

SUBMISSION OF FEDERAL AVIATION ADMINISTRATION

USAir Flight 427 Crash Near Aliquippa, Pennsylvania

On September 8, 1994, at approximately 1903 EDT, a Boeing 737-3B7 operated by USAir as Flight 427 crashed approximately 7 miles northwest of the Pittsburgh International Airport while entering the traffic pattern to runway 28R. The 2 pilots, 3 flight attendants, and 127 passengers were fatally injured. The aircraft was destroyed by impact forces and post impact fire.

This submission does not analyze possible accident causes but rather discusses questions that still remain unanswered in the investigation of this accident. As the investigation is ongoing, the Federal Aviation Administration (FAA) reserves the right to supplement this submission.

While the investigation has produced evidence which supports the scenario where the rudder moved to a full-left position after an encounter with wake vortex turbulence, the cause of the movement is still at issue. The FAA, upon review of the evidence, cannot conclude that a failure mode which resulted in an uncommanded rudder movement on Flight 427 has been identified. Any causal findings, to be legitimate, must have conclusive evidence to support findings of a hard over or reversed rudder. Such evidence has yet to be found. Consequently, a specific causal finding of this nature may not be appropriate.

The rudder system abnormalities that have been discovered during this investigation have not been shown to have occurred on USAir Flight 427. There is no evidence of any of these abnormalities being present during the accident sequence. While the FAA acknowledges the fact that some failure modes of the main rudder power control unit servo valve have been discovered during this accident investigation, it has not been substantiated that any of these failures occurred on the accident aircraft. The FAA also acknowledges that a secondary slide jam to the housing of the servo valve or interference with the rudder input link could provide both full rudder rate and full hinge moment. However, once again there is no direct evidence that this occurred.

The Boeing Aircraft Company and the FAA have reacted to the discovered failure modes with modifications of the rudder system, including some recommended by the National Transportation Safety Board (NTSB) that are designed to prevent future events of this type. However, the FAA does not believe sufficient evidence exists to establish a rudder system failure as the cause of the accident.

Thank you for the opportunity to submit comments on this accident.