New Aviation Weather Information Systems Undergo In-Flight Tests

A new on-board avionics application which provides real-time graphic aviation weather information to pilots made its first flight on Nov. 28 in a Federal Express MD-11 revenue flight from Memphis, Tenn., to Newark, N.J. The flight crew reported that initial evaluations of the new system, called AWIN, for Aviation Weather Information, were a success.

AWIN was developed under an agreement with the NASA Aviation Safety Program to provide more and better information on weather to aircrews along their national, North Pacific and West Pacific routes, thus enhancing flight safety. A consortium led by Boeing Phantom Works in Long Beach, Calif., and NASA's Langley Research Center in Virginia designed the AWIN system to include software, data and data-link applications, which provide user-friendly, color weather graphics such as composite-radar mosaic, lightning-strike data, wind data, satellite images and forecasts.

The application further integrates existing textual meteorological airmens reports, terminal area forecasts, aircraft present position, and flight plan information into a single-source pilot workstation. Improved weather awareness should allow aircrews to avoid most weather-related problems through both pre-flight and en-route planning.

In developing the new AWIN system, Boeing and its partners modified data link hardware and created software to improve the speeds at which weather information is gathered, integrated and presented to the flight deck.

A Federal Express MD-11 will complete preliminary evaluations of AWIN in the first quarter of 2000. NASA and Boeing are refining the system implementations and expanding real-time capabilities. When AWIN is fully proven in September 2000, it will become available to operators.

Consortium members working on AWIN, in addition to Federal Express, include: U.S. Air Force 412th Flight Test Squadron - Speckled Trout Project; U.S. Air Force Flight Standards Agency; U.S. Air Force 88th Weather Squadron; Federal Aviation Agency; AMS Enterprises; Air Economics; Penny + Giles Aerospace; Rockwell Collins; Canadian Marconi; Summit Avionics; Honeywell; Litton/WSI; COMSAT Mobile Communications and National Center for Atmospheric Research.

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