

International Space Station flight set to take off with SMDC astronaut

by Marco Morales
Huntsville, Ala.

A significant milestone in the history of space exploration takes place in the pre-dawn hours of Dec. 3, 1998 – the launching of the first node which will become the much awaited International Space Station, or ISS.

The astronaut crew of STS-88, which includes Lt. Col. Nancy Currie of the U.S. Army Space and Missile Defense Command, will focus on delivering Node 1, the first space station hardware to be carried some 173 nautical miles above the earth inside the Space Shuttle Endeavour's cargo bay.

Currie, a mission specialist, will work with Mission Commander, Robert Cabana, Pilot, Frederick Sturckow, and three other mission specialists, Jerry Ross, James Newman and Sergei Krikalev, who is Russian.

She has logged more than 454 hours in space, and as a master Army aviator, Currie has logged 3,500 flying hours in different aircraft.

An astronaut since 1990, she also earned a doctorate degree in industrial engineering from the University of Houston.

Currie has seen the ISS project almost from the start.

"It was really quite an honor when I came to NASA 11 years ago. People were already working on the ISS project and it certainly has gone through a lot of iterations in its design and scope over the years," Currie said, in a recent interview by telephone from Houston.

(See Currie, page 3)



Lt. Col. Nancy Currie



photo by Staff Sgt. Donald Sparks

GOTCHA!

Sgt. James Keegan demonstrates the hand-held Uncooled Imaging Technology or UCIT. The UCIT is part of research for improving warfighting capabilities. The device will allow soldiers to see objects through camouflage, smoke, fog, and other battlefield obscurants. For related story, see page 6.

Experiment links Army, Marine battle labs together for first time

Benefits include sharing systems, capabilities for future exercises

by Staff Sgt. Donald Sparks
Huntsville, Ala.

Instead of meeting on the shores of Tripoli or the beaches of Normandy, the U.S. Army and Marine Corps met on totally unfamiliar ground.

The two services participated in a live, on-site experiment between the U.S. Army Space and Missile Defense Battle Lab and the U.S. Marine Corps Command and Control, or C2, Battle Lab Oct. 21-22 in Huntsville, Ala.

The experiment marked the first time that the two services' battle labs interfaced to understand each other's capabilities.

According to Norven Goddard, chief Combat Applications Division, SMDC Battle Lab, the experiment gives both battle labs a chance to explore different technologies and to rehearse with each

other before participating in future exercises.

"This helps SMDC's battle lab in the future," Goddard said. "It gives us a tremendous leg up because we've been pursuing a federated battle lab concept where all the battle labs are tied together.

"You look at each individual element's strong points so there is no duplication of resources."

Goddard also mentioned that, with the creation of a federated battle lab, it makes it easier to go into other battle labs and interact with other systems or simulations that one service may or may not have.

With both services scheduled to participate in Fleet Battle Exercise-E, which will be held in February, one major advantage of the experiment is that both battle labs get the chance to link up prior to the event and get an early look at how to interface with each other.

Because the Marine Corps system could be mobilized quickly, Goddard asked them to come to Huntsville for some preliminary checkouts.

"We wanted to see what type of messages we could put across, how we can transfer data and how we could

use the systems we had," he said.

Following a phone request to the Marine Corps Systems Command, or MCSC, in Quantico, Va., six weeks of planning went into establishing the experiment and setting initial objectives.

"The SMDC battle lab provides the capability that is not now organic in the Marine air command and control system," said Maj. Rey Masinin, project officer, MCSC. "We currently don't have the tools on the Army's side of the interface and by inter-operating we can gain access to those systems we lack to make our job easier."

Masinin also highlighted that the Marines' battle lab primarily centered on coming up with a single integrated air picture and the Army is good at intelligence preparation on the battlefield.

"The idea here is that we want to use the high accuracy and high fidelity characteristics from the Cooperative Engagement Capability system, but what's missing is actually the battle management and command and control information that's afforded to us by

(See Battle Lab, page 3)

Costello: “we all have to row the boat together”

SMDC commander shares beliefs, goals in first town hall appearance

by LuAnne Fantasia
Huntsville, Ala.

In his first Town Hall with soldiers and employees, Lt. Gen. John Costello said the U.S. Army Space and Missile Defense Command will work hard to send a clear signal about what it does.

“If I can do one thing in my tenure here, we will try to refine your already well-established baseline,” he said.

The new commanding general was promoted and assumed command of SMDC Oct. 1.

Coming to SMDC from his previous assignment as commanding general of the U.S. Army Air Defense Artillery Center and Fort Bliss, Texas, Costello

said he has been familiar with SMDC for a number of years, and welcomes the chance to be part of the organization.

“I like an organization that gets its job done, that exceeds standards, and where everyone pulls his or her own weight,” Costello said.

“You are SMDC and have to understand where you fit in and where you’re going. I encourage you to speak up about your good ideas,” he said. “Don’t be afraid to make a decision and don’t be afraid to experiment.”

Before sharing his command philosophy, the friendly and personable general officer quipped that any philosophy majors in the group could accept what he was about to say as a professional courtesy...or leave the room.

“My command philosophy is R5+1; be in the right place, at the right time, with the right attitude, with the right training, and (for soldiers) be in the right uniform.

“And, the ‘plus one’ is to make sure

family members are also taken care of,” Costello said.

His ‘A to B’ theory is basically getting from point A to point B with the least amount of wear and tear.

“The important thing is the quality in which you get there,” he said. “Every organization has its bureaucracy and inertia, and that’s what wears a person down.

“All of us have to row the boat together.”

Costello said ‘eyewash’ is the difference between a good organization and a great one.

“You don’t want an organization to just have impressive window dressing,” he said. “It has to want to operate effectively, and it has to have inner pride.

“This is not easy and it’s hard to sustain over a long period of time, because you have people arriving and leaving all the time.”

Whether a soldier or civilian, discipline is the most important characteristic of a strong organization,

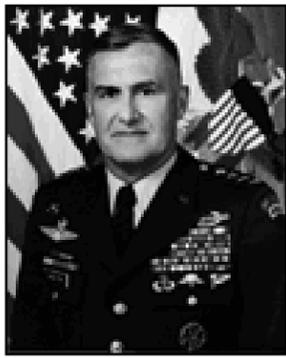


Lt. Gen. John Costello

he said.

“If you have people brave enough to call it like it is, and supervisors who don’t look the other way, you have a healthy environment with discipline and mutual respect. When you have to constantly ‘mind the store’ the work doesn’t get done.”

Veterans Day Message from the Chairman of the Joint Chiefs of Staff



Gen. Henry Shelton

At the end of World War I, President Woodrow Wilson proclaimed Armistice Day to honor the memory of all who served in the “war to end all wars.”

Now we celebrate this holiday as Veterans Day, an opportunity to honor those who have worn the uniform in defense of our country.

This year, in every small town and every big city

across this broad land, America will pause to thank those who served.

Our Nation is powerful, prosperous and at peace — due in no small part because when America called, America’s sons and daughters answered.

Today, that legacy of duty and love of country has been handed down to the soldiers, sailors, airmen and Marines

who guard our freedom at home and abroad.

Whether in the skies over Bosnia, in the waters of the Persian Gulf, in the deserts of the Sinai and the mountains of Macedonia, or elsewhere, they stand tall in defense of freedom, doing the hard and dangerous work that must be done to bring peace and stability to a troubled world.

On behalf of the Joint Chiefs

of Staff and the men and women of our Armed Forces, I am proud to salute our veterans on this special day.

May their example of service and sacrifice continue to inspire us all, and may we always treasure the gift of freedom they fought and, in some cases, died to preserve.

HENRY H. SHELTON,
Gen., USA



“Our country ‘tis of thee...”

Robert Richardson of Meridianville, Ala., leans on a monument depicting the U.S. Bill of Rights during Veteran’s Day celebrations in Huntsville. Richardson, a former Marine, fought during the Vietnam War with the 3rd Marine Division. The holiday honors the many men and women of the Armed Forces that served America in times of conflict and peace.

Eagle photo by Staff Sgt. Donald Sparks

The Eagle

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Currie

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"The most significant change has been the participation of international partners to include the Russians," she said.

According to NASA, the seven-day mission will be highlighted by the mating of Node 1 station element to the Functional Energy Block, or FGB, which is already in orbit, and two spacewalks to connect power and data transmission cables between the node and the FGB.

The launch of Node 1 was originally scheduled for Dec. 4, 1997 and rescheduled for another launch last July.

Node 1 has two pressurized mating adapters, one attached to either end. One PMA is permanently mated to the FGB and the other used for orbiter dockings and crew access to the station.

To begin the assembly sequence, the crew will conduct a series of rendezvous maneuvers like those conducted on other shuttle missions to reach the orbiting FGB.

On the way, Currie will use the shuttle's robot arm to place Node 1 atop the orbiter docking system.

Cabana will complete the rendezvous by flying Endeavour to within 35 feet of the FGB, allowing Currie to capture the FGB with the robot arm and place it on the Node's Pressurized Mating Adapter, or PMA.

Once the two elements are docked, Ross and Newman will conduct two spacewalks to connect power and data cables between the Node, PMAs and the FGB.

The day after the spacewalks, Endeavour will undock from the two components, completing the first assembly mission.

This is Endeavour's 13th flight into space and Currie's third space mission.

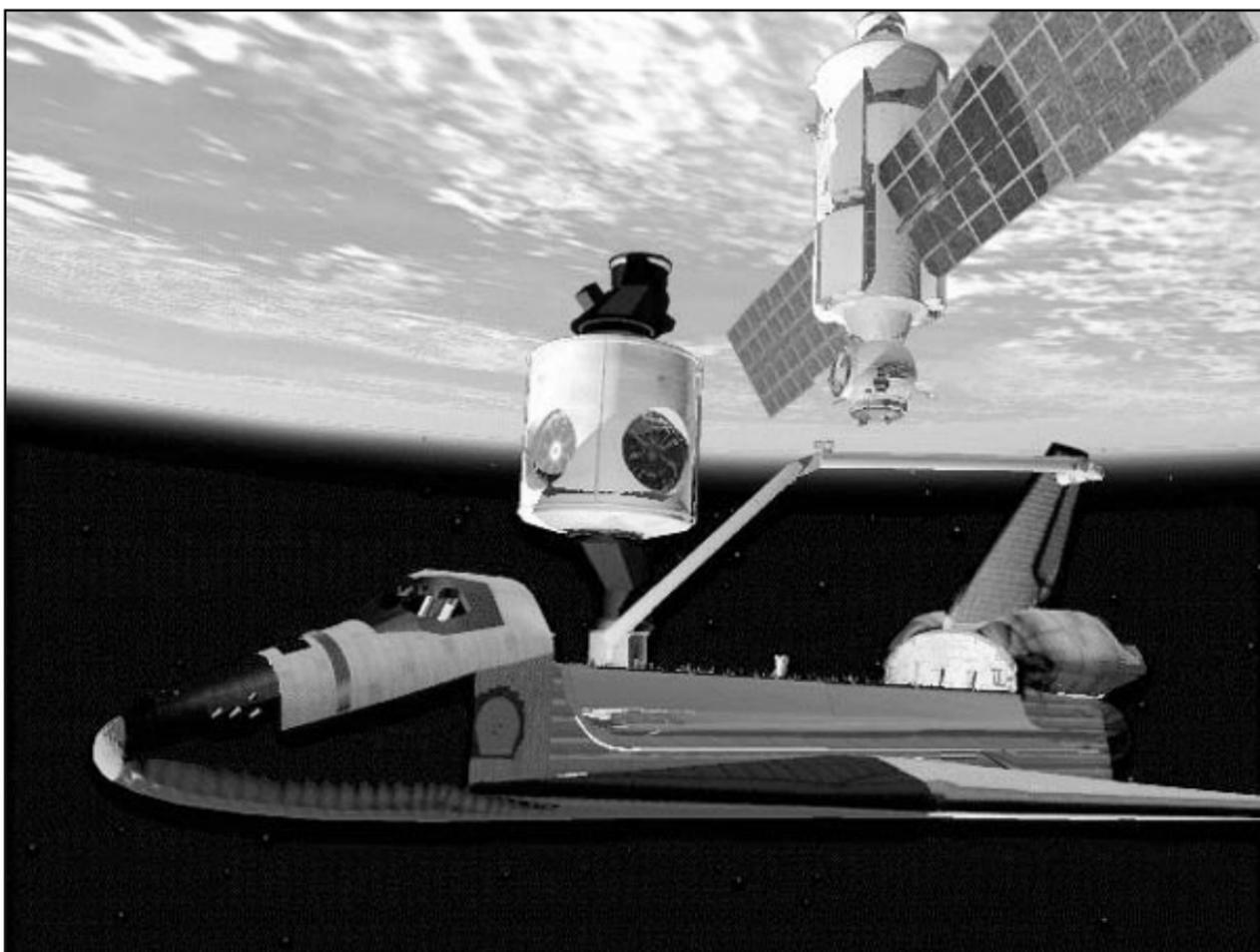


Image courtesy of Boeing



Image courtesy of Boeing



NASA photo

TOP: The Endeavour is equipped with a robotic arm which Nancy Currie will operate. LEFT: An artist's concept of the ISS when completed. ABOVE: Nancy Currie and Commander Bob Cabana inspect one of the six hatches on Node 1 of the ISS.

battle lab

(continued from page 1)

other systems that SMDC battle lab provides," Masinin said.

In addition of learning how the C2 battle lab works, another major advantage of the experiment was that it gave SMDC a chance to look at new

technology ideas for future battle lab operations.

Responsible for proposing new technology to the Ballistic Missile Defense Organization, or BMDO, relative to the cells for the CINC, SMDC's battle lab looked at the Marine Corps' mobile system as a

premier system.

"By having a mobile lab, they use a different type of software language which allows them to hook various programs in an easier format for a plug and play approach," Goddard said. "We wanted to look at that and see the potential of how it works and possibly proposing new systems to BMDO to enhance future capabilities for the CINC's."

Summarizing the benefits of the experiment, Goddard used one word to describe the importance of the event – interoperability.

"There's not only interoperability between systems, but also between people so we know what they have and they know what we have," Goddard said. "Normally when the battle labs get together, you have the managers sitting around saying 'what's going to happen.'"

"This time you got the do'ers, the software and hardware guys, talking in the same building seeing how this is going to work."

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The SMDC battle lab provides the capability that is not now organic in the Marine air command and control system

**-- Maj. Rey Masinin,
Project Officer, MCSC**



photo by Staff Sgt. Donald Sparks

Maj. Rey Masinin, project manager, Marine Corps System Command, briefs Larry Burger, director SMDC battle lab, on the Marine Corps Command and Control Battle Lab during an on-site experiment in Huntsville, Ala. The experiment marked the first time the Army and Marines interfaced with each other's capabilities.

Army needs more drill sergeants

Challenging duty assignment calling for NCOs to train, mentor recruits

by **Gerry J. Gilmore**
Army News Service

More male and female Army noncommissioned officers will be needed than last year to accept a challenging and rewarding assignment - drill sergeant duty.

Army drill sergeant schools at Fort Benning, Ga., Fort Jackson, S.C., and Fort Leonard Wood, Mo., trained 890 NCOs for drill sergeant duty during the last fiscal year, said Master Sgt. Michael G. Wilson, manager for the drill sergeant program at U.S. Total Army Personnel Command, or PERSCOM, Alexandria, Va.

For Fiscal Year 1999, which began Oct. 1, the Army will need 1,400 active-duty staff sergeants and sergeants first class to train and mentor recruits, Wilson said.

"Some drills will replace those coming off status," said Wilson in explaining the need for additional drill sergeants. "We need men and women."

The commander of PERSCOM is responsible for all soldiers selected for entry into the drill sergeant program, which falls under Army Regulation-614-200, Chapter 8, Wilson said.

"We have Army drill sergeants located at 27 military installations throughout the continental United States at Army bases, Air Force bases, and Naval bases," he said. "The normal tour of duty is 24 months; after that, successful drill sergeants can apply for a maximum of 36 months of duty."

Drill sergeants, the Army's premier trainers, wear distinctive hats and badges, receive \$275 in monthly special duty pay, have enhanced promotion potential, and may receive choice of follow-on assignment, if available, Wilson said.

Currently, he said, there are about 2,007 male and 314 female soldiers assigned to drill sergeant duty.

There are more male drill sergeants than female, Wilson said, because many One Station Unit Training instructor slots are in combat arms, which require males.

Volunteers fill 30 percent of the Army's drill sergeant slots, Wilson said, while additional slots are filled by DA selections.

"We determine how many drill sergeants we need," Wilson said. "If we have enough volunteers, we'll forward the applications to the career branch managers to see if drill sergeant duty would dovetail into the soldier's career."

"For example, Infantry Branch would have a recommendation whether or not an infantry soldier should be a drill sergeant at a given time."

Wilson, an infantry noncommissioned officer, said he was a staff sergeant when he volunteered for drill sergeant duty in 1985.

Career progression was a prime motive why he volunteered, he said, noting "it helped me make SFC pretty quick."

Wilson said he fondly recalls his two years "on the trail" as part of Infantry



photo by Staff Sgt. Donald Sparks

For Fiscal Year 1999, the Army will need 1,400 active-duty staff sergeants and sergeants first class as drill sergeants to train and mentor recruits.

One Station Unit Training at Fort Benning, Ga.

"Although I'm a Master Sergeant now, drill sergeant duty was my most satisfying time in the Army," he said. "We'd see civilians the first day ... and turn them into disciplined, well-trained soldiers. There is good job satisfaction in that."

The Army would prefer volunteers; however, if not enough NCOs volunteer for drill sergeant duty this year, "there will be a lot of DA-selects," Wilson said.

Those selected for drill sergeant duty, he said, are expected to report for training.

It's difficult to decline drill sergeant

duty once selected by DA, he said.

"Bottom line: the needs of the Army come first," he said.

Wilson said the nine-week drill sergeant school isn't something to be feared.

"We have very good cadre at the schools," Wilson said. "They try to assist the students to get through the school, and the attrition rate is very low."

"I've been at the [Forts] Benning and Leonard Wood schools recently. The students there are doing well; they're motivated."

They are competing against their peers for promotion - and they know it. They'll do the best they can," he said.



photo by LuAnne Fantasia

Super trooper

Sgt. 1st Class David Berlin is the noncommissioned officer in charge at the battle lab in Colorado Springs, Colo. Berlin donned camouflage uniform and face paint, and the LEOCOMM (low earth orbit communications) vest during the recent Association of U.S. Army annual meeting in Washington, D.C. As the command's LEOCOMM soldier, Berlin represented the command during AUSA opening ceremonies. Here, Berlin talks to John Crouse, a contractor with System Technology Associates.

Personnel system goes virtual

Answers to civil service questions just a mouse click away on Internet

by **Doug Gillert**
American Forces Press Service

Ever wonder:

- How your personnel office classified that job you wanted - or the one you already have but would like to see upgraded?
- If your active military service gives you special "return" privileges to your former civil service position?
- What qualifies as compensatory time off and how you go about getting it?
- What real estate assistance DoD will provide you during a move to a new job at a new location?

There always are regulations you can pore through, personnel specialists you can query by phone or, if you're lucky enough to get the address, e-mail.

But chances are, if you've

ever changed jobs or moved in civil service, you've encountered some pretty stubborn obstacles.

Here's a surprise: DoD wants to make it easier for you to get the answers to the civil service questions haunting you.

In fact, the Civilian Personnel Management Agency - DoD's civilian personnel command central - has made answers to these and many, many other questions "virtually" a mouse click away.

Welcome to VIP - Virtual Interactive Personnel - now available on the Internet at www.cpms.osd.mil.

Here, you'll find an A-Z listing of virtually any civilian personnel question you have, without being put on hold or having to wait beyond human endurance for an e-mail response.

So, here's the skinny on a few of the useful tidbits found therein:

- The General Schedule classification system consists of 22 broad occupational groups, with each group including separate series. Levels of duties and responsibilities determine grades. This

site contains full details for both General Schedule and Wage Grade system positions.

- Civil servants who subsequently enter the military have return rights after up to five years of active duty.
- Agencies alone can grant compensatory leave in lieu of overtime payment.
- DoD will help you sell your home at your current location and purchase a home at your new one - and you have two years to file reimbursement claims.

The Civilian Personnel Management Agency recommends use of Virtual Interactive Personnel by employees, employers, supervisors and managers.

The agency also recommends that government employees contact your human resources office before making any career-changing decisions.

I recommend anyone in Civil Service bookmark this Web site and routinely consult it for facts that will help you make the most of your government career.

For more questions or comments, E-mail djgille@hq.afis.osd.mil.

D.C. youth experience final frontier in day with...

Army astronauts



Photo essay by

LuAnne Fantasia



“Anything you want to be as a grown-up, you can be if you work real hard,” Col. Bill McArthur told children during his visit at Martha’s Table. He explained to his inquisitive audience that astronauts are regular people just like them, who have worked and studied very hard so they could do what they do. This was McArthur’s second visit to the center.

Army Astronaut Col. Bill McArthur shows Roland Woody some packets of space food—dehydrated oatmeal, freeze-dried roasted chicken, and (his favorite!) M&M candies. Woody is one of many volunteers who keeps Martha’s Table mobile soup kitchen feeding approximately 1,200 hungry and homeless daily. The non-profit organization is listed with the Combined Federal Campaign.



Lt. Col. Jeffrey Williams read with a group of children and talked to them about going to school, listening, and doing homework. “You can be anything you decide to be,” Williams told the curious little listeners. One mission of Martha’s Table is to provide low-income children and teens with nutritious meals and supervised after-school learning and literacy activities. Members of the SMDC staff in Arlington, Va., often participate in different programs for the children.

Merging technologies aimed at improving warfighter capability on battlefield

Compiled from Staff reports
Huntsville, Ala.

Developing new technologies to aid the warfighter is a never-ending mission for the Missile Defense and Space Technology Center, or MDSTC, as the Army prepares for the next century.

After devoting countless hours of research and development to meet the needs of the warfighter, the center has sponsored an initiative to merge two promising ongoing technology programs to demonstrate an improved warfighting capability.

These two technologies, the Mosaic Array Data Compression and Processing, or MADCAP, Program and Uncooled Focal Plane Array, or UFPA, technology are currently available individually.

"We believe that integrating and combining these technologies will offer tremendous potential for many military applications in a variety of Army programs," said Jess Granone, director, MDSTC, Sensors directorate.

Granone also mentioned that the MDSTC, through the MADCAP Program, has been developing electronics and micro-packaging technology to dramatically reduce the size, weight, and power requirements of space-based sensor systems.

Through the MADCAP Program, SMDC has successfully integrated analog-to-digital converters, or ADC, and other electronics directly into focal plane array, or FPA, sensors.

This allows the FPA to produce a direct digital output to avoid the penalties inherent with conventional analog approaches and dramatically reduces the size, weight, and power requirements.

This technology was initially developed for strategic systems; however, SMDC has successfully moved this discipline into the tactical realm where it can easily be integrated into a broad spectrum of vehicle, crew-served, and individual soldier systems.

Concurrent with SMDC's development of electronics and micro-packaging technology, the Defense Advanced Research Projects Agency, or DARPA, has been performing research and development of UFPA technology.

Focal plane arrays produce images of scenes similar to the techniques employed by television cameras and have many inherent advantages over current night vision devices that rely on image intensifiers.

In the past, the size, weight, and power



photo by Staff Sgt. Donald Sparks

Sgt. James Keegan, with the UCIT device, captures thermal images day or night to aid in identification and discrimination of targets.

requirements of FPA cooling equipment have made these devices infeasible for individual soldier systems.

However, the DARPA initiative has produced UFPAs, based on micro-bolometer technology that does not require cooling, thus paving the way for smaller and lighter imaging devices.

Due to the success of this DARPA program, these devices are now available commercially.

SMDC has sponsored this initiative to integrate and combine the DARPA-developed commercial off-the-shelf UFPA with SMDC-developed MADCAP technology to develop a compact, lightweight, day and night viewing device suitable for individual soldiers, vehicle drivers, and aviators.

According to Osborne Milton, Jr., electronics

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We are confident that this merged technology has the potential to assist our soldiers in maintaining battlefield dominance on a global basis.

**-- Susan McCulley,
MADCAP Project Manager**

”

engineer and UCIT developer, SMDC plans to produce a thermal imaging device small enough to mount to a soldier's helmet or individual weapon.

"Such a device will allow soldiers to see objects through camouflage, smoke, fog, and other battlefield obscurants during day and night operations," Milton said. "It will also provide vehicle operators the capability to drive in total darkness and detect landmines and obstacles in their path."

The command has demonstrated this concept to many government agencies and was recently invited by Maj. Gen. Carl F. Ernst to participate in the Four-Star Review at Fort Benning, Ga., receiving a very enthusiastic response about the potential offered by this initiative.

The merged MADCAP/UFPA technology, which is currently available, offers a low risk, low cost capability to produce compact, lightweight, day and night vision devices suitable for mounting on helmets and individual or crew-served weapons.

"SMDC offers this state-of-the-art technology to those agencies responsible for the development and fielding of military systems so that they may better provide our soldiers with the best equipment in the world," said Susan McCulley, Sensors directorate, MADCAP program manager. "We are confident that this merged technology has the potential to assist our soldiers in maintaining battlefield dominance on a global basis."

"And the command will gladly present the results of this effort and demonstrate this promising technology to other commands that wish to evaluate its applicability to their programs."

Information management chief aims to keep SMDC on leading edge

by LuAnne Fantasia
Huntsville, Ala.

At the command's Information Management conference in early November, commitments were made which Bob Connell intends for his organization to keep.

Connell is the SMDC deputy chief of staff for information management.

"This command is on the leading edge of technology, so the information management system in the command has to be on the leading edge," he said. "We have built and will continue to modernize the infrastructure to support that goal."

Connell explained that five years ago the command identified the information technologies necessary to stay competitive and compatible with Department of Defense and industry.

Two years ago, the command reaffirmed those modernization initiatives.

"Now that we are a major Army command, it is even more important to be compatible in sharing information," he said.

According to Connell, the command is well on its way to realizing standard hardware and software, an initiative first put into motion five years ago by Chief of Staff Col. Robert Pollard, when he previously served in his current position.

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We must keep up with the evolution of information technology for the benefit of our customers.

**-- Bob Connell,
deputy chief of staff,
Information Management**

”

Connell said the information management conference went a step further this year by inviting command leadership and their input.

The chief of staff, directors (and/or their deputies) of the major subordinate elements, and many key staff principals participated in the conference and discussed how Connell's staff can support their respective long-term goals.

"Every employee in the command is our customer," Connell said, "and we want to understand their requirements. By inviting the key principals from all MSEs, I believe we obtained a good representation of customers."

"The command principals requested specific information technology requirements to support their missions and key initiatives," Connell said.

High on the next fiscal year's priority list is Y2K certification, hardware and software upgrades necessary to support Windows NT, and expanding data communications flow between Kwajalein and the mainland.

Connell said, "More than 95 percent of our information technology systems will be Y2K compliant by Dec. 31," the Army-imposed deadline.

Reference the upgrades, he said installation of Windows NT—replacing Windows '95—will be complete by next summer pending requested funding.

The new operating system supports the long-planned defense message system, which provides a secure and reliable writer-to-reader messaging system.

"Two important requirements were

echoed by all of our customers at the conference; access to the Intranet and the S-drive, and consistent, reliable information-sharing capabilities," Connell said.

Another critical priority and one which Connell said will be complete and functioning in less than a year, is a 1.544 megabit communications circuit between Kwajalein and the mainland.

Other primary initiatives include a dedicated communications link to the Army Space Program Office, executive level desktop video teleconference capability, improved information systems security, and expanded capability to communicate within a classified information systems network.

"Our commander and command group emphasize leading edge information technology," Connell said. "We must keep up with the evolution of information technology for the benefit of our customers, and the information management team is committed to helping do so."

"I want SMDC to continue its success as a major Army command, and I want our information management personnel at all command locations to fully support the command's vision, goals and objectives."

Airborne Surveillance Testbed observes French rocket launch

by Gerda Sherrill
and Staff Sgt. Donald Sparks
Huntsville, Ala.

Although there are no posters proclaiming 'Viva la France' in the Airborne Surveillance Testbed, or AST, program office, Henry Holmes, program manager for AST, might want to hang one on the wall.

The AST successfully supported the launch of an Ariane 5 rocket by the French space agency Centre National d'Etudes Spatiales from Kourou, French Guiana, Oct. 21.

This was the third flight of the new Ariane 5 rocket built by Arianespace, which lifted a dummy satellite to a geosynchronous transfer orbit and deployed the European Space Agency's atmospheric reentry demonstrator.

AST, which is managed by the U.S. Army Space and Missile Defense Command for the Ballistic Missile Defense Organization, seized the opportunity to work with the French and broaden its customer support wings.

"We've been working on creative ways to bring down the core cost of the program to the government.

"Expanding the customer base to include commercial and foreign users for

non-defense related missions is a promising new approach.

"There may well be a large market for infrared signature data on ballistic targets, other than missiles, in the aerospace industry and we're making some inroads into that community," Holmes said.

The proud owner of 62 successful data gathering missions, AST was sponsored by NASA to support the Ariane 503 mission by observing the reentry of the French rocket's first stage.

The AST aircraft operated from a staging area at Hickam Air Force Base, Hawaii, and had as its primary objective the characterization of the demise of the rocket's first stage into the earth's dense atmosphere at an altitude of approximately 70 kilometers.

AST collected valuable data that will be used to verify safety debris impact zone calculations.

The French project manager for Ariane 503 Observation, as well as two NASA representatives, were onboard the airplane during the mission and watched data collection as it occurred.

The AST system is a Boeing 767-200 aircraft, modified by the addition of an 86 foot long cupola (inverted canoe), which houses a large aperture, long



Army photo

The Airborne Surveillance Testbed has successfully supported various data gathering missions, most recently with the French space agency Centre National d'Etudes Spatiales for the launch of the Ariane 5 rocket.

wavelength infrared telescope.

The main cabin contains the signal and data processors to translate infrared target energy into tracking data as the events occur.

The system can provide the precise location and apparent temperature of more than 400 targets simultaneously.

Operating at altitudes above 43,000 feet, the AST conducts long-range detection, tracking, discrimination, and infrared signature characterization of ballistic targets in all phases of their flight.

"The AST has supported missions at ranges around the world," said program manager Henry Holmes, "including

Kwajalein Missile Range in the central Pacific, Pacific Missile Range in Hawaii, Eastern Test Range in Florida, White Sands Missile Range in New Mexico, Western Test Range in California, and launches from Wallops Island, Virginia, and the nation of Israel.

"The program continues to provide critical infrared target signature and tracking data, as well as a unique testbed capability for the ballistic missile and aerospace communities."

He also added that this launch support might lead to additional missions with the European Space Agency and NASA in the future.

Oil well fires not linked to health problems

by Douglas J. Gillert
American Forces Press
Service

An extensive DoD investigation shows no clear links between Kuwaiti oil well fires set by Iraq during the Gulf War and long-term health problems reported by U.S. veterans.

The investigation identified units and personnel most and least exposed to airborne contaminants caused by the fires that could lead to cancer and other diseases.

"With one exception, our health assessments show that there is unlikely to be long- or short-term health effects from

these exposures," said Dale Vesser, deputy special assistant for Gulf War illnesses and a retired Army lieutenant general.

The exception, Vesser said, were the particulate matter concentrations observed during the period.

Particulate matter levels were as much as three times the U.S. ambient standard and were largely the result of natural or background sources.

Research suggests that background sources and the fires could have exacerbated pre-existing respiratory conditions such as asthma, he said.

U.S. troops operating near

the fires in 1991 reported short-term symptoms, including difficulty breathing and shortness of breath.

They inhaled sooty air and coughed black phlegm. But the carbon particles and oil droplets released by the fire were too large to penetrate deeply into the soldiers' lungs, and the black phlegm bears witness to their bodies' efficient discharge of the contaminants, Vesser said.

The Rand Corp. reviewed scientific literature on the potential short and long-term health consequences of exposure to the fires.

Rand concluded that, overall, the concentration of most pollutants measured

were below U.S. ambient and occupational standards and should not result in the onset of disease in the long term.

Rand also cited an absence of epidemiological studies on the indigenous population in the peer-reviewed literature and concluded additional health studies of U.S. troops deployed to the region during the fires are necessary.

Vesser credited the lower contaminant levels to the fires' intensity. The extreme heat of the fires destroyed many of the contaminants.

Coarser particles formed a high cloud that removed the pollutants from the area and generally out to sea, he said.

In fact, exposure levels measured during the fires indicated fewer airborne pollutants than in Houston, Philadelphia, Phoenix or Los Angeles during the same period.

Since the DoD investigation began, the Army Center for Health Promotion and Preventive Medicine, Aberdeen Proving Ground, Md., and its predecessor, the Army Environmental Hygiene Agency, conducted two health risk assessments.

The assessments employed models that projected excess cancers and noncancerous diseases (damage to the cardiopulmonary, renal, neurological and reproductive systems).

The Army calculated risk

levels for all U.S. troops, then compared them against Environmental Protection Agency standards.

In all cases, projected troop risk levels for cancer and noncancerous diseases fell below levels the EPA considers safe for a normal population.

Future investigations will fully assess long-term health effects of exposure to breathable particulates, Bernard Rostker, special assistant for Gulf War illnesses, said in a statement before the briefing.

Although DoD continues struggling to identify causes of reported illnesses, he said the findings would benefit future operations.

"In the future, any natural or manmade threats existing in a potential theater of operation should be identified and fully accounted for during the operational planning phase," Rostker said.

More information about this and other Gulf War illness issues is available on the Internet at www.gulflink.osd.mil.

To provide information you think is pertinent to the investigation, call the incident hot line at (800) 472-6719.

For medical assistance and information, active duty service members should call (800) 796-9699, and veterans should call the Department of Veterans Affairs hot line at (800) 749-8387.



photo by Staff Sgt. Donald Sparks

A DoD investigation concluded that the oil well fires in Kuwait were not responsible for health illnesses reported by U.S. troops during the Persian Gulf War.

‘AIRBORNE!’

School tests Kingsley’s physical, mental toughness



Story and photos by Ed White
Colorado Springs, Colo.

You can’t enter the basic airborne training area without hearing the pounding of feet on the pavement, and the chanting of Airborne Jody calls.

The hot, humid air is thick with tradition and accomplishment. Into this adrenaline charged atmosphere came Sgt. Candi Kingsley, a topographic analyst and member of Army Space Command’s Fort Bragg Army Space Support Team.

Kingsley came to ARSPACE after much effort.

“I really wanted to be in ARSPACE, and I wanted to belong to an Army Space Support Team,” she said.

She is a terrain analyst who was stationed at Fort Schafter, Hawaii, on the island of Oahu when she began trying to get to ARSPACE.

Her efforts were successful, but she didn’t know the team she would eventually belong to requires that all members be airborne qualified.

ARSPACE has two non-commissioned officers and one officer who make up the XVIII Airborne Corps’, Army Space Support Team.

They are on jump status, wear a maroon beret, and jump from C130 and 141 aircraft while providing space based support to the XVIII Airborne Corps, a rapid deployment unit.

And so, Kingsley found herself at the Airborne School at Fort Benning, Ga.

“The course was challenging,” Kingsley said. “It seemed horrible some of the times, but when I look back, it wasn’t so bad. But, I’ve never run so much in my life!”

It wasn’t only the running that made the training hard. The weather was uncooperative.



ABOVE: Sgt. Candi Kingsley waits at the parachute turn in point at Fryar Drop Zone located at Fort Benning, Ga. She just completed her second of five qualifying jumps. **RIGHT:** During a weather delay, Kingsley was visited by Command Sgt. Maj. Leon McGraw, Army Space Command operations sergeant major, and her team NCOIC Staff Sgt. Mike Hallam.



Sgt. Kingsley, second from left, in full combat gear, readies for another qualifying jump. To earn her Airborne wings during the vigorous three-week school at Fort Benning, Ga., she had to successfully complete five required jumps. Kingsley was one of eight females to graduate the school.

“It went from sunburn to hurricane,” she said.

When the class started, she explained, there were twenty female students.

In the third week, facing their second jump, there were eight remaining. The overall class attrition rate was from 245 to 189 students.

“I definitely have confidence in the instructors,” Kingsley said of the NCOs from Company C, 1st Battalion, 507 Parachute Infantry Regiment, and the training unit at Fort Benning.

“(They) are absolutely excellent. They have been tough, but they had to look out for our best interests.”

“

It seemed horrible some of the times but when I look back, it wasn’t so bad. But, I never ran so much in my life!

**-- Sgt. Candi Kingsley,
Army Space Support Team,
ARSPACE**

”

The instructors are generally known as *Sergeant Airborne*. This comes from the requirement that each student address each NCO instructor with an acknowledgment of understanding, their title, and the word Airborne.

For instance, if a student receives an order from an NCO, they reply, “Clear Sergeant. AIRBORNE!”

Kingsley made her five required jumps, from “Hollywood” which means without equipment, to a combat equipment drop. She received her wings at the end of the first week of October.

“I can’t wait to get back to my unit and make a jump there,” she said.

And as advice for anyone contemplating going to jump school, she said, “Run. Then run some more. Go long distances and go every day. You can’t run enough to get ready for this school.”

Anti-terrorism, force protection training...don't leave home without it

by John Davis
Huntsville, Ala.

So, what's the deal with the anti-terrorism and force protection movie?

And, why do we have to see it?

To set the record straight, Gen. John Shalikashvili, former chairman of the joint chiefs of staff, demanded action to increase the safety of DoD personnel traveling overseas.

He directed that the current film be viewed before all personal and official travel overseas by active duty and federal employees.

The Army also directed that the date viewed be reflected on official travel orders and recorded in training files.

These requirements remain in effect under the new chairman.

While the movie alone covers

travel for areas such as Kwajalein, other countries require an area-specific briefing.

In either case, two anti-terrorism documents given out with each viewing provide excellent, validated, anti-terrorism countermeasures.

All travelers need to know the dangers of traveling overseas.

For instance, bomb threats to the U.S. Army Europe have increased significantly in the past two months—a consideration not insignificant to our people who must plan visits there.

Check with your security office about current conditions before traveling. Family members are encouraged to view the film as well, because terrorists don't make distinctions between who is on official orders and who is on vacation.



photo by Mike Biddle

Welcome to our world

Sergeant Major of the Army Robert E. Hall makes a point during briefings Oct. 8 while visiting the U.S. Army Space and Missile Defense Command headquarters in Arlington, Va. Hall was there to learn about SMDC's mission and to discuss Army issues with SMDC soldiers. Command Sgt. Maj. Frank Mantia, SMDC command sergeant major, and other senior noncommissioned officers in the command briefed Hall during his visit.

Pentagon ceremony honors Native American contributions

by Rudi Williams
American Forces Press Service

After more than 223 years of fighting America's wars, native Americans finally got their due Nov. 10 during the Pentagon's first ceremony recognizing their military service contributions.

In his remarks on the service and sacrifice of American native veterans, Deputy Secretary of Defense John J. Hamre said, "recognition of American Indians and Native Alaskan veterans is long overdue."

"American Indians have served in all of our

nation's wars, and theirs is a path of honor," Hamre told the standing room only crowd in the Pentagon auditorium.

"Yours is a path of true warriors, of those who chose to fight for higher purposes and for the glory of a nation," Hamre told the Native Americans. "And yours is a path of communal respect for those who served under arms so long, so well, and so humbly."

The ceremony, in honor of Veterans' Day and Native American Indian Heritage Month, was hosted by David R. Oliver, Jr., principal deputy undersecretary of defense for acquisition and technology.

It featured ceremonial songs and dances by military

veterans from the Sitka Tribe of Alaska and a performance by the Cedartree Singers and Dancers from the Eastern Band of the Cherokee (North Carolina).

A special tribute was given to the Navajo code talkers, who played a key role with the Marine Corps in the Pacific Theater of operations during World War II.

Other featured speakers during the ceremony included Lynn Cutler, deputy assistant to the president for American Indian and Native Alaskan affairs; and Roger "Red Hawk" Bucholz, a decorated Vietnam veteran and member of the Mdewankanton Band of the Santee Tribe of the Dakota Nation.

Pay gap real, compensation fix needed, Shelton says

by Jim Garamone
American Forces Press Service

While experts can argue about its size, a pay gap exists and Department of Defense will start closing it in the next budget cycle, the nation's top military leader said.

Army Gen. Henry Shelton, chairman of the Joint Chiefs of Staff, was responding to newspaper reports quoting a Rand Corp. paper implying there was no gap between military and civilian-sector pay.

On the contrary, DoD officials said, the gap is 8.5 percent to 13.5 percent depending on the year used as a baseline.

Shelton said DoD is committed to revamping the entire military compensation package in its fiscal 2000 budget, to include retirement and military pay tables.

"The president has indicated ... he wanted the secretary and [me] to work with the Joint Chiefs to look at the entire entitlements package and come back to him with where we felt we needed to go," he said.

"If you go back to the previous era of big pay raises — in 1979, 1980 and 1981 — you will see defense officials waited until [the military] was broke and then they went to fix it," said a Joint Staff official. "What we started to do was look and see how we can prevent that. The serious effort started nine months ago."

In the past, military pay has been loosely tied to federal civilian employees' pay raises.

By law, civilian raises are keyed to the Bureau of Labor Statistics' Employment Cost Index, or ECI, minus one-half of a percentage point.

The ECI measures the growth of private-sector wages and salaries. To address the pay gap, defense officials said, military raises must match the full ECI level.

The fiscal 2000 pay raise is set for 4.4 percent.

The ECI for fiscal 2000 is estimated at 4.3 percent. Pay raises for the Future Years Defense Plan are now set at 3.9 percent.

Officials also said they are working on a retirement package.

They said service members think Redux, the plan where retirees receive 40 percent of base pay after 20 years' service, is not a career incentive.

They would not comment directly on proposed changes, but said they are looking at everything, including a modified 401k or thrift savings plan.

Changing the structure of pay tables is another major effort.

"The pay tables were meant for a force that came into the service for a short time — three, four years — and raises were hefty in those first four years," said a Joint Staff official. "This needs to change."

The 1998 tables are based on 1949 thinking.

Officials said the pay gap is not large for junior enlisted members or junior officers, but it widens appreciably for mid-range and senior noncommissioned officers and officers.

"It can be as much as 20 percent for some specialties and pay grades," said a Joint Staff official.

Targeting pay raises is the answer. Whether these pay raises will be on top of a 4.4 percent pay raise or as part of it remains to be seen.

"It all comes down to resources," said a defense official.

Officials said the Rand paper that caused the ruckus was "not ready for prime time."

The study is a work in progress and is only part of the information defense planners will use in revamping the compensation system.

"As we deliberate in putting a compensation package together, we go beyond what Rand was asked to look at," said one official. "You have to take into account the professional experience and education our troops get."

The average new service member is 18 or 19 years old with a high school education.

"We feel their pay is pretty competitive to what their cohorts in the private sector may earn," the official said. "But just as their civilian cohorts continue to gather education and work experience, so do

our people. There is not a good crosswalk between the military and civilian sides.

"We ask our people to do different things," he continued. "We tell our people to move every couple of years--they don't have a choice. We don't give them overtime for the hard work they do, and as the force gets smaller our people are working harder."

"We don't send civilians into danger and we don't ask civilians to lay down their lives for their country. So, the military person is different, and you have to take that into account when making pay comparisons."

Shelton is pleased with the support a compensation overhaul seems to have on Capitol Hill.

"Congress coming in and supporting legislation in [fiscal] 1999, I think, was a positive sign," he said. "There are a lot of people [in Congress] who understand where we are right now and what's going to have to be done to maintain this quality force that we've got."

With all the discussions on the size of the pay gap, when will officials know when the pay gap will be closed?

"You have closed the gap when you are turning people away at the recruiting stations and you are having to look at how you're going to maintain promotion profiles because so many people want to stay," said a defense official.

Command's top civilian executive to retire

Fisher leaves after 28 years of service to Army, SMDC

by Gerda Sherrill
Huntsville, Ala.

All good things must come to an end. In this case, it's the civil service career of SMDC's top



Dr. Richard Fisher

civilian executive – Dr. J. Richard (Dick) Fisher, executive director of the command's Missile Defense and Space Technology Center.

Fisher leaves after 28 years of dedicated service with SMDC and its predecessors.

He plans to retire at the end of this year.

"The Army is truly losing a very trusted and loyal employee, who has done the Army and SMDC a great service and he will surely be missed," Lt. Gen. John Costello commented in his message to the workforce. "He has enhanced, while at the same time personified, the impeccable reputation of the command by ensuring it remained on the cutting edge of providing space and missile defense support to the warfighter."

Fisher is a charter member of the Senior Executive Service with a major general equivalent rank.

He has over 41 years of professional experience in science, engineering, and management covering a broad spectrum of activities in advanced aerospace system research, design, and development.

He started as the program manager of the Site Defense radar program and led the Advanced Technology Center in long range technology planning and innovative technology

"The Army is truly losing a very trusted and loyal employee, who has done the Army and SMDC a great service and he will surely be missed."

-- Lt. Gen. John Costello,
SMDC commander

development including the first directed energy efforts.

In addition, he was the senior Army representative on the Fletcher Presidential Commission, which laid the foundation for the current Ballistic Missile Defense Organization programs.

Fisher received his bachelor's degree, with highest honors, from the Georgia Institute of Technology and master's and Ph.D. degrees in electrical engineering from the University of California.

His numerous recognitions include two Meritorious Executive Presidential Rank Awards, in 1988 and 1993.

"The Army, specifically SMDC and its predecessors, has been very good to me and my family for the past 28 years," Fisher said, "primarily due to the people with whom I have been privileged to work."

"I have had many challenging and widely varying assignments ranging from project manager of a major radar program to the unbounded world of innovation in advanced technology and strategic planning for the future."

"I'm looking forward to using the talents and experience that God had given me wherever God leads."

Although Fisher has no definitive plans at this time, he hopes to work half of his retirement time on various technical and advisory panels on space and missile defense issues.

He leaves behind a directorate (MDSTC) that has earned the reputation as the National Center of excellence in space and missile defense technology development and acquisition.

His message to the people he's leaving, "You must continue to work hard to protect this legacy."

Flohr pins on first star

Compiled from staff reports
Huntsville, Ala.

After waiting for more than one year on the promotion list to brigadier general, Col. Steven Flohr, SMDC's deputy commanding general, received his star.

Lt. Gen. John Costello, SMDC commander, pinned on Flohr's first star Nov. 20, in a ceremony at the U.S. Space and Rocket Center, Huntsville, Ala.

He was selected on the brigadier general list by Department of the Army in June 1997, and arrived to the command in September of the same year.

With the promotion, Flohr expressed his gratitude and desire of remaining with the command.

"I have served as deputy commanding general of SMDC since I was selected for promotion over a year ago," Flohr said. "So with this promotion, the good news is that I will not be moving, but I will remain in my current assignment with SMDC."

Alexander honored by Federal Lab Consortium

Compiled from staff reports
Huntsville, Ala.

Russ Alexander, Missile Defense and Space Technology Center, was recognized as Laboratory Representative of the Year for Technology Transfer by the Federal Laboratory Consortium during a conference in Huntsville, Ala., in October.

SMDC is one of 49 federal research and development laboratories within the FLC's Southeast Region.

Alexander, who has headed up the command's Technology Transfer efforts since 1991, was recognized by the Consortium for his technology transfer accomplishments in the Huntsville community.

He was instrumental in negotiating a Memorandum of Understanding between U.S. Army Aviation and Missile Command, NASA Marshall Space Flight Center, SMDC and Biztech, the local business incubator, to support new business start-ups.

He also headed up an integrated process team to establish a more efficient process for handling the command's invention disclosures.

Alexander has been an active member of the FLC since 1991 when he assumed the Technology Transfer duties for the command.

He serves as a Member At Large on the FLC National Board of Directors.



photo by Staff Sgt. Donald Sparks

Russ Alexander displays the plaque given to him as Laboratory Representative of the Year for FLC.



Hail...

Marc Raimondi, SMDC Arlington;
Lt. Col. James Harvill, SMDC Huntsville;
Lt. Col. Keith Ryan, SMDC Huntsville

Awards ...

Maj. Shirley Walker, Meritorious Service Medal;
Staff Sgt. Donald Sparks, Meritorious Service Medal

Promotions ...

Col. Steven Flohr to Brig. Gen.

Farewell ...

Maj. Shirley Walker, SMDC Huntsville, PCS;
Staff Sgt. Donald Sparks, NCOIC Public Affairs, PCS

Retirement ...

Lt. Col. Terry Jernigan, SMDC Huntsville;
Lt. Col. Kevin Jackson, SMDC Huntsville

Twenty in command run Army 10-miler to the end

Commentary and photos
by LuAnne Fantasia
Huntsville, Ala.

I tried running once—shortly after I hit the big 4-0 mark—but a young military police soldier pulled up beside me that morning in his cruiser and very courteously told me I needed to move out of the AO. (That’s military lingo for area of operation.)

“I am moving!” I huffed.

So, for a turtle like me, to watch 14,645 sinewy runners zip past me (and the Pentagon) in October for the 12th annual Army 10-miler in Washington, was amazing.

There were also three wheelchair athletes who sped down the highway; their arms pumping; their upper bodies leaning forward toward a personal best.

Twenty of the command’s soldiers and civilians from the SMDC headquarters staff, the Force Development Integration Center, and the Army Space Program Office, were included in the packs of runners.

They had different reasons for going the distance. Sgt. 1st Class James Lussier did the 10-miler in a blazing 79 minutes.

“I’m not crazy about running, but I have to run because I’m in the Army,” Lussier said. “So, I might as well try to make it fun.”

Lussier was on the *SafeGuard* team—the active duty mixed team from Arlington, Va., command headquarters.

Teammates were Majors **Kirk Sanders**, **Daniel Robertson**, and **Bruce Collier**; and **Susan Sanders**.

The *Star Wars* team was Major **Bradley Penn**, **Arthur Bair**, **Deborah Chubb**; Captains **Steve Meihaus**, **Marie Grimmer**; and **Matthew Piro**. This open mixed team placed 14th in their division.

The command’s two masters mixed teams—*Nike-X* and *TENCAP*—placed 3rd and 5th in their division, respectively.

The *Nike-X* team members were Col. **Jim Ward**, Lt. Col. **Robert Boggs**, and **Bruce Fry** and **Susan Jones**. *TENCAP* team members were **Thomas Pagan**, **Chuck Wiecking**, **Rob Johnston**, and **Debbie Becher**.

Runners are assigned numbers according to their track record. At the beginning of the race, I figured out they line up according to their number, in ascending order.

At the front of the line—under an arch of black and gold balloons—big-name runners with the smallest numbers stretched and kicked and flailed their arms in preparation to be first out of the shoot.

They didn’t talk to each other. They looked serious, like they were not there to have fun. They made me nervous.

About a city block back and down the side of the Pentagon, was another arch of green balloons, under which thousands more stretched and flailed. These runners appeared to be more social.



The Army 10-miler is the largest marathon race of its kind in the nation.

They were talking to each other, and I saw a couple of them smile. Maybe they were squinting into the Sunday morning sun, but we’ll call it smiles.

A couple more city blocks back, at one of the Pentagon’s five famous corners, was an arch of white balloons.

These runners were having their own block party. “This is basically a group of drinkers with a running problem,” one of them told me. I’m sure she was joking... (I think.)

She explained to me that this group wouldn’t move for 10 minutes after the start gun was fired!

I couldn’t find any of the SMDC runners before the race started, but caught up with Command Sgt. Maj. Frank Mantia at the Association of the United States Army meeting later. Mantia ran in the individual category.

“You know that last arch of white balloons?” Mantia asked me. “I was BEHIND that!”

After knee surgery a year ago, Mantia ran the 10-miler this year for one reason.

“My only goal was to finish,” he said, and he did.

I admire all of these winners, and anyone else who can run and breathe at the same time.



ABOVE: Three wheelchair athletes completed the grueling 10 miles to prove their mettle. BELOW: Twenty members from SMDC joined more than 14,000 other runners in the Association of the United States Army 12th annual Army 10-miler in Washington.





After several delays enroute due to Typhoon Zeb, the Joint Tactical Ground Station and its crew arrived in Okinawa to participate in exercise Foad Eagle.

Army Space Support Team, JTAGS meet real world challenge in battle exercise

Early warning missile detection system deployed to Korea, Japan

Story and photos by Ed White
Colorado Springs, Colo.

During the heat of battle, the last thing the warfighter should worry about is his back not being covered in the event of a missile attack.

The warfighter needs to know that, if the enemy has launched a missile, there are early warning detection systems to give him time to prepare for evacuation.

The warfighter does not need to worry anymore on the battlefield because the Joint Tactical Ground Station, or JTAGS, supplies the capability of early missile warning detection and recently completed a training mission supporting Exercise Foad Eagle in Korea.

"The Joint Tactical Ground Station, or JTAGS, is an Army/Navy missile detection system operating here," said 2nd Lt. Courtney Wyckoff, speaking from the Consolidated Public Affairs Office, United States Marine Corps, Okinawa. "It will provide Marines on the Korean peninsula for the 1998 edition of Operation Foad Eagle a first in early missile detection and warning."

Both Army and Marine Corps personnel participated in the exercise and were impressed with the system and its capabilities.

"In Foad Eagle, we are training for worldwide deployment in support of a contingency operation," said Lt. Col. Charles Ehlers, commander of the JTAGS element at Army Space Command. "We are also demonstrating that we can support units within Asia

from different locations within the theater."

The deployment met with some real world challenges in the form of Typhoon Zeb raging through the slot of ocean between Korea and Japan.

After a three-day delay en route, the system landed at a U. S. base on Okinawa and was trucked overland to its final site for the exercise.

"Four hours after landing, we were set up and operating," said Ehlers. "The crew, although tired from a long flight with many delays due to the weather, jumped right in and set up the system in the first nighttime emplacement we've ever done."

The crew is made up of six operators from the Navy Space Command's Detachment Echo in Dahlgren, Va.

They flew into Colorado Springs and joined their Army counterparts in time to load up on a C-5 aircraft for the flight to Okinawa.

The Army crew consisted of six operators, an officer in charge, an NCOIC, and a maintenance NCO.

The 30-day deployment saw the JTAGS crew simulating reports of multiple missile launches as though they were from satellite downlinks, which units in Korea will use to conduct defensive training, according to Ehlers.

Meanwhile, an Army Space Support Team, or ARSST, composed of Marine Capt. Scott Mayfield, and Staff Sgts. Brad Bricker and Mark Wise deployed in support of the 1st Special Forces Group at Taegu, Korea.

They provided the Special Forces an array of imagery and other space products and information to help them conduct the exercise.

"However there was an additional result of the interface between the support team and the Special Forces.

"It was a letter of invitation for the team to support the same element in



The first step in the setup for the Army Space Support Team is to ensure the unit is level and stationary. The Joint Tactical Ground Station provides early warning missile detection in the event of an attack.

Exercise Cobra Gold, an annual exercise which takes place in Thailand," said Lt. Col. LeRoy Maurer, chief of the Army Space Support Teams. "This is a real vote of confidence for the work done by the team.

"In fact two teams have been asked to participate in that exercise. The I Corps team has been requested as well.

"This is a testament to the quality of support ARSST teams have provided to the Corps in the past, and the comfortable relationship that has been cultivated between ARSPACE and the Corps."

Maurer said that the Army Space Support Team calendar also includes the III Corps Warfighter Exercise at Ft. Hood, Texas in mid-December.

There will be four Army space support teams participating. Three will be at Ft. Hood, and one will deploy to Ft. Leavenworth, Kan., to participate in the Battle Command Training Program red cell.

And in the spring, three teams will deploy to Germany for a V Corps Warfighter Exercise.

“ *The crew, although tired from a long flight with many delays due to the weather, jumped right in and set up the system in the first nighttime emplacement we've ever done.* ”

-- Lt. Col. Charles Ehlers, commander, JTAGS element