half mile beyond the end of runway 32 right, and preliminary reports indicated that the left engine separated from the DC-10 at lift-off.

A Headquarters National Transportation Safety Board/Federal Aviation Administration accident investigation team arrived at Chicago at 10:35 p.m. EDT. The accident investigation team directed its principal inquiry toward an early report that the left engine had separated from the aircraft during the takeoff roll. The engine and pylon were found approximately 8,000 feet down the runway.

On Saturday, May 26, a bolt was reported to have been found in the vicinity of the ramp and taxiway used by the aircraft to reach the departure runway. Although the bolt was not immediately identified as a component part of the engine, an investigation was initiated as to its relationship to a structural failure. A meeting was therefore held at FAA Headquarters on Sunday morning, May 27, to begin an analysis of the emerging facts.

At 3:00 p.m. EDT, Sunday, May 27, a broken bolt was found near the resting place of the separated engine. This bolt secured

the thrust link bushing and attach fitting to the wing. The ensuing inspection suggested that the bolt had backed out of its hole at some time prior to the actual separation of the engine. It was also reported that the appearance of the fracture surface indicated fatigue failure. With this report in hand, FAA's Western Region was ordered to concentrate their efforts on the forward thrust link assembly design to determine what action should be taken immediately to preclude the possibility of another accident.

At 7 p.m. EDT, May 27, the National Transportation Safety Board recommended that the FAA issue an emergency Airworthiness Directive "to inspect all pylon attach points on all DC-10 aircraft by approved inspection methods." This recommendation was based on their finding that the thrust link attach bolt had failed as the result of fatigue.

After analyzing the data received, at 1:00 p.m. EDT, May 28, we issued an emergency Airworthiness Directive ordering all U.S. DC-10 operators to inspect the pylon aft bulkhead and thrust link bolts in accordance with a McDonnell Douglas alert service bulletin issued that same day. The Airworthiness Directive required the inspection to be performed by 12 midnight PDT.

All DC-10s not inspected by that time were grounded until the inspection was performed.

On May 29, around mid-morning, we began to receive reports of the inspections required by the Airworthiness Directive, which indicated problems with pylon web structure, aft bulkhead attach fittings, huck bolts, fasteners, loose monoball bolts and fittings, some loose thrust link bolts, and cracked thrust bolt bushings. Based on these findings, I grounded all U.S. DC-10 aircraft effective 1:00 p.m. EDT, May 29, until a more comprehensive inspection could be accomplished in accordance with a second Airworthiness Directive which expanded inspection requirements. This second Airworthiness Directive also required recurrent inspections at 100-hour intervals or 10 calendar days, whichever occurred first.

FAA surveillance of air carrier Airworthiness Directive compliance inspections was increased. FAA inspectors monitored inspections on 95 of the DC-10s, or about 70 percent of the 138 total. Reports of findings from these inspections were

forwarded to FAA Western Region and to FAA Washington Headquarters for analysis and for any further action that might be necessary. We also began developing inspections for all wide-body wing-to-engine mounting assemblies, a comprehensive design review of the wing-to-engine mounting assemblies for all wide-body aircraft, and a reassessment of maintenance standards and requirements for all wide-body aircraft.

Throughout June 1, data were being received as reported from Airworthiness Directive inspections, and analyses continued.

On June 2 analyses began to indicate cracks in aft pylon attach structure which were assessed as being possibly related to maintenance handling procedures for the engine/pylon assembly. That afternoon a member of the National Transportation Safety Board staff contacted my staff and informed us of findings at American Airlines, Tulsa, relating to a possible positive correlation of pylon mounting structure cracks with engine/pylon maintenance handling procedures. Later that evening my staff informed him of the FAA plan to issue a General Notice to assure compliance with the manufacturer's

recommended engine/pylon handling procedures and that we would likely issue an amendment to the Airworthiness Directive to ensure compliance.

That afternoon, after confirming that there existed a positive correlation of pylon aft fitting cracks with engine/pylon maintenance handling procedures, FAA issued a General Notice directing principal maintenance inspectors to assure compliance with the DC-10 manufacturer's recommended engine/pylon removal/reinstallation procedures.

Late in the evening of June 2, the FAA was advised by an attorney for the Airline Passengers Association that they were going to file a petition in the United States District Court on Sunday, June 3, for a temporary restraining order to prohibit operation of DC-10 aircraft. On June 3, at 3:00 p.m., a hearing was held in District Court on the petition for a temporary restraining order. At 4:30 p.m., June 3, an order was entered denying the Airline Passengers Association's petition for a temporary restraining order.

On June 4 at 1:16 p.m. EDT, a National Transportation Safety Board recommendation was received at FAA Headquarters confirming and amplifying data discussed in the June 2 telephone conversation between the NTSB and FAA staff, and containing recommendations that FAA issue an Airworthiness Directive requiring the inspections called for in the General Notice. At 10:33 p.m. EDT, we issued a third Airworthiness Directive to include inspection requirements in the aft pylon attach structure area if a reinstallation had occurred.

On Monday evening, June 4, we were served with a second petition for a temporary restraining order by the Airline Passengers Association, and informed that a hearing would be held the next morning in District Court.

On June 5, a hearing was held on the petition for a temporary restraining order. Late that afternoon, the FAA Chief Counsel's Office learned from the U.S. Attorney that the judge had issued a temporary restraining order, and that the FAA Administrator had been restrained from permitting the continued operation of the DC-10 until the cause of the loss of the engine on American Airlines 191 had been identified and

sufficient corrective measures had been taken to prevent future occurrences. Immediately thereafter both my legal and technical staffs began reviewing the methods available to us to implement the judge's Order.

At the same time we sought and finally received at 9:30 that evening a stay of the Court's order, pending a rehearing that was scheduled for the morning of June 6. Subsequently, FAA's Washington technical staff confirmed the existence of new cracks on American Airlines aircraft in California. This indicated a new problem, since these aircraft had been inspected at least once and found free of cracks. In addition, questions were being raised in our ongoing fail-safe analysis of the DC-10 engine mounting structure. This information, when communicated to me early on the morning of June 6, led me to the extraordinary measure of grounding the entire U.S. DC-10 fleet by ordering the suspension of the DC-10 type certificate. That order was served on the Douglas Aircraft Corporation at 6:48 a.m. EDT on June 6.

Based upon that new safety information, which had been analyzed in the period subsequent to the stay of the temporary restraining order, and my decision to ground the DC-10s, we

withdrew our motion for reconsideration of the temporary restraining order at the 9:00 a.m. District Court hearing on June 6.

In addition to grounding the U.S. DC-10 fleet indefinitely, I have taken other subsequent actions to protect the American public from any possible defects on foreign registered DC-10s operating to and from this country, and to assure that adequate information is developed on the safety problems we have encountered so far in the investigation of the DC-10.

On the afternoon of June 7, at my direction, the FAA Chief Counsel issued two formal Orders of Investigation. One Order is directed to the McDonnell Douglas Corporation, investigating the type certification basis of the Douglas DC-10 and requiring the production of certain relevant documents. The second Order of Investigation was issued on the matter of maintenance and airworthiness procedures concerning DC-10 aircraft. The Order is directed to the eight U.S. operators of DC-10 aircraft, and requires those operators to produce certain relevant material concerning the maintenance of DC-10 aircraft.

On June 7, we also issued a Special Federal Aviation Regulation prohibiting operation of DC-10 aircraft in U.S. airspace except

for foreign registered aircraft en route to the United States or foreign aircraft departing from the United States without passengers or cargo.

We are now involved in two comprehensive investigations under the authority of our Orders of Investigation. We will have on-site, at carrier maintenance bases, four teams, comprised of Washington and field personnel, who are scrutinizing the maintenance practices of eight DC-10 operators--American, United, Continental, Northwest, National, Western, World Airways, and Trans International. Each team is composed of a team leader, two maintenance specialists, one engineer, and an attorney. The principal maintenance inspectors of the carriers involved will provide additional support to the teams.

Reports of the teams' findings will be passed on to Washington each day to keep us continually informed. Further, all information developed by the teams will be reviewed by a Data Analysis Team and a Design Response Team. The Design Response Team will coordinate with a team on site in Los Angeles which is analyzing the adequacy of the design.

We also have a separate review underway to carry out the Order of Investigation directed at the manufacturer. At present there are four teams in place directing their efforts towards: 1) Pylon Design and Review; 2) Service Bulletins; 3) Airworthiness Directives Results and Service Difficulty Reports; and 4) Quality Control. Again, there will be a continuing flow of information to Washington of the information developed in these reviews. Should it become necessary to augment these efforts, new teams will be established.

We are also beginning a series of tests on the DC-10 engine to determine if powerplant problems may have contributed to the crash. Questions have been raised about the possible relationship of engine vibration to the crash. The testing to be conducted will induce imbalance and vibration in a DC-10 engine to assess this possibility.

Through these concentrated efforts, along with the other features of our ongoing analyses and the NTSB investigation, we are striving to learn as much as we can as soon as we can.

I sincerely believe, Mr. Chairman, that we have acted responsibly and promptly to assure the safety of the flying public. We have not been hesitant to take those actions

merited by our assessment of the information made available to us and we will not be hesitant to take whatever actions are warranted as information comes to light in the future. I know that my decision to ground the U.S. fleet of DC-10s has caused inconvenience to the travelling public, and I know also that it has cost implications for the airline industry; but, until I am convinced that safety will not be compromised, that decision must stand.

That concludes my prepared statement, Mr. Chairman. At this time, I would like to turn to my technical people who will point out for you and Members of the Subcommittee, using the model we have with us, the components of the DC-10 engine mounting structure.