National Aeronautics and Space Administration

AEROSPACE Frontiers

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# Dr. Whitlow shares first step in restructuring plan

BY DOREEN ZUDELL

Center Director Dr. Woodrow Whitlow recently announced the first step in a restructuring plan that will better position Glenn as a meaningful contributor to the Vision for Space Exploration.

The restructuring addresses some issues raised in a recent independent assessment of the center:

- No organization exists that focuses on the development of space flight systems
- Systems engineering capability is spread across several organizations
- Software engineering and computing science is located in the Office of the Chief Financial Officer

During his All Hands meeting on May 1, Whitlow announced the creation of a Space Flight Systems Directorate. The new directorate provides a focus on managing the development of space systems and hardware and establishes clear lines of communications to organizations with work assignments. It also provides responsibility and authority necessary to manage major space flight development assignments.

"Responding to the readiness assessment with this new structure better positions us to implement larger roles in NASA's future," Whitlow said.

Whitlow shared additional steps in the restructuring process that include consolidation of all systems engineering in the Engineering and Technical Services Directorate, consolidation of aeronautics research management into the Research and Technology Directorate and realigning personnel in appropriate organizations.

In mid May, Whitlow established the Crew Exploration Vehicle Project Office under the new directorate. Bryan Smith is serving as chief of the office. Staffing is now underway. ◆

# B–2 facility helps TRACER measure up

BY S. JENISE VERIS

After two weeks of simulation testing in Glenn's Spacecraft Propulsion Research (B–2) Facility at Plum Brook Station, the Transition Radiation Array for Cosmic Energetic Radiation (TRACER), a new test instrument for balloon-borne measurements, passed with flying colors.

C-2003-784 Photo by Marvin Smith

*TRACER being loaded into the B-2.*

Developed and constructed at the University of Chicago under a grant from NASA, TRACER will fly suspended below a 40-million cubic-foot helium-filled balloon. From this position, it will gather samples and take measurements on the composition of cosmic rays entering Earth's atmosphere during a 21-day flight around the northern hemisphere. Launch is scheduled in June from Siruna, Sweden.

Mark Cmar, B–2 facility task manager, led a team of 10 Plum Brook Operations Systems Group technicians

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## Inside

*From the Director*

# Stand strong and proud

As you may recall, the recent independent Readiness Assessment of Glenn gave us high marks in technical competence. We are not only technically capable of performing space exploration work, the report noted, but we are also committed to the Vision for Space Exploration and determined to engage in this work. Prime examples of the assessment's findings were displayed recently in our cafeteria's upper mezzanine during the judging of the 2006 Craftsmanship and Steven Szabo Engineering Excellence nominees and Abe Silverstein Medal winner.

If you had a chance to view the displays and models, you saw how skill and imagination blend to make art. I wonder how many of us could take a rough idea sketched on a paper napkin and turn it into a component that is vital to improving aircraft or spacecraft performance? Yet that's just what our model makers, machinists and electrical and electronics technicians do every day. They give form to vision.

Photo by Doreen Zudell

*Steven Szabo Engineering Excellence nominees for the 1-by1 Sonic Wind Tunnel Pulsed Ejector Wave Propagation Test Team, pictured clockwise with Dr. Whitlow, are Raymond Homyk (ZIN), Dr. Kathy Tacina, Rene Fernandez and Mike Henry (SLI).*

Our Craftsmanship Awards rightly recognize the tremendous accomplishments of our technicians with the same degree of honor that we give to our scientists and engineers. Without them, we are unable to visually demonstrate our conceptual and engineering design work.

In addition to our technicians, the event showcased the ingenuity of our hardworking engineering staff. Vying for the coveted Steven V. Szabo Engineering Excellence Award, these finalists are artists in their own right and exemplify the engineering talent that this center has built its reputation.

Finally, the latest recipient of our Dr. Abe Silverstein Medal has earned a prestigious award. This researcher was chosen from among so many of our outstanding scientists and engineers. The medal winner can take a place among the most accomplished researchers and center directors in the history of NASA.

During this time of transition within NASA and at Glenn, it's important that we appreciate and recognize our individual and collective abilities. These award nominees show us that we can stand strong and proud, ready to take on whatever the future brings. I am certain that our expertise, along with our "can-do" attitude, will ensure the center's success in the years to come. ◆

## News and Events

# Star gazing and exploration

Glenn's third annual Star Gazing & More celebration of National Astronomy Day on May 6 was bigger and better than ever. More than 2000 visitors participated in the fun-filled event, featuring day and nighttime telescope viewing, laser-light shows, auditorium presentations, a tour of Glenn's Hangar, hands-on educational activities, crafts and the kickoff to the Ohio tour of NASA's new interactive Vision for Space Exploration Experience, a 53-foot-long traveling exhibit. The Experience drew visitors into the darkness of space on a simulated journey to the moon, Mars and beyond via holographic and 3-D images; then whisked them to a surround-vision theater where they could interact with the surfaces of Earth, the moon and Mars while viewing a timeline of Apollo moon landings and NASA's plans for future exploration. The astronomy activities were presented in partnership with Lake Erie Nature & Science Center's Walter R. Schuele Planetarium, the Cuyahoga Astronomical Association and NASA Jet Propulsion Laboratory's Solar System Ambassadors.

Photos by Quentin Schwinn C-2006-901

*Left: Viewing the night sky through the telescopes during the Star Gazing and More event. Below: Taking a closer look at the heavens via NASA's Vision for Space Exploration exhibit at the Children's Museum, one of several Ohio tour sites.*

C-2006-899

# News and Events

## Family Fun Night

*Left, Center Director Dr. Whitlow welcomes residents to the Fun Night. Above, children enjoy the rocket launch activity.*

Photos by S. Jenise Veris

Glenn's Educational Programs Office and the Science Engineering Mathematics and Aerospace Academy (SEMAA) helped put the fun in Family Fun Night at Ford Middle School in Brook Park, Ohio on April 24. Following Brook Park Mayor Mark Elliott and Principal Julie Kalbrunner's welcoming remarks, Center Director Dr. Woodrow Whitlow's highlighted Glenn's contributions to the NASA Vision and a variety of careers students might pursue that are critical to mission success. Glenn, SEMAA and school personnel led the more than 100 students, parents and community members in several innovative educational activities designed to simulate NASA science and research. Participants designed and launched water bottle rockets and viewed NASA exhibits, a robotics demonstration and student science fair projects.

## Earth Week

Photo by Maureen Sartain

Photo by Brian Weinberg

From April 17 through 23, Glenn's employees aided the NASA mission "To understand and protect our home planet" onsite and around Northeast Ohio. Over 400 employees visited the Earth Week Committee's displays—including one-person electric cars; Glenn's work with renewable energy; and the Environmental Protection Agency's Hurricane Katrina exhibit, showing thousands of refrigerators being recycled. About 600 compact fluorescent bulbs were distributed, potentially reducing greenhouse gas emissions by 78 tons. There were contests to win ZooPoo, a rain barrel and organic T-shirts; a cigarette butt cleanup; and a Bike-to-Work Day display. For more photos and information, visit http://earthday.grc.nasa.gov. Pictured, left, top, are Lewis Little Folks kindergartners Lynsey Scheneman, daughter of Julie Scheneman, Mission Support and Integration Office; and Jack Wu, son of Dr. Jennifer Xu, Sensors and Electronics Branch, planting flowers. Pictured left is Aaron Walker, Safety, Health and Environmental Division, who promoted collection of rain water to reduce water and energy usage. Richard Cavicchi, Inlet and Nozzle Branch, right, won a rain barrel.

## Diversity walk


A NASA team coordinated by Director of Diversity Robyn Gordon, Center Operations Directorate, supported the Northeast Conference for Community and Justice's (NCCJ) annual diversity walk-a-thon, Walk as One—Rock as One, on May 6. NASA joined teams from all over Greater Cleveland and participated in the three-mile walk to raise funds to support NCCJ's youth and community leadership programs. NCCJ is part of a national network of 32 regions across the country that advances diversity, challenges assumptions and advocates for understanding through education and training to be more inclusive.

## Harvest for Hunger

Photo by S. Jenise Veris

In addition to the popular Great American Chili Cookoff on April 21, support for the center's annual Harvest for Hunger drive totaled $808 in cash and 545 pounds in nonperishable food items from drop-off points across the center and OAI. During the cookoff, six contestants—Anna Falcon, John Ferguson (SGT), Stephanie Brown-Houston and Rob LaSalvia, External Programs Directorate; and Mike Cuy and Quynhgiao Nguyen, Materials and Structures Division—entered nearly three gallons of their homemade chili. A minimal fee and food item donation entitled participants to vote for their favorite chili and a chance to win a door prize. Pictured is SGT President and CEO Harold Stinger sampling chili with Cindy Osinski and Carol Burkhardt, SGT/Logistics and Technical Information Division.

# Sixteen employees receive FEB Wings of Excellence Awards

Sixteen Glenn employees received the Cleveland Federal Executive Board's (FEB) Wings of Excellence Award at the 20th annual Awards and Recognition Ceremony during a luncheon at the Renaissance Hotel in Cleveland on May 5.

Nominated by a committee of their peers and supervisors, the following honorees were selected for dedication and service with distinction in their professional responsibilities and in the community.

Dr. Rafat Ansari, Microgravity Division; Dennis Conrad, Office of Human Resources and Workforce Planning; Leonard Cramer, Business Systems Office; Marilyn DeCore, Financial Management Division; Dr. Nicholas Georgiadis, Propulsion Systems Division; Israel Greenfeld, System Safety, Quality and Reliability Division; Brad Kaustinen, Business Systems Office; George Kopasakis, Instrumentation and Controls Division; John Lekki, Instrumentation and Controls Division; Dr. John Slater, Propulsion Systems Division; Adele Szuhai, Procurement Division; Dr. Kathleen Tacina, Propulsion Systems Division; and Orlando Thompson, Sr., Community and Media Relations Office.

An FEB Wings of Excellence Award was also presented to Sallie Keith, Community and Media Relations; Michael Zernic, AvSSP and ASP Projects Office; and Robert Allen, a retiree who served in the Safety and Mission Assurance Directorate, for their work on the Cleveland Federal Community Leadership Institute Development Team. This team's mission is to identify and develop leaders committed to advancing greater cooperation among Federal agencies and to strengthen community partnerships.

Cleveland's FEB, one of 28 across the country, represents a cohesive unit of government agencies that is dedicated to providing high quality, coordinated government services and information.◆


*Allen*


*Dr. Ansari*


*Conrad*


*Cramer*


*DeCore*


*Georgiadis*


*Keith*


*Kopasakis*


*Szuhai*


*Dr. Tacina*


Photo by Linda Dukes-Campbell

*Dr. Whitlow, who chaired the awards committee, introduced Jim Brown, NFL Hall of Famer and founder of Amer-I-Can Foundation, as the keynote speaker.*


*Greenfeld*


*Kaustinen*


*Lekki*


*Dr. Slater*


*Thompson*


*Zernic*

## New awards system debuts this summer

On June 26, NASA's Office of Human Capital Management plans to roll out the new NASA Automated Awards System (NAAS). This new system will streamline the awards nomination process and provide critical data to managers about the awards program. It will be used for all NASA Honor Awards, performance awards, and other incentive awards. NAAS is one of the first systems to be developed and implemented under the Human Capital Information Environment, and will help NASA comply with the e-Government Initiative and the President's Management Agenda. Xynique Sims and Terri Ross, Program and Policy Office, represented Glenn on an agency Automated Awards Team that worked to ensure NAAS maximizes efficiency, yet preserves the traditions unique to each center. ◆

# Agencywide team conducts CEV design study

In early 2006, Glenn participated in an intense, eight-week agencywide design study of the Crew Exploration Vehicle (CEV), led by Ralph Roe, director of the NASA Engineering and Safety Center (NESC). The CEV Smart Buyer study was performed at the request of Constellation Program Manager Jeff Hanley to identify major design drivers and develop innovative design concepts for the CEV.

The study was divided into three major elements: Crew Module, Service Module and Launch Abort System, as well as a systems engineering and integration function. A host center was chosen to lead each element's design effort using a collaborative design environment. The CEV Smart Buyer team included over 200 members with representation from each of NASA's 10 field centers.

Glenn was selected to host the Service Module design team activity led by Rick Manella, Engineering and Technical Services Directorate, and Derrick Cheston, NESC chief engineer. The team included over 60 members from six different centers.

"The team performed four separate design iterations and presented two design recommendations to the Constellation Program Exploration Mission Directorate and the NASA Administrator and his leadership team in March at Johnson Space Center," Cheston explained.

Throughout the months of February and March, over 40 Glenn employees participated on the CEV Smart Buyer team. Cheston noted that a tremendous effort was put forth by the Glenn teammates, some of which led the integration of key disciplines. For example, James Soeder, Advanced Electrical Systems Branch, led electrical power, while Rex Delventhal, Constellation Systems Project Office, led the propulsion element. Several employees participated in integrated system-level trades. In addition, Paul Solano, Mechanical and Rotating Systems Branch, spent eight weeks at Johnson as a member of the Crew Module team.

The NASA senior leadership team acknowledged the CEV Smart Buyer team's efforts and echoed Roe's statement made during the March outbriefing that concluded, "the outstanding efforts of this agencywide team demonstrated NASA's capability to perform in-house innovative designs for human spacecraft." ◆


C-2006-871 Photo by Quentin Schwinn

*Pictured is the Service Module team participating in one of the daily integrated sessions in the Glenn Integrated Design and Analysis Center. Manella and Cheston, head of table, join Roe, pictured to the right of Cheston.*

## 2006 Honor Awards

Glenn's Honor Awards Ceremony will be held July 18 in the DEB Auditorium. The keynote speaker is Astronaut Dr. Charles J. Camarda, acting director, Engineering, Johnson Space Center, who flew on the latest return to flight shuttle mission, STS–114.

# Plum Brook vacuum facility simulates altitude conditions

**Continued from page 1**

who performed the TRACER simulation with Principle Investigator Professor Dietrich Muller and researchers from the University of Chicago.

"We pump down the vacuum chamber to reduce the air and atmospheric pressure, thereby simulating conditions at an elevation of 125,000 feet (above 99 percent of the atmosphere), where air ionizes and different types of phenomena might affect the instrument's ability to operate during its long-duration flight," Cmar explained. "Three successive pump downs exposed problems with the onboard instrumentation that would only manifest in the high altitude simulated conditions in the B–2 facility. A fourth pump down cleared the test instrument ready for flight. We take pride in helping our customers discover and remedy problems on the ground to ensure success in flight."

Climbing above the atmosphere enables TRACER to sample cosmic rays before they are destroyed by interactions with the atmosphere. The 8-by 12-by 8-foot, 3,000-pound test instrument employs a transition radiation detector to measure the energy and plastic scintillators and gas-filled proportional tubes to determine the nuclear charge.

Glenn certified an earlier version of TRACER that successfully navigated the Antarctic, sampling over 50 million cosmic rays during a 14-day flight in 2003. Improvements to TRACER were built on the experience of senior investigators with the successful Climate Reference Network (CRN) mission on the space shuttle.

CRN fulfills the nation's need for current long-term, high-quality climate observations and records with minimal time-dependent biases to benchmark against past studies of climate variability and change. TRACER also serves as a prototype for the Advanced Cosmic Ray Composition Experiment for the Space Station, which is currently under consideration for a 2007 launch.

For more information on TRACER, visit http://tracer.uchicago.edu/. ◆

## Procurement Awards

C-2006-619 Photo by Marvin Smith

*Baker, left, receives special recognition from Center Director Dr. Woodrow Whitlow.*

**Bradley Baker**, Glenn's procurement officer and division chief for the past 18 years, received the 2005 NASA Procurement Supervisor of the Year award. He was acknowledged by NASA Headquarters for his high degree of professionalism and integrity. Baker was also recognized for dedicated support to NASA and Glenn programs and projects and a strong advocacy of the procurement workforce with emphasis on developing his people and willingness to contribute Glenn's procurement resources to work on important NASA initiatives.

*Bober*

*Manthey*

*Williams*

Every year NASA recognizes procurement personnel excellence with one of their most distinguished awards. Nine Glenn employees were recognized as Glenn Procurement Persons of the Year.

**Sandra Brickner** was selected as the Glenn Simplified Acquisition Specialist of the Year, and has been recognized for her excellent technical purchasing and customer relation skills. **Timothy Bober** was selected as the Glenn Grants Specialist of the Year for his outstanding contributions to Glenn's five-person grants team. **Kurt Brocone,** selected as the Glenn Contract Manager of the Year, was responsible for administering the two largest contracts at the center since their award in late 1999. **Glen M. Williams**, selected as the Glenn Contract Specialist of the Year, manages several major aeronautics and technology development task order research contracts that are critical components of NASA's aeronautics research program and require active management of competing requirements, technical and funding changes, and other complex procurement issues. **Thomas Palisin** was selected as the Glenn Procurement Support Person of the Year. Palisin has been active in improving and developing tools to support the work of the division. **Mark Manthey** was recognized as the Glenn Supervisor of the Year for his cooperative approach to completing work, and ability to build morale and develop teamwork. **Thomas Burke,** recognized as the Glenn Contracting Officer's Technical Representative of the Year, has enacted or supported numerous contract management initiatives that resulted in substantial contract cost reductions and increased overall contractor productivity. **Robin Strohacker** was recognized as the Glenn Procurement Analyst of the Year. Strohacker is an active participant in improving the quality of the procurement work done at Glenn and the agency.

## Patent

The U.S. patent entitled "Bimorphic Polymeric Photomechanical Actuator" was awarded to **Dr. Grigory Adamovsky**, Instrumentation and Controls Division, and a group of researchers from Alabama A&M University led by Dr. S. Sarkisov. The patent covers a broad range of photomechanical apparatus and methods for converting light into movements.

*Dr. Adamovsky*

## Air show fever

NASA Glenn exhibits and personnel will showcase NASA aeronautics and space technology during several air shows this summer. See below for a list of locations and stay tuned to *Today@Glenn* for opportunities to staff exhibits.

- **MAPS Aero Expo**, June 17 and 18 Akron, Ohio
- **Deluth Air Show**, July 8 and 9 Deluth, Minn.
- **AirVenture**, July 24 to 30, Oshkosh, Wis.
- **Dayton Air Show**, July 29 and 30, Dayton, Ohio
- **Indianapolis Air Show,** August 26 and 27 Indianapolis, Ind.
- **Cleveland Air Show**, September 2 to 4, Cleveland, Ohio
- **Oneida County Air Show**, September 16 and 17, Oneida, NY.

Do you know someone who would like to be on our monthly electronic issue distribution list? Have them send their email address to Doreen.Zudell@grc.nasa.gov and we'll add them to the list!

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DEADLINES: News items and brief announcements for publication in the July issue must be received by noon, June 16. The deadline for the August issue is noon, July 14. Submit contributions to the editor via e-mail, doreen.zudell@grc.nasa.gov, fax 216-433-8143, phone 216-433-5317 or 216-433-2888, or MS 3-11. Ideas for news stories are welcome but will be published as space allows. View us online at http://AeroSpaceFrontiers.grc.nasa.gov.

2005 APEX® AWARDS FOR PUBLICATION EXCELLENCE

## News Notes

**LESA MEETING:** LESA/IFPTE, Local 28, will hold its next monthly membership meeting on June 14, at noon in the Employee Center.

**THIRD SATURDAY AT THE VC:** On Saturday, June 17, Glenn's Visitor Center (VC) will host its second annual space memorabilia show and swap meet in collaboration with collectSPACE.com, from 10 a.m. to 4 p.m. Visitors will see artifacts from space programs around the world. During the 11 a.m. and 2 p.m. presentations, Professor James Hansen, author of "First Man: The Life of Neil A. Armstrong," will discuss the life of the celebrated explorer and will autograph copies of his book. Tours of the Zero Gravity Facility are available with reservations, 216–433–9653. For details on this and other Glenn events, visit glennevents.grc.nasa.gov.

**FITNESS CENTER CLASSES:** Fitness class registration for the summer session at the Fitness Center starts Monday, June 26, at 6 a.m. Call 216–433–6313 or e-mail renee.barrett@grc.nasa.gov. Pilates, yoga, muscle conditioning/toning, step aerobics, cardio-kickboxing, boot camp and healthy back classes are offered.

**HBCU/OMU CONFERENCE:** The 13th Historically Black College and Universities (HBCUs) and Other Minority Universities (OMUs) Research Conference will be held from July 19 to 20, at the Ohio Aerospace Institute (OAI), in conjunction with the Glenn summer job fair. Students from HBCUs/OMUs present progress reports on Glenn-sponsored research. POC: Dr. Sunil Dutta, 216–433–8844; e-mail, Sunil.Dutta-1@nasa.gov.

## In Appreciation

I would like to thank all of my fellow RSIS/NCI team members, work associates and computer administrators at NASA Glenn, whom I have worked with so closely over the years, who sent well wishes, attended my retirement luncheons, contributed to the lovely gifts and attended my cake and punch reception on March 31. I truly enjoyed working with each of you and already miss you greatly.

—Erma Albergottie

*Online survery*

## *AeroSpace Frontiers* wants your feedback

This month, the Community and Media Relations Office is conducting an online *AeroSpace Frontiers* Readership Survey of center employees and retirees. The survey will focus on the audience's readership habits, the newsletter's content and soliciting suggestions for future articles and topics. Results from the survey will be used to plan future issues and make improvements wherever necessary.

The survey, which should only take between five and ten minutes to complete, may only be taken once and is open from Friday, June 2 through Friday, June 16. To take the survey, visit http://www.zoomerang.com/survey.zgi?p=WEB225BVUEDCBP

Please take a moment to share your thoughts and ideas on how NASA Glenn can improve its official publication. Thank you for your input!

## Retirements

### March 31, 2006, Retirements

*Celebrezze*

*Pipak*

*Tacina*

*Zatroch*

**Mary Beth Celebrezze**, Financial Management Division, retired with 38 years of NASA service.

**Jennifer Cyrill**, Logistics and Technical Information Division, retired with 20 ½ years of NASA service.

**Alberta "Judith" Drabik**, Office of Human Resources and Workforce Planning, retired with 34 ½ years of federal service, including 34 with NASA.

**Robert Pipak**, Engineering Development Division, retired with 34 years of federal service, including 26 ½ with NASA.

**Robert Suhay**, Facilities Division, retired with 44 ½ years of NASA service.

**Robert Tacina**, Propulsion Systems Division, retired with 38 ½ years of NASA service.

**Del Zatroch**, Engineering Development Division, retired with 45 ½ years of federal service, including 44 ½ with NASA.

## In Memory

**Harrison Allen, Jr.,** 78, who retired in 1986 with 36 years of federal service including 32 years at NASA, has died. The former chemical engineer and aerospace research scientist was co-inventor with NASA colleague Carl Ciepluch on two patents: an improved apparatus (1965) and method (1966) to ignite solid propellants, a critical discovery for Apollo and future space programs. Allen served as the center's first technology utilization officer, as well as deputy director of External Affairs and acting chief of the Community and Special Programs Office.

**Patrick Donoughe**, 80, who retired in 1981 with 33 ½ years of NASA service, has died. Donoughe served as a research engineer in the area of nuclear rocket propulsion. He returned to serve as a consultant for Analex before retiring a second time in 1988.

# Administrative professionals recognized for exemplary work

Supervisors, coworkers, families and friends took turns cheering on their nominees for the 2006 Support Assistant/Clerical Awards during a colorful reception held April 21 in the Administration Building Auditorium.

Center Director Dr. Woodrow Whitlow and Deputy Director Rich Christiansen expressed pride in the honorees' citations of high standards and exemplary work critical to Glenn's ability to address mission challenges and maintain momentum towards the agency's vision.

The following honorees were recognized for their contributions to the various nominating organizations: Margaret Bulan, Communication Systems Integration Branch; Helen Ceh, Chief Scientist Office; Jeanie Feagan, SGT/Materials and Structures Division; Sharon Maier, SGT/Research Testing Division; Carmen Marrero, Office of Equal Opportunity Programs; Elaine Pappas, Research and Technology Directorate; Deborah Szczepinski, SGT/Office of the Chief Counsel; Belinda Walker, SGT/Office of Strategic Management; Cherie Westbrooks, Engine Systems Branch; and Orma Willard, SGT/Mission Operations and Integration Projects Office. ◆

Photos by Marvin Smith C–2006–832

C–2006–833

*Pictured above with civil servant honorees are, left to right, Deputy Director Christiansen, Bulan, Westbrooks, Marrero and Director Whitlow. Not pictured are Ceh and Pappas.*

*Pictured left, standing, left to right, Christiansen, SGT President/CEO Harold Stinger, Whitlow, and SGT Administrative and Clerical Services Manager Susan Silver with the support service honorees. Seated, left to right, Szczepinski, Willard and Maier. Not pictured are Feagan and Walker.*

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