FAA / NASA Risk Analysis Workshop 2004

Break-out Session

Data Collection, Analysis and Applications

General QA for presenters?

What is used in the current state?

Methods

- **FOQA**
- **Safety Reports to CAA (NZ)**
- **Incident reporting**
- **Hazard reporting**
-

Tools

- **AQD (includes web interface)**
- **Basis**
- **AVSIS**
- **Starlight**
- **Megaputer**
- **TapRoot**
- **Inspire (Dell)**
- **Vision (Teledyne)**

Aspects that need improvement to enhance quality and quantity?

- **Techniques that ensure employee buy in**
- **Confidentiality issues. Market confidentiality of systems where it is adequate to allay concerns**
- **Define which events need to be reported. Understand why it should be reported**
- **Make reporting systems user-friendly to obtain more data**
- **Define common architecture of databases to allow compilation/transfer of data.**
- **Use of XML format for reporting**
- **Define common taxonomy (terms that we use)**
    - **ICAO/CAST work on taxonomy @ http://**
    - **Metadata regimes that will encourage sharing of data**

Challenges faced in data collection?

- **Fear of reporting safety incidents anonymous report**
- **Sell value of reporting to instructors, pilots, etc within the system.**
- **Fear about how it is/can be used against airlines or other parties- litigation?**
- **How to mandate in a manner that ensures compliance?**

- **Suitable quantity and quality of risk investigations? Training and qualification of those conducting investigations and analysis.**
- **Data format compatibility issue between FOQA vendors products**
- **Event sets are customized between airlines**
- **Proprietary issues around algorithms of airlines**

People/organizations available to help face these challenges? Where do you find help?

- **FAA**
  - **FOQA tools applied to AT data to get picture of what happened from a/c (industry) perspective but also from radar perspective. Working with Oak Ridge**
  - **System Safety Handbook on www.faa.gov and search for "system safety"**
- **University Aviation Assoc. (www.uaa.org?)**
- **Global Aviation Information Network (GAIN) www.gainweb.org**
- **IOSA.org**
  - **IATA (STEADES)**
- **NASA Aviation safety and security program (AvSSP) at www.nasa.gov**
- **National aviation safety data analysis center @ www.nasdac.faa.gov**
- **www.eurocontrol.be ATC for some parts of Europe safety management in ATC and airports (runway incursions, etc)**
- **ECCAviation Incident Reporting System (ECCAIRS) – uses ICAO taxonomy and has tool to translate taxonomies (MEPHISTO)**
- **www.easa.org? European Aviation Safety Agency is the (regulatory) authority for a/c and a/c parts**

Possible improvements

- **ATC monthly meetings sharing FOQA data, e.g., TCAS events in SoCal**
- **Airline information sharing meetings**
- **Confidential mailings to pilots outside of operations group to obtain accurate feedback**

Blue Sky for data integration, collection, etc.

- **One standard requirements document worldwide**
- **One regulator worldwide**
- **Profitability**
  - **Is the airline model broken?**
  - **Show profitability of FOQA**
- **Uniform data standards allow readability of all reports**
- **Distributed data system rather than current archive model. User can go into data systems wherever housed (airlines?) and data is retrieved through search engines; increases security of process. Too many firewalls to use a central information repository, data cleansing can make data unuseful. NASA AMES system?**

- **Data shared across the board to operators, mechanics, pilots, etc.**