ISASI 2016

Reykjavik, Iceland / 17th - 20th October

Military Tutorial

- Military Air Safety Investigation Conference

Acknowledgements:

- Hosts: Thorkel Agustsson – RNSA/ITSB Iceland
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- Olivier Ferrante, BEA French Safety Investigations
- Wing Commander Neil Bishop, UK Defence AIB
- Dave Harper, USAF Safety Center
- Jim Roberts, Boeing ASI/ASE
- Mike Schmank, Boeing T&E ASI

Military Air Safety Investigator Summary

- **Overall**
- **Accident Investigation side:**
  - What happens when ICAO Annex 13 or STANAGS require real time modifications to the “normal” processes
  - Build Interfaces
  - Develop Agreements/Protocols
  - Transparent Communication
  - Military mishaps, Civilian mishaps, Military-Civilian Mishaps
  - Legal versus Safety investigation Boards
  - Training and education for investigators
- **Technical Side**
  - Alternative way to use Doppler shift to track aircraft
  - For aircraft fires: Auto-ignition temperature versus hot source ignition temps.
  - Advantage of using UAS systems to help accident investigations.

Military Air Safety Investigator Summary

- **P1: “MH17: Mission beyond borders”, Ron Smits, Dutch Safety BoardMH17 accident behind boarder conflict**
  - : Investigation in a hostile environment
  - No access to site
  - New agreements/protocols
  - Priorities different from different organizations, across organizations
  - Change the plan
  - Recovery, transport, reconstruct Mishap Aircraft elsewhere
- **P2: “10 Year of Experience in Swedish Military Accident Investigation”, Agne Widholm, Statens haverikommission (SRK), Sweden**
  - Common application of investigative techniques between commercial and military accidents
  - Depict how Swedish Accident Board is Organized
  - Change in the Organization as military members rotate

Military Air Safety Investigator Summary

- **P3: “Lessons learned on the way to conduct a multinational safety investigation from the Hellenic Air Force F-16D Mishap case (Jan 26, 2015)”, Brigadier Gen Caitucoli, BEAD-Air, France**
  - International 6 Country SIB
  - Each country “knew” their own system – how to be transparent and open across borders and organizations, both regulations and legal aspects
  - Single Report/Common acceptance of causes (give and take)
  - Many ways to express cause of mishap
  - Communication and common approach
  - Take the time to “know” other in international accident investigations
  - OEM agreement to support all participants

Military Air Safety Investigator Summary

- **P4: “Maintenance of Investigation Skills in periods of reduced activity”, Major Stephen Turner, UK Defence AIB**
  - Fewer accidents – GOOD
  - BUT - fewer opportunities for investigators to use their skills
  - Approach using SQEP
  - Address competency
  - Military rotations for investigators
  - How to address skill fade and factors
  - Possible ways of mitigating”
    - more investigation of high end incident,
    - greater sharing of experience across investigative organizations, modes, nations & domains,
    - ever closer relationships with civilian agencies and industry (as they have the same challenges),
    - use of virtual and synthetic training, plus others.
    - Example DASIF 2016: Forum to network, discuss for Military, Industry and Academia

Military Air Safety Investigator Summary

- **P5: “Indoctrinating Minds to 101%”, Fahad Masood, Pakistan Air Force**
  - An alternative method of learning/education for knowledgeable adults
  - K-CAASE methodology;
  - Knowledge, Comprehension, Application, Analysis, Synthesis, Evaluation
  - Low order thinking > high order thinking
  - Practical application using “Andragogy” facilitation technique for aircraft “Ground Effect” analysis and application for student pilot learning
  - Apply correct methodologies to emphasize:
    - How to Think Not What to Think
  - Applied technique in the Pakistan College of Aviation Safety Management

Military Air Safety Investigator Summary

- **P6: “An alternative way of tracking aircraft based on Doppler effect phenomenon”, Piotr Ptak, Lappeenranta University of Technology, Finland**
  - Alternative, reversionary method of aircraft tracking
  - Low cost
  - Existing technology
  - Further studies and application shows promise to develop, refine and deploy low cost systems

Military Air Safety Investigator Summary

- **P7: “Ignition Temperatures in Aircraft Fluid Fire Investigations – Which One to Use?”, Dr. Albert Moussa, BlazeTech Corporation**
  - In aircraft fires involving fuel, hydraulic fluid or oil, the investigator compares the temperatures of various equipment with a temperature threshold for ignition.
  - There are two key threshold temperatures: Auto Ignition Temperature (AIT) and Hot Surface Ignition Temperature (HSIT).
  - This tutorial will discuss and contrast these two temperatures and give an example of which one to use in a particular case.
  - How changes in environmental conditions affect these temperatures

Military Air Safety Investigator Summary

- **P8: “Unmanned Aerial System Use for Enhancing Aircraft Accident Investigations”, Jeff Kraus, Boeing BT&E Test Safety/ASI**
  - UAS technology promises a significant enhancement to traditional methods of aircraft accident investigations
  - Efficiency, safety, capabilities, cost
  - Issues associated with operation, integration, responsible use, and safety
  - UAS capabilities directly relate to components of SMS
  - Regulatory Body UAS Rule changes
  - Future areas to investigate

MASI/ISASI Purpose & Theme

MASI 2016

- **MASW: USAF Host ABQ NM 19-21 APR 2016**
  - "Sharing Safety Lessons Learned to Preserve Military Readiness
- **ISASI: Reykjavik, Iceland 17-21 OCT 2016**
  - "Every Link is Important"
  - MASI tutorial: "Extending the Networks"
  - Training and education for investigators

Year	Host	Location	MASW # of Days
2012	Boeing* (no International ASI's)	Tempe, AZ	3 Days
2013	ISASI/MASI combined	Vancouver, CAN	1 Day with ISASI
2015	ISASI/MASI combined	Augsburg, Germany	1 Day with ISASI
2016	USAF Safety Center - MASW	Albuquerque, NM	3 Days
2016	ISASI/MASI-International Europe	Reykjavik, Iceland	1 Day with ISASI
2017	ISASI/MASI	San Diego, CA	1 Day with ISASI
2018	Embry-Riddle MASW	Daytona Beach, FL	3 Day
2018	ISASI	Dubai	ISASI Conference

* Military Air Safety Investigators (MASI) subset of International Society of Air Safety Investigators (ISASI)