Airport Capacity Improvement Founded On Lockheed Martin WindTracer Data

The U.S. Federal Aviation Administration (FAA) recently approved a national Flight Rules change for aircraft separation based on the data provided by Lockheed Martin's WindTracer(R) Doppler lidar systems. Developed and produced by Lockheed Martin Coherent Technologies, WindTracer has been deployed at the Lambert-St. Louis International Airport since 2003 as part of the FAA Wake Turbulence Research Program for Closely Spaced Parallel Runways (CSPR).

As a key result of the study, the FAA will soon allow large or small-class aircraft to land with a reduced spacing of 1.5 nautical miles to the leading large aircraft when landing on CSPRs with less than 2,500 ft separation. Current separation rules require that planes arriving on two such CSPRs be spaced as if they were using a single runway.

This reduced separation will be implemented at five major U.S. airports with CSPRs, including Philadelphia International Airport, Seattle Tacoma International Airport, Lambert-St. Louis International Airport, Boston Logan International Airport and Cleveland Hopkins Airport. Each of these airports must still accomplish additional requirements prior to implementing this Flight Rules change. Ongoing efforts at these airports are expanding the CSPR capacity improvements to assess the departure phase of flight, and under what weather conditions departure spacing can be reduced.

"WindTracer monitors the approaches to runways and collects data on wake turbulence created by landing aircraft under various weather conditions. The research program evaluated the potential capacity improvements by safely reducing separations between aircraft arriving on parallel runways," said Dr. Stephen Hannon, Environmental Sensing director for Lockheed Martin Coherent Technologies. "The results from the study show there are significant capacity benefits associated with the new rule that can be achieved with the existing runway infrastructure."

WindTracer has been used by the Federal Aviation Administration since 2001 to conduct wake vortex detection and tracking for consideration of national flight procedure changes. Systems are also performing wake-related functions at San Francisco International Airport, Houston Intercontinental Airport and Heathrow International Airport in London. The John A. Volpe National Transportation Systems Center, part of the U.S. Department of Transportation's Research and Innovative Technology Administration, provides data analysis and supports resources for the WindTracer deployments.

Headquartered in Bethesda, Md., Lockheed Martin is a global security company that employs about 146,000 people worldwide and is principally engaged in the research, design, development, manufacture, integration and sustainment of advanced technology systems, products and services. The corporation reported 2008 sales of $42.7 billion.

For more information about WindTracer: http://www.lockheedmartin.com/windtracer

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