



INTERCOM

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Center Purchases New 'Flying Laboratory'

By Pete Castellano



The Bombardier will be the Tech Center flight line's first fully digital Flying Laboratory.



This is the cockpit of the Bombardier. Delivery is expected in September 2005. It will be ready to be used as a Flying Laboratory by March 2006.

Sometime this September, the Technical Center will receive a desperately needed new addition to our fleet of Flying Laboratories, when the new Bombardier Global 5000 arrives.

Going back to at least 1988, there has been a need to replace the Center's aging Boeing 727. Replacing the aircraft proved very difficult due to the lack of available funding to make a purchase of this magnitude. Attempts were made to secure an aircraft through other methods, such

as leasing, but these efforts proved unsuccessful.

Fifteen million dollars were set aside for the purchase through a recommendation contained in the House Appropriations Committee report that accompanied the annual DOT appropriations bill in 2003. As a result, a solicitation was issued calling for a new or used aircraft, in June 2003. In September 2003, the solicitation was cancelled when the Committee's report to the upcoming 2004 DOT appropriations

bill recommended an additional \$10 million for the purchase.

With the added funding available in the 2004 DOT appropriations bill, the Center now had a total of \$25 million to work with, and a new, modern, and totally digital aircraft could be purchased. In April 2004, a new solicitation was issued. Offers were solicited under "full and open" competitive procedures, through which all interested sources were able to participate, including both manufacturers and resellers alike. The purchase was conducted as a "best value" procurement, whereby the Center was able to seek the very best aircraft possible for the funding available. An aircraft with a retail value of \$33 million was purchased for \$24.8 million. According to Acting Flight Program Manager, **Armando Gaetano**, "We got a great plane."

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From the Desk of the Editor

FAREWELL

Change is a constant thing in life and, for the most part, change is a good thing. In that spirit, it is my duty to announce that this is the last issue of the Technical Center Intercom. More than 32 years ago, the FAA created the Intercom. If you think about the agency's choice of the name "Intercom" in the early 1970s, an intercom was a communication system linking different rooms. There are few, if any, intercoms to be found today. The important thing was that the agency recognized the importance of good communications, and created a vehicle to accomplish that goal.

In the spirit of continuing and improving communications in the Internet age, the FAA recently decided to retire the Intercom. In its place, it has created an online publication called Focus FAA. To view the latest issue of Focus FAA, just click on: <http://employees.faa.gov/news/focusfaa/index.html>.

Focus FAA was created for everyone in the FAA. We need to get out the word about Center achievements in whatever forum is available to us. **Jerry Lavey**, who is in charge of FAA internal communications, and **Sandra Sanchez**, the vice president of Air Traffic Organization communications, both have asked us to continue to provide stories and pictures for Focus FAA. Yours truly (**Stan Ciurczak**) has been

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'Flying Laboratory'

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The contract award to Bombardier was made in October 2004, which marked an incredibly fast turnaround by the contracts and legal professionals at the Tech Center. Instrumental in the purchase of the plane were: **Armando Gaetano**, **Larry Van Hoy**, and **Tom Grygotis** from the Center's Flight Program Office, **Lisa Ferrante** and **Anne Marie Ternay** from the Innovations and Solutions Acquisitions Group, **Diane Cherinchak-Loughrin** from the Center Counsel's Office, managers **John Wiley** and **Mike Greco** from the Office of Innovations and Solutions, the Center Director, **Dr. Anne Harlan**, and the 'patron saint' of the new aircraft, former Center Deputy Director, **Bruce Singer**.



The Bombardier is shown in flight – belly view.

Farewell

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designated the focal point for stories from the Tech Center.

Before saying farewell, I first want to thank our faithful readers. I also want to say a special word of thanks to everyone who provided oversight to our efforts, who contributed stories or photos, who edited or proofread stories, or who worked on the design, layout or printing of the Intercom. Fare thee well – and keep those stories and photos coming!

Bombardier Global 5000

By Stan Ciurczak

The high-speed intercontinental Bombardier Global 5000 is capable of flying non-stop from continental Europe to central North America at Mach 0.85 (562mph) with eight passengers and three crewmembers. Designed to execute transcontinental missions faster than any competing jet, at a brisk Mach 0.89 (590 mph), and offering a best-in-class balanced field length, it was designed to fly passengers to and from airfields that are closer to their point-of-business

than any other widebody business jet.

The Bombardier has the widest and longest cabin in its class (super-large business jets). Its cabin is 42 feet, six inches long; 8 feet, 2 inches wide; and 6 feet, 3 inches tall.

The Tech Center expects delivery of its newest flying laboratory in September 2005, and it should be ready to be used for tests beginning in March 2006.

**Interested in writing for the Focus FAA?
Contact Stan Ciurczak at ext. 5-4789**



Study Completed: How to Accept Funds from Outside FAA Sources

By Deborah Germak

Have you ever been approached by a company ... a university ... another government agency ... or any other entity that wanted to use our products, laboratories or other resources? Have they offered to pay for these services? How many times have you been frustrated because there is no way to do this – no mechanism to accept outside funds?

Well, guess what? Yes, there is a way. In fact, there are several ways.

A team of acquisition, legal and financial experts from the Technical Center recently performed a comprehensive review that summarizes all the authorities that

enable the FAA to provide services for payment. The review explains the different vehicles available to render these services.

After completing a report, the team developed an extract in spreadsheet format. It lists the types of outside FAA parties that may want to partner with and reimburse us for our involvement, the appropriate vehicle to use, the point of contact and the authority to do so.

“This is a major achievement and an opportunity to share our knowledge to benefit the entire agency,” said **Basilyn Bunting**, Acting Program Manager, Office of Knowledge

Management. “The new spreadsheet is a wonderful tool to use whenever we have an opportunity to provide our facilities and services, partner with other organizations, and receive funding to do so.”

The spreadsheet is posted on the web under “Knowledge Sharing” on the FAA Technical Center Library Intranet. It can be accessed at: <http://intraweb.act.faa.gov/actlibrary/W&M.pdf/>. For more information about the report, contact Federal Technology Program Manager, **Deborah Germak**, at (609) 485-9862.

FAA Implements New CRDA with Optimal Systems

By Deborah Germak

The FAA recently entered into a Cooperative Research and Development Agreement (CRDA) with Optimal Systems. The collaborative research is in increased predictability in the National Airspace System (NAS).

A concept paper described a vision of an integrated modeling capability that will provide answers to policy level decision-makers with regard to changes in the NAS. This vision was developed in response to the needs of the aviation modeling and simulation community.

The vision presented in this concept paper is the Aviation Integrated Reasoning Modeling Matrix (AIRMM), an envisioned architecture and system with a capability to provide

a robust, integrated, decision-centric environment that supports the analysis needs of policy and decision-makers. The AIRMM system utilizes state-of-the-art technologies from decision systems, information systems, and modeling and simulation systems. Various models of the system were developed in a prototyping activity.

The objectives of this research are to organize a team that will continue the development of AIRMM and reach its goal of an integrated state-of-the-art decision-making tool that could be used across multiple domains and organizations.

The Government’s Principal Investigator is Albert Schwartz, Office of Integrated Engineering Services. AI

can be reached at extension 54226. The Principal Investigator for the Collaborating Research Organization is John Richards, Optimal Systems, who can be reached at (856) 358-0823.

This CRDA was awarded on June 8 and has a duration of 36 months. It is expected this CRDA will provide a core capability that will support small to moderate demonstrations and analysis using the AIRMM concept.

If you have any questions regarding this CRDA, please contact Deborah Germak at extension 59862.

Tech Center Perspective: The Airbus A380

By Jay M. Fox

In January, Airbus rolled out the new A380 whose double-decker design provides for a base passenger capacity of 555, expandable up to approximately 800. The plane is over 239 feet long, with a wingspan of 261 feet. Although it is 50 feet wider than the 747, it is still 58 feet shy of the Hughes Flying Boat (the Spruce Goose). As with the design of all aircraft, safety is a top priority. And when one follows the safety contrail to a well-designed airliner, inevitably that trail will be lead back to the Technical Center. This article outlines the Center's extensive involvement in the development of the A380.

"For the A380, Airbus has an even greater motivation for better fire safety," says **Gus Sarkos**, manager of the Airport & Aircraft Safety

Division's Fire Safety Branch. "Fires are buoyant and move upwards. Therefore, vulnerability of the upper deck on the A380 is a concern, both in terms of how a fire spreads and whether passengers in an upper deck will be able to evacuate." The front-line of fire safety is detection. That is why Airbus and Siemens, the manufacturer of the fire detection system for the A380, sought out the FAA's assistance through joint participation in the International Aircraft Systems Fire Protection Working Group. **David Blake**, an aerospace engineer in the Fire Safety Branch, is the FAA's lead on fire detection systems.

"The rate of false alarms for current fire detection systems is quite high," notes David. "The problem is both

one of method of detection and method of testing." Airborne fire detection systems are light-based. That means that sensors determine how light is being reflected through a cargo hold. Reflected light may indicate the existence of foreign particles, such as smoke. However, the presence of dust or condensation in the sensing chamber may also reflect light causing a false alarm. "There are obvious economic costs to a false alarm," adds **Gus Sarkos**. "And in the case of the A380, only a small number of airports would be equipped to adequately handle an emergency landing."

However, the other problematic part of reducing the rate of false alarms is testing. "The industry currently uses artificial smoke," says David



A380: With a maximum take-off weight of more than one million pounds, the A380 is larger than three Concorde put together. Fortunately, it uses new fuel-efficient engines and advanced, weight-saving materials such as Glare, which weaves together thin sheets of aluminum alloy with glass fibres and epoxy.

Airbus A380

continued from previous page

Blake. "Here at the Technical Center we have developed a standardized fire source which better models the properties of an actual fire. Airbus and Siemens have already used that standardized fire source to assist in the development of the A380's detection system."

Fire protection also includes aircraft insulation. In October 1998, former **Administrator Jane Garvey** issued a statement advising that the FAA would develop "a new test specification for insulation that would result in increased fire safety on aircraft." As a result, two new standards were adopted in 2003, after going through the regulatory process. "The 'in-flight' test standard addresses ignitability," says Gus Sarkos. "That becomes effective on September 2, 2005. Any aircraft built in the United States after that date must be insulated with materials meeting the new standard. The 'burn-through' standard focuses on a post-crash situation – the longer it takes a fire to burn-through from outside the aircraft into the cabin, the more opportunity there is for passengers to survive. This standard goes into effect in 2007." Gus notes that Airbus is not required to meet these standards unless they are building an aircraft for a US carrier. Despite this, Airbus has voluntarily agreed to build their aircraft, including the A380, adhering to both the 2005 and 2007 standards.

On the airport side of the Airport & Aircraft Safety Division, the Technical Center is intimately connected to the A380 at the National Airport Pavement Test Facility (NAPTF). Both the Boeing 777 and the Airbus A380 feature a triple dual tandem landing gear – three pairs of wheels lined up on the same gear. Because there was no data on testing pavement to failure with a triple dual tandem gear, Boeing joined the FAA in funding the NAPTF to obtain accurate data to predict

pavement capacity for the 777.

"In theory, if two wheels can bear the load for one particular weight, than four wheels would bear twice that load," states **Satish Agrawal**, manager of the Airport & Aircraft Safety Division's Airport Technology Branch. "However, because there is interaction between the wheels, the actual bearable load is less than that theoretical line."

Data on aircraft equipped with single dual tandem and double dual tandem gears permitted the FAA and airport operators to calculate actual airport pavement capacity. The NAPTF provided the opportunity to test both the triple dual tandem and the double dual tandem (modeled after the 747's gear) not only to confirm predicted capacity based on older procedures, but also to determine whether the true capacity was greater. "In the absence of the data," says Satish, "airports would have had to reconstruct pavement, believing it necessary to accommodate larger aircraft, such as the 777 and A380." Instead, newly developed criteria generated by the NAPTF show true pavement capacity to be greater than originally thought, and that will save approximately 1.7 billion dollars in unnecessary strengthening of pavement over the next ten years. That savings is even more impressive when compared to just a little over two million dollars in annual operating costs for the NAPTF.

Although not a contributor financially to the NAPTF from the outset or currently, Airbus has participated in the FAA's Airport Pavement Working Group, which just met at the beginning of February at the Sheraton in Atlantic City. And recently, Airbus through the STBA (the French equivalent of the FAA) asked for a memorandum of understanding with the FAA, which will provide for cooperative funding of further

pavement research.

"All information generated by the facility is published on our web site," adds Satish. "That site receives 80,000 hits per month demonstrating the value of the testing performed here."

Given the size of the A380, it is not surprising that capacity is a significant issue. In the Office of Innovations & Solutions, work is already underway on this front. "Our first task with the new Airbus was to examine it from the perspective of ground movement problems on taxiways and runways at airports," says **Bob Holladay**, manager of the Modeling and Analysis Group. So far, the airports being evaluated are Memphis (where the A380 will be used to haul cargo for FedEx), San Francisco, JFK in New York, and Anchorage. Indianapolis will most likely be studied next. Los Angeles procured a private consultant for their study, and the new airport in Denver was built prepared to accommodate new large aircraft (NLA) such as the A380. "Our initial conclusions indicate that although there may be some minor difficulties at the studied airports, no severe accommodation problems have yet to be uncovered." Bob points out that these first studies do not include passenger-loading models, nor have wake vortex considerations been analyzed for in-flight capacity issues. Also, future capacity issues still exist at airports such as San Francisco and JFK in New York, with or without the presence of NLAs.

In just the short span of 100 years since the Wright Brothers took flight, it is amazing to witness the creation of an aircraft such as the new Airbus A380. As new innovations take hold, the Technical Center continues to be a large part of aviation's safe passage into the 21st Century.

Tech Center Intercom Wins Two “Awards of Distinction”

By Stan Ciurczak

The Technical Center Intercom has been named a winner, for the first time, in The Communicator Awards Print Media competition. The Award of Distinction is given for exceeding industry communication standards. Winners of The Communicator Awards come from advertising and public relations agencies, corporate communications departments, educational institutions, broadcast and cable companies, Government entities and other organizations.

The Tech Center Intercom was awarded the 2005 “Award of Distinction” in the Employee Publication/Internal Magazine category for two different issues: Volume 7, Issue 2 and Volume 7, Issue 6.

The Communicator Awards is an international awards competition that recognizes outstanding work in the communications field. Entries



Intercom Staff: Some of the members of the Intercom staff gathered recently for a photo. Shown (left to right) are: Ken Stroud, Ginger Cairnes, Barbara Harris-Para, Pete Castellano, Adam Greco, Terry DiPompo, Laurie Zaleski, Janet Kinsell and Stan Ciurczak.

are judges by communications professionals who look for work that serves as a benchmark for the communication industry. There were 5,078 entries from the U.S. and several foreign countries in The

Communicator Awards Print Media competition.

Congratulations to the entire Tech Center Intercom staff!

Bader Field: Past, Present and Future

By Barbara Harris-Para

Bader Field in Atlantic City became the world’s first “air-port” in 1919; a local newsman, **Robert Woodhouse**, coined the term. It was the first Municipal airport in the U.S. for both land and sea planes. It came into immediate use by the aero marine “Flying Limousines,” inaugurating passenger service between New York and Atlantic City under the auspices of the Hotel Traymore. A member of the committee that sponsored the airport was **Admiral Robert E. Perry**, discoverer of the North Pole.

The first local aircraft license for passengers was given to **Glenn H. Curtiss** on June 8, 1911. The Army established air services on July 18, 1914. About the same time

Pomona Field, the water works at the intersection of English Creek & Pomona Roads, and intersecting at Tilton Road were locating a.k.a., Atlantic City International Airport, on 5500 acres. It was leased to the Navy on October 23, 1942, and cost \$6,000,000.

The first attempt to cross the Atlantic Ocean was in October 1910 from Atlantic City by **Walter Wellman**, a polar explorer. It was not an airplane but a dirigible called “America.” Unfortunately, a heavy storm off the coast led to the demise of the airship. Fortunately a passing steamer going to New York rescued all crewmembers. A second attempt was conducted on July 2, 1912 by

the “Akron.” It only got to a height of 2000’ when it exploded over the inlet killing its entire crew.

In 1910 an “Air Carnival” on the beaches was held, and the ‘flying boats’ did their stunts in the inlet. The carnival was noteworthy, since this was one of the first of its kind, and it lasted ten full days.

Several air records were recorded. One was by **Walter Brookins**, who set an altitude record of 6175’ and another was by Glenn H. Curtiss, who flew over 50 miles and returned within one hour and 14 minutes. The Aero Club of Atlantic City sponsored

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Advanced Imaging Wins 2005 Telly Award

By Robert Marks

The Advanced Imaging Division is pleased to announce that the recently produced DVD, "Technical Center Overview: The Technology of Transformation," has been recognized as a finalist and Bronze Award recipient in the 26th Annual Telly Award Competition. The DVD, which also recently received a Communicator Award, was produced in conjunction with Office of Human Capital Strategies.

The Telly awards are selected from more than 10,000 entries from all 50 states and numerous countries. Founded in 1979, the Telly Awards is the premier award program honoring outstanding local, regional, and cable TV commercials and programs, as well as the finest video and film productions. Winners and Finalists represent the best work of the most respected advertising agencies, production companies, television stations, cable operators,

and corporate video departments in the world. With a 26-year history of recognizing creative excellence, the Telly Awards is a widely known and highly respected international competition.

The videos contained in this DVD may be viewed or downloaded on the Intranet at <http://video.act.faa.gov/>

Congratulations to all those involved!

Japanese Civil Aviation Bureau (JCAB) Visits the Tech Center

By Ginger Cairnes

Jumpei Ogawa and **Satoshi Kitamura**, Special Assistants to the Director of the Air Traffic Control Data Systems Office, Air Traffic Services Department, Japan, recently visited the Technical Center for two days. **Naoki Motoshima**, Global Business Advisor and Information Technology consultant also was part of the group. The group also visited FAA Headquarters and Lockheed Martin.

Briefings and lab presentations to JCAB explored the design, development, test and evaluation processes of future key Air Traffic Management systems and Free Flight tools. A team of experts from FAA



Bill Benner and Tom Weiss answer questions regarding the Integrated Terminal Weather System and other weather programs.

Operational Support spent most of day two with our visitors.

Bader Field

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the event, headed by **Albert T. Bell**, a pioneer in aviation.

The first demonstration of "bombing" from an airplane took place during the carnival by Glenn Curtiss who dropped oranges close to the yacht, 'John E. McHrer II,' splashing water

on everyone onboard. Other types of fruit were dropped onto the beach, to show folks the accuracy of the maneuvers.

The Pan-American Air Congress took place at the Steel Pier on May 2, 1919. All types of maneuvers and

stunts were performed throughout the month. A Pulitzer Prize of \$500 would be awarded to the person who flew to the newly opened Atlantic City Airport. **Lt. Rohiff** of the Curtiss Organization flew 125 miles from New York in two

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EMAS Saves Another Aircraft at JFK

By Dr. Terry Kraus

For the third time, the Engineered Material Arresting System (EMAS) at NY's John F. Kennedy International Airport (JFK) safely stopped a plane. A Polar Air Cargo Boeing 747 skidded off the end of runway 4R after landing. The aircraft came to rest in the middle of the arrestor bed; no one was injured. The airport temporarily closed for arrivals, while departures continued to use runway 4L.

"EMAS is proven technology that saves lives," said **Joan Bauerlein**, FAA's Director of Aviation Research and Development. "EMAS is also proof of the successful long-term public-private partnership of the FAA, Port Authority of New York and New Jersey, and Engineered Systems Company (ESCO)."

Developed by the FAA, the Port Authority of NY and NJ, and ESCO, the EMAS, made of water, foam, and cement, deforms readily and reliably under the weight of an aircraft tire. As

the tires crush the material, the drag forces decelerate the aircraft, bringing it to a safe stop.

JFK's runway 4R does not have the required 1,000-foot long safety area; Thurston Basin is 550 feet from the runway end. The Port Authority of New York and New Jersey worked with the FAA and ESCO to install an EMAS to provide overrun protection. The arrestor bed is 400 feet long, which is one of the larger sizes typical for a safety area of this length, on a runway supporting large jet traffic.

Four years ago, the arrestor bed safely stopped an American Eagle commuter plane that overran a runway at the airport. All 30 passengers onboard walked off the aircraft, and damage to the aircraft was minimal. In June 2002, the EMAS stopped a cargo plane carrying 3 crewmembers that overran a runway while arriving at the airport. No one was injured.

EMAS is now being installed at airports around the country, significantly enhancing the safety of the flying public. International interest is also increasing.

Generally, the cost to install an EMAS ranges between \$2 million and \$4 million, plus site preparation, for U.S. installations. Airports can apply to the FAA for Airport Improvement Program (AIP) grants to help defray the cost of the system.

ESCO is currently working with the FAA to install an EMAS test bed at the Tech Center. The test bed will allow researchers to monitor environmental effects on EMAS durability, improve installation methods, and improve computer modeling. The FAA expects to complete the installation of the test bed in 2005.

Perrmeister Tournament Benefits Leukemia Society

By Bill Farnan



The Annual Perrmeister Golf Tournament raised \$15,000 in memory of Perry D. Copp, a long-time employee of the FAA Technical Center. A check was presented to the Southern NJ / Shore Region Chapter of the Leukemia & Lymphoma Society. The society's mission is to cure leukemia, lymphoma, Hodgkin's disease and myeloma, and to improve the quality of life of patients and their families. Golf committee members recently presented their donation to the Leukemia & Lymphoma Society's Executive Director, Cathy Trzaskawka, in the Atrium. Pictured (left to right) are Bill Farnan, Joe Shears, Karen Shears, Carol Widerker, Cathy Trzaskawka, Yvonne Copp, Perry A. Copp and Kathy Tayge.

Employee Profile: FAA Research Test Pilots at the Technical Center

By Barbara Harris-Para



Keith Biehl, Research Test Pilot

Recently I interviewed **Keith Biehl**, who has been flying since May 1966 (LaPorte, IN), when he acquired his private pilot certificate and went on to acquire his Certified Flight Instructor (CFI), Certified Flight Instructor of Instruments (CFII), Commercial, Multi-Engine Instructor of Instruments (MEI) and Airline Transport Pilot (ATP) ratings. Keith started teaching students to fly general aviation aircraft at Albion Airport (now Camden County) while working at the Naval Engineering Center (Lakehurst, NJ) as an Aeronautical Engineer. At Lakehurst, one of his co-workers, **Bill Westfield**, head of the Engine & Fuel test group here at the Center back when it was known as NAFEC, suggested that Keith join him. After waiting four years for an opening, Keith made the move down here to Building 211 in April 1980.

While working on engine testing and auto gas usage for general aviation piston engines, he flew with our research test pilots as a subject pilot on the Traffic Collision Avoidance System (TCAS). He then moved over to the test pilot group in April 1985. Now twenty years later, he has been flying in all the aircraft that the Tech Center owns at this time. Keith's main goal is to get the job done and have fun. He has volunteered many hours to aviation education, departmental and other projects, and generally



This is the Tech Center's Boeing 727. Larry VanHoy, a former Eastern Airlines pilot, flew this aircraft when it was part of the Eastern Airlines fleet as well as now.

enjoys helping everyone.

What is the most interesting event for Keith in his 20 years here? Well, just about everything! Keith and his crew soon will leave for Brazil, stopping in Puerto Rico for fuel and rest. I asked if he was excited about the new aircraft the Tech Center is purchasing. Keith said this will require the team to get another type of rating from the Bombardier Aircraft Corporation, and he will be happy to go to Montreal, Canada or Wilmington, DE for this flight training. It has been a long process in acquiring this new aircraft, but well worth the effort, according to Keith and **Larry VanHoy**.

Larry took a much different approach to aviation than Keith. He began at the U.S. Air Force Academy and got his first set of wings in September 1967. He instructed in a T-38 trainer for 4 years, and then briefly was an instructor in the T-38 Instructor School. Having completed his obligation to the military, he moved

on to Eastern Airlines, flying Boeing 727s, 757s, and Airbus A-300s for more than 16 years, before they went into bankruptcy.

Larry pointed out that the Boeing 727 we have at the Tech Center once belonged to Eastern Airlines, and he actually flew it as an Eastern airplane. He suspects that the 'golden age' of commercial aviation ended as Eastern faded into the sunset.

His first position here at the Center was in Airport Lighting & Engineering, which works on the signs that help aircraft taxis hold short of runways and see the airport from the air. Larry works as a "Pilot Proficiency Pilot Examiner" for the B727, and has flown over 20 aircraft, (fixed wing and helicopter) and logged over 15,000 hours in the air. I was surprised that as test pilots they don't have more hours, but 60% of the life of an aircraft is spent in the mod shop or

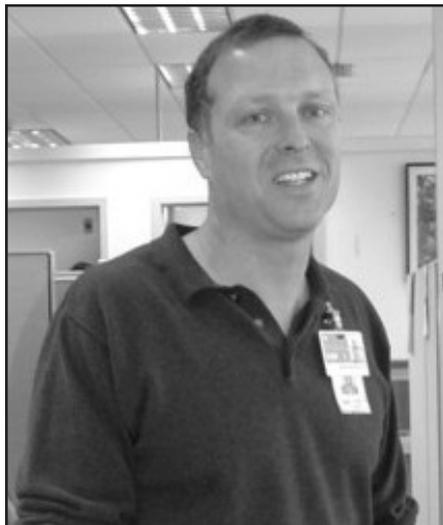
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FAA Research Test Pilots At The Technical Center

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Larry VanHoy, Research Test Pilot



Armando Gaetano, Acting Branch Manager

in inspections of some type. Larry also mimicked Keith by saying he will continue to work until he stops having fun, because he still is addicted to flying.

One last note: There are seven Research & Development test pilots who work at the Tech Center under **Mark Erhart**, and there are more than 45 Certification Pilots throughout the FAA, who work with aircraft/equipment manufacturers to certify production hardware.



HPRV (above): Charlie Keegan, Vice President for Air Traffic Organization Operations Planning and Director of the Joint Planning and Development Office, recently spent a day, at the Tech Center, meeting with managers and employees and touring Center facilities. Here he is shown looking over the High Performance Research Vehicle (HPRV) along with the Director, FAA Office of Aviation Research, Joan Bauerlein, and the Manager, FAA Airport and Aircraft R&D Division, Pat Lewis.

June 2: Charlie Keegan Visits the Tech Center

All Aboard (below): Nick Subbotin, Peggy Gervasi, Keith Bagot and Charlie Keegan (left to right) are shown inside the High Performance Research Vehicle (HPRV).





FAA Debuts On-Line Human Factors Training

By Adam Greco

To ensure adequate human factors training is readily available, the FAA has launched an on-line "Human Factors Awareness Course." The purpose of this course is to introduce the concepts and methods of the human factors discipline. While developed specifically for those who support FAA system acquisitions, the course is open to all, including the general public. FAA employees are eligible for a Certificate of Training upon course completion. The goal of this ten-module course is to foster an understanding of the role and contribution of Human Factors in system design, development, and implementation.

"Improvements to aviation safety and capacity are dependent on developing a national aviation system that is not only technically sophisticated, but also human performance-based and human-

centered," says **Joan Bauerlein**, FAA Director of Aviation Research and Development. "That is why the FAA requires that human factors be systematically integrated at each critical step in the design, testing, and acquisition of new technology introduced into the national aviation system."

The beneficiaries of FAA's ongoing human factors program are widespread across both government and industry. Safety specialists are gaining a better knowledge of how aircraft flight deck and cabin design features, as well as training and operational procedures, affect human performance and safety. Technical operations experts are acquiring the information required to procure and operate efficient error-resistant systems, and air traffic controllers are being provided decision support systems that will improve safety and

increase throughput to accommodate the higher traffic levels projected for the future.

Manufacturers have gained the knowledge and information required to develop systems that operate effectively within the global air transportation system. Air carriers are achieving the ability to apply more effective personnel selection and training programs. General aviation is receiving equipment and procedures that enhance safe operation at lower costs.

The training is available at <http://www.hf.faa.gov/webtraining/index.htm>. More in-depth information on specific FAA Human Factors programs and research can be found at <http://www.hf.faa.gov>. Guidance on the role of Human Factors in FAA acquisition programs can be found at <http://www.hf.faa.gov/tools.htm>.

Tech Highlights

Edited by Stan Ciurczak

Initial Academy Training System (IATS) Voice Communication System (VCS)

The final installation of the new voice communications system, IATS VCS, occurred on schedule in April. Students already are taking classroom instruction at the Academy, where they then move on to the training labs and begin using IATS VCS. The Tech Center's Integration and Interoperability Facility engineering staff developed IATS VCS, a product that directly supports the 10-Year Controller Staffing Plan.



International Aircraft Materials Fire Tests Meeting

More than 120 members of the International Aircraft Materials Fire Tests Working Group recently met in Atlantic City. Most were from insulation suppliers or fabricators, but aircraft manufacturers also attended, including Boeing, Airbus, Gulfstream, Bombardier and Embraer. British Airways, Lufthansa, Delta and American Airlines also attended in order to learn about an impending rule that says replacement insulation blankets must meet radiant panel fire test criteria after September 2. Attendees also learned about two draft advisory circulars that address the radiant panel test, and a separate

burn-through test for insulation that will become effective in 2007. The Tech Center presented draft training videos for each insulation fire test method and conducted a 1-day training session on the new standard for 11 Designated Engineering Representatives whom the FAA has approved to find flammability tests to be in compliance with FAA regulations (FAR 25.856, thermal acoustic insulation flammability).



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Developing the Global Future Communications System (FCS)

By Deborah Fontana

The Future Communications System (FCS) is a joint effort between Eurocontrol and the FAA that aims to develop a global FCS which provides necessary performance, capacity, economic viability and availability to satisfy operational requirements for the 2015 timeframe and beyond, through 2030. The goal of FCS is to create a blueprint for future aviation communications; thoroughly analyze all alternatives and technologies; develop a roadmap, through 2030, that will reflect technological maturity and transitional analysis; and derive a set of technologies that the airline industry will support.

The effectiveness and reliability of air-to-ground communications in the National Airspace System (NAS) plays a critical role in the daily operations of air traffic control. The NAS is dependent upon voice channels in the VHF spectrum for communications between air traffic controllers and pilots. Even with aggressive spectrum management, it is expected that the U.S. will experience shortages of communications channels in the 2015 timeframe. With multiple air-to-ground



Group Manager Andy Colón gives an infrastructure presentation during system demonstration activities in 2003

technologies under development today, the U.S. and Europe have entered into a partnership to study available technologies. Referred to as the Future Communications Study (FCS), the ultimate goal of this partnership is to determine which technology will meet the growing demand for additional channels, as well as meet the demands for future air traffic management requirements.

The Air/Ground Communications Group at the Tech Center, under the direction of group manager, **Andy Colón**, is actively participating in the FCS. Team members **Peter Muraca**, **Kimberly Carty**, **Deborah Fontana**, **Tim Henry**, **John Tepper**, **John Petro**, **Lou Bottino**, **Phil Randazzo**, and **Steve Taht** participate in technical discussions, telcons and technical white paper generation and review in support of FCS subgroup tasks. Group manager, Andy Colón, is an active participant in FCS subgroups, and recently was tasked to lead the FAA Aeronautical Telecommunication Network (ATN) Architecture Plan Team. His group will lead development of a coordinated FAA position regarding ATN integration and NAS data communications within the International Civil Aviation Authority (ICAO), and will harmonize the implementation plans of each of the current data communication projects.

John Tepper is the lead of the Ground System Integration subgroup whose responsibility is to address issues of integration of the ground system portion of a future communication system into the NAS. Peter Muraca, who participates in many of the concurrent tasks in the Air/Ground Communications organization, is the lead engineer in the ATN Architecture Plan Team and a GSI subgroup member.

The U.S. initiated development of the Next Generation Air-Ground



FCS RTTA Team Lead Rhonda Thomas gives a Program Office presentation during testing activities in 2004

Communications (NEXCOM) Program. Commercial aviation spectrum in the US is split up into assignable frequencies in the VHF band, each one with 25 kHz spacing between them. VHF Digital Link (VDL) Mode 3 is a state-of-the-art radio technology implementation that will enhance spectrum efficiency by providing additional voice and data communications channels. VDL Mode 3 allows a number of users to simultaneously access a single Radio Frequency (RF), using time slots, and allocating each time slot to one user (4 potential channels on one frequency). VDL Mode 3 is a digital alternative to further subdivision of the VHF band and maintains the 25 KHz separation between assigned frequency channels. However, in response to recent FAA budgetary constraints, the NEXCOM Program development was postponed this past year.

Europe, on the other hand, which has had more immediate frequency congestion problems, decided to further sub-divide the aviation VHF spectrum, from 25 KHz to 8.33 KHz.

(FCS)

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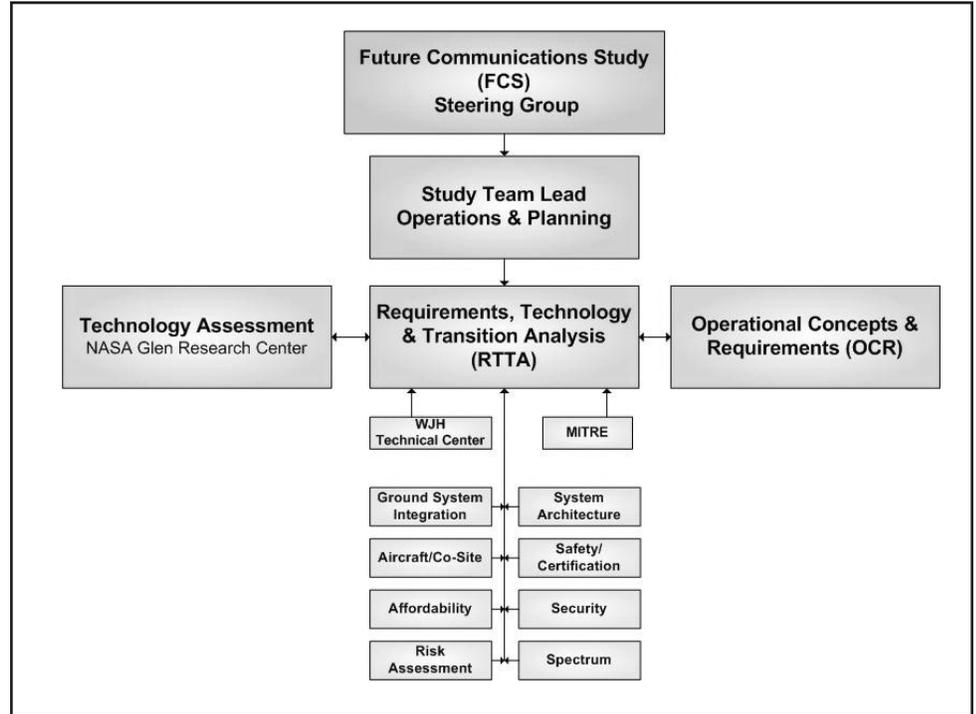


ATN Architecture Team Lead Engineer Pete Muraca conducts avionics testing in 2004

In 2000, Europe began reducing the frequency bands from 25 KHz to 8.33 KHz channel spacing, theoretically increasing the number of available frequencies three-to-one. Europe has also implemented VHF Digital Link (VDL) Mode 2 to provide air traffic data link services, which alleviated the need to use voice communications for air traffic control and pilot communication exchange.

Europe has gained capacity on a short-term basis by assigning new 8.33 kHz frequencies; however, future air traffic demand does not allow this option to be a long-term solution. Furthermore, Europe has assigned so many 8.33 kHz channels that it would now be difficult to revert back to a 25 kHz-only system. The airline industry recognized this divergence and is now advocating a global solution.

Enter the Future Communications Study (FCS), which was created in light of the European implementation of 8.33 kHz and the delay of the FAA's NEXCOM program. A future communications system will have to support multiple information exchanges including air-to-ground,



FAA Future Communications Study (FCS) Team Organization

air-to-air, broadcast and point-to-point, voice, data link, and will also exchange communication, navigation and surveillance-type of information. The FCS has structured a 3-year-long systems engineering study approach in order to find the most cost-effective and efficient communications solution. FCS is investigating both satellite-based and terrestrial-based systems, as well as technologies operating in frequency bands other than the VHF band.

The FAA Requirements, Technology, and Transition Analysis (RTTA) group of the FCS team is currently defining the technical evaluation criteria that will be used to evaluate each technology. **Rhonda Thomas** of ATC Communications Services and Technical Operations Support Services at FAA Headquarters in Washington DC is the lead of the FCS RTTA Team.

In addition, the FAA Operational Concepts and Requirements

(OCR) group is contributing to the ongoing, parallel efforts of the Future Communications Study. The OCR group is in the final stages of developing the Initial Communications Operating Concepts and Requirements (ICOCR) document, whose purpose is to support the selection of the next generation communications system by documenting the envisioned concepts of operation and associated system requirements relevant to aviation communications. Throughout the 3-year FCS effort, interaction between the FAA, RTTA, OCR, and Technology Assessment groups and Eurocontrol is ongoing and necessary in order to truly establish a harmonized, global approach to air traffic communications. Ultimately, this joint venture will harmonize the many parallel efforts of the FCS by collaboration, information sharing, and joint review of all work products generated by the FAA, NASA and Eurocontrol.

“365 Black History: Breaking Barriers and Going Beyond”

By Patricia King and Maudie M. Powell

The Technical Center proudly presented Black History Month throughout the month of February, calling attention to the varied stories of Black people’s experiences in America. This year’s theme, “365 Black History: Breaking Barriers and Going Beyond,” emphasized the concept that Black American History is an experience that must be recognized and shared throughout the year - “365.”

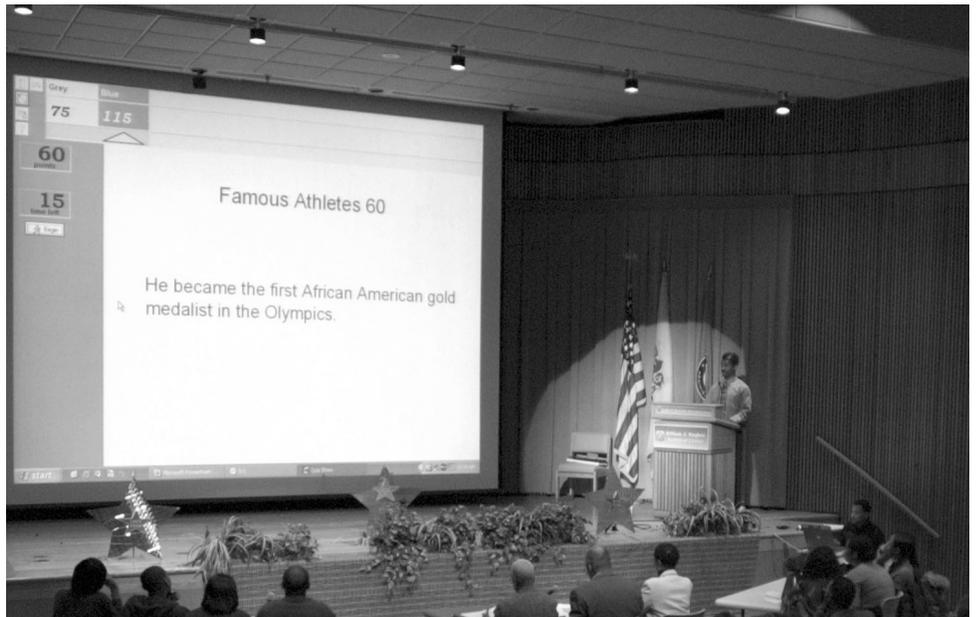
This year, 2005, marks the 50th anniversary of the Birmingham, AL, bus boycott, a heroic event that thrust the late **Dr. Martin Luther King** and **Mrs. Rosa Parks** into world history forever. The Tech Center’s Black Butterfly of audio and video, Cecil Callender, dazzled audiences with weekly film footages that recaptured those powerful moments in American history. The cinematic journey included segments that focused on: “Gospel’s Greatest Hymns-Back to the Church”, where the talents and inspirations of **Mahalia Jackson**, **Reverend James Cleveland**, and minister, **Donnie McClurkin** are highlighted.

Just as Gospel music is a part of Black Americans’ culture, so is the Blues. Audiences listened and viewed rare performances from artists, such as **Earl Hooker**, **Muddy Waters**, **Big Mama Thornton**, **Koko Taylor**, **Howling Wolf**, **Matt “Guitar” Murphy**, and **Sonny Boy Williamson**, just to name a few, who performed at the American Folk Blues Festivals in Europe during the 1960’s.

Atlantic City Councilman **Eugene Robinson** walked audiences through his memories and experiences as a young black man in the Atlantic City and Baltimore areas during the height of the 1960’s Civil Rights Movement. Local artists **Kuumba Ifa Ankoma** (aka **Bruce Williams**), **Raymond Tyler**, and **Mark Tyler** provided live,



Atlantic City Councilman Eugene Robinson (center rear) and lyricist Kuumba Ifa Ankoma (right rear) join Technical Center employees



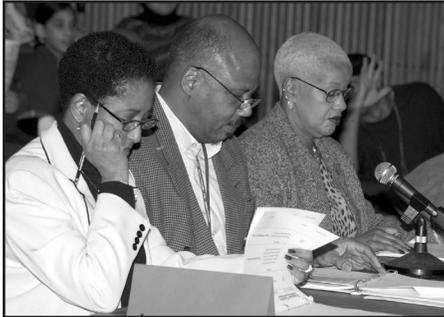
The “365 Black History Challenge” took place in the auditorium with Al Jefferson presiding.

poetic recitations at The Lyric Café that corroborated the old and new stories of black lives that the filmed performances of artists like, **Gil Scott Heron**, **Nikki Skies**, **Thea Monyee**, and **Coco Brown** fashioned in bygone years.

The depth of black America’s influences and accomplishments in the U.S. and abroad were put before students from the Pleasantville High School and Oakcrest High School during the infamous “365 Black History Challenge” at the Technical Center. Two teams of students from

“365 Black History”

Continued from previous page



Judging the “365 Black History Challenge” were Tech Center employees Courtney Dudley-Thomas, Rodney Guishard and Bessie Johnson.



WJH Technical Center employees join the Pleasantville City Council President, Johnson Harmon, students from the Leeds Avenue Elementary School and the St. Peters Catholic School, and students from the NJ Youth Corps as they listen intently during the “365 Black History Challenge”

these high schools vied for the championship in a quiz contest that challenged their knowledge of Black History in the areas of politics, sports, business, entertainment, science and technology.

The engineers of the contest, **Jamaal Lipscomb**, **Patricia King** and **Kenneth Hitchens**, framed the contest similar to the television game show, Jeopardy. The results proved to be very tough and eventful for both teams of students. To heighten the challenge, two essay questions

were added (written and oral forms). Correct answers boosted scores by 200 points. In the end, the team from Pleasantville High School pulled ahead of Oakcrest High School with a significant lead to win the 2005 “365 Black History Challenge.”

It is often stated that the best route to anyone’s heart is through their stomach. Well, with an array of “Strong Traditions and Soaring Dreams”, a team of Center employees impressed everyone with some culinary offerings of favorite baked goods. Not only were the goodies tasty, the recipes accompanied each goodie.

To finish off the Black History Month programs, **Dr. Accem Scott, ND**, a practitioner of holistic medicines and ancient African remedies, provided tips on “Health and Well-Being: Your History, Your Future.” Dr. Scott encouraged the audience to focus on health issues and practices for well being from a global perspective.

The National Black Coalition of Federal Aviation Employees Technical Center Region, National Society of Black Engineers Alumni Extension, and the Civil Rights Office provided leadership in the planning and presentation of this year’s celebration. Expressions of thanks are extended to all who supported the programs. The concept of “365 Black

History: Breaking Barriers and Going Beyond” instills an appreciation for our daily living; and it reminds us that knowledge sharing preserves and extends our existence on this earth.



Rodney Guishard presents the award to Pleasantville High School, winner of the 365 Black History Challenge, as WJH Technical Center employee, Jamaal Lipscomb, and Mr. Nathan Davis, the team’s counselor, look on.



Wanda Harris and members of the Scholarship Committee helped Center employees as they made selections from the “strong traditions” baked recipes. Proceeds from this event contributed to the NBCFAE-TC regional scholarship fund that helps local students pursue their “soaring dreams” by obtaining a college education.



Students participating in The 365 Black History Challenge are shown with their counselors, Danielle Ali and Nathan Davis

The World's Largest Aircraft: AN-124

By Barbara Harris-Para

Recently the Atlantic City International Airport had a visit from a rather large plane from Volga-Dnepr Airlines that is called an AN-124. If you got a glimpse of it, when it was parked near the FAA Hangar, count yourself one of the lucky ones.

Built in 1984 in Kiev, Ukraine, the tail section is taller than a 7-story building, or about 70 feet tall. There are 24 wheels in the main section and four more in the nose area, plus 10 each side of the main wheel. It also can kneel.

The cargo area can hold up to 60 full size cars, and the plane has its own crane that travels within the aircraft. All systems onboard are quadruple-redundant.

The four engines that power this huge plane are Progress-D-18T turbfans that create 51,590 pounds of thrust. The gross weight of the aircraft is 890,000 pounds. It has a wingspan of more than 240 feet and a length of 227 feet, and has a 120-ton payload.

Basic rental fees on this plane vary from \$6,000 to \$8,000, depending on crew, fuel and maintenance. If you want to compare this plane with one built in America, you can use the Galaxy C5A, which was built in the same timeframe.

Another large Soviet-era plane is the Antonov 225 "Mriya," which made its debut at the Paris Aerospace salon at Le Bourget. It has the capability of carrying a narrower version of our space shuttle, the "Buran." Unfortunately, the Buran only flew once, and that was an unmanned test flight.

This aircraft was designed in the early 1980s to carry the former Soviet Union's space shuttle. The original AN124 was not big enough to accommodate this feat, so the body was stretched out 12 meters



VOLGA-DNEPR



AN-124

continued from previous page



to accommodate an auxiliary power unit and two Lotarev D-18T turbofan engines, which were added to the wings for thrust. The shape of the tail was designed for maneuverability when the payload is oversized and heavy, or on the back of the plane, which is why the landing gear had to be beefed up with 32 wheels.

The first flight was December 21, 1988. It then headed to the Paris Air salon in June 1989. Just one aircraft was built, and it is not in operational service. However, it may make a comeback since there is a need to ship heavy, oversized items by air, and the AN series have shown that they can handle the load.

AN-124



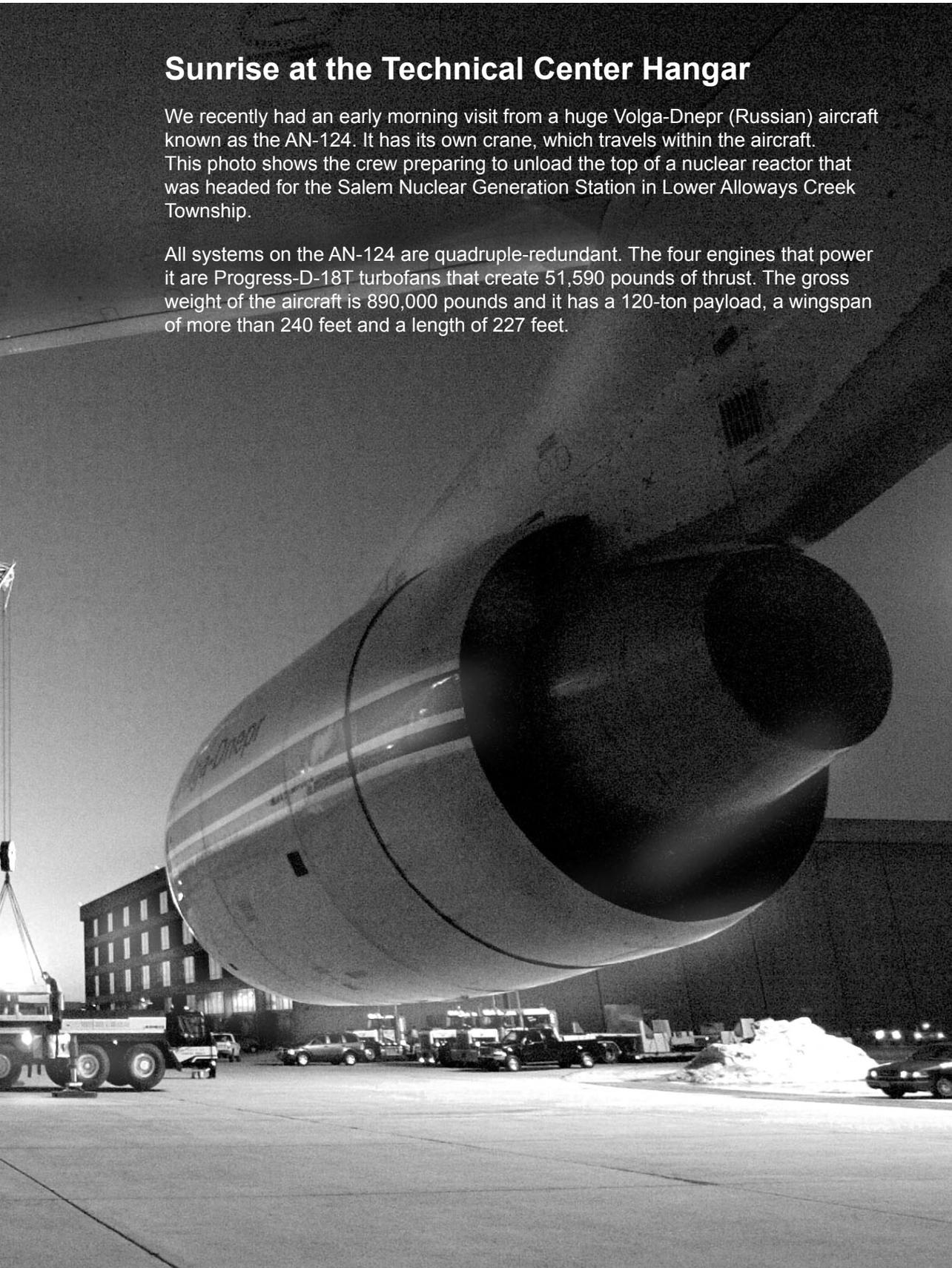




Sunrise at the Technical Center Hangar

We recently had an early morning visit from a huge Volga-Dnepr (Russian) aircraft known as the AN-124. It has its own crane, which travels within the aircraft. This photo shows the crew preparing to unload the top of a nuclear reactor that was headed for the Salem Nuclear Generation Station in Lower Alloways Creek Township.

All systems on the AN-124 are quadruple-redundant. The four engines that power it are Progress-D-18T turbopfans that create 51,590 pounds of thrust. The gross weight of the aircraft is 890,000 pounds and it has a 120-ton payload, a wingspan of more than 240 feet and a length of 227 feet.





Biometrically Enabled Smart Card Testing Begins

By Jay M. Fox

You arrive at the Tech Center's main gate by the Security Operations Center. There is a guard off to the side, but she is not checking your ID card. Instead, you place your thumb over a small reader on a smart card, and place it into a verification reader by the gate, just outside your car window. A green light illuminates and the guard smiles and says, "Have a great day."

Once at the door to Building 300, you go through the same process with a card reader by the door. In your office, you turn on your computer and use the same "smart" card to log on to your desktop computer and the network. Throughout the day, you access secure URLs, but you do not have to type (or remember) your usernames and passwords, because the card has all of that authentication information on a small chip that is verifying your identity for all network applications to which you are authorized access.

At one point, you need source code from the labs to work on a project. Rather than hustle down there to obtain the information you need, you once again use your "smart" card to log in, and work with lab information remotely from your office. Tomorrow you plan to be telecommuting. You will be able to have complete secure access to the same networks and sites you visited today, all by using the card at your home.

If you envision this scenario for some far off date in the future, be prepared. The future has arrived in the form of biometrically enabled smart cards.

"When you look at physical and logical access security, you want two of the three following categories of authentication," says **Bill Hoffman** of the Enterprise Architecture Group within AIO's Process Engineering Division. "Usually, that is something

you know (passwords and PINs), something you have (such as a smart card) and something you are. Biometrics falls into the category of something you are."

Biometrics is any technology that uses a unique physical attribute of a person as a password to gain access to a protected location (real or virtual) or device. Fingerprints, iris or retina recognition, DNA, and signature verification are all examples of biometrics that can be employed.

Homeland Security Presidential Directive (HSPD) 12 instructed Federal agencies to develop a Federal Personal Identity Verification (PIV) standard. Part of the standard specifies implementation and use of integrated circuit cards, often called Smart Cards, for use in the PIV system.

"Actually," says Hoffman, "our planning efforts to bring the NAS Logical Access Control Pilot using a biometrically enabled smart card to the Tech Center started nine months before HPSD 12 was issued, primarily to examine the business value of these cards to the ATO. The FAA evaluation team is preparing to begin Phase I testing of the biometric smart cards in the Tech Center labs, soliciting approximately 50 persons for the tests. The sensor on the cards to be evaluated has the ability to register 5 fingerprints from both of the subject's hands. Once the sensor authenticates the print, a smart chip on the card will be enabled to broker pre-approved transactions such as facility or computer access.

A significant upside is remote access. Whether the card user is a telecommuter or a member of the international aviation community, biometrics now makes remote access possible since the password is now onboard the individual in the form of

their fingerprints.

"Another added benefit to the average employee is not having to remember twenty different user names and passwords," points out Hoffman. "It's all on the card now." That benefit alone should have all of us excited about a biometric future!

Tech Highlights

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Traffic Management Advisor TMA:

The TMA Program Office recently was briefed on a simulation in which 8 controllers were tested under 4 conditions where TMA delay times were presented in different locations.



Dvorak Appointed to OSTP: FAA Deputy Administrator Bobby Sturgell

has announced that **Gregg Dvorak** is the new DOT representative to the White House Office of Science and Technology Policy (OSTP). Dvorak takes the place of **Marty Phillips**, who recently retired.



Light Emitting Diode Taxiway Edge Light Emissions Evaluation Report:

Holly Cyrus of the Airport Technology R&D Branch recently published a Technical Report titled, "Light Emitting Diode Taxiway Edge Lighting Emissions Evaluation," which describes research that was conducted to evaluate taxiway edge fixtures using light emitting diode

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Employee Profile: Chuck Kilgore - Leading the Way in Research and Development

By Pete Castellano



Charles W. "Chuck" Kilgore II is truly an expert in his field, and represents the FAA and the Technical Center in an exemplary fashion. Chuck is an Electronics Engineer and a Project Manager for Software and Digital Systems Safety in the Flight Safety Branch, Airport & Aircraft Safety Research & Development Division, which helps the FAA formulate policy and guidance for use in the field.

His main focus is making aircraft safer by ensuring the integrity of software, digital systems and circuitry. With commercial aircraft becoming more dependent on digital avionics and flight control systems, the FAA

has placed increased emphasis on ensuring the safety and reliability of these technologies.

Chuck has served as the FAA's representative to the Aerospace Vehicle Systems Institute (AVSI). Started by Boeing in 1998, the AVSI is a cooperative that includes major aerospace manufacturers and suppliers, the Department of Defense and the FAA. Its mission is to maximize the effectiveness of aviation research through standardization, avoiding redundancies and increased cooperation. AVSI also contracts with accepted universities to do work for the cooperative. Chuck serves on panels charged with addressing Tools and Processes, as well as Systems Development.

Some of the issues AVSI is exploring include improving the life span of semi-conductors, evaluating microprocessors, mitigating the effects of radiation on avionics systems and technology assessment of the operational and safety benefits of advanced guidance and control systems. In his work with the AVSI, Chuck has promoted FAA involvement in flammability testing of circuitry, and an aircraft structural health-monitoring road mapping process.

As a project manager, Chuck has tasks working through the Airworthiness Assurance Center

of Excellence (AACE), part of the overall Air Transportation Centers of Excellence (COE). COEs bring together government, industry, and academia to achieve common goals. Within 15 months of becoming manager of the Software and Digital Systems Safety Project in 2000, Chuck played an important part in increasing funding for his project, from \$165,000 to \$805,000, with all of the increase coming through the AACE.

A 1976 graduate of the U.S. Military Academy at West Point, with a Bachelor of Science in Electrical Engineering, Chuck went on to serve for 5 years in the U.S. Army Signal Corps in combat communications. Afterward he worked for RCA/ General Electric, from 1981 to 1989, as an electromagnetic interference / electrical compatibility / TEMPEST specialist, before coming to the Tech Center.

Chuck explained, "I just want to be a useful part of the Airport & Aircraft Safety R & D Division, as well as the Technical Center. I have a lot of good memories from my association with the workers in both organizations, and I love to work with them!" Chuck certainly has gone above and beyond being useful, and we are extremely fortunate to have a professional of the caliber of Chuck Kilgore here at the Technical Center.

**Interested in writing for the Focus FAA?
Contact Stan Ciurczak at ext. 5-4789**

Information Technology (IT) Division Testing Lab

By Barbara Harris Para

Recently, I had the opportunity to meet **Al Keller**. Through him I was able to get to know some of the services that are performed in the Tech Center's IT test lab, where he works.

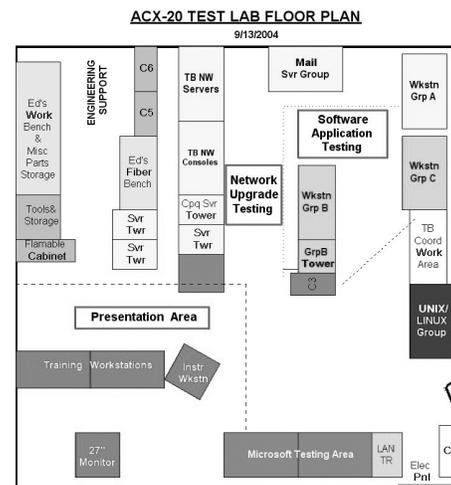
Along with co-worker **Eddie Jones** and the rest of the IT team, Keller provides a very valuable service to the Center by testing computer hardware and software before installing them anywhere on the production network, such as your machine or mine. A notable exception is headquarters-mandated changes, which are beyond local control.

Workstation software is tested for compatibility and functionality, and server upgrades are tested to minimize network interruptions. Typical of the products tested are Microsoft XP, Microsoft Office, IT lab-developed applications and next-generation Microsoft Server software. They also test and evaluate products

that are brought to them by other organizations.

The physical lab consists of a simulated production network system (web, login and mail servers, etc.) with groups of workstations for test purposes. The entire system is updated regularly. A unique feature is an attached hands-on demonstration area that is used to preview software before purchase, to present new software to customers and to allow user-friendly product reviews. It also allows for testing of training programs for new products. This effectively reduces costs by reducing the time needed to learn a new product, and by helping to avoid unnecessary and expensive software purchases.

Al mentioned that technology changes drastically every 18-24 months. Al and Eddie identify products representing changes that will impact us here at the Tech Center, and then evaluate and assist



with implementation. They want new products with problems to “mess up” their machines before they “mess up” yours.

Distinguished Woman of the Year

By Dr. Anne Harlan

Pat King, Verification Services Division, was named Woman of the Year at the Federal Women's Program (FWP) luncheon on March 29. King was cited for her strong communications abilities, her innovative approaches to problem solving, mentoring, teamwork, and willingness to help others. Her nomination cited many examples of the wonderful work she has done and the role model she has been to others, including her special interest in young adults and students, assuming responsibility to help equip them with the experiences and knowledge to succeed in their life endeavors.

This Woman of the Year Award is presented to an exceptional woman based on the following criteria:

1. Exhibits leadership skills when overcoming personal and professional barriers.
2. Inspires hope and possibility through mentoring and leadership.
3. Demonstrates consideration for others by utilizing input of those affected.
4. Provides guidance to further women's achievements for success, both within the workplace as well as the community.

The FWP Luncheon was held at the Blue Heron Pines Golf Club. **Viola Grey** opened up the banquet with a beautiful rendition of “Summertime” from Porgy and Bess. The guest speaker was **Dr. Dianne Dorland**, Dean of Engineering at Rowan University.

Congratulations to Pat as well as to the other excellent nominees: **Carolyn Pokres**, Information Technology Division; **Henrietta Shelton**, Communications, Flight Service, and Weather Engineering Division; **Beverly Hite**, Real and Virtual Environment Division; and **Mary Lou Dordan**, Office of Human Capital Strategies.

Tech Center Welcomes U.S. Rep. Rob Andrews

By Pete Castellano



**William J. Hughes
Technical Center**

U. S. Rep. Rob Andrews

U. S. Rep. Rob Andrews recently visited the Technical Center. Currently serving his 8th term in Congress, Andrews represents our neighboring First Congressional District, which

includes parts of Burlington, Camden and Gloucester Counties. He is the Ranking Member on the House subcommittee on Employer-Employee relations, and recently was appointed to the newly created House Select Committee on Homeland Security, which is responsible for House oversight of the Department of Homeland Defense.

Andrews toured the Center, met with senior management and held an all hands meeting in the atrium, where he thanked employees for their dedicated service. He noted the unique accomplishments of the Center in advancing the frontiers of aviation, and also noted our significant contribution to the regional economy.

A leading voice in Congress for fiscal restraint, education and national defense, Andrews authored two laws

that created the Income Contingent Repayment Plan and Direct Student Loans, which make higher education more affordable for students. He also wrote laws to protect the U.S. from the threat of cyber terrorism, to lower mortgage costs for rural families, to protect the child visitation rights of grandparents, to provide health and pension benefits for employees of religious organizations and to move more people from welfare to work.

Andrews recently secured federal funding for a new High Tech Center in the City of Camden that has the potential to bring the opportunities of the new digital economy to the people of his region. His work has led to the placement of 175 new teachers and 587 new police officers in the communities of South Jersey, and he also helped lead the effort to bring the Battleship NJ to the Camden Waterfront as a naval museum.

Tech Highlights

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(LED) technology. The data obtained from the study showed that 4 out of 5 fixtures had significant emissions that could possibly cause interference. The emissions were at a frequency as low as 12 kHz, which is much lower than the current certification requirement of 150 kHz, and warrants a change in the certification requirements. The Technical Note is available electronically through the branch's web page at <http://www.airp.orttech.tc.faa.gov> under downloads.



Fire Test Technology Licensed:

A license was granted to Fire Testing Technology, East Grinstead,

United Kingdom to fabricate and sell the Microscale Combustion Calorimeter in the U.S. and Europe. This calorimeter offers a unique fire test method for measuring the heat release of extremely small test samples (e.g., several milligrams). **Rich Lyon**, Fire Safety Branch and **Rich Walters**, Galaxy Scientific, invented, developed and patented the Microscale Combustion Calorimeter to support the development of ultra-fire resistant aircraft materials. Subsequent research by Rich Lyon demonstrated that the Microscale Combustion Calorimeter could also be employed as a surrogate for fire test standards (e.g., Underwriters Laboratories) that are used to qualify materials for various residential and

industrial applications.



Insulation Airworthiness Directive

Proposed: Based in part on tests conducted by the Tech Center's Fire Safety Branch, which demonstrated that a type of Mylar TM film, known as an AN-26 insulation blanket, can be ignited with an electrical arc and spread a fire, the FAA has proposed replacement of these insulation blankets. The proposed replacement will affect 1,613 aircraft, which would have to meet new Radiant Panel test criteria that were

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Barbara Harris-Para Honored by Women's Hall of Fame

By Adam Greco

The Atlantic County Women's Hall of Fame recently held its 2005 Induction Ceremony Trump Marina Casino Hotel in Atlantic City. This was the organization's tenth annual ceremony to recognize women from the county who have made outstanding contributions and achievements in their professional fields to further women's and young women's causes.

Among the six recipients this year was our own **Barbara Harris-Para** of the Office of Organizational Excellence (formerly the Office of Human Capital Strategies). Barbara received the award for Volunteerism. Along with the other winners, she was presented with a prestigious medallion and citations from a number of public officials, including **State Senator Bill Gormley; Assemblymen Frank Blee, Kirk Conover, and Jeff Van Drew; U.S. Rep. Frank LoBiondo; Mayor Langford** and the members of the Atlantic City Council; and **Dennis Levinson**, the Atlantic County Executive.

Among the activities cited in Barbara's nomination were: mentoring students at Oakcrest High School, serving as a motivational speaker, serving as a judge in the Atlantic/Cape May Counties Junior Miss Contest, and assisting Boy Scout Troop 316 in various activities. Barbara is also a member of the Experimental Aircraft Association and an active member of the Young Eagles program in which Barbara has given more than 250 children their



Barbara Harris-Para

first flight in a small aircraft. Barbara chaired the 2004 International Ninety Nine conference in Atlantic City last summer where 250 women assembled to celebrate the 75th anniversary of the organization. Barbara has served for 17 years on the Mullica Township Board of Education, and has been president of the Board for 8 years. She has also been a member of the Board of Directors for the New Jersey School Board Association for 6 years.

"Barbara Harris-Para is one of the most dynamic, vital people I know," according to Technical Center Director, **Dr. Anne Harlan**. "She has made valuable contributions to

many Technical Center programs, and beyond that, she has touched countless lives with her extensive volunteer work in aviation and education."

The other recipients this year were **Ada Bartlett** and **Mamie Jackson** for Education, **Shirley Labov Bernstein** and **Deborah Davies** for Social Services, and **Janice Mathis** for Government/Public Service.

The affair was well attended with several Technical Center employees in attendance, as well as friends and family of Barbara Harris-Para who cheered and supported Barbara and the other recipients.

Congratulations!

A Salute to Engineers

By Mary Lou Dordan

More than 40 college students recently participated in a successful "Salute to Engineers" program at the Tech Center. Students from various engineering disciplines at Rowan University, Stockton College and Atlantic Cape Community College accepted an invitation to spend a day at the Tech Center, which included a tour of the labs in the morning. The program was coordinated through the Aviation & Space Education program, the American Institute of Aeronautics and Astronautics (AIAA) and the Institute of Electrical and Electronics Engineers (IEEE). Kudos to the following lab staff members for their wonderful presentations and the time and talent they shared with these young people: **Wayne Marsey, Frank Pecht, William Vaughan, John Wilks, Allan Abramowitz, Cesar Gomez and Mike Walz.**

Following a noon luncheon hosted by Hi-Tec Systems, the guests joined Tech Center employees in the Auditorium where they listened to two separate expert panels showcase their past, present and

future engineering projects. A common reaction at the end of the program, by the students and faculty in attendance, was that they were amazed at the many highly technical and diverse engineering projects taking place right in their back yard that they did not know about. A similar reaction to the program was expressed from a group of twelve gifted students from Pleasantville High School who attended the afternoon sessions. Thank you to **Janet Kinsell** for arranging their inclusion in the day's activities.

A special thank you goes out to program coordinators: **Mary-Ann Boyce, Joseph Burns, Mary Lou Dordan and Cathy Jaggard**, whose help took this day from concept to reality; and to **Ginger Cairnes**, who arranged the morning tours of the labs for our guests. A very sincere thank you also is extended to the following sponsors of our afternoon program: **Joseph Sheairs Associates, Inc. (JSA), Northrop Grumman Information Technology, Hi-Tec Systems**, and the **AIAA** and



The Tech Center recently hosted a successful "Salute to Engineers" program.



Students from area colleges were amazed to learn of the wide array of project work underway at the Center.

IEEE organizations. Their investment in the motivation and inspiration of our future workforce is certainly commendable and deserving of our admiration.

And last, but not least, we extend our thanks to **John Wiley and Stan Pszczolkowski** for their willingness to re-arrange their schedules in order to moderate the two panels of experts. Remarks by panels of engineers and by guest speaker **Dr. Dianne Dorland**, Dean of Engineering, Rowan University, were a wonderful grand finale for this day of learning. Our sincere appreciation and thanks go to panel members **Robert Fietkiewicz, Bill Benner, Hilda DiMeo, Rick Ozmore, Rich Lyon, Holly Cyrus, Cathy Jaggard, Robert Cranston, Phil Holmer, and Mark Howson** for the excellent job that they did. We could not have had so great a success without each of them.



Panel members (from left to right) included Bill Benner, Hilda DiMeo, Bob Fietkiewicz and Rick Ozmore.

Bayh-Dole Technology Transfer Act Turns 25

By the Council on Governmental Relations

Technology transfer - the transfer of research results from universities to the commercial marketplace for the public benefit - is closely linked to fundamental research activities in universities. Although a handful of U.S. universities were moving science from the laboratory to industrial commercialization as early as the 1920s, academic technology transfer as a formal concept is said to have originated in a report entitled, "Science - The Endless Frontier," which **Vannevar Bush** wrote for the president in 1945.

At that time, the success of the Manhattan Project had demonstrated the importance of university research to the national defense. Vannevar Bush, however, also recognized the value of university research as a vehicle for enhancing the economy by increasing the flow of knowledge to industry through support of

basic science. His report became instrumental in the government's providing a substantial and continuing increase in research funding. It stimulated the formation of the National Institutes of Health (NIH), the National Science Foundation (NSF), and the Office of Naval Research (ONR). Due to the success of these and other agencies, the funding of basic research by the federal governments is now considered to be vital to the national interest.

As Vannevar Bush foresaw, enormous benefits to the U.S. economy have occurred because of federal funding of research. These benefits have been significantly enhanced by the adoption of federal policies encouraging technology transfer. Such policies have led to breathtaking advances in the medical, engineering, chemical, computing and software industries,

among others. The licensing of new technologies has led to the creation of new companies, thousands of jobs, cutting-edge educational opportunities and the development of entirely new industries.

Thus, the Bayh-Dole Act continues to be a national success story, representing the foundation of a successful union among government, universities and industry.

The FAA has a vibrant Technology Transfer Program. For more information about the agency's Technology Transfer Program, please contact **Deborah Germak**, Program Manager, at (609) 485-9862 or deborah.germak@faa.gov. You can also visit: <http://www.tc.faa.gov/technologytransfer/>

Happy 25th Anniversary, Technology Transfer!!

Walter Iwanow Visits The Technical Center

By Ginger Cairnes

Walter Iwanow, Deputy Assistant Administrator for Information Services, and Deputy Chief Information Officer (CIO), visited the Technical Center in April. In his newly appointed position, he works with the CIO to provide critical assistance in ensuring the agency's corporate information technology assets are effectively and efficiently aligned with the FAA's strategic mission needs. He will also engage the Line of Business (LOB) and staff office CIOs in leading the agency in a visionary, collaborative, and stakeholder-focused manner to leverage Information Technology (IT) resources in order to improve business processes in accomplishing

the agency mission.

With over 20 years experience doing IT design and development for large corporations such as AT&T, Coca Cola, and the New York Stock Exchange, Iwanow has demonstrated excellent capabilities in the design, development, and deployment of technology strategies to support critical business strategies and goals. A common theme throughout his career has been his ability to effectively operate with complex, worldwide distributed environments. In addition to these corporate experiences, he spent five years at Ernst and Young leading major consulting assignments

focusing on the return on investment for IT.

Iwanow graduated from Michigan State University with a bachelor's degree in Psychology and Mathematics. He also attended Harvard Business School Executive Education, "Delivering Information Services".

A portion of the morning at the Center was spent with Software Engineering Resource Center (SERC) personnel, some of whom presented an overview of the SERC's FY05 focus areas. Following these meetings, **Center Director, Anne Harlan** provided an

Walter Iwanow

continued from previous page

overview of the Technical Center and explained how the Center fits into FAA's overall mission.

Iwanow was briefed on the proposed FAA wireless system architecture, and was given a tour of the wireless lab. An overview of the Center's IT services was presented, along with a tour of the Enterprise Data Center (TCEDC).

Iwanow asked some extremely thought provoking questions and displayed a genuine interest in the research and development taking place at the Tech Center. He was extended an open invitation for future visits, which he promised to honor.

Walter Iwanow, AIO-2, Deputy Assistant Administrator for Information Services and Deputy CIO



Administrative Professionals Week Celebrated

By Linda Tropiano

Through the years, a number of people have served as Secretary to the Director of NAFEC and as Secretary to the Center Director. Each spring we take time to honor all of our administrative professionals, so I thought would let everyone know the whereabouts of the people who served as secretaries to the directors since 1979.

NAFEC AND TECHNICAL CENTER DIRECTORS' SECRETARIES SINCE 1979

PRESENT

Gayle Martin-Taylor

FORMER

Maria Lemmetti-Fane

Linda Tropiano (held position twice)

Sue Wall

Patty Dollin

Reina Dickinson

RESIGNED

Pat Lui

Maureen Carroll

RETIRED

Maria Marks

Carolyn Mason

DECEASED

Doris Ewing

DIRECTOR

Anne Harlan

Anne Harlan
Guy Gardner
Harvey Safeer

Harvey Safeer
Edmund Koenke

Harvey Safeer

Larry Williams
Ed Harris

Edmund Koenke

Anne Harlan

Ed Harris

Joseph DelBalzo

Joseph DelBalzo

Larry Williams

The Weight Watchers Program at the Tech Center

By Sandi Ware and Barbara Harris-Para

As many of you may know, we have had a Weight Watchers at Work meeting here at the Technical Center for just over a year. During the past year, members have lost more than 1,000 pounds!

Weight Watchers is for both men and women. As you may have heard, the Weight Watchers program is now called the TurnAround Program and has two food plans. There is the points approach, which many people are familiar with, and there is a new no-counting plan.

Weight Watchers is about so much more than food. During the 12-week session, you also learn how to incorporate activity into your life, change behaviors that have resulted in weight gain, and benefit from the support of the group.

The Tech Center leader, **Sandi**

Ware, began her Weight Watchers career in 2001. What prompted her to get started in her weight loss was seeing a friend who looked wonderful! The friend recommended Weight Watchers and that was the trick that did it for her.

Timing is everything according to Sandi. She began her Weight Watchers experience just before her birthday and all the wonderful holidays. She lost the weight and became a Lifetime Member of Weight Watchers. The one item that Sandi feels is important to everyone is that Weight Watchers teaches a healthy lifestyle. She points out that too many illnesses can be attributed to being overweight, or having high blood pressure, a heart attack, sugar diabetes or chronic pain in extremities and backs. When people are healthier it makes for a much better work environment and performance.

To be successful, each member has to make a commitment to help us lose weight, stop smoking and limit our alcohol intake. But Weight Watchers can help us get through the rough times in our weight loss journey.

The February 23 session began with a huge influx of new members. Another session began on May 25. Over the next 12 weeks, the members can change their body scenery, not to mention their health, happiness and energy levels.

If you are interested in joining Weight Watchers, we meet every Wednesday at 11:30am in the Fish Bowl on the first floor of building 300. There is a great camaraderie among the members, with each one helping the others to achieve their goals. Come on out and join us!

Center Wins DOT Award

By Stan Ciurczak

Congratulations: The DOT Environmental Achievement Award, which is given in recognition of individuals and teams who have significantly contributed to the mission of the DOT by their environmental activities, has been awarded to the Tech Center's Environmental Team. The FAA William J. Hughes Technical Center successfully has built and implemented an Environmental Management System (EMS), the backbone of its environmental policy. The Tech Center took the first major step in implementing EMS, last year, when the Center Director signed an environmental Policy that takes a proactive systematic approach to environmental management. Using a systematic process outlined in the International Organization for Standardization's 14001 standard, EMS gives management the tools to identify and implement goals, evaluate progress and make changes to ensure

continual improvement. Senior Corporate Officer, **Ron Esposito**, is shown presenting the awards (left to right) to: **Howard Kimpton**,

Greg Falzetta, Tom Flatley, Ken Dobis and Center Director, **Dr. Anne Harlan**.





Tech Highlights

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developed by the Fire Safety Branch and recently adopted by the FAA. Some companies are seeking to reduce their costs by developing alternate means of compliance (AMOC), which involve modifying, not replacing, existing the insulation blankets. However, more testing may be required to demonstrate that they provide the same level of fire safety as removing and replacing the AN-26 insulation blankets.



STARS: Standard Terminal Automation Replacement System (STARS) procedure dry runs were conducted in order to prepare for

formal testing that will determine the operational suitability of full STARS-2 + Life Cycle Maintenance Build Release 10. This release adds 14 new functionality features and incorporates enhancements to conflict alert, flight plan processing, hand-off processing and consolidation, Area Navigation, Airport Surveillance Radar- 9, monitor and control and situation display.



En Route ATC: The Tech Center scheduled early shakedown runs on the current Future En Route Workstation concept. An initial simulation study begins in May that will run for 2 months with 16 volunteer

participants.



Phased-Array Radar: The Tech Center recently participated in a Joint Action Group meeting (National Severe Storm Lab, Norman, OK) to discuss multi-agency needs and requirements for multi-functional Phased Array Radar. Other participants included the U.S. Air Force, U.S. Navy, Office of Naval Research, National Science Foundation's Engineering Research Center and MIT's Lincoln Lab.

Tech Transfer Implements New Agreement

By Deborah Germak

The FAA recently entered into a Cooperative Research and Development Agreement (CRDA) with FedEx Express (FedEx). The collaborative research is in safety.

FedEx has collaborated with the FAA on numerous initiatives in Air Traffic Management at the Memphis International Airport. The FAA conducted a Surface Management System (SMS) Operational Evaluation in September 2003, which was conducted in conjunction with FedEx representing the non-FAA user, and allowed the FAA to complete a successful evaluation. FedEx believes that it will be able to provide the FAA with additional information and data regarding the usefulness of SMS in daily airport operations

that would facilitate surface traffic requirement development and enhance surface traffic management operations in the National Airspace System (NAS).

The objectives of this research are to develop a team that will accelerate the development and acquisition of a national surface traffic management system that will improve airport surface operations. This program will tap the long-term operational expertise of FedEx operations at the Memphis International Airport and provide a clear illustration of SMS usefulness in real-time situations.

The Government's Principal Investigator is Darrell Woods, who is located in the Office of Integrated

Engineering Services at the Technical Center. He can be reached at extension 58246. The Principal Investigator for the Collaborating Research Organization is Stephen Vail, Air Traffic Operations, 3131 Democrat Road, Bldg-C, Memphis, TN, (901) 224-5469.

This CRDA was awarded on May 24 and has a duration of 36 months. It is expected that continued use of the SMS in the Memphis International Airport will allow for improved airport surface operations with improved communication with Air Traffic Control (ATC) and airport authorities.

If you have any questions regarding this CRDA, please contact Deborah Germak at extension 59862.

Required Area Navigation (RNAV) Approaches

By Dr. Pam Della Rocco

Have you ever been delayed landing at an airport that is obscured by clouds or fog? Have you ever looked out the aircraft window and seen another plane landing close by and wondered how safe it was? Well, if you answered, "yes" to these questions, then you may be interested in a simulation study conducted by the Tech Center to examine applying Required Area Navigation (RNAV) to improving airport capacity in reduced weather conditions.

The Required Navigation Performance (RNP) Program Office is interested in developing new procedures with precision navigation technologies to help pilots make very precise approaches to and departures from airports, even in low visibility weather conditions. When the weather is extremely adverse, many airports must adopt a single stream approach, because their runways are too close together. This can result in 50% less traffic getting in or out of the airport. With this new technology, controllers will have the option to use RNP approaches to continue landing on both runways, even on poor weather days. As the new procedures are expanded to more and more airlines and airports, the number of RNP approaches will increase. The benefits of using this system will be improved schedules, predictability, reduced flying times and fuel savings.

How many more planes can be landed using this new procedure? How does a controller know that an aircraft is using the new RNP approach? Does the controller's workload change with these new procedures? How does the controller handle aircraft with mixed equipment? Can controllers see an aircraft blunder on their radar displays?

Dr. Earl Stein, NAS Human Factors Group Manager, teamed with **Dr. Pam Della Rocco**, FAA, and

Anton Koros, Northrop Grumman Information Technology, to study these air traffic controller human factors questions on this exciting project for the RNP Office.

The test bed for this project was the approach to San Francisco International (SFO). The runways at SFO are only 750 feet apart. The procedures called for approach controllers at the Northern California TRACON (NCT) to pair aircraft on the approach to Runways 28L and 28R. By the outer marker, the pilot of the RNP equipped aircraft on 28R must report the paired aircraft on 28L in sight. The controller would then approve a visual approach. The new procedure would increase capacity by allowing parallel approaches to continue to the outer marker when weather minimums were down to 2100 feet. The procedure adds a non-transgression zone (NTZ) between the approach courses on the controller's display, which ensures separation between two aircraft in case one of them blunders off course.

The researchers used the Research and Development Human Factors Laboratory's (RDHFL) Distributed Environment for Simulations, Rapid Engineering and Experimentation (DESIREE) simulator developed by **Bob Oliver** and his programming team. In the past, controllers traveled to the Tech Center for human factors studies on DESIREE; so the Tech Center devised a way to bring the equipment and personnel to them: Traveling DESIREE. The traveling simulation can be shipped across the country to TRACONs or En Route centers, like the one described above, thereby eliminating the need for controllers to travel to the Tech Center, which tended to leave their home facilities short-handed.

After shakedown, a simulation team of 15 people traveled to NCT to conduct a one-week human-in-the-

loop simulation study in December 2004. No study could be successful, however, without simulation pilots. It took 5 simulation pilots from the Simulation Group to staff traffic for the controller positions. The study was a big success. It was, in fact, a cost savings sending the team to the facility for data collection. The results suggested that controllers could successfully identify blunders on their ASR-9 displays and provide insights into the appropriate size of the NTZ and communication procedures.

The RNP Office is sponsoring additional work at the Center with **Rick Ozmore's** Human-in-the-Loop Simulation Group. **Evan Darby** is conducting work to examine phraseology for use in RNAV approaches, primarily at Las Vegas.

Remember When?

By Stan Ciurczak



Pomona, NJ: Before the Tech Center there was NAFEC, or the National Aviation Facilities Experimental Center. Before NAFEC there was NASAC, or the Naval Air Station Atlantic City. This photo shows U.S. Navy planes flying past the NASAC base hangar during Opening Day Ceremonies on April 24, 1943. Photo: Courtesy, June Sheridan.

Service Awards: Transportation Security Lab

By Linda Tropiano



TSL Service Awards: Shown (left to right) with their Service Awards are Barry Masters, Peter Saraceni, Linda Tropiano, Sue McLaughlin, Raymond Schillinger and Eric Katz.

Recently the Transportation Security Lab presented Service Awards to a number of its employees. Here are a few words about each of those who were honored. Congratulations!

Barry Masters was raised in the NJ shore area. He received his undergraduate degree in Electrical Engineering from Hampton University in 1994. Upon graduation, Barry was commissioned as a Communications-Electronics Officer in the U.S. Army. During this time, Barry spent more than seven years leading teams engaged in the installation, operation and maintenance of communications networks, voice and data information systems, services and resources. After honorably serving his country, Barry came to the Transportation Security Laboratory in 2002, where he has been working with the staff for Passenger Screening Systems. He received a Certificate of Recognition for 10 years of Government service in

February 2005.

Peter Saraceni began working at NAFEC, now the William J. Hughes Technical Center, in the fall of 1973, as a Drexel University Cooperative Education Student. He graduated from Drexel in 1977 with a BSEE, and has worked here continuously on a variety of airport and aircraft safety and security projects/programs. He completed 31 years of Government service in December 2004, and is currently the Facility/Safety Officer at the Transportation Security Laboratory.

Linda Tropiano, a Philadelphia native, began her Government career in 1974 as a Secretary, working for the Defense Personnel Support Center Army Installation in Philadelphia, PA. She then transferred to the FAA in 1979. Linda has worked as Secretary to the Director, under two Directors,

Edmund Koenke from 1983-1984, and Harvey Safer from 1990-1993. She then went on to become a Management Analyst in the Management Systems Division, under Pat Mabis. Due to a major reorganization, Linda transferred to the Transportation Security Laboratory in 2002, where she is currently the Business Officer for the TSL. She received a Certificate of Recognition for 30 years of Government service in December 2004.

Sue McLaughlin came to the Atlantic City area in June 1995. Soon thereafter, she began working for System Resources Corporation, first in Mays Landing, and then at the Tech Center in the ACT-500 Target Generation Facility. Sue then began working with the Government in October 2000, as a Division Secretary at the Transportation Security Laboratory. Sue received a Certificate of Recognition for 5 years of Government service in February 2005.

Raymond Schillinger began his federal service in the active duty U.S. Navy. He is currently an Aerospace Engineer at the Transportation Security Laboratory. Ray received a Certificate of Recognition for 20 years of Government service in February 2005.

Eric Katz began his Government service in 1984 as a Patent Examiner. In 1985, he accepted a job offer with the FAA Eastern Regional Office as an engineer in Airway Facilities. In 1987, Eric transferred to the Tech Center, and worked in the Airport Technology Branch until 2000. From 2000, to the present, Eric has been working for the Transportation Security Laboratory. He received a Certificate of Recognition for 20 years of Government service in February 2005.

Public Service Recognition Week Celebrated

By Ginger Cairnes

Public Service Recognition Week (PSRW), which is celebrated the first Monday through Sunday in May, is a time set aside each year to honor federal, state, and local government employees and to highlight the many ways in which they serve people. Ceremonies, festivals, parades, community clean-up days and other similar events are held throughout the week.

At an all-hands meeting in the auditorium, **Center Director, Dr. Anne Harlan**, officially honored some employees who had received awards for their work at the Tech Center from outside organizations, as well as employees who perform volunteer work. Dr. Harlan also thanked all employees for their dedication throughout the year.

Following the meeting, employees enjoyed some light refreshments in the atrium. During this time, managers also acknowledged their work efforts.

A collage of employee photos on the job, designed by **Dave Hess** (ART-Z Graphics), was on display in the atrium. Employees participating in volunteer activities in their communities, and employees who received recognition for their accomplishments from outside the



All-Hands Meeting: Dr. Anne Harlan commends employees for their dedication and service to the mission of the Tech Center



Public Service Recognition Week: Employees who were honored during the all-hands meeting gathered for a photo afterward.

Tech Center were also displayed. This pop-up remained in the atrium

throughout the month of May.



Remember When?

By Stan Ciurczak

Cologne, NJ: If you drive down the White Horse Pike (Rt. 30), this business may look familiar to you as the Cologne Avenue Café. However, back in 1947, when this photo was taken and the Naval Air Station Atlantic City (NASAC) was here, this business was known as Hoenes' Green Lawn Soda Fountain & Service Station. Photo: Courtesy, Cologne Avenue Café.

National Transportation Essay Contest

By Barbara Harris-Para

Every year a week in May is established by the Department of Transportation for its national essay contest. Here at the Tech Center we have been participating in this contest for decades, and this year was no exception.

We send out lots of information on the new theme of the contest, which this year was, "If you had all the resources available to you what challenge would take on to advance transportation?" The students went all out for this theme, and did a marvelous job of opening the eyes of others to the crisis that may be on the horizon.

The winners for 6th Grade was:

Cassandra Perrini – Mullica Twp. Middle School



Adam Greco presents a plaque to Jonathan Santora

The winner for 7th grade was:

Jonathan Santora - Mullica Twp. Middle School

The winner for 8th grade was:

Patrick Popilek - Lower Cape May Regional School

Plaques were present at their awards ceremonies, to all three of these great authors given by **Adam Greco** and **Barbara Harris-Para**; both coordinated the program from start to finish. A special "Thanks" to **Dave Hess, Carol Hewitt** and **Annette Harrell**.



6th grade winner Cassandra Perrini with essay contest co-coordinator Adam Greco



Adam Greco with 8th grade essay contest winner Patrick Popilek

Bader Field

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hours and 10 minutes. **Lt. Eddie Stinson** was second.

Crates of eggs were dropped by parachute and none broke, so they were sold as souvenirs. **Joseph Shinn**, editor of the Atlantic City Press, flying with **Earl Ovington**, dropped 10,000 cards over the city on Monday September 22, 1919, announcing the arrival of the Naval Plane NC-4 on its way back from a trans-ocean trip. This was the first news bulletin dropped from the air.

The first fatality during the Air Congress was the crash of a plane carrying pilot **Beryl H. Kendrick** and passenger **James H. Bew, Jr.**, killing both when the plane overturned in a spin on May 24, 1919. The pilots who flew some of the acts were **Robert P. Hewitt**, **Charles Todd Selms**, and **C Nicholas Reinhardt**, calling themselves the Travelers' Company.

On Saturday, July 8, 1922 the city purchased the airport from private owners. Athletic fields were created and named for **Edward L. Bader**, the

mayor of the resort. The size of the airport remained the same for many years due to the inland waterway and the state highway on the southeast side.

The Steel Pier was usually the place for stunt fliers of the day, and **William G. Swann**, age 29, flew the first rocket glider into aviation history on June 4, 1931. He managed to go 1000' at a height of 100', but glided to a perfect landing.

In 1941, one week before Pearl Harbor, the Civil Air Patrol (CAP) was founded at Bader Field. Many local residents were members of the CAP, as the locals knew it. **Fred Federici** was number 80, and he joined during the first few days of their operations. There were no runways like we know today, but a huge circle to land in.

The municipal stadium was opened at Bader Field October 22, 1949 at a cost of \$350,000. There were many airport improvements done in 1949, which gave it a higher rating than most airports of its day. Field

lights, short wave radio, and a control tower were established. Runways and taxiways were established with hangars being built in the near future - some of which are still in use over 55 years later.

During the 1960s and 70s, Allegany Commuter flew out of Bader with scheduled flights to Philadelphia or New York. That was the last of the major commercial carriers to fly in or out of Bader; the demise of the airport began shortly after their departure. The control tower was removed, fuel trucks no longer were made available, and mechanical problems had to be handled by a mechanic from another airfield.

Every U.S. President, starting with **Theodore Roosevelt** through **Gerald Ford**, flew into Bader Field at some point in their administration. The Spirit of St. Louis landed at Bader Field, and at least three decades of Powder Puff Derbies and Black Pilots Association's races were held at Bader Field.

Join us for a Night of Baseball at the Sandcastle Stadium in Atlantic City

The entire Technical Center Family is invited!

(Federal, Contractor, NJANG, USCG, TSL, FAM, Family, Friends, Everyone!)

Atlantic City Surf vs. Camden Riversharks

Friday, August 12, 2005 at 6:35 p.m.

Fireworks Display following Game

Premium Seats -- \$9.00 each

Tickets on sale now thru August 1, 2005

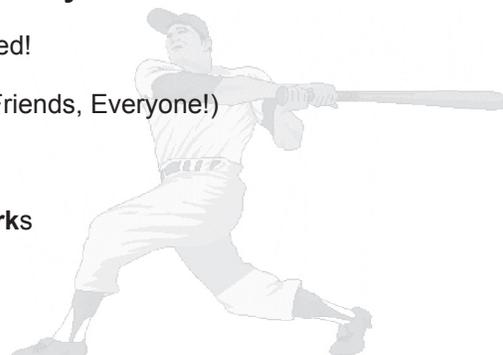
Contact:

Kathy Fleming, Bldg 300, 4th fl, Col L29, x6141

Cheryl White, Bldg 300, 3rd Fl, Col J13, x5756

Connie Moran, Bldg 300, 3rd Fl, Col H13, x5031

Janet Kinsell, Bldg 300, 1st Fl, Col L27, x6754



A Tribute to Adele Harmelin

By Charlie Bilardo



Adele and Fred Harmelin

The Budget and Finance staff, along with the Tech Center community, wishes to express our condolences to the family and friends of the late **Adele B. Harmelin**. Adele worked for the Naval Air Station Atlantic City (NASAC) and the National Aviation Facilities Experimental

Center (NAFEC) before working for the Technical Center, where she continued to be a most valuable and fondly remembered employee.

As a Budget Analyst, Adele was noted for her diligence and exceptional abilities in overcoming any obstacle that confronted the organization. Center veterans marvel to this day, and have warm memories of, Adele's intricate and colossal green paper work sheets that often evolved to epic proportions. Uncannily, they always managed to balance in good order and would have made any developer at Microsoft politely salute with due admiration.

When the folks at Budget needed the ammunition and supplies to complete the mission, they always turned to Adele and her Radar O'Reilly-like ability to somehow bring into being the most improbable of logistical

requests. Doubtless, most of Adele's fellow employees will affectionately reminisce on the countless occasions when her warmhearted sense of humor mellowed any and all of the most trying situations that Murphy's Law could conjure up. It has often been said that humor is the kindest gift that anyone could bestow on mankind and in this respect, as with many others, Adele stepped up to the plate and knocked them over the centerfield wall every time.

It is with memories and legacies such as these that any organization builds tradition and character. We are greatly in debt to Adele for the indelible imprint that she left with her family, friends and co-workers. All of us can only hope that we, in turn, can do the same.

God bless you, Adele, and many thanks for the memories.



Delores Nelson

A Tribute to Delores Nelson

By Stan Ciurczak

Delores Ann Nelson, a Tech Center employee who retired in 2003, passed away on March 18 at the age of 57.

Delores went to work for the IRS in Philadelphia in 1955, and went to work for the FAA in 1973 as an Air Traffic Control Specialist in the Eastern Region. She later was a Training Specialist and then a Supervisor at the Millville Air Flight Service Station.

Delores transferred to the Tech Center in 2001, where she worked in the Flight Service Group, retiring

two years later after 37 years of Government service. A son and a daughter survive her.

Remembering

By Stan Ciurczak

We honor the memory of our former colleagues and friends. May they rest in peace.

George R. Benedict died on April 10 at the age of 72. George served in the U.S. Air Force during the Korean conflict. He then went to work for the FAA as an air traffic control specialist for 38 years at the Washington National and Norfolk, VA airports, and then at the Tech Center, from which he retired in 1990. George is survived by his wife of 43 years, Roberta (Poss) Benedict, five children and six grandsons.

J. Roy Bradley, Jr. died at the age of 85 on April 20. Roy served as a radio operator in the U.S. Navy during World War II. He was a commercial pilot, an aeronautical instructor (Oklahoma City) and air traffic controller New York, Philadelphia and Washington, DC). He was an air traffic control project manager at the Tech Center when he retired. His wife, Sophie, three children and three grandchildren,

survive him.

Concettina (Connie) Capille died on February 19 at the age of 91. Connie worked as a secretary at NAFEC. Three grandsons and two great grandchildren survive her.

Vernon Edward Cruse died on February 27 at the age of 85. Vernon was a career naval officer who enlisted in 1937 and served during WWII aboard the USS Portland in the Battles of Midway and Coral Sea. He earned his Navy Aviator Wings (Pensacola, FL) in 1945 and gained membership in the Caterpillar Club in 1951. He also was a veteran of the Korean War, where he flew from the USS Antietam and the USS Manchester. Vernon retired as a Lt. Commander from the U.S. Navy in 1968 after 31 years of service. He then went to work for NASA as a Launch Safety Specialist with the Apollo Missions, which landed the first man on the moon in 1969. He then continued his Government service with the FAA, serving as a Flight Inspection Pilot at the Tech

Center. Vernon was Manager, Atlantic City Flight Inspection Field Office (FIFO), when he retired in 1992, culminating a Government career of 53 years. He is survived by his wife of 58 years, Rose (Barone) Cruse, three sons, seven grandchildren and one great grandchild.

John Joseph Dragovits died at the age of 68 on February 27. He served in the U.S. Navy from 1954-1958 and then graduated from Penn State. He joined the FAA and moved to South Jersey in 1967 to work at NAFEC. John retired from the FAA and recently worked for Frontier Technology as a Senior System Analyst. His wife, Kathy, survives him along with four children, two stepsons and 14 grandchildren.

Gary S. Graybill died on April 29 at the age of 55. Gary served in the U.S. Army, and then worked as an analyst at Atlantic Electric for 17 years before becoming a business analyst at the Tech Center in 2001. He was the Acting Program Director





Remembering

continued from previous page

for Enterprise Performance at the time of his untimely demise. His loving wife, Patricia, two children and five grandchildren, survive him. Also surviving is his mother Kaye Graybill.

Adele B. Harmelin died at the age of 82 on May 11. Adele worked for the Naval Air Station Atlantic City (NASAC), the National Aviation Facilities Experimental Center (NAFEC) and the Tech Center before retiring from the FAA as a Budget Analyst in 1988. Her husband Fred, three children, four grandchildren and one great-grandson survive her.

Joan R. Hierbaum, a member of the NAFEC Women's Club, died at the age of 78 on April 10. Her husband, Felix, the Tech Center's sustaining engineering program manager and a member of the group that introduced altitude reporting to the National Airspace System, predeceased her. Two daughters, two stepsons and seven grandchildren survive her.

Hilda (Hiddy) Hill died on May 3 at the age of 60. She went to work for NAFEC after graduating from Oakcrest High School in 1962. She decided two years ago that she wanted to earn a college degree and was accepted at Atlantic Cape Community College, where she specialized in adolescent and child psychology. She had long wanted to be a counselor for children and made the dean's list every semester for two years, taking home all "A's". Sadly, she lost her battle with lung cancer just one day after taking the last exam for her

first college degree. Two children and several grandchildren survive her.

Robert E. Johnson, a retired National Weather Service laboratory director and corporate CEO, died on March 21 at the age of 73. He enlisted in the U.S. Navy in 1951 and entered the U.S. Naval Academy under a Secretary of the Navy "fleet" appointment in 1953. Upon graduation in 1957, he served three years as a missile maintenance officer in the U.S. Air Force. He went to work for NAFEC in 1960, and transferred to the National Weather Service in 1966. When he retired in 1976 he was Director, Integrated Systems Lab, NWS Headquarters (Silver Spring, MD). Following his retirement from Federal service, he became President and CEO of InfoTech, Inc. (Vienna, VA). His wife, Patricia Hubbard Johnson, and two children survive him.

Norman E. (Jake) King died at the age of 72 on May 3. He resided in Scullville his entire life, except for two years of military service in the U.S. Army during the Korean War, when he was stationed in Germany. He retired from FAA in 1987 after more than 32 years of service to NAFEC and the Tech Center as a sheet metal mechanic and model maker. He was a lifetime member of the Scullville Volunteer Fire Company and VFW. "Jake" is survived by his wife of 49 years, Loretta (Smith) King, two children and four grandchildren.

Joseph Francis Loefflad, Sr. died on March 5 at the age of 70. Joseph served in the U.S. Army during the Korean Conflict. He retired from the FAA after working for 35 years as

a computer scientist for NAFEC and the Tech Center. Computer Sciences Corp. employed him from 1991 until he passed away. He is survived by his wife of 46 years, Ann C. (Murray) Loefflad, four children and four grandchildren.

Anthony P. Marseglia died at the age of 72 on February 16. Anthony served in the Korean War and received the Korean Service Medal and the National Defense Service Medal. He retired in 1990 from AT&T, where he worked as a computer analyst for 35 years and became a lifetime member of the Telecom Pioneers. He subsequently worked for Lockheed Martin Corp. at the Tech Center, and is survived by his wife, Josephine Marseglia.

Henry Charles (Charlie) Merritt, a Tech Center electrician, died on March 10 at the age of 75. He is survived by his wife, Marie K. (Berube) Merritt, five children and 16 grandchildren.

Juanita E. Mincey died at the age of 84 on January 27. Juanita began working at NAFEC in the late 1950s as a keypunch operator, and retired from the FAA after 30 years of service. Juanita and her predeceased sister, Alma F. Horn, were well known photographers in Philadelphia and Atlantic City (Club Harlem) before they both went to work for NAFEC and retired from the FAA. Juanita leaves to cherish her memories a daughter, three grandchildren and three great-grandchildren.

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Remembering

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Joseph J. Mobley, the co-owner, with his wife, of Mobley Construction Co., and the first person of color to be awarded an 8(a) contract by NAFEC, died on February 10 at the age of 81. After serving in the U.S. Air Force, Joseph first worked as a chef in Atlantic City's Traymore and Ambassador Hotels. Then, in 1958, he landed his first major contract in the construction business, which was to construct the Sahara Motel. In 1968, President Nixon appointed him to serve on the Small Business Administration (SBA) Advisory Council. While serving the SBA, Mobley informed the President that he had been awarded a \$4.7M mortgage loan authorization to construct a 200-unit townhouse and garden apartment complex in Bridgeton. In 1970, he received the first 8(a) Federal Government contract, administered through the Small Business Administration, to modify a building at NAFEC, the first time that a black general contractor was awarded a contract at this facility. President Nixon cited Mobley as a "trailblazer" in 1970, presenting him with a citation praising him for his "community, civic, and building achievements." Mobley was past president of the Atlantic-Cape May County Chapter of the National Business League and the Atlantic Community Housing Corporation. He leaves to honor his memories his wife of nearly 60 years, Rose L. (White) Mobley, and a daughter.

Delores Ann Nelson, a Tech Center employee who retired in 2003, passed away on March 18 at the age of 57. Delores went to work for the IRS in Philadelphia in 1955, and went to work for the FAA in 1973 as an Air Traffic

Control Specialist in the Eastern Region. She later was a Training Specialist and then a Supervisor at the Millville Air Flight Service Station. She transferred to the Tech Center in 2001, where she worked in the Flight Service Group, retiring two years later after 37 years of Government service. A son and a daughter survive her.

Thomas Holl Paprocki passed away on March 26 at the age of 72. Tom was a lifetime member of the Atlantic City Beach Patrol, a 1954 graduate of the U.S. Military Academy (West Point) and a 1959 graduate of MIT. He went to work for the FAA in 1962 as an airport lighting expert. A year later he was named, as an FAA employee, to be the Chief Advisor on Aviation to the Israeli Government (Tel Aviv). It is there that he met and married his wife, June, an American Embassy State Department employee. In 1966 he relocated to the American Embassy in Brazil (Rio de Janeiro). He returned to NAFEC in 1968, and took on many temporary duty assignments worldwide. His lighting accomplishments included designing the helipad lighting atop the American Embassy in Vietnam to facilitate the American evacuation at the end of the Vietnam Conflict. He also was instrumental in developing the lighting for night landings of the Space Shuttle. Following his 1991 retirement from the FAA as Program Manager for Airport Lighting, Tom worked for several contractors, including Hi-Tech Systems, which is where he was employed when he died unexpectedly. Tom is survived by June, his wife of 40 years, two daughters and three grandchildren.

Wesley C. Retherford, a U.S. Army veteran and NAFEC electronics engineer, died at the age of 66 on

February 13. Wesley retired from the FAA in 1977. Surviving him is his wife, Carol Retherford, three sons and five grandsons.

Joseph M. Romei died on May 9 at the age of 75. He served ten years in the U.S. Navy before going to work for the Civil Aeronautics Agency (CAA), the forerunner of the FAA. He served as an air traffic controller in Atlanta and Washington before going to work for NAFEC. Joe worked for several Government contractors after retiring from the FAA, and was a member of the Retired Air Traffic Control Luncheon Club. His wife, Donna, a daughter, three stepdaughters and three grandchildren survive him.

Geraldine A. (Geri) Shook died at the age of 50 on April 28. Geri worked for the Tech Center for four years as an Administrative Assistant. A daughter and two grandchildren survive her.

John Leonard Spencer passed away on April 26 at the age of 51. He recently retired from the FAA after 20 years of Government service, and is survived by a son and a daughter. A Memorial Service will be held on the beach in Stone Harbor at 106th St. on June 18 at 6:30 p.m.

George Zimmer died on February 21 at the age of 90. George worked for the New York Ship Yard before going to work for NAFEC as a pipe fitter in the plumbing department. Predeceased by his wife, Helen Ramp Zimmer, and his son, Thomas, he is survived by two children, five grandchildren and five great grandchildren.