



## AAR-100

### Human Factors Newsletter # 00-05

(February 26, 2000 – March 10, 2000)

- **AGIE:** The Air-Ground Integration Experiment (AGIE) study is a collaborative project between the FAA William J. Hughes Technical Center, the NASA Ames Research Center, and the Volpe National Transportation Systems Center. It has been one of the most complicated simulation studies ever run in that it requires an enormous amount of interagency and facility coordination. It had controllers working en route sectors at the WJH Technical Center and pilots flying simulators at NASA AMES on the west coast. Every operation was linked via phone lines and every action and reaction was simultaneously known to all the players. The data collection is now complete and reduction and analysis has begun with an initial goal of providing a summary of controller subjective responses while doing the reduction of the automated data in parallel. (T. McCloy, AAR-100)
- **DSAR:** The Decision Support Automation Research (DSAR) simulation study is in the final planning and shakedown stages. It will involve sixteen controllers coming to the WJH Technical Center in pairs of two and remaining there for two weeks. During the first week, controllers will become familiarized with the simulation and automation tools. In the second week, controllers will work simulated air traffic under realistic en route conditions. They will operate with and without automation so that in the base line condition, they will do things the way they always have. Researchers will examine performance, workload, and communications patterns under the two automation conditions to determine if there are any significant changes caused by introducing new technology. (P. Krois, AAR-100)
- **STARS:** The STARS CHI working group has convened at the Technical Center where they have begun to utilize the technical assistance of human factors professionals and the interface prototyping capability that is available. Working group members will be examining alternatives under the initial systems capability in order to optimize potential interface presentations. The human factors laboratory uses ODS Toolbox, networked high end workstations, and realistic display consoles to create a familiar environment in which controllers and other technical professionals can see and use radar presentations which they may have to employ at work in the future. Such prototyping and user involvement can greatly reduce potential implementation problems. (P. Krois, AAR-100)

- **Common Incident/Accident Taxonomy Working Group:** Representatives from the Civil Aeromedical Institute (CAMI) participated in the Joint International Civil Aviation Organization (ICAO)/Commercial Aviation Safety Team (CAST) Common Incident/Accident Taxonomy Working Group that was held in Montreal, Canada. This was the third in a series of meetings involving international committee members working on a common taxonomic structure. A final phase of flight taxonomy was agreed upon, and final changes for the accident categories were submitted. The next meeting will be in Ispra, Italy, May 24-26, 2000. Human causal factors will be introduced at that meeting. (S. Shappell, CAMI)
- **Operational Error Research:** Mr. Luis Castro (AAT-120) conferred with CAMI scientists regarding operational errors. Mr. Castro presented an overview of his project goals to identify short-term and long-term operational error reduction strategies. CAMI researchers provided a briefing of CAMI-related research activities. Mr. Castro met with scientists individually and in small groups to discuss issues including data gathering using surveys and related methodologies, the national Article 55 survey currently being conducted on controller fatigue, and other operational error-related research. Mr. Castro was briefed on the Human Factors Analysis and Classification System (HFACS) and results from CAMI's initial use of HFACS to analyze existing operational error data. (J. Pounds, CAMI)
- **Turbulence Joint Safety Analysis Team (JSAT):** Researchers from CAMI participated in the Turbulence JSAT meeting that was held in Denver, CO. The team completed assigning problem statements and contributing factors to each of the cases. Standard problem statements were developed to support the identification of intervention strategies that will be completed during the April JSAT meeting. (K. Williams, CAMI)
- **National Aviation Operations Monitoring Service (NOAMS):** CAMI researchers participated in the NOAMS workshop that was held in Alexandria, VA. The results of a field study-survey approach and procedure with 626 Part 121 and 135 pilots were discussed. Three survey modes were compared, including paper/pencil mailings, telephone interviews, and face-to-face interviews. Also, four versions of the survey with six different recall periods (one week, two weeks, four weeks, and six months) were compared and discussed. (T. Nesthus, CAMI)
- **Threat Image Projection (TIP)/Computer-Based Training (CBT) Summit:** Representatives of the Aviation Security Research and Development Human Factors Program (AAR-510) attended and chaired sessions at the TIP/CBT summit. Approximately 35 FAA representatives attended summit meetings held at the Herndon, VA headquarters of the Security Equipment Integrated Product Team (SEIPT). The meeting addressed issues of CBT efficacy, TIP validity, and the shift of paradigm in screener selection, training, and performance monitoring that will result from the newly released Notice of Proposed Rule Making (NPRM) for the Certification of Screening Companies. (G. Embrey, AAR-1)
- **Checkpoint of the Future Meeting:** The FAA held a meeting at FAA Headquarters to examine current trends in civil aviation security checkpoint technologies, designs, procedures, and interventions. A representative from AAR-510 attended the meeting, which focused on developing a unified, proactive vision of the checkpoint of the future for the next

5 years and beyond. Discussion centered on technologies under development, anticipated trends (e.g., annual increase in passenger traffic), regulatory changes, human factors issues, and integration of multiple approaches. A white paper detailing the vision for future checkpoint designs is being prepared. (G. Embrey, AAR-1)

- **Intercom Article on Human Factors Initiatives:** An article in an upcoming FAA intercom will focus on human factors R&D efforts in support of new rule making for the certification of security screening companies. A recently released NPRM proposes to require all companies that perform aviation security screening to be certified by the FAA and to meet enhanced requirements. Many of these requirements are predicated on the human factors research that is conducted at the William J. Hughes Technical Center by AAR-510. The Intercom article will highlight the greater emphasis on the role of security screening companies and their employees in the civil aviation security system. (G. Embrey, AAR-1)
- **National Safe Skies Alliance Coordination:** AAR-510 representatives met with the FAA coordinator for the National Safe Skies Alliance (NSSA) to discuss future human factors field research initiatives to be conducted at the Magee-Tyson Airport in Tennessee. The NSSA is located in Tennessee and is a consortium of academia and industry that provides field test and evaluation capabilities for new and advanced civil aviation security interventions. Planned FAA-NSSA testing will be conducted in early spring to assess prototype technologies to screen bottles and liquids in passenger baggage. (G. Embrey, AAR-1)
- **Spatial Dynamics M600 Bottle Content Tester:** Personnel from the Aviation Security Human Factors Program (AAR-510) met with Global Systems Technologies to discuss open issues on the Spatial Dynamics M600 Bottle Content Tester, which, within the next 2 months, will be evaluated at McGhee Tyson Airport. (G. Embrey, AAR-1)
- **TRX Deployment Meeting:** Personnel from the Aviation Security Human Factors Program (AAR-510) participated in a meeting with ACP-400 to ensure that all concerns with the upcoming TRX deployment are covered. The upcoming computer-based training comparison between the various vendors was also discussed. Human Factors personnel are awaiting Integrated Product Team (IPT) requirements to ensure that they are included in the comparison. (G. Embrey, AAR-1)

*More information on human factors research can be found at the FAA Human Factors (AAR-100) web site <http://www.hf.faa.gov>*

Mark Rodgers  
FAA (AAR-100)



**March 28-30, 2000-** 14<sup>th</sup> Annual Human Factors in Aviation Maintenance Symposium, “Safety Management: Theory to Practice”, Waterfront Centre Hotel, Vancouver, British Columbia, Canada <http://www.tc.gc.ca/aviation/mainten/aarpc/hfiam.htm> e-mail: [boothbj@tc.gc.ca](mailto:boothbj@tc.gc.ca)

**April 1-6, 2000-** Conference on Human Factors in Computing Systems, “CHI 2000”, The Hague, The Netherlands <http://www.acm.org/sigchi/chi2000> e-mail: [CHI2000-office@acm.org](mailto:CHI2000-office@acm.org)

**April 11-13, 2000-** Advances in Aviation Safety Conference and Exposition, Adams Mark Hotel, Daytona Beach, FL <http://www.sae.org/calendar/aas00tag.htm> email: [jimb@sae.org](mailto:jimb@sae.org)

**April 25–27, 2000-** 45th Corporate Aviation Safety Seminar (CASS), The Adam’s Mark Hotel, San Antonio, TX [http://www.flightsafety.org/cass00\\_cfp.html](http://www.flightsafety.org/cass00_cfp.html)

**May 9-11, 2000-** General Aviation Technology Conference and Exposition, Century II Convention Center, Wichita, KS <http://www.sae.org/calendar/gat00/index.htm>

**May 10-12, 2000-** 3rd International Conference on Nonlinear Problems in Aviation and Aerospace, Daytona Beach, FL <http://students.db.erau.edu/~siva/conference.html>

**May 15-18, 2000-** 4<sup>th</sup> Joint DOD/FAA/NASA Conference on Aging Aircraft, St. Louis, MO <http://www.aging2000.com>

**June 6-8, 2000-** Digital Human Modeling for Design and Engineering (DHM) Conference and Exposition, Hyatt Regency, Dearborn, MI <http://www.sae.org/calendar/dhm00/index.htm>

**June 13-16, 2000-** 3<sup>rd</sup> International Air Traffic Management R&D Seminar, “ATM-2000”, Napoli, Italy <http://atm-seminar-2000.eurocontrol.fr>

**June 20-22, 2000-** Threats, Countermeasures, and Situational Awareness: Teaming for Survivability, The Virginia Beach Pavilion and Convention Center, Virginia Beach, VA [http://corp-nt20.nawcad.navy.mil/nawcad/news/sit\\_aware/2000/](http://corp-nt20.nawcad.navy.mil/nawcad/news/sit_aware/2000/)

**July 30 – August 4, 2000-** 14th Triennial Congress of the International Ergonomics Association and the Human Factors and Ergonomics Society 44rd Annual Meeting “IEA 2000/HFES 2000”, San Diego Marriott Hotel and Marina, San Diego, CA <http://iea2000.hfes.org/>

**August 27-September 1, 2000-** 22<sup>nd</sup> International Council of the Aeronautical Sciences (ICAS) Congress, Harrogate, UK <http://www.aiaa.org/calendar/icas00cfp.html>

**October 10-12, 2000-** World Aviation Congress and Exposition, Town and Country Hotel, San Diego, CA <http://www.sae.org/calendar/wac00/index.htm>

**October 15-19, 2000-** Human Performance, Situation Awareness & Automation: User-Centered Design for a New Millennium, Marriott Riverfront, Savannah, GA  
<http://www.ie.msstate.edu/hpsaa/index.html>

*Note: Calendar events in Italics are new since the last Newsletter*



Comments or questions regarding this newsletter?  
Please contact Shannon Hower at (202) 863-2680  
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