



**AAR-100**

**Human Factors Newsletter # 01-22**

**(October 27, 2001 – November 9, 2001)**

**Secretary of Transportation Awards for Glen Hewitt and Kim Cardosi:** Mr. Glen Hewitt, AAR-100 scientific and technical advisor for human factors and program manager for acquisition support human factors, received a Secretary of Transportation Volunteer Service Award for his leadership of a program that provides a truly extraordinary service to children in need. Working with his local church, Glen has helped coordinate the Children of Chernobyl Program. This program gives children from the Chernobyl region in Russia a chance to spend some time in the United States. According to doctors who monitor the health of these children, just a short time away from the contaminated Chernobyl region has helped their overall health, and their overall prospects for the long term. Kim Cardosi of the Volpe Center received the Secretary of Transportation's Silver Medal for Meritorious Achievement for her work in air traffic control human factors. The award was presented for outstanding contributions to aviation safety through a variety of research programs and the distillation of that research into design guidelines and training tools. (B. Berger, AAR-100)

**Runway Incursions:** As human factors continues to play a critical role in the causes of runway incursions, there was a strong human factors component in the session on Advancements in Surface Detection and Collision Avoidance at the Air Traffic Control Association's 46th Annual International Technical Program. The session was chaired by Bill Davis of the FAA's Runway Safety Office (ARI). Panelists included Kim Cardosi of the Volpe Center, Bill Davis and Dave Ford of the FAA, Dennis McGee of NATCA and Robert Sumwalt of the Air Line Pilot's Association. (K. Cardosi, Volpe NTSC)

**Collaborative Decision Making Meeting (CDM):** The Office of the Chief Scientist for Human Factors/AAR-100 participated in a technical interchange meeting organized by Action Plan 6 (ATM Decision Support Tools) of the FAA/EUROCONTROL R&D initiative. This meeting, held October 30th through November 1st, addressed strategic collaborative decision making techniques and issues with information shared on operational and research initiatives involving the FAA ATCSCC and ATM IPT, EUROCONTROL, and European states. (P. Krois, AAR-100)

**TRACON:** Human factors representatives from the William J. Hughes Technical Center (ACT-530, ACT-540) met with ATB-1 at his request. ATB-1 expressed an interest in the Technical Center's collective support related to communication and coordination issues that may arise out of the initiatives to consolidate TRACON operations in the New York City metropolitan area.

The Technical Center agreed to take a look at the issues and report back with proposals for research on the potential human factors questions involved. (E.Stein, WJHTC)

**Flight Deck Certification:** On Oct. 19th, FAA, JAA, and TCCA project team members met with Volpe NTSC researchers to discuss progress on the joint human factors research project in support of enhanced FAA/JAA certification harmonization. The joint project will leverage the resources of the FAA's Electronic Flight Bag project and the JAA's Certification of New Flight Deck Interfaces. The objective of the Electronic Flight Bag research is to identify human factors considerations in the design and evaluation of Electronic Flight Bags. The objective of the Certification of New Flight Deck Interfaces research project is to provide methodology to identify potential human error and flight crew vulnerabilities during certification. The shared activity will apply the methodology of the second project to the first project, using the Electronic Flight Bag as one example of a flight deck interface device. The JAA project is expected to be under contract in January 2002. The team discussed the next steps to be taken after the JAA contract is in place. (T. McCloy, AAR-100)

**JANUS:** On October 31-November 1, 2001, a CAMI scientist met with representatives from the FAA Office of Air Traffic Investigations (AAT-200) and NATCA to begin final coordination for CAMI's field beta test of JANUS, a human factors based technique to identify causal factors associated with operational errors. The team was convened based on the Memorandum of Understanding (MOU) between the Agency and NATCA in support of this research, and in the next few weeks will begin identifying volunteer facilities as beta test sites in order to start conducting in-briefings to familiarize operational personnel with the project. (J. Pounds, CAMI)

**Safe Flight 21:** CAMI scientists attended a meeting of the Safe Flight 21 Human Factors Group held at the William J. Hughes Technical Center. The purpose of the meeting was to discuss research projects for FY 2002 in support of Safe Flight 21, human factors concerns, goals, points of contact, and tentative timelines. CAMI scientists have agreed to act as point of contact on five of the proposed projects involving the Alaska Capstone program, and will assist in other projects as needed. (K. Williams, R. Prinzo, CAMI)

**AF/JTA-2001 Project:** CAMI is directing a selection-oriented, baseline job/task analysis for the FV-2101 (Airway Transportation Systems Specialist) occupation at the request of Airway Facilities. The project has three phases:

(I) identification of job tasks/duties and knowledge, skill, and ability (KSA) requirements through a series of subject matter expert panels;

(II) a job/task analysis survey to be administered to all incumbent ATSSs in the AF field maintenance workforce (n = 5,800); and

(III) analysis of survey results and a series of SME panels to identify linkages between clusters of critical and/or important job tasks/duties and KSAs.

The results of the project will be used to (1) define the baseline KSA profile for the FV-2101 occupation, (2) develop a Job Analysis Information Database (JAIDB) as the basis for comparing future job and KSA requirements to support AF occupational workforce planning, and (3) revising as appropriate the content of the AF hiring process.

The last of four Phase I field SME panels will be conducted November 5-9, 2001 at Fort Worth. The headquarters-level review is tentatively scheduled for the week of December 3, 2001 in Washington. Upon completion of that final headquarters review and concurrence from AFZ-1 and AAF-1, the lists of job tasks/duties and KSAs will be translated into a job analysis survey to be administered by CAMI upon completion of required coordination with PASS. It is anticipated that the AF/JTA-2001 job/task analysis survey will be distributed on or about March 1, 2002 to FV-2101s in the AF field maintenance workforce. (D. Broach, CAMI)

**ATS Workforce Planning:** CAMI continues to provide support to ATS occupational workforce planning through analyses of on-board demographics for ATS safety-critical occupations and notices-of-action for FY 2001. A standardized database has been developed by CAMI and the Office of the Assistant Administrator for Human Resources Management to ensure a single, consistent source of data is used for analyses by each line of business. CAMI is analyzing FY 2001 actual-on-board and notices-of-action (NOA) data for ATS, while AHR is supporting the other lines of business. CAMI is also working with the ATS Occupational Workforce Planning Group to develop the FY 2002 workforce plan. The workforce plan presents an analysis of the current state of the ATS workforce, projected losses, estimated growth or shrinkage in workforces based on business requirements, projected hires required to achieve appropriate staffing levels, and analyses of current versus future (3-5 years out) skill requirements. (D. Broach, CAMI)

**General Aviation:** Scientists from CAMI and the University of Illinois presented their analysis of General Aviation (GA) fatal and non-fatal accidents occurring between 1990-98 to a combined session of the General Aviation Data Improvement Team (GADIT) and the Aeronautical Decision Making (ADM) JSAT. Their brief included a thorough review of the Human Factors Analysis and Classification System (HFACS) used to analyze over 8000 GA accidents to date. A complete discussion of their findings involving fatal and non-fatal GA accidents was presented as was a analysis of the "Top 10" types of decision errors and violations contained within the accident data. Not surprising, "VFR flight into IMC" was the top violation identified in the fatal data while "poor inflight planning" was the top decision error. Implications for the ADM JSAT were discussed and further analyses are planned early in FY 2002. Discussions were also held with the GADIT to include the HFACS framework in their accident investigation data improvement recommendations to the FAA and NTSB. (S. Shappell, CAMI)

**Safe Flight 21:** On Oct 29-30, 2001, the Safe Flight 21 Human Factors Team met at the William J. Hughes' Research Development and Human Factors Laboratory (RDHFL). Group discussions focused on tasks required to develop and implement Automatic Dependent Surveillance - Broadcast capabilities for pilots and air traffic controllers. The group was also given briefings on the NAS Human Factors Branch program and demonstrations of prototyping and simulation capabilities at the RDHFL. The group toured Technical Center aircraft that will be used for flight tests of the cockpit displays of traffic information, and the prototyping and flight simulation capabilities of the Data Link Branch. (M. McAnulty, WJHTC)

**Loss-of-Instrumentation:** A CAMI scientist visited the AOPA Air Safety Foundation in Frederick, Maryland, on October 29th to participate in in-flight evaluations of experimental vacuum-system-loss scenarios. This activity is focusing on problems associated with flying partial panel and on what supplemental or back-up instrumentation may be used to mitigate the

effects usually associated with loss of the vacuum-driven instrumentation. Also participating in the visit was a sponsor representative from AFS-410. Test flights were conducted in an A-36 Bonanza and a Piper Archer. In-flight testing will be continuing in the Bonanza, and these data will be combined with the Archer data and CAMI flight simulator data. (D. Beringer, CAMI)

**Aviation Security Human Factors:** The Aviation Security Division (AAR-500) prepared a comprehensive briefing package for presentation to the REDAC, Aviation Security Subcommittee. The FAA Administrator Jane Garvey was in attendance and gave opening remarks. The package discussed evaluation of the numerous suggestions provided by citizens, companies, academia, other government agencies, and those from within the FAA. Contributors included Paul Ruwaldt (AAR-510), Airport Intrusion Control; Lee Spanier (AAR-520), Passenger/Carry-on Processing; Ron Krauss (AAR-520), Checked Baggage; Howard Fleisher (AAR-530), Cargo; Eric Neiderman (AAR-510), Human Factors; and Rick Lazarick (AAR-510), Systems Integration, Threats, Vulnerability and Risks. (P.Jankowski, AAR-530)

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

Mark D. Rodgers  
FAA (AAR-100)



**November 10-14, 2001** – Transcomp 2001, Charlotte, NC <mailto:info@nitl.org>

**November 27-30, 2001** - The Third International Aviation Security Technology Symposium, Tropicana Resort & Casino, Atlantic City, NJ, sponsored by the FAA Aviation Security R&D Division and National Safe Skies Alliance. Symposium topics include: Trace Detection, Bulk Detection, Human Factors, Technical Integration, Operational Testing and Evaluation, Deployment, Aircraft Hardening, Emerging Technologies, and other related topics.  
[http://www.safeskiesinternational.org/symposium\\_2001.htm](http://www.safeskiesinternational.org/symposium_2001.htm)

**December 3-5, 2001** – Maintenance, Repair and Overhaul Asia 2001, Regal Hotel, Hong Kong  
<http://www.aviationnow.com/conferences>

**December 3-5, 2001** – Eye for Transport Miami 2001, the Hyatt Regency, Miami, FL  
<http://www.eyefortransport.com/Miami2001>

**December 3-7, 2001** – FAA/EUROCONTROL Air Traffic Management R&D Seminar, Santa Fe, New Mexico <http://atm2001.eurocontrol.fr>

**December 10-11, 2001** – FAA/EUROCONTROL R&D Committee Meeting, Santa Fe, New Mexico <http://atm2001.eurocontrol.fr>

**February 26-March 3, 2002** – Air Freight Expo 2002, Shangri-La Hotel, Singapore  
<http://www.eyefortransport.com/asia2001>

**March 2002** – European Transportation Leaders Conference, Landmark Hotel, London  
<http://www.aviationnow.com/conferences>

**March 7-8, 2002** – Potomac Chapter Human Factors and Ergonomics Society Mid-Year Symposium, Ft. Belvoir Officer's Club, Virginia <mailto:jerrykrueg@aol.com>

**March 10-12, 2002** – Air Freight Expo 2002, <http://www.airfreightexpo.com/>

**April 9-11, 2002** – Maintenance, Repair and Overhaul Conference & Exhibition, Phoenix Convention Center, Phoenix, AZ <http://www.aviationnow.com/conferences>

**May 5-9, 2002** – 73<sup>rd</sup> Annual Scientific Meeting of the Aerospace Medical Association, Queen Elizabeth's Hotel, Montreal, Canada <http://www.asma.org/>

*May 6-12, 2002 – International Aerospace Exhibition and Conference, Berlin Brandenburg International Airport, Berlin, Germany* <http://www.ila-berlin.com/>

*August 27-30, 2002 – Measuring Behavior 2002, 4<sup>th</sup> International Conference on Methods and Techniques in Behavioral Research, University of Amsterdam, Amsterdam, The Netherlands*  
<http://www.noldus.com/events/mb2002/index.html>

**September 23-27, 2002** – Human Factors and Ergonomics Society 46<sup>th</sup> Annual Meeting, Pittsburgh Hilton and Towers, Pittsburgh, PA <http://www.hfes.org/>

*October 27-31, 2002 – 21<sup>st</sup> Digital Avionics Systems Conference, Hyatt Regency Hotel, Irvine, CA* <http://www.dasconline.org/>

**April 7-27, 2003** – Aviation World's Fair, Newport News/Williamsburg, VA  
<http://www.worlds-fair.com/>

**May 4-9, 2003** – 74<sup>th</sup> Annual Scientific Meeting of the Aerospace Medical Association, Convention Center, San Antonio, TX <http://www.asma.org/>

**October 13-17, 2003** – Human Factors and Ergonomics Society 47<sup>th</sup> Annual Meeting, Adams Mark Denver Hotel, Denver, CO <http://www.hfes.org/>

**May 2-7, 2004** – 75<sup>th</sup> Annual Scientific Meeting of the Aerospace Medical Association, Egan Convention Center, Anchorage, AK <http://www.asma.org/>

**September 20-24, 2004** – Human Factors and Ergonomics Society 48<sup>th</sup> Annual Meeting, Sheraton New Orleans Hotel, New Orleans, LA <http://www.hfes.org/>

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



Comments or questions regarding this newsletter?  
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