

Turbulence Plot Message System (TPMS)

PROGRAM/PROJECT:

LEAD AGENCY/COLLABORATING AGENCIES: Northwest Airlines (NWA) and ARINC

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SERVICE AREA(S)/INITIATIVE(S)

- *National Aviation Weather Initiatives:*

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FUNDING

- *Programmed/Planned (\$'s/FY):* /FY03 /FY04

TYPE OF PROGRAM/APPLICATION

Product Development

SCOPE OF PROGRAM/PROJECT

- *What's being developed, procured, etc.:* automatic, en-route, text-formatted messages containing aviation weather hazard forecasts, reports, and avoidance procedures. Eight hazards are included in the system: Clear Air Turbulence, Mountain Wave induced Turbulence, Thunderstorm Activity, Low Altitude Frontal Wind Shear, Low Altitude Convective Wind Shear, Volcanic Ash, Icing and Ozone. NWA pilots receive the information in text format via ARINC's Aircraft Communications, Addressing and Reporting System (ACARS). ARINC has developed a system to display the Text Plotted Messages (TPM) graphically and is making it available to airlines via a redistribution agreement with NWA.
- *How operations will be changed/improved:* provides automatic information of en route turbulence and other atmospheric weather hazards to pilots en route, and other end users, to aid in safe and efficient routing.

PROGRAM/PROJECT MANAGEMENT

- *Basic guidance document for this program:* The "Turbulence Plot Handbook".
- *Program/Project verification process:* N/A
- *Method used for end product validation:* N/A
- *Operational training for the user:* eight class hours for new hire pilots; forty hour class for upgrading dispatchers; and Enhanced Weather Information System (EWINS) approved training for all NWA meteorologists as documented in EWINS Training Manual.

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SCHEDULE/IMPLEMENTATION

- *Next major program milestone:* Integration of TPM and Weather Depiction Charts (Upper Air and Surface) into one package available for distribution.
- *Program becomes operational:* TPMS is currently operational.
- *Plans for further improvements:* Increased use of web based technology for distribution of graphical products.