Flight Data Monitoring

and Beyond

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Where are we today?

Two kinds of FDM Programs

- Individual Operators employ FDM programs to…
  - Support Flight Safety programs, and
  - Increase operational efficiency

- System-Level FDM programs such as ASIAS (Part 121)
  - Provides an overview of industry performance
  - Highlights common safety issues across operators and fleets
  - Promotes Information Sharing
  - Provides metrics for regulatory decision-making

Capabilities of Currently Available System-Level Programs

Example: ASIAS Program

- An event-based system of safety issues **already known to exist**

- Database stores exceedance events such as
  - Approach & Landing events
  - Over-speed events (airframe, flaps, prop, etc.)
  - Engine related exceedances (EGT, EPR, RPM etc.)
  - Does not support helicopter operations

Not your Father's FDM Program

- **Next Gen** System-Level FDM Programs……
  - Focuses on identifying NEW threats not previously discovered ……
    - vs. simply doing tally-counts of threats we ALREADY KNOW exist
  - Data-mining based vs. Event Based
    - Finds the unexpected BEFORE it can become a serious problem
    - Provides metrics for defining new events in traditional FDM programs

Not your Father's FDM Program

- Same System-Level Approach
  - Looks across operators to find commonalities of new threats
  - Information is fed back to operators so that new events can be defined in their FDM programs
  - Operators can then monitor for occurrences of the newly discovered threats
- Industry is alerted to new threats when discovered
  - New mitigations developed
  - Effectiveness can be shared within the Industry

The NASA Connection

NASA has completed Phase I of a project to determine whether …..

- The GA Industry would find NASA involvement helpful in establishing a Next Gen system-level GA FDM program

- Actions taken to date ……
  - Substantial GA industry input has been received on this question
  - A formal report was prepared and delivered to NASA outlining the results of Phase I exploration
  - NASA is currently reviewing the report and a decision is expected shortly

Should NASA Decide to Proceed

- Phase II Start UP of the program will begin immediately and run through September 30, 2010 and would likely include…….
  - Invitations for a core group of individual operators (and their vendors) to partner with NASA in the effort
  - Technical preparations to implement an aggregate deidentified database of GA data
  - Preparation for implementation of a formal GA FDM program sometime after October 1, 2010 that would include GA fixed wing and helicopter operators

Who Needs FDM Anyway?

Whether or not NASA or FAA is involved in the process

- GA needs to find new ways to reduce its accident rate.
- Experience in other sectors of the aviation community indicates FDM programs do reduce accidents rates
- But ….. GA needs to develop it's own model for how FDM is used

- ….. And one shoe size will not fit all

Where do we start?

GA has an abundance of resources

What if…..

- Operators who have FDM programs could share their lessons learned
- Vendors of GA FDM hardware & software could sponsor clinics for operators contemplating FDM programs
- Third Party Integrators could play a lead role in steering the process
- Industry organizations such as HAI could provide an effective interface between the community and government agencies

And Finally……
If NASA builds a new breed of System-Level GA FDM Program

NASA will need your help to ……..become a partner and …. become an active part of the process

NASA will need your help in……

- understanding your various operations and what you need
- designing an effective analysis process as it relates to your operation
- iterating the process so that it becomes better at serving your needs

Thank You!

Questions?