FAA REDAC Subcommittee on Human Factors Spring Meeting Report

22 April 2015

Mr. Jack Blackhurst
HF Subcommittee Chair

FINDING #1

- The HF Subcommittee is concerned that HF research is not receiving the appropriate priority in UAS research programs

- Concerned that current and planned research on UAS ground station design is insufficient and will result in being late to address future regulatory and standardization needs

RECOMMENDATION #1

- The FAA should review the human factors activities within its UAS research portfolio to ensure it is sufficient and timely to address appropriate research for operator stations and terminal operations

FINDING #2

Lack of required research to provide guidance and new capabilities to:

- Implement practical Human System Integration within FAA ATC process

- Implement efficient and effective safety analysis from a human performance perspective

- Continued development of tools that support the identification, classification and detection of ATC risks and associated mitigation strategies

RECOMMENDATION #2

Create a research portfolio under ATC/Tech Ops Core program that achieves the following:

- Generation and incremental revisions of training requirements and standards

- Development of an ATC critical incident analysis capability

- Development of an early warning tool for consideration of human performance in ATC safety related reports

- Development of a safety tool to augment the Risk Analysis Process developed jointly by ATO/EUROCONTROL

    - The objective of this safety tool would be to consider human performance in the risk analysis events process

FINDING #3

- Subcommittee pleased to learn HF ATC group was called upon to help solve throughput of controller candidates

- HF Team has proposed a solution that will create more effective and efficient training methods

- Amount of resources to achieve this capability is at a critical level

- Needs to be sufficient data collection to ensure new methods are effective

RECOMMENDATION #3

- Ensure adequate research is performed to measure the effectiveness of the new methods and tools

- Once tools have been proven at one site, conduct needed R&D to ensure these can be successfully employed at other sites

FINDING #4

Significant improvements in throughput, ops efficiency, overall performance, while maintaining highest level of safety, are expected in NextGen

- Critical to consider human factors in concept exploration, design, and implementation process

- One example is Performance Based Navigation and advance techniques for separation assurance

    - Work has been conducted in new flight deck procedures providing significant insights into effective use of automated flight deck management

- Continuation of this work is essential to achieve Next Gen goals

- Flight Deck research needs to be complimented with Human Factors research

RECOMMENDATION #4

- Continue to pursue Human Factors work focusing on the design and implementation of effective flight deck procedures for PBN and associated implications for design of automated flight-path management systems

- Complement flight deck focused work with studies with human factor issues in the performance of ATC, Traffic Flow Management and Flight Operations Control dispatch tasks

- Ensure work is collaborative that provides guidelines grounded on an integrated systems perspective

- Provide a status briefing to the REDAC Human Factors Subcommittee on plans to accomplish the work

FINDING #5

- Recent finding (Spring 2014) applauded ATC/Tech Ops Core Program
  - To initiate a more strategic planning effort
- This effort has been suspended due to lack of resources
- The Value of this effort would help the FAA uncover emerging risks in both current operations and NextGen implementation

RECOMMENDATION #5

- Reconsider prioritization of this work

- Look at allocating resources to restart this important strategic research planning effort