Reflector

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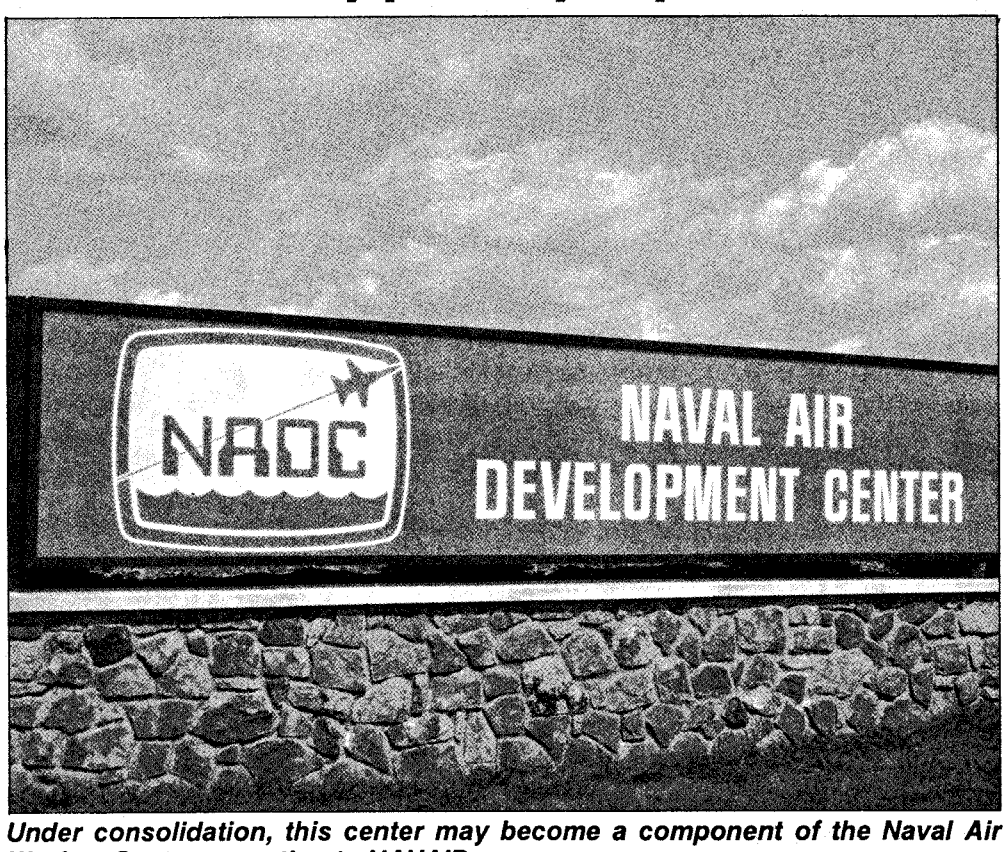


Under consolidation, this center may become a component of the Naval Air Warfare Center, reporting to NAVAIR.

By Jim Kingston

By putting his signature to a memorandum on December 14, 1990, Secretary of Navy, H. Lawrence Garrett, III gave qualified support to a proposed concept to streamline the Navy's Research, Development, Test and Evaluation (RDT&E) activities — which, of course, includes the Naval Air Development Center.

Garrett reserved final word on the proposal by stating in his memorandum: "Although I totally support the consolidation, I am deferring my final decision on approval until after these detailed implementation plans are complete."

An official statement on the consolidation study says the concept "... is part of a Department of Defense management initiative designed to strengthen RDT&E.

The Navy concept aims at strengthening management of the RDT&E structure, taking advantage of efficiencies, eliminating unwarranted duplication and considering performance of some functions under tri-service management. The concept includes creating four warfare centers and streamlining the Navy corporate laboratory structure.

Under the concept, a newly constituted Air Warfare Center will report to the Commander, Naval Air Systems Command; a new Undersea and Surface Warfare Center will report to the Commander, Naval Sea Systems Command; and a Command Communications and Ocean Surveillance Center will report to the Commander, Space and Naval Warfare Systems Command. The Chief of Naval Research will continue to exercise command authority over the Department of the Navy corporate laboratory structure. The three systems commanders and the Chief of Naval Research have been directed to prepare detailed plans for submission to the Secretary of the Navy by Mid April 1991 to

See CONSOLIDATION Page 4.

Center exceeds Small Business goals for fifth year

By James Kingston

For the fifth consecutive year, the Center has surpassed virtually all its Small Business Program contracting goals. Contracting dollars to women-owned businesses alone was nearly double its goal.

According to John D. Scott, the Center's Deputy for Small Business, during the fiscal year ending September, the Center had a total direct purchasing authority of $205 million. With that, the Center's Small Business Office achieved:

	GOAL	ACHIEVEMENT
Small Business	41%	44% - $89,639,000
Set-Aside	20%	19% - 38,241,000
Disadvantaged/ Minority	12.8%	11% - 22,515,000
Women-owned*	3,200,000	— - 6,173,000

* The women-owned business goal is given only in dollars.

Measured against a total Small Business Research & Development (R&D) budget of $111,982,000, the goal was 38%, NADC acheived 39% or $43,564,000 from a total of $1,178,000 contracted to higher educational institutions. Historically Black Colleges, Universities & Minority Institutions received 9% or $101,000.

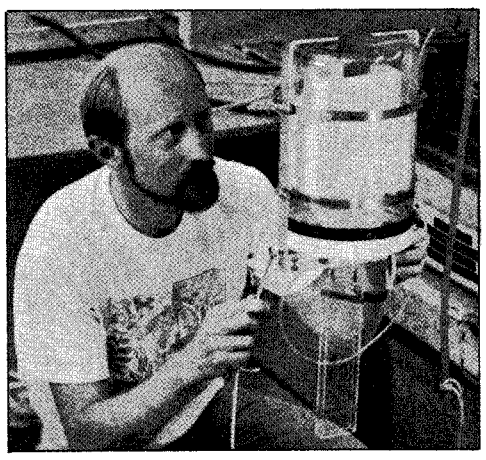
According to Scott, "The most dramatic increase was in contract awards of more than $6 million to women-owned businesses which is almost double the year's goal and double last year's achievement. It exceeds the amount awarded by any other Navy R&D Laboratory."

In early September, this year, the Center received the annual "Secretary of the Navy Omnibus Award for Small and Disadvantaged Business Utilization" making this the only Navy activity to be a repeat winner. The Center first won this award in 1988. The outstanding 1990 results once again place NADC in strong contention for this prestigious award.

Thermoacoustic generation of sound under water wins IED award

By Lawrence L. Lyford

Prior to winning the Best IED project award for 1990, the highlight of the thermoacoustic generation of sound underwater work led by Dr. Thomas B. Gabrielson was the full-submergence test of a prototype thermo-acoustic source.



Dr. Thomas Gabrielson with Prototype.

This device was tested successfully at the NADC Open Water Facility in June, 1990. "This was the first time an underwater sound source has been demonstrated based on thermoacoustic conversion of heat to sound," said Gabrielson.

The requirement for a very-high-power active Anti-Submarine Warfare sonobuoy has led the Center to investigate several new transducer technologies. However, there are two persistent problems: achieving high energy density, which translates to more and longer pings, and producing high output power from limited transducer area.

"The thermoacoustic source, designed and built in-house, has the potential to reduce both these problems. This devise produces sound directly from heat with no electrical intermediary," added Gabrielson. "This means heat producing chemical fuels with much higher energy density than batteries can be used.

Also, large displacements of the water are achieved, which is necessary if the transducer size is limited.

This device (see Fig. 1) consists of a stack of parallel plates inside an air-filled acoustic resonator. The stack is thermally attached at the upper end to either ambient air or water (or a hot-water reservoir) and at the lower end to a liquid-nitrogen reservoir. The resonator is a rectangular brass tube closed at the top and joined to an acrylic tube that is open at the bottom. The device radiates acoustic energy from the open end of the acrylic tube.

Liquid nitrogen was used in this

See SOUND Page 3.

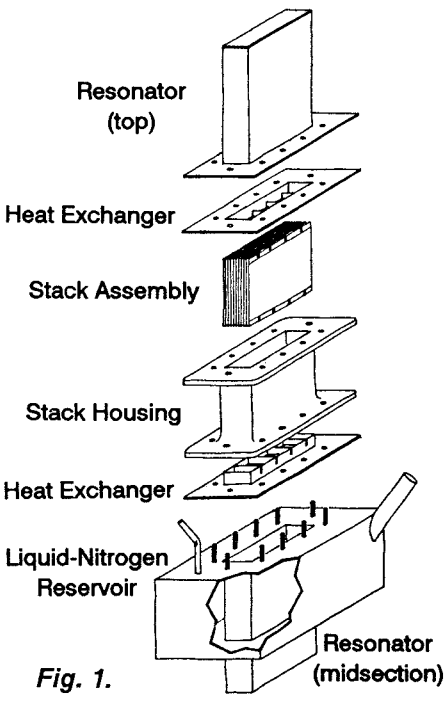
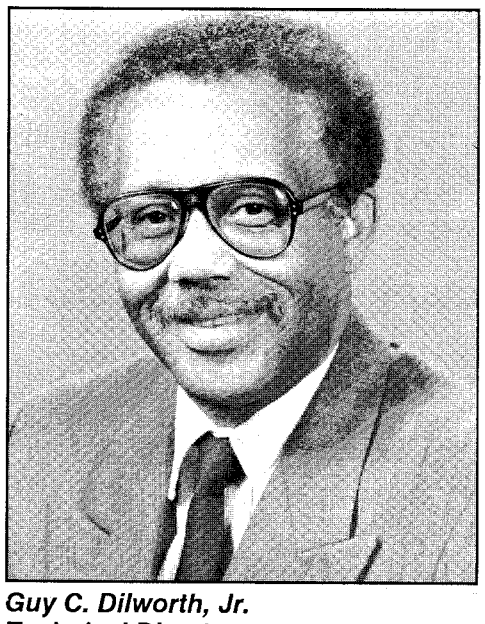


Fig. 1.

Command Corner

Captain Curtis J. Winters
Center Commander



Guy C. Dilworth, Jr.
Technical Director

Captain's Perspective

Now that 1990 is over, the Center Commander, Captain Curtis J. Winters, took time to reflect on the past year and look ahead to 1991.

How well did the Center do in 1990?

The Center had a very successful year. We had our overall business increase of 8% to $405 million dollars. We received the Chief of Naval Research Awards for the best Independent Research paper, "Estimating Chaotic Dimensions for Noisy Signals," top exploratory Development Program, "UNICOAT-Self Primy Top Coat Paint," and honorable mention for the "Infrared Search and Track" and "Slotted Cylinder Acoustic Source exploratory development programs.

Does any one particular accomplishment stand out?

It's hard to pick out just one because we're a full- spectrum Center. The fire department won the Ogden Award for best of their size. The Navy Omnibus Small Business Award was a tremendous accomplishment, but so were the independent research awards. They're all important. The one thing of which I'm the proudest — and I don't even know if it's classified as a major accomplishment — is our response to Operation Desert Shield. The work we did with the CBR suit was just tremendous. In less than 60 days, we developed, built, produced and tested this suit, made up the training plans and equipment. The whole process would normally take four years. From the middle of August through the middle of October, we just had fantastic efforts from our contracting people, our engineers, and the aircrew people who did the testing. The suit was tested on the centrifuge, ejection tower, in actual aircraft and water survival. Nothing was left out.

Were there any disappointments?

Yes, there were some specific programs that we had an opportunity to work on, but didn't get. The cancellation of the P-7 program was disappointing because it not only affects the Center, but the whole Navy. Anytime there are delays and problems with projects there's disappointment. There were problems with the A-12 program. These programs all involved the Center in one way or another.

What's your outlook for 1991?

If we look at all the indicators, such as the Department of Defense and the Department of the Navy's budgets, everything is going down. You would have to conclude that overall business for the Center is going to be reduced. We approach 1991 with uncertainty. We have already seen a drop-off in some programs, such as the P-3H, which was to replace the P-7. It now looks like that program is going away.

There will be more rounds of studies on consolidation and centralization to try to save more money. I think we just have to see what happens.

Speaking of consolidation, what do you see for the Center?

Congress has come out with a specific format on how bases will be consolidated and closed very similar to the procedure used in 1988. The format will start at the beginning of calendar year 1991. April 15 is the date for the list of proposed consolidations to come out. That list has to be approved by the President and Congress. I'm sure almost every activity will be considered and we may be studied again. I would caution everyone not to get concerned by rumors because there probably will be a lot of them.

Commander Salutes

Blaine Brice, (Code 021); **Richard Lipperini**, (Code 0212); **Cynthia Kotary**, (Code 0212): For the outstanding assistance you provided to the Space and Naval Warfare Systems Command.

Michael M. Kijesky, (Code 103): For your excellent efforts as an advisor to the Independent Executive Review Team for the P-3 Update IV Software Development Program.

Charles R. Porcelli and **Glen R. Willis**, (Code 103K); For your excellent contribution to the analysis of Lockheed's P-7A advanced development design.

Marlene Brehmer, (Code 0461); **Marie Vanfossen**, Code 041); **Patricia Steinbach**, (Code 605); **Marti Malin**, (Code 80); **Cathleen West**, (Code 902): For the outstanding administrative and typing support you provided to the SPAWAR Inspection Team during the Center's 1990 Command Inspection.

Jean Drelick, (Code 50011): For your active participation in the Naval Investigative Service briefings that were recently held at NADC.

Joseph W. Zaroff, (Code 5041): For the technical support you provided to the National Security Agency during the functional flight testing of the special systems developed for the Navy.

Aris Pasles, (Code 602): For your assistance to the Hartsville Volunteer Fire Company during their annual fund raising event.

Dr. James E. Whinnery, (Code 602) and **Dennis A. Kiefer**, (Code 6035): For your outstanding assistance in support of NADC's sponsored Explorer Scout Post 202.

LCDR David C. Johanson: For receiving the Willey Post Award from the Aerospace Physiology Society of the Aerospace Medical Association for significant contribution to operational physiology.

James J. Bethke, (Code 606) and **Dr. John J. DeLuccia**, (Code 606): For the outstanding assistance you provided to the Naval Air Systems Command as a member of the Navy's corrosion control team.

Philip Kaufman, (Code 90E): For the superb support and contributions you made to the flight safety program.

Brian Gale, (Code 9013): For your excellent sonobuoy brief you presented to Patrol Squadron 65, Point Mugu, Ca.

ADCS Robert H.Morsdorf, AMHC John P. Swan, AD1 Virgil A. Vanhorn, AX1 Donald A. Jernigan, AZ2 Scott E. Rice, AZ3 John P. LeFurge (Code 9020); **AD1 William D. Twigg, AD1 James J. Wardach,** (Code 90204); **AD1 Gary A. Christian, AD1 Terry L. Hummel, AD1 Charles L. Kope, AD1 Phillip E. Pennington, AD2 John M. Blaker, AD2 Johnna L. Cummings, AD2 John P. McLanahan, AD2 Gary T. Rippert, AD2 Anthony R. Young, AD3 Daniel Murphy, AD3 Gary D. Thompson, AD3 Douglas E. Veine** (Code 90211); **AE1 Elizabeth A. Deiss, AE2 Kenneth B. Duncan, AE2 Jon L. Hilden, AE2 Dwayne E.Nelson, AE2 Richard T. Sloat, AEAN scott J. Veno, AE3 Sean E. Dekle, AE3 Robert N. Rouba, AE3 Richard A. Watts** (Code 90222): For your dedication to duty. Just prior to deployment you were required to change the No. 4 engine on a P-3A aircraft. A task that normally takes three days to complete, you worked around the clock and completed in 36 hours with safety and excellent attention to detail.

Thomas A. McCaffrey, (8114); **Jason A. Craig**, (Code 8132); **Robert C. Goodyear**, (Code 8132); **Richard M. Michi**, (Code 8132); **James J. Moore**, (Code 8132); **Andrew D. Schmith**, (Code 8132); **William Roadfuss**, (Code 8133); **Charles DiGiovanni**, (Code 8444); **Charlie F. Belcher**, (Code 8445); **John W. Floweres**, (Code 8445); **William T. Hunt**, (Code 8445); **Food Service Board Members**: For the support and cooperation you extended on behalf of the Commander/Technical Director Awards ceremony and celebration luncheon.

Letters to the Editor

No thanks given for support

Dear Editor,

As everyone knows, the holidays have just passed. Everyone has given thanks for all of the wonderful things in their lives. It's great that people can stop, look around, and realize that there are just some things that shouldn't be taken for granted. Unfortunately, there is one thing that a lot of people at NADC take for granted.

At any time during the workdays that preceded and followed Thanksgiving, did anyone stop to think about what would happen if any of the various support departments (i.e. Technical Services, Public Works, Supply) stopped going the extra mile to keep their customers satisfied? I'm sure that very few people did.

A lot of people do not realize how good they have it. You, may laugh but just try one day in the shoes of a support person and you won't laugh any more.

When was the last time that anyone from Code 81, 83, or 84 had his or her name mentioned in the "Commander Salutes Column" of the Reflector (with the exception of blood donors)?

All of us who work in the support departments are victims of 'Support Prejudice'. How many times have you heard one of the support groups get blamed for circumstances beyond its control?

You may be thinking all of this is imagined. Believe me, if any of you could work for a month in one of the support groups, you would soon come to realize that all this is true.

Please, readers, the next time you need something from your support group, stop to think for a minute about what their position descriptions require them to do. After they complete the task, compare that with what is actually done.

Our standards for customer service are above and beyond the minimum task requirements.

Just remember that sometimes the people working the hardest in the deep trenches of the Engineering Support Groups are keys to making things happen which, as a result, bring credit to others.

Why (when compared to the attention that other Center departments receive) are the Engineering Support Groups ignored?

Name Withheld

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Public Affairs Officer . . . . . **James S. Kingston**
Editor . . . . . **Lawrence L. Lyford**
Assistant Editor . . . . . **JO2 Michael Delledonne**
Assistant Editor . . . . . **Margaret Vigelis**

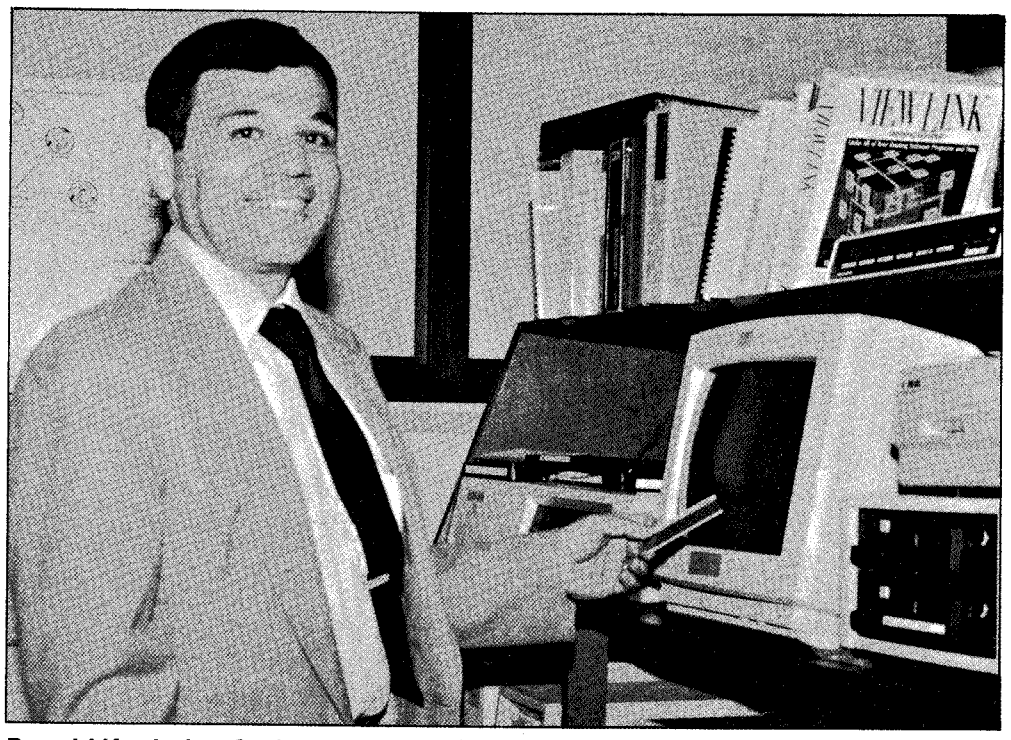
Optical disk technology sees great advances at the Center

By Ron Kushnier

The tremendous impact and success of optical disk technology emanating from the Japanese with the introduction of their CD-AUDIO products, and the development of the Philips LASERDISC VIDEO PLAYER, as well as WRITE-ONCE and REWRITABLE disks for computer peripherals, resulted in a number of U.S. manufacturers and military prime contractors announcing their exploration and pursuit of the military optical disk market.

In 1985-86, several domestic companies prematurely issued announcements and specification sheets for fully militarized WRITE-ONCE optical disk drives. The Marine's AV-8B program was the first to announce the use of this new technology on their platform. Several other programs including F-18, V-22, A-6, and A-12 followed and established the concept of optical storage for digital map and mission planning applications.

In June 1986, NADC provided initial optical disk technology studies funded by ONT's C^3 Block, which addressed incorporation of the technology into the military environment. A NADC sponsored Optical Disk Conference presented the results of two study contracts which had been awarded to Fairchild Communications & Electronics and Sperry Computer Systems.



Ronald Kushnier, Code 5053, holds $.75 credit card size optical card which may someday replace bulky, expensive magnetic tape cartridges as data transfer devices for aircraft. First, he is developing specifications to insure CD-ROMs the Navy buys can meet the rugged environments required by the military.

Both companies concluded to produce a fully militarized disk system for use in fighter aircraft environments, it would have to be designed from "the ground up" and could not be just a modified or ruggedized version of a commercial unit. Sperry Corporation, which took the lead, latter sold its Optical Disk facilities to Honeywell which incorporated NADC developed approaches into the current design.

The NADC Information Storage Technology Branch, Code 5053, using ONT and platform funding, established an "in-house" Optical Disk Evaluation Laboratory to the study and evaluate

See OPTICAL Page 4.

Center gets new light-weight polymer composite material patent

By Lawrence L. Lyford

John J. Reilly, of Code 6064 at the time, and Ihab L. Kamel, from Drexel University, have been awarded a patent to produce a semicrystalline polymer composite exhibiting high strength and high electrical conductivity. This continues a trend to use light-weight thermoplastic polymers to replace aluminum in avionic components.

These inventors avoided a costly manufacturing process and reduced product characteristics by challenging the belief that a successful compaction technique must take place above a glass-transition temperature.

This was important for their selected polymer, because it had a high glass-transition temperature. Melt processing methods such as extrusion, and injection and compression molding would have been costly and undesirable.

An object of their invention is to provide a compacting process to produce a semicrystalline polymer at a temperature well below the glass transition temperature. They did this by commingling a polymer, polyether-etherketone (PEEK), and hard metal powder to form a powder blend. They compacted this at room temperature but at a pressure sufficient to achieve the desired density.

Nickel, a metal powder with sharp surfaces for particle interlocking during compression, was commingled with a PEEK powder 30-100 times the size of the metal particles. Tumbling this blend caused the smaller metal particles to adhere electrostatically to the larger PEEK ones. The metal coated the PEEK particles and provided metal to metal contact after compression. This produced a light-weight conducting network with useful characteristics.

This light-weight polymer composite has high strength, high conductivity, and good electromagnetic interference (EMI) shielding capability. These characteristics are important because avionic components replacing aluminum must meet stringent electromagnetic interference (EMI) shielding requirements so they must be electrically conductive.

Polymers are lighter, have more corrosion resistance and are cheaper to manufacture than aluminum. But produced by a melt processing method still are costly, have reduced mechanical properties and electrical conductivity, require high metal filler loadings and have high shear rates.

The inventors avoided the problems associated with melt processing manufacturing methods in general and specifically for PEEK. For PEEK, these methods faced problems of a high melting point, high melt viscosity and low crystallation and reduced mechanical properties and electrical conductivity.

The inventors used PEEK because of its excellent mechanical properties, its good thermal stability and solvent resistance.

Their invention comprises a compacted blend of powders where PEEK forms a matrix and hard metal filler particles form a network after being compacted and the process to produce this.

Letters to the Editor

To: No thanks given for support

Dear Name Withheld,

Rather than ask one person to respond to your important perceptions and concerns. Readers may send in their brief responses to the Editor, Reflector, Code 041, this week. Letters, or hand-written notes must be signed but names will be witheld by request.

Writers should consider that about 3,600 people work at the center each day; half scientists and engineers, half support. Also, no single means of formal recognition can provide all the deserved recognition. Each day, 10 years of work is done.

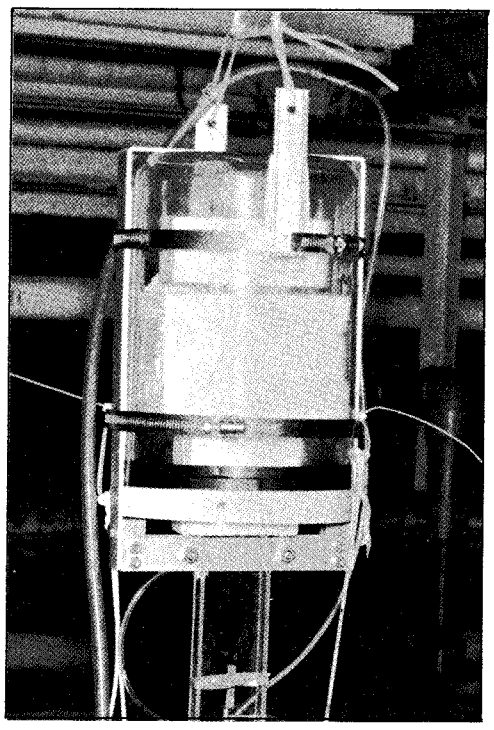
Editor

Severe weather closing phone number and stations

In the event of inclement weather, NADC closing announcements will be aired by the following radio stations: KYW (1060 AM) and WBUX (1570 AM). Also a recorded message will be available to advise employees whether or not the Center will be closed due to severe weather conditions. Recorded information will be available by dialing 441-**SNOW** which is 441-**7669**. Employees are advised not to call the Center operator or Officer of the Day for information.

Sound generation wins IED award

The thermoacoustic source designed for radiation under water



Continued from SOUND Page 1.

model because it was safe, easy to handle and allowed simple construction techniques. In practice, a high- power source would probably use a heat producing chemical fuel or waste heat from some other process on the hot side and and allow the ocean water to cool the cold side.

In either case, a large, static temperature gradient is maintained across the stack of plates. Proper timing of the heat transfer to and from the fluid is controled by the natural lag in thermal conduction through the fluid and the oscillatory fluid motion in the resonator. In this way, the fluid oscillations are pumped up to very high levels without having to cycle or pulse the heat supply.

The radiated power of the prototype was measured to be about 50mW at a depth of 7m. While this is several orders of magnitude less than the desired power in an operational device, it is above the predicted prototype level.

These measurements confirmed the radiation theory developed last year under this IED. This theory can now be projected to larger, deeper sources with some confidence and the output should increase with depth.

If the increase with depth is as predicted, then a moderate sized source operating at several hundred meters should be capable of radiating substantially more than an acoustic kilowatt.

Center joins national celebration to honor Martin Luther King

By James M. Ferguson

On Monday, January 21, 1991 the birthday of the Reverend Dr. Martin Luther King, Jr. will be celebrated with a national holiday. There will be a brief ceremony sponsored by the Black Interest Group (BIG) to honor Dr. King after the Center's Annual EEO Awards on Friday, January 18th in the Center Auditorium.

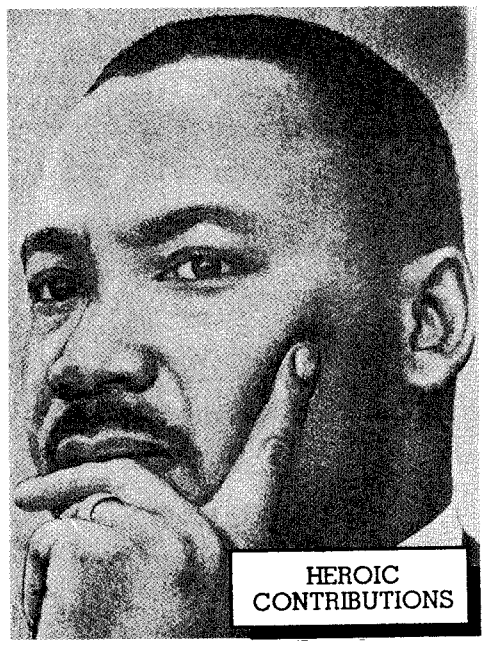
Dr. King was the leader of the civil rights movement and led an American nonviolent revolution that changed the nation forever. His strength of character and unwavering commitment to the causes of justice, freedom, and peace were crucial in converting the nonviolent actions of millions into positive social change.

Throughout the 1950's and 60's Dr. King led the fight against unjust laws that treated black Americans separate and unequal through segregation.

In 1955, Rosa Parks, a 42-year-old black seamstress, tired after a hard day's work, refused to give up her seat to a white passenger and was arrested.

In response, Dr. King successfully led a year-long boycott achieving integration of Montgomery, Alabama buses. The victory attracted international attention. By 1958, nonviolent protests were going on all across the country. Inspired by Dr. King, hundreds of thousands, young and old, rich and poor, black and white, conducted sit-ins, freedom marches, and freedom rides to achieve equal treatment for all people in

Continued DREAM Page 7.



Optical disk technology sees great advances at the Center

Continued from OPTICAL Page 3.

optical disk products and media for military applications. This laboratory is equipped with a "critical mass" of test instruments, computers and optical disk drives which can span investigation of everything form CD-ROM disks, as well as provide tighter control of manufacturer's CD-ROM tolerance and software driver designs.

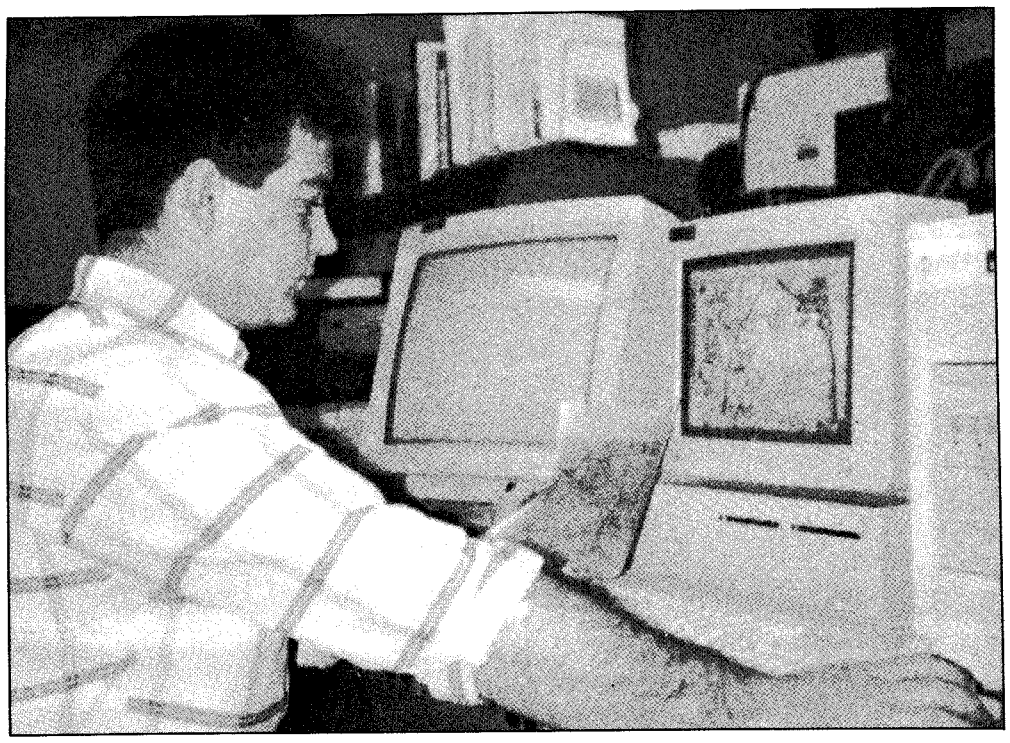
Transition of optical disk concept verification hardware from the laboratory has been made through the Air Force/Navy ITARS (Integrated Terrain Access/Retieval) digital mapping system, and the Navy's LITE (Laptop Image Transmission Equipment) program. One of the drives was deployed as part of Operation "Desert Shield."

A new type of REWRITABLE optical disk media is now under development through an NADC contract with Sundstrand Data Control, Inc. The main objective of this procurement is to demonstrate the feasibility of a dual mode optical disk. The Navy requires this development to minimize disk production time.

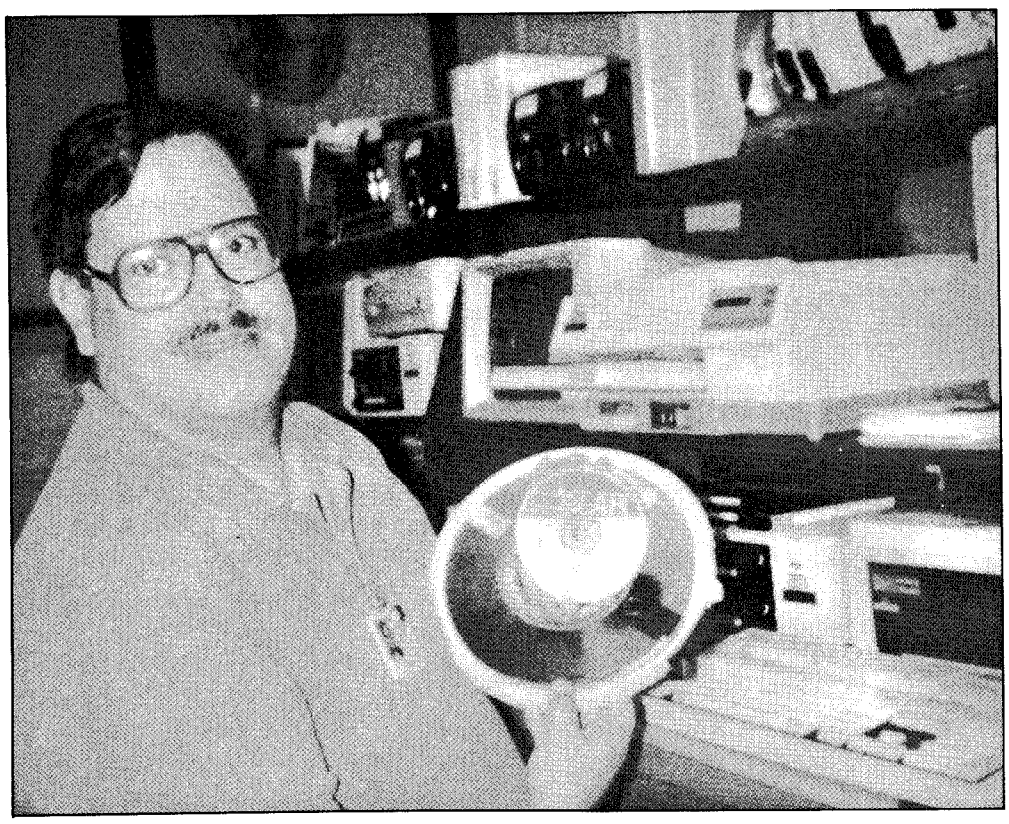
A disk which can be mass replicated for generic data, while having the REWRITABLE properties for mission specific data to be added in the field, will also possess a number of other unique and highly desirable properties. Read-only areas would make it possible to store large databases that do not change frequently onto a REWRITABLE disk.

The read-only areas would allow source organizations to maintain configuration control over their standard products, e.g. DMA Digital Terrain Elevation Data (DTED). Such databases cold be pre-stamped on REWRITABLE media in the same way that CD-ROM media are manufactured.

NADC, Code 5053, has become the Navy's leading laboratory for optical disk development. The group also participates as the Navy representative on the Optical Disk/Data transfer Module Working Group of JIAWG. Optical disk workshops sponsored by the ONT C^3 Block, have allowed NADC, Code 5053, to provide continual information and guidance to the government, prime contractors and manufacturers.



Tim Naugle, Code 5035, prepares a data base for transfer to a multi-mode a optical disk. Multi-mode disks are disks with very large data bases produced inexpensively during manufacture but with subsequent user read/write capability on the remainder of the disk. This is ideal for data base produced maps. The fixed data can be updated with tactical information.



Mark Smith, Code 5035, demonstrates "optically" that one CD-ROM optical disk the size of a hole in a magnetic one can replace ten tapes. The equipment shown to the right is a CD-SIMULATOR, a device that will pre-master a CD-ROM image and record it on 9 track tapes for delivery to a CD mastering facility.

Consolidation may be a reality

Continued from CONSOLIDATION Page 1.

restructure the RDT&E organizations and functions.

These activities are being considered in forming the Air Warfare Center:

Naval Weapons Center, China Lake, Ca.
Naval Air Development Center, Warminster, Pa.
The Naval Air Test Center, Patuxent River, Md.
Pacific Missile Test Center, Point Magu, Ca.
Naval Air Engineering Center, Lakehurst, N.J.
Naval Ordnance Missile Test Station, White Sands, N.M.
Naval Avionics Center, Indianapolis, In.

An Executive Review Group will be established under Gerald A. Cann, Assistant Secretary of the Navy (Research, Development and Acquisition) to address the broad policy issues regarding implementation of this initiative. Representatives of all the affected centers are included in the subgroups to the Executive Review Group. Taking part in these subgroups from NADC will be Capt. Curtis Winters, Guy Dilworth, and Tom Brennan.

"Although I totally support the consolidation, I am deferring my final decision . . . ."

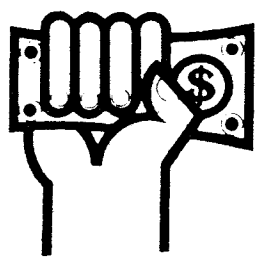
The mission for the proposed Naval Air Warfare Center would encompass much of the current NADC mission: "To serve as the Navy's full spectrum research, development, test and evaluation and engineering support center for air platforms, autonomous air vehicles, weapons systems associated with air warfare, and for sensor systems used to conduct anti-submarine warfare from air platforms.

Thrift Saving Plan has new twist and fewer restrictions

By Lawrence L. Lyford

The ninth open season for the Thrift Savings Plan (TSP) runs through January 31. Those investing in options other than the Government Securities fund must renew their options or their furture investments will be redirected from these funds to the Government Securities one. Therefore, not returning the required option forms may have unwanted concequences as well as missed opportunities. This is just one of several changes to the TSP program.

Generally, this year's changes remove former investment restrictions. The philosophy seems to be "It's all up to you, but you have to tell us again what you want or we'll put you in the most conservative investment."



During this open season, both Civil Service Retirement System (CSRS) and Federal Employees' Retirement System (FERS) employees have the opportunity to make initial participation election, change their current election, or diversify their investments. They should receive information in the mail explaining details of their options.

CSRS employees may contribute a maximum of five percent of basic salery. FERS employees may contribute up to 10 percent with the government matching the first five percent. Investments are made in a government fund, the G Fund, or in the private market in fixed income, the F Fund or in Common Stock, the C Fund. The F and C funds are riskier but provide diversification and potentially higher returns.

Employees, also, may elect to transfer any portion of previously invested contributions among the three funds up to four times a year.

Contributions may be made on a percentage of salery or fixed amount basis and are made on a before tax basis for federal income tax and before state tax in all the states but New Jersey and Pennsylvania. These two states are the only two not allowing income tax deferral for TSP contributions.

"TSP plan summaries and highlights will be distributed as soon as they arrive," according to Dottie Kirkpatrick, Employee Relations Specialist, extension 2367, who is available to provide to provide further information.

Those investing in options other than the Government Securities fund must renew their options or their furture investments will be redirected from these funds to the Government Securities one.

If the SOC fits

Most at Center will come under the new procurement law

By Robert G. James

In this column one year ago, I reported that the most significant law enacted in the Standards of Conduct (SOC) area during 1989, the Procurement Integrity law, had been suspended for a year. That suspension has now elapsed and, with the exception of the portion dealing with post-employment restrictions, the law has been reinstated effective December 1, 1990. Thus, each of us who is a "procurement official" (a broadly defined term which at one time or another would include the great majority of NADC employees) must concern himself or herself with this law once again.

As we previously reported, the Procurement Integrity law itself is not nearly as onerous as it first appears; much of it simply restates things which were already prohibited by other laws or regulations. Thus, it provides that a federal employee involved in an ongoing procurement may not:

(i) discuss future employment with a competing contractor;

(ii) solicit or accept gratuities from a competing contractor; or

(iii) disclose any proprietary or source selection information regarding the procurement to anyone who does not have a need to know.

One effect of this reinstatement involves the certification requirement. With the reinstatement came a new certification somewhat different from the one all government procurement officials executed a year ago, and in order to serve as a procurement official after December 1, 1990, an employee must execute this new certification.

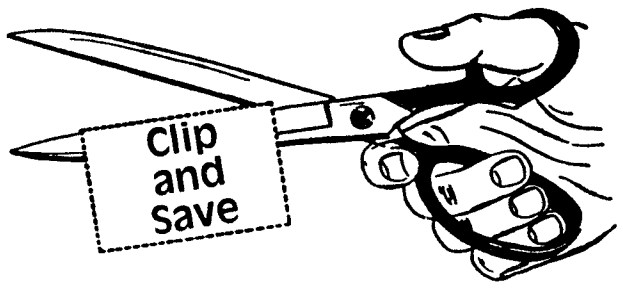
The good news, for now at any rate, is that the primary post-employment restriction that was part of the law remains suspended until at least 1 June 1990. If and when that restriction returns, anyone who leaves the government after that point will be forbidden from working on a contract on which he or she previously had served as a procurement official. That restriction runs for a two year period, beginning on the date the individual last served as a procurement official on the contract.

If you have any questions regarding the revision of this statute, please feel free to contact us in the Office of Counsel on extension 3000.

Backing-up using three Bernoulli cartridges

One of the worst nightmares for computer users is to lose data that they have worked on for many hours. To avoid such a nightmare we, at User Services, offer this procedure that will allow you to backup your data using three different Bernoulli cartridges. If you have any problems or questions using this procedure, contact User Services, X-3219

1. Create the first backup cartridge using any of the three cartridges.
1.1 With the COAS program cartridge in drive C and data cartridge in drive D, select the COAS Data Cartridge Utilities Menu.
1.2 From the COAS Data Cartridge Utilities Menu, select Backup the Data Cartridge option.
1.3 The following message will appear on your screen.
This will backup data from the cartridge in drive D to drive C.
To abort, press "CTRL-C".
To continue, insert the formatted backup cartridge in drive C and
Strike a key when ready...
1.4 Place your first unused/undated backup cartridge in drive C (the original data cartridge should already be placed in drive D), and press ***return***. The following message will appear on your screen.
RCD Copy Version 4.4x
Place source in drive D, place target in drive C
All data on all partitions of drive C will be destroyed
Copy in progress....
Cylinders copied: 1
1.5 The backup is complete when the COAS Data Cartridge Utility Menu reappears.
1.6 Write the current date on the backup cartridge label.
2. On the second day, backup using your second, unused/undated cartridge.
2.1 Backup the information from the data cartridge onto the second cartridge repeating the steps described in step 1.
2.2 Once the backup is complete, write the current date on the backup cartridge label.
3. On the third day, backup to your third, unused/undated cartridge.
3.1 Backup the information from the data cartridge onto the last unused backup cartridge repeating the steps described in step 1.
3.2 Once the backup is complete, write the current date on the backup cartridge label.
3.3 Now, all three backup cartridge have been used and all have a different date written on the label.



4. On the following day and thereafter, select the cartridge with the oldest date to use for the backup procedure.
4.1 If the three cartridges are dated: 01/14/91, 01/15/91 and 01/16/91; select the cartridge dated 01/14/91 to use for backup.
4.2 After completing the backup procedure described in step 1, strike out the old date and write the current date on the backup cartridge label.
4.3 Follow this step (Step 4) for all future backups.
5. If you do not use the Bernoulli data cartridges on a daily basis, then you can backup using a different schedule. If you do change the backup schedule, ensure that the backups are done accordingly.

Editor note: User Services will provide readers with information to help make computer use easier, less risky and more productive. Questions or comments are welcome. Future plans include Microsoft Word tips.

Security Reminder

Review of items for public release — Classified material shall not be disclosed through any manner of publication or presentation open to the general public. All proposed releases of technical information, whether generated within the Center of received for Center approval, shall be forwarded to Code 044 where a review will be coordinated with the Public Affairs Office (Code 041). Proposed releases of a non-technical nature are also subject to a similar review coordinated by Code 041. Unclassified information must be reviewed to ensure that sensitive unclassified information relating to militarily critical technology is not released inadvertently. (OPNAVEINST 5510.1H AND NAVAIRDEVCENINST 5510.13D)

Holiday Fashion Show at Crew's Rest was a hugh success!

By Heather O'Rourke

The Crews Rest Club was a thousand points of light as NADC active duty military and civilian employees took to the runway modeling the latest holiday fashions on November 30.

Amidst special effects and mood lighting, a standing-room-only crowd applauded and cheered fashions from the Lancaster Dress Co.(located next to the Willow Grove Mall), Formal Affairs Tuxedo of Hatboro and Necessary Accessories, Street Road, Warminster. Additional participant sponsors included Creative Cuts (Street Road, Warminster) who did all the men and women's hair styles, Mary Kay Cosmetics with Nancylee Zaucha and Faye Johnson, who created special holiday looks to complement the outfits, NADC SATO travel and Fran Scalzo. Matt Arner and Music Machines, Inc. created the sound track and served as the audio engineer for the show.

Morale, Welfare and Recreation, Code 045, was responsible for the special event, which was a follow-up to a sold-out show in August. Tickets for this second effort were hard to come by , with a total sell-out occurring in less than five days.

Beth Mumford makes a definite fashion statement in a fantastic two-piece outfit.

Debra Chaffiin models a smashing gold suit trimmed in black braid.

According to Ron Brewer, MWR Director," We have hit on something here (with the fashion shows) that the base seems to enjoy and we plan on continuing the program. I'd like to see two performances of the next show so more guests can see and enjoy the production."

Guests were treated to round-trip transportation to the Crews Rest Club, a delicious buffet lunch, and chances to win over 15 door prizes in addition to the exciting and entertaining show.

Modeling fashions ranging from formal wear to sportswear were: Ed Parker-Code 061, Joe Emperly-Code 101, Dean Roberts-PA Army National Guard, Tom Eichstaedt-Code 92, Terry Johnson-Code 92, Winston Scott-Code 20A, Howard Worley-PA Army National Guard, Dennis Hargis-Code 20, Rob Long-Code 042, Joe Valentino-Code 098, Carole Preston-Code 70, Dotty Harner-Code 02, Margaret Vigelis-Code 041, Belinda Hamilton-Code 60, Tujuana Dudley-Code 60, Caroline Cobb-Code 92, Debra Chaffin-Code 70, Therese Reis-Code 104, Beth Mumford-Code 101 and Vida Komer-Code 30. Models for Necessary Accessories included Lisa Kennedy, Melissa DeBridga, Dennis Brennan and Cindy Doettger.

MWR has tentatively scheduled the next fashion show for a mid-May poolside production. In addition to summer sportswear, resort wear, swim wear and career wear, the show will feature something that has not been seen on the runway in the two previous productions!

For additional information regarding the shows, contact Heather O'Rourke, MWR Marketing, X2510.

Crews Rest Club to close ... for eight weeks; reopen with new look

By Heather O'Rourke

When the Crews Rest Club closes the second week of January for repairs, NADC will bid farewell to the end of an era. The Club, as it has been known, will cease to exist. Emerging from the sawdust and ceiling panels will be a new, exciting renovated version, completely contemporary in both format and fare.

The Club has been contracted out to a West Coast firm who specializes in contemporary theme clubs, their design and high energy dance club lighting systems, similar to those found in New York City clubs and on MTV. Morale, Welfare and Recreation will continue to be responsible for the staffing, facility and day-to-day management of the Club, but the entertainment direction and Club theme will be guided by this outside firm.

Under the professional direction of Mr. McLaughlin, Public Works will be responsible for all the intricate, labor-intensive electrical upgrades required to accomodate the top-of-the-line lighting and sound sytems already on the drawing board for the Club.

"We are tremendously excited by this joint venture," remarked Ron Brewer, MWR Director, when asked about the changes at the Club. "This cooperative effort between the outside business community and the Navy Club System will put our Club at the forefront of what the Navy is currently trying to create-a competitive business establishment with contemporary appeal."

The catering and private party business will continue to operate in the same manner as it currently does, with both on-location and off-premises catering available.

A grand, re-opening and unveiling of the Club will take place in March to much fanfare and publicity. This publication will keep its readers abreast of all Club developments in a timely fashion. By mutual agreement, it cannot be revealed who the West Coast company is, however other questions can be answered by calling MWR Marketing, X2510.

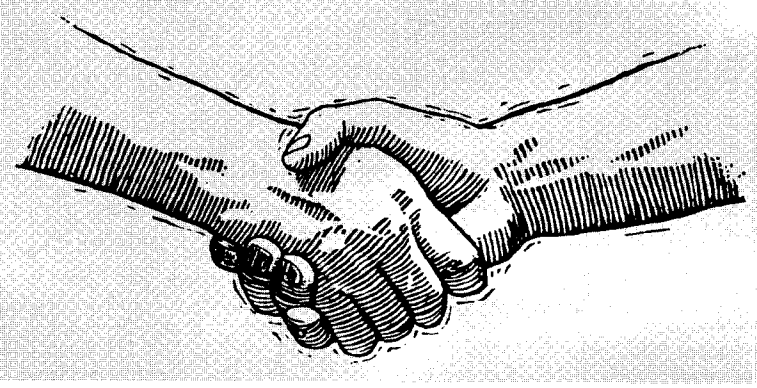
It's your turn to speak out!

By Heather O'Rourke

Morale, Welfare and Recreation wants to sit back and listen to YOU! That's right—we want to know what you think about the Club, our recreation programs and what you would like to have offered that currently is not available to you as NADC active duty military and civilian employees.

Beginning in January, and continuing through February, MWR will be conducting Focus Group meetings to discuss these topics, amoung others. Randomly selected groups of military and civilians will be contacted. These individuals will be asked to give MWR one hour of their time to meet on-Center to discuss their views on questions and topics presented by a Discussion Leader. Your responses will be noted to be acted upon by MWR. While numerous groups will meet, you will only be asked to participate one time. In return for your cooperation, all participants will receive a discount coupon book good for reduced prices and free items at MWR facilities.

Morale, Welfare and Recreation is sincerely striving to give our patrons what they want. Please use this opportunity to make your needs and wants heard. When you are called and asked to participate, please respond favorably. If you are not called, and would like to be a part of the focus group program, call MWR Marketing at X2510 and you will be placed in a group.



Please give us your help

NADC employee helps Police

By Margaret Vigelis

A Center employee recently put his professional knowledge to work for the community by assisting the Hatboro police department identify and apprehend a robber suspect.

NADC investigator David Ritho, Code 0442, was contacted by someone who overhheard the suspect bragging about committing a robbery. "My source wanted complete confidentiality. He was afraid of reprisals since the suspect is an alleged drug addict." Ritho continued, this person knew I worked at the Center as Command Investigator, so he trusted me to keep his identity secret.

Dave Ritho

Believing the robbery occurred in Warminster, Ritho first contacted the Warminster police, who referred him to Hatboro. He then gave the Hatboro police his informant's story, and also told them that the Warminster police could provide a photo of the suspect whom they had arrested the week before for shoplifting. The police showed the suspect's picture to the robbery victims who positively identified him.

When Hatboro chief of police wrote NADC's police chief, John M. Kupetz, commending Ritho for his help, Kupetz wasn't surprised. He said, "Detective Ritho's cooperation is typical of his performance as Command Investigator, and reflects outstandingly on the services provided to the community by the Center."

Youth Center hours to change

Beginning on January 2, the Shenandoah Woods Community/Youth Center will institute new operating hours. These hours will be:

Sundays – 1-6 pm
Mondays – Thursdays 3-6 pm
Fridays – 3-11 pm
Saturdays – 1-11 pm

These new hours will increase the availability of the Center on the weekends when the children, youth and teens have more free time to utilize the facility.

For further information on the change call Trea Kelly, Youth Center Director, X7233.

PHUN PHYSIOLOGY

New Year's thoughts turn to football and hangovers

by Jolie Bookspan, Ph.D.

Dear Dr. Phun Phys:

Football players rush over to oxygen canisters after plays. How much does that extra oxygen help them?

- Signed, 'Mike Umehara in Magnetics'

Dear Mike in Magnetics,

Not one bit. Supplemental oxygen will not help you either during or after short duration high intensity events like the sprinting in football.

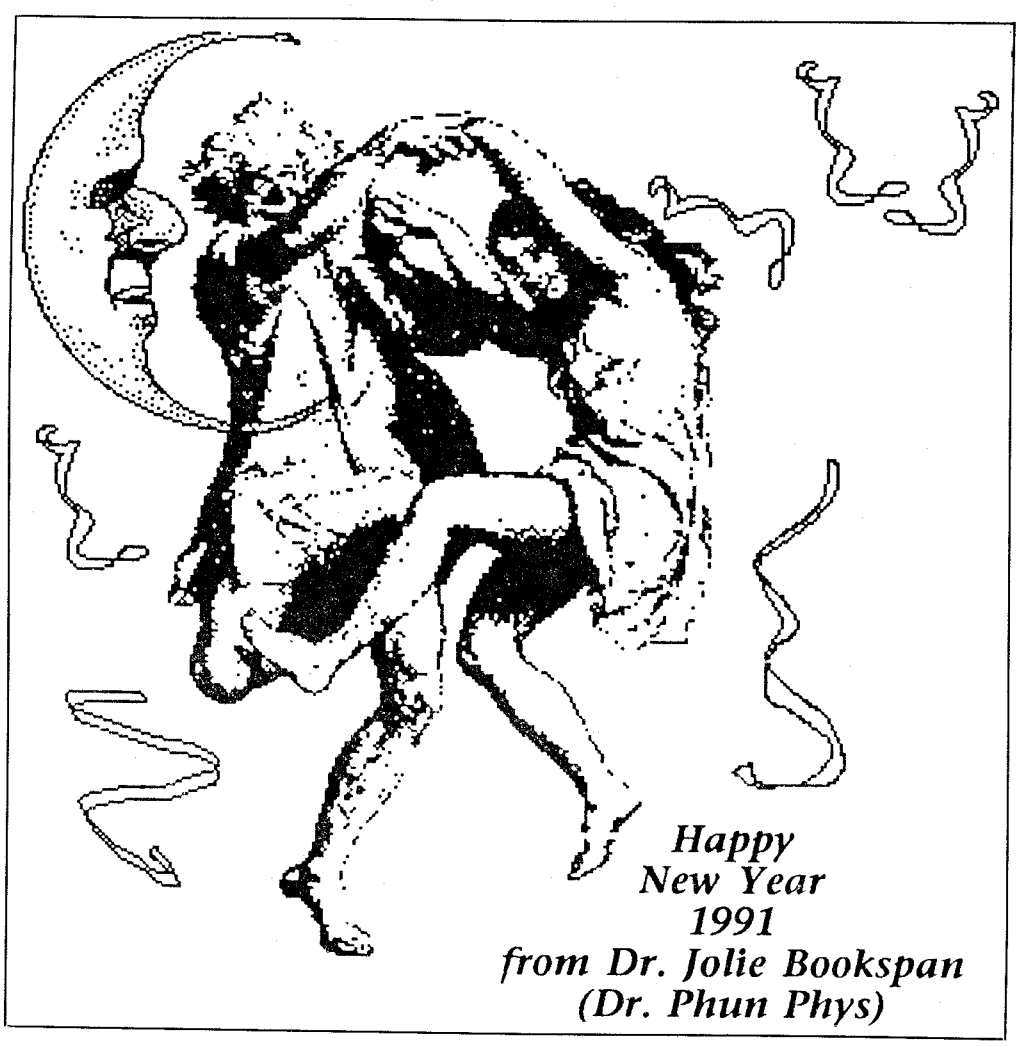
First of all, very short *anaerobic* events like sprinting and tackling use the fuel called creatinine phosphate that's stored in your muscles, not oxygen. Next, your blood already carries almost all the oxygen it can hold, or to put it technically, your oxygen saturation is usually around 98%. Finally, the very small amount that players could increase their blood oxygen with bottled O_2 would be gone by the time they got back to the field.

Where you benefit from supplementation is when sickness or injury compromise the oxygen carrying and delivery system. Oxygen can also aid during but not after long duration aerobic exercise. But then you'd have to carry heavy tanks while running around. If you want to get more oxygen to your cells for greater long distance ability you can do it yourself. Aerobic training enhances your body's entire oxygen carrying and using system. So as an ergonomic aid, bottled oxygen is not one of the more practical ones.

Dear Fun Fizz:

Boy, what a party. What can I do to speed recovery from hangovers? What causes the nausea? Why are some drinks worse than others, does it have anything to do with 'proof'? Why is blood alcohol an indication of intoxication? How can I prevent the pain?

- Signed, Oooo my head (Joe McClosky, Computer Contractor)



Dear Joe,

Ah, the wrath of grapes. Take comfort in your company around the world. In Germany a hangover is *Katzenjammer,* a wailing of cats. In France you would have *Gueule de bois,* a snout of wood. In Italy you would be *Stonato*; out of tune. In Portugal - *Ressaca*; an undertow, or the tide has gone out. And in Norway you would say - *Jeg har tommermenn*; I have carpenters in my head. How did you get that way, you ask?

You absorb 25 to 30% of the alcohol you drink directly from your stomach into your bloodstream. The remainder follows not far behind from your ***duodenum***, the first section of your small intestine.

From your blood, alcohol diffuses easily across almost every biologic membrane except your skin. It distributes throughout your body, even to your bones. The alcohol level reached in your tissues is directly proportional to that tissue's fluid content. Alcohol permeates high fluid areas like your brain, heart, and kidneys more quickly than lower fluid tissues like skeletal muscle. Alcohol drawn to the highly fluid supplied lungs accounts for the drinker's unique breath.

Why is blood alcohol an indication of intoxication? Since the central nervous system (brain and spinal cord) is so highly supplied with blood, the concentration in brain tissue quickly matches the blood concentration. Blood levels of 100 mg/dL (100 milligrams of alcohol per deciliter of blood) will brand you legally toasted. Raising your blood level of *'Oh Be Joyful'* by only four times (to 400 mg/dL) will probably land you in a coma regardless of your drinking experience.

What can you do to speed recovery? Alcohol builds up in your system because absorption occurs more rapidly than elimination. More than 90% of the oxidation (metabolism) of alcohol takes place in your poor liver. You eliminate the rest unchanged in saliva, tears, sweat, and urine. You oxidize alcohol at the rate of only 5-10 ml/h (five to ten milliliters per hour) no matter what you do. You can't change that rate with coffee, showers, or fresh air. The only cure for the hangover is time for the body to metabolize all the alcohol. Less alcohol means less time.

There are two principle mechanisms for the nausea. Calling sharks is your body's front line attempt to protect you against larger amounts of alcohol than it can cope with. If you drink too much, too rapidly, the pyloric valve *(or **pylorus**)* which separates the stomach from the duodenum will shut tightly in nausea inspiring spasms. Numbed from chronic battering it may not retain its protective function. As alcohol progresses down your metabolic chain of command, an intermediate breakdown product is the toxic chemical ***acetaldehyde***. Acetaldehyde irritates the mucous membranes that line your entire body, producing headache, muscle cramps, dizziness, and, of course, nausea.

To prevent or reduce the pain try three things. Slow your absorption of alcohol, maintain your blood sugar, and raise the ratio of blood in your alcohol system. Here's how: First, to slow absorption take longer to consume the drink. And eat something. Food in your stomach, especially fatty food slows absorption time.

See THOUGHTS Page 8.

Martin Luther King

I have a dream ...

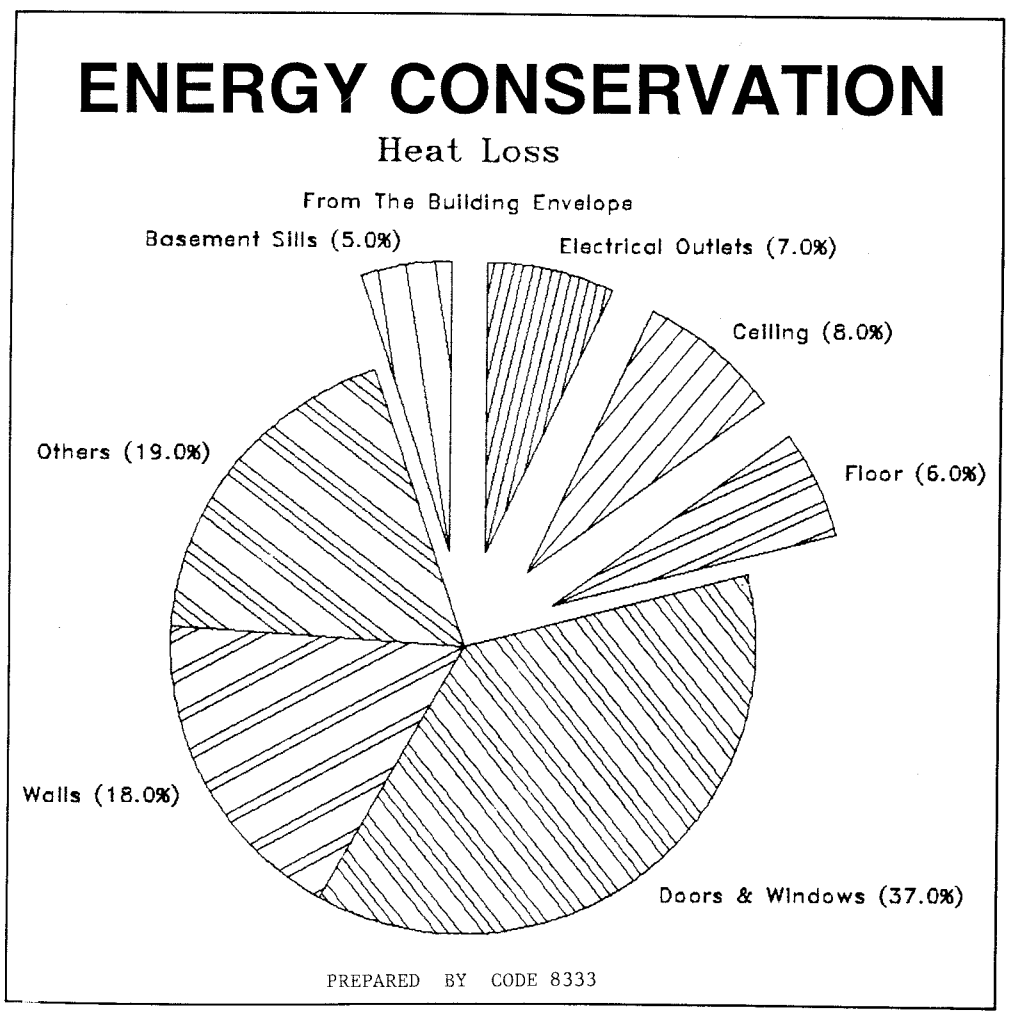
Continued from DREAM Page 4.

restaurants, libraries, hospitals, schools, and other public places.

In 1963, Dr. King led the largest civil rights demonstration in history, with about 250,000 marchers. On that day the demonstrators, of all races and religions, peacefully gathered in Washington, D.C. and called for civil rights, jobs, and freedom for all. Dr. King made his famous "I Have A Dream" speech that declared "And when we allow freedom to ring ... from every village and every hamlet, from every state and every city, we will be able to speed up that day when all of God's children, black men and white men, Jews and Gentiles, Protestants and Catholics, will be able to join hands and sing ... Free at last! Free at last! Thank God Almighty, we are free at last!"

The passage of the Federal Civil Rights Act of 1964 and the Voting Rights Act of 1965 was due in large part to the tireless efforts and dedication of Dr. King. He was awarded the Nobel Prize for Peace on December 10, 1964 for his work. In his acceptance speech, Dr. King said, "Sooner or later, all the people of the world will have to discover a way to live together in peace ... We must evolve for all human conflict a method which rejects revenge, aggression, and retaliation. The foundation of such a method is love."

In 1967, Dr. King began a campaign to help America's poor. He helped draw attention to their need for decent jobs, housing, health care, and education. But, tragically, he was assassinated on April 4, 1968 in Memphis, Tennessee before joining sanitation workers in a protest march. Coretta Scott King, Dr. King's widow, is helping to continue his dream by serving as chairperson of the Martin Luther King, Jr. Federal Holiday Commission in Washington, D.C. She urges that the holiday is a time "TO REMEMBER the life, work, and dream of Martin Luther King, Jr.; TO CELEBRATE in the true spirit of togetherness and community."



SPORTS WORLD SPORTS WORLD SPORTS WORLD

Community benefits when

Petty Officer leads second life ... as high school basketball coach

By Lawrence L. Lyford

Should I press? What kind? For how long? Which defense to play? Man, two-three, three-two, diamond and two, box and one. Who do we match up with best? What offense? Man or zone? Patterned or not? Should I call a timeout or should I save them for later? These decisions and many more are made by a basketball coach every game and that's exactly what JO2 Michael Delledonne does as an assistant varsity and freshman boys basketball coach for Archbishop Wood High School.

Delledonne, 26, will be entering his second year at Wood. "I've been coaching in one sport or another for the past five years," said Delledonne. "This is the first time I've coached for a high school program."

According to Delledonne, getting the job was a matter of being in the right place at the right time. "I wanted to get involved with a local program and I just decided to call Wood," he said. "It just so happened that Wood was in the process of hiring a new head coach. After Joe Blair was hired, he called me for an interview and I got the position."

Wood, a member of the Philadelphia Catholic League's Northern Division, is looking forward to a successful season. "The whole staff is trying to build a quality program and I think we are on our way to accomplishing that. Hopefully, we can build onto the success that we had last year," explained Delledonne.

A six-year Navy veteran, Delledonne said basketball always was his favorite sport. "I've always enjoyed it. I felt like I knew something about the game and wanted to contribute. At this level, your main function is to teach the game. The games don't make you a good coach, practices do," he said.

The biggest surprise for the second year coach was the time involved. "I get to the gym about 2:30 p.m. and I'm there until 7:00 p.m. A lot of times I still have to go out and scout a future opponent. Sometimes I don't get home until 11:00 p.m. Last year I scouted 14 or 15 games. You really have to have an understanding wife in order to do this," noted Delledonne.

Delledonne said being a coach isn't always fun. "I guess if there's a down side it would be when you have to cut a kid from the team," he said. "You're telling a 15 or 16-year-old kid that he doesn't have the talent to do something and that's always difficult, but it comes with the territory."

"Coaching is a great experience," said Delledonne. "The kids we have in our program are just great and you really become a part of their lives because you're with them practically everyday. You practice hard to play the games and that's what it's all about. You can go through every emotion imaginable in the course of one game. It definitely puts a few extra gray hairs on your head, but I love it."

New Drop-off program established at the Youth Center

By heather O'Rourke

Reliable, trustworthy babysitters have always been hard to find and to keep. Many parents forgo an evening out because of the cost and the hassle invovled with arranging babysitting care. In an effort to fill a need that is currently going unmet by both NADC and NAS Willow Grove, NADC MWR will offer a Drop-Off Program in 1991 at the Shenandoah Woods Housing area Youth Center.

Beginning January 18, Morale, Welfare and Recreation will offer the program at the Youth Center to all Shenandoah Woods housing residents for only $2.50 an hour on both Friday and Saturday evenings. The Drop-Off Care program will be on a trial basis through the end of March.

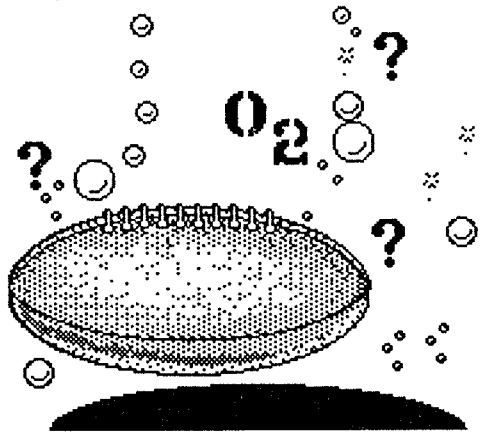
Parents should reserve a space for their child (children) to ensure adequate staffing and availability by calling the Youth Center at 441-7233. Children without reservations will be accepted on a space available basis. The service will be available on Friday nights from 3pm to 1am and on Saturday nights from 1pm until 1am. Trained, qualified MWR employees will supervise the children at the Center while parents enjoy a worry-free, affordable evening out.

For more information or for any questions on the program, call Trea Kelly, Youth Center Director, X7233.

PHUN PHYSIOLOGY: *Thoughts turn to football and hangovers*

Continued THOUGHTS Page 7.

Next, alcohol interferes with your body's ability to use other sources of energy. Overwhelmed by large amounts of alcohol, your liver fails in its work to maintain normal blood sugar levels, making you nervous, irritable, headachey, sweaty, trembling, and hungry.



Another reason not to drink on an empty stomach. Eat complex carbohydrates that break down slowly, providing constant blood sugar.

Last, as your blood alcohol increases, water content decreases. Add that to alcohol's renown for the 'p' phenomenon, often called beer in, beer out. Your body produces a hormone that prevents you from excreting too much fluid and drying up. This hormone is called your ***anti-diuretic hormone*** (ADH). Alcohol suppresses ADH allowing your body to excrete with abandon. Dehydration gives you the dry mouth and thirst, and adds to your hangover headache. So drink extra water and dilute alcohol at every opportunity with water and fruit juice.

Why are some drinks worse than others? Bubbly drinks like champagne, sparkling wines, and spirits with carbonated drinks speed absorption. Bubbles stimulate the pylorus, so that it opens wide allowing rapid passage to the duodenum where you absorb the majority of alcohol. Soda also has a ***cholinergic*** effect of dilating blood vessels, increasing absorption. ***Congeners*** also make some drinks worse. They are breakdown products present in high quantity in scotch, rum, brandy, bourbon, whisky, and red wine. Vodka and gin have relatively few congeners. The effect of congeners can be ***synergistic*** (agents that enhance each other's actions), giving the expression 'don't mix the grape with the grain'.

Severity of hangover symptoms can also rise with the alcohol concentration, or proof. The percent system, called the European or Guy Lussac system of measuring alcoholic strength got confused early on with the British "proof spirit" system. Proof spirit goes back to an archaic method of measuring or proving the concentration of alcohol in water by adding gun powder. If it ignited, that proved it was not less than one half alcohol.

When it comes to alcohol, your body will thank you for less. But when you do bend the elbow, remember: If you drink, don't drive. If you drive, don't drink. If you drink, invite!

DON'T DRINK & DRIVE

Don't neglect to exercise your phunny bone. We're preparing an April Phool's Edition. Send stumper questions for Phun Physiology to: Editor, REFLECTOR, Code 041.

Winter driving safety tips: control and commom sense

By Armed Forces Information Service

Control and common sense are the keys to safer winter driving, according to the National Highway Traffic Safety Administration.

Kent Milton of the highway safety agency suggests keeping the following points in mind when heading toward wintry climates and conditions.

First, make sure the car is equipped to handle the colder weather. This includes getting a tune-up, checking the antifreeze and ensuring the heating system and wiper system work, he said.

The car's traction on ice and snow is also important. But Milton suggests checking local laws before putting on snow, all-weather or studded tires, or throwing chains in the trunk. "For example, various jurisdictions prohibit studded tires, while others require both snow tires and chains," Milton said.

Every driver should consider having a winter survival kit - easily put together in the car during cold weather. Milton said items for the kit could include a shovel, whisk broom, ice scraper, sand or other abrasive material to provide traction, blanket, first aid kit, flashlight, safety triangles for the road, lock antifreeze, booster cables, and warm, dry clothes.

The traffic safety official added that drivers might also want to put some high-energy snacks, such as peanuts and granola bars in their glove compartments in case they become stopped or stuck in the snow or ice.

During winter, people tend to drive as they normally do the rest of the year, he said. Last-minute stops and lane changes, and driving the speed limit are all common mistakes during the snowy season, he added.

Slow down, use common sense and don't overdrive the car. Allow more time for traffic-control devices, stops and lane changes, and anticipate the other driver's actions, he added.

"Remember that bridges and overpasses ice up first, so drivers should slow down as they approach them," Milton said.

Skids can occur by going too fast for conditions, sudden braking or other quick movements. "You have to know how to handle your car in a skid," he noted. "It's not an instinctive action. You want to slam on the brakes, but that's the worst thing you can do.

"A simple way to explain it is to steer the car in the direction of the skid until you find traction, easing up on the accelerator. Don't use the brakes. Once you've got traction, steer the car in the direction that you want to go. "Don't jam on the brakes, and stay cool and calm," he said.

NADC

Reflector

Volume 36 Number 2 NAVAL AIR DEVELOPMENT CENTER, WARMINSTER, PA. February 1991

In This Issue
–Corrosion Recognition
–Aviation Week recognition
–Protective Coating Patent
–Support for Desert Storm
–Trident II recognition

Center is nation's authority on aircraft corrosion problems

Dr. John DeLucci, flanked by NAESU representatives Ish Villalva and Mel Rose, points to a fuselage doubler repair on a commercial Boeing 737 to circumvent corrosion/fatigue failures symptomatic of the Aloha Airlines failure in April 1988.

By Jim Kingston

A commercial airliner loses its cargo door. An island-hopping commuter aircraft fuselage rips away. A mounting fails and an engine is lost. These and similar catastrophic events have occurred in the last two years and they highlight two major problems in America's commercial air fleet: age and corrosion. The solutions to most aspects of these problems are found at the Naval Air Development Center.

Faced with the growing problems associated with this nation's aging commercial air fleet, the Federal Aviation Agency (FAA), watchdog of civilian aviation along with industry, formed a task force to find and implement solutions. The FAA's Technical Center quickly identified NADC and Dr. John DeLuccia as the focal point for anti-corrosion efforts in aging aircraft. DeLuccia previously headed the Aerospace Materials Division, Code 606, and is presently the Center's Senior Materials Scientist/engineer.

Many of our military aircraft are as old or older than their civilian counterparts, yet they are kept in a state of readiness, relatively free of corrosion and catastrophic break downs. The primary reason for this success is the corrosion research and control achievements of this Center which are an integral part of the care and maintenance of the Navy and Marine airfleets, as well as those of the Air Force and Army.

According to DeLuccia, two Interagency Agreements (IA's) have been signed between the Department of the Navy (NADC) and the Department of Transportation (FAA) which constitute governmental technology transfer. The net effect, says DeLuccia, is a major savings of taxpayer dollars since the FAA is getting existing, state-of-the-art technology and not having to spend money to have research and development work done.

Under the agreements, DeLuccia, together with Jim Bethke, Code 606F, were challenged with the front-line effort of introducing the Navy's corrosion prevention and control programs to the civilian agency. The first interagency agreement takes a four-pronged approach:

- Review of commercial documentation

See AUTHORITY Page 4.

NADC CBR Ensemble Center helps protect Desert Storm aircrews

By Lawrence L. Lyford

Immediately following the invasion of Kuwait and the announcement of Operation Desert Shield, the Commandant of the Marine Corps and the Chief of Naval Operations tasked NADC to provide Chemical, Biological (CB) personnel protection ensembles for tactical fighter, attack and helicopter aircrews. Through the Human Factors and Protective Systems Division of the Air Vehicle and Crew Systems Technology Department, NADC is the Navy's lead facility for air CB protection, and has had an ongoing program in CB since the early 1970's. All Marine helicopter aircrews, for example, were outfitted with CB protection in the late 1980's.

Prior to Operation Desert Shield, the tactical air community had no CB protection. In an all-out effort, literally working seven days a week, late nights and continuously for two months, NADC personnel have designed, bench tested, machined components in their shops, performed developmental flight tests, assembled the systems and sent them directly from NADC to the desert.

On September 7, 1990, two NADC aircrews performed the first developmental test flight of the CB tactical set ensemble in the Center's AF-18 aircraft. "All subsequent flights were resoundingly successful; indicating that the system did not compromise aircrew performance," according to CDR Lawrence Frank, Human Factors and Protective Systems Division Superintendent.

The Center-designed and fabricated system is based upon the British AR-5 protective hood. This system is considered to be the best available, being resistant to all anticipated threat agents. The system also has an impressive pedigree, having been flown and integrated into British as well as Canadian fighters.

According to Frank the complete Navy system, unlike the British or Canadian systems, is totally man-mounted. The new mounting has several advantages. It allows the aircrewman to walk through a contaminated area to get to his aircraft, climb into a contaminated cockpit, close the canopy and fly away safely. In addition, if the aircrewman has to eject from the aircraft, he takes this protection with him.

The system also has passed all safety of flight tests including ejection tower

See PROTECT Page 4.

Receives national award

Aviation Week laurels given to Center's Michael Hess

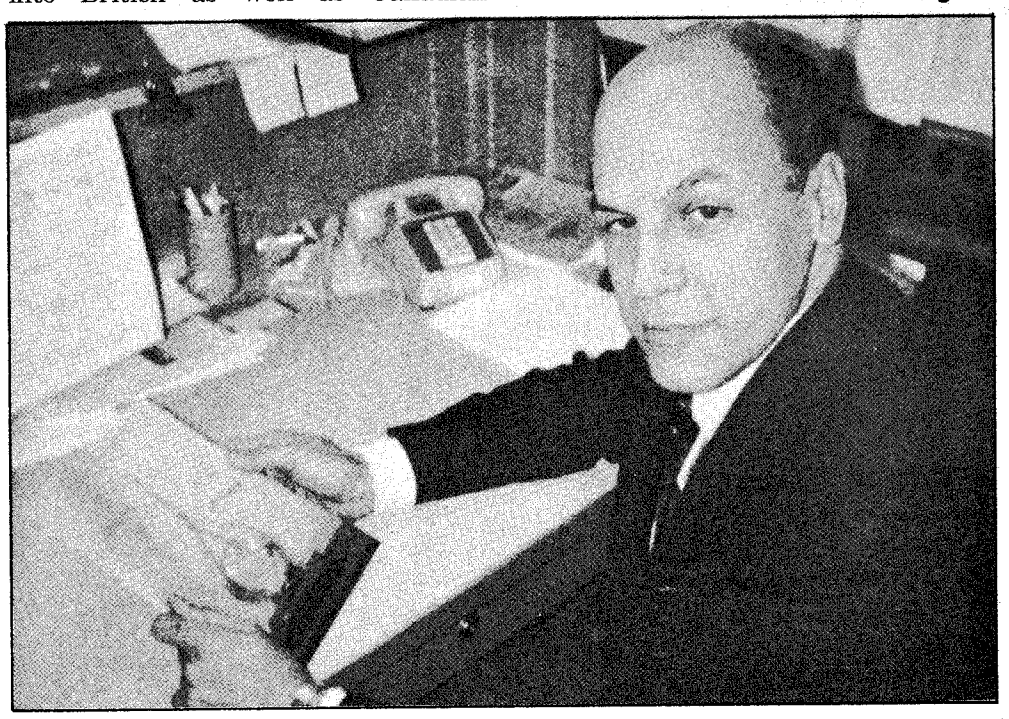
By Jim Kingston

Awards are becoming a way of life for Code 50's Michael R. Hess. Just a few months ago, he was selected recipient of the Center's CO/TD award for Engineering Achievement. Now, Aviation Week & Space Technology magazine has honored him in its annual "Laurels" edition for his pioneering work in the field of electronics.

In this special edition, Aviation Week pays tribute to indivuals and teams who have made significant contributions in the global field of aerospace in the past year or during a lifetime of service. Nominees are submitted by the publication's editors. In our case, the editor was Bruce Norwall, avionics editor.

Hess was cited in the magazine's January 7th issue " ... for work in infrared focal plane arrays (IFP) and infrared search and track (IRST) that initiated the Defense Department's program to develop IR FPA technology and was instrumental (in 1972) in switching the Defense Department to mid-wave-band IR for improved range performance."

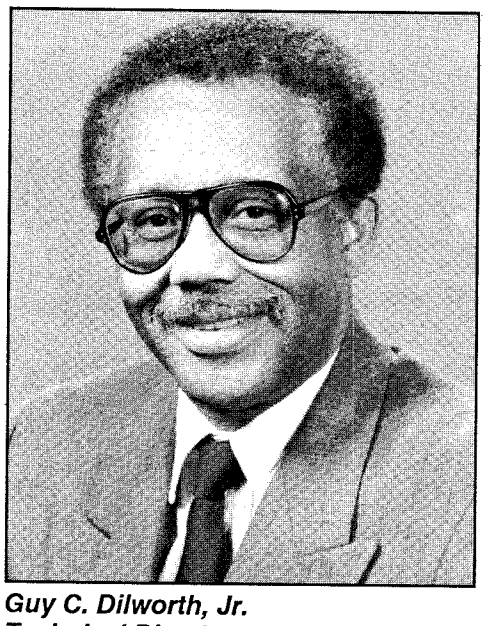
The world-wide list of honorees includes, along with Hess: generals, chief executive officers, ambassadors, chairmen, and other international notables. Hess will be receiving an award certificate to be presented here at the Center.



Michael Hess with Aviation Week's "Laurels" edition in which he was honored for his work in the field of electronics.

Command Corner

Captain Curtis J. Winters
Center Commander



Guy C. Dilworth, Jr.
Technical Director

Captain's Perspective

Thanks to those taken for granted

Throughout the year, various individuals and groups have been singled out for praise. Generally, we reward or recognize someone for accomplishing something that has never been done before such as the many inventions and technical accomplishments by Center scientists and engineers. Or we may recognize a group or individual for doing the most of something that can be measured, such as the Center accomplishments in the small business area.

This month I would like to recognize those Center employees, both military and civilian who perform those jobs that we all depend on, but never see and and have come to take for granted.

When it snows, many of us allow a little longer to drive to work or report in a little later. But when we arrive, we expect warm offices and assume that the Center roadways and parking lots will be in better condition than the state roads. When the weather is bad, many of us prudently depart, turning over the Center to employees who must stay, such as the guards, firefighters and the other essential workers on duty. Have you even thought about how many people are at the Center on a long weekend?

I have named only a few of the types of people I would like to recognize. The military who stand duty in the duty office and the public works employees who keep the water system, heating system and electrical system working are people we depend on and assume will always be on their job.

On behalf of the rest of us, thanks to you who quietly report to your appointed work place and do a job that we all depend on. It may not be something that has never been done before. It may not be the most or the biggest. Most likely it can't be measured directly, but you are doing it better every day and we appreciate it.

Commander Salutes

James White, (Code 02) and **Robert Finkelman, (Code 05)**: For your outstanding assistance to the Naval Underwater Systems Center on IFMIS which is greatly appreciated.

Robert Janes, (Code 095): For your excellent presentation at the Contracts Law Course sponsored by Northern Division, Naval Facilities Engineering Command.

William Zane, (Code 4021); Gary Fisher, Theodore Morrison, Charles Schweizer, (Code 4023); John Zeiger, (Code 4031): For the outstanding service you provided to the USNS VANGUARD in the off-loading, storage and delivery of classified material is truly commendable.

Stuart B. Simon, (Code 01A1); Bettie Simpson-Lawrence, (Code 031); CDR V. Voge, (Code 09M); Michael Massington, (Code 092); Carol Leyrer, (Code 6014); Joseph Clay, (Code 80A); Bruno Sposato, President AFGE Local 1928: For your valuable contributions as key members of the Water Quality Process Action Team that investigated the center's water supply, reviewed the quality control process for water purity and made recommendations to ensure that the Center has a reliable water supply.

Gary J. Davies and Robert E. Janiewicz (Code 1032): For your notable efforts in support of the P-3 Update IV program. Your perserverance in the use of the Logiscope software analysis tool is to be commended.

John Heap, (Code 20E): For the outstanding computer resources support you gave as a member of the Navy tiger team for the A-12 Critical Design Review.

Roland Bender, (Code 2011): For your outstanding support to the Systems Engineering Technical Directors' Conference. Your presentation on the F-14D Systems Engineering was timely, informative, and contributed greatly to the success of this program.

John McIntyre, (Code 2011): For your outstanding support to the Systems Engineering Technical Director's Conference. Your report on the goals of the Systems Engineering Advocate contributed greatly to the success of the program.

Scott D. Perry, (Code 2012): For the superb performance and outstanding contributions during your assignment to the Office of the Secretary of Defense from November 1989 to November 1990.

Peter Fischer, (Code 4013); Henry Hayes and Ron Whitsel (Code 4044): For your fine efforts as a member of the Full Rate Production Antenna source selection evaluation team.

Michael E. Searles, (Code 6024): For the commendable support and assistance you provided for the 1990 Naval Helicopter Association Fleet Fly-in at Naval Air Station, Whiting Field.

Raymond Satterfield, (Code 813): The efforts of you and your staff in hosting the Technical Information Manager's meeting for the Navy laboratory community contributed significantly to the success of that conference.

Letters to the Editor

To 'No Thanks':
Gratitude makes 'team' work

Dear Editor,

This letter is in response to the "Nothanks given for support" letter sent you from "name withheld" in the January issue of the 'REFLECTOR'.

This article hit home with me since I have spoken out earlier as a member of Technical/Program management to support recognition for the service organizations.

Almost all the projects, past and present, in our branch, Code 5013 pertain to fleet support. We have direct contact with front line squadrons and troops.

In order to complete our programs on time and within budget, it is extremely important Technical/Program organizations and support ones work as a closely knit 'team.' This includes procurement, transportation, receiving, shipping, and others.

For example, it is impossible for me to complete my projects using the necessary equipment and R&D technology if procurement does not order the necessary equipment and it arrives through receiving on time. Also, finished material must be shipped expediently to the waiting fleet activity requiring the expertise of the shipping department. If support activities, such as these, do not perform in an appropriate 'team' fashion, we, the Program Managers, find ourselves facing program sponsors to answer to pointed questions, "Where is our equipment?" and "What happened to the funding we provided?"

With past overall funding cutbacks, it is even more important for this laboratory to produce the best possible product. This means produce "on time and within budget."

Graditude should flow both ways. Service organizations should understand when program managers go to Washington to sell programs to sponsors, we actually are getting funds for their salaries.

Supporting organizations are paid from overhead dollars taken from every program. So, if support organizations do not come through for our 'team', it effects their future at NADC which must compete with seven other Navy labs for sponsors who transfer their budget money to us for work they need done.

Many of us on the technical side don't appreciate the federal guidelines governing our service organizations. They work under bureaucratic "other world" regulations. We don't understand these time consuming rules and regulations, but the service organizations are forced to comply with them and they must also make us follow them.

This is not an easy job and its hard to appreciate. the technical side is trained to look for the best way to complete tasks. We often find ourselves doing battle over these rules. But we must not split our team. We must attack problems together not as opposing sides.

Being part of a team is to recognize others' contributions. Giving thanks has many forms. Most time we think in terms of awards or letters of appreciation. Everyone appreciates other people or organizations taking time to recognize his or her work.

We in government service have unique frustrations. We take the brunt of what politicians and bureaucrats dish out in the form of cut backs, lack of promotions and awards.

Locally, there are many things the technical staff can do in order to maintain the 'NADC team'. This includes just saying, "Thank you." whenever we get what we need from support departments.

Yes, I know we all get paid to do our jobs. Many technical people may say that we, too, don't get the recognition and awards we also deserve.

This is true, but we have the ability to insure our programs, themselves, get us some of the recognition we deserve. "Mr. Sponsor, would you mind putting that gaditude through channels in writing." Supply personnel, for instance, must rely on us to give them their "bravo-zulu's."

With the current situation we face in the Persian Gulf, I think that we should say 'thank you' to everyone that works at NADC. First, because we are here and not at the front. Second, what we all do for a living helps save the lives of our troops, makes their jobs successful and brings them home safely.

To 'NAME WITHHELD', thanks for your comments, you are a very significant part of our 'team'. Keep the faith!

Mike Mocenter
Code 5013

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Letters to the Editor

Christmas Thank you

Editor:

I would like to express my gratitude to the gentlemen of codes 8111 and 8112 for supporting a Christmas tree fund for the troops in Saudi Arabia. The monies donated were used to purchase and ship a seven foot artificial Christmas tree with ornaments. My thanks to : Vince Morelli, Phil Huber, Henry Muir, Larry Capili, Joe Renk, Darrell Kutz, Herbie Leitsch, Dave Torr, Svend Berntsen, Don Stasse, Rich Kulp, John DeValle, Mike O'Neil, Jim Lezoche, Tom Gould, Bill Housel, Rick McNeil, and Dennis Bellevou, Dave Stassen.

Sincerely yours;
Michel S. Doncevic Jr.

Institutional Idea

Concerning the January letter to the Editor, I have noticed the lack of equality between the technical codes and the supporting codes.

One solution might be the creation of a Support Director to compliment the Office of Technical Director. Concerns of support codes would then have a voice.

William Bergan
Code 84518

Questions writing fee SOC

Editor;

I have questions about the Standards of Conduct reguarding lecture fees, author fees and teaching fees:

1) Do the SOC prohibit speaking fees whether or not the topic is related to one's job activities (even remotely):

2) Do the SOC prohibit receiving any form of royalties for published work — even though this work may have nothing to do with Center activities (romanic novels, etc.)

3) Do the SOC prohibit receiving fees for teaching night courses outside the Center (community colleges, etc.)

Name Withheld

See If the SOC fits for answer.

Questions gift prohibition

Editor,

This letter is in response to the "If the SOC fits" article of the December 1990 issue of the Reflector. I understand the policy stated in the Navy Standards of Conduct (SOC) instruction regarding prohibition of acceptance of gratuities from defense contractors. I agree that it is a "far reaching definition." However, I believe that it is much too broad in scope and should be amended. Here are some of the reasons.

Let us start with the policy barring government employees from defense contractor Christmas parties. This promotes the true 'spirit of Christmas', and puts a smile on everyone's face, don't you think?

A few years go by and a close relationship is developed between a defense contractor employee and me. He invites me to a Christmas party at his home, but I have to decline due to the SOC. I especially would not like to be seen clandestinely entering the home of a defense contractor, especially for a Christmas party.

A few more years go by and our relationship becomes very close. Our families take a vacation together. While traveling, we stop to eat. My friend decides to buy my family a fast-food lunch. I have to decline because of the SOC. A heated argument follows. Our friendship is destroyed.

A friend that I grew up with happens to get a job with a defense contractor. Our families have been close for many years. This family invites mine to a holiday party at their home as they have done for many years. However, I have to decline because of the SOC. A heated argument follows, and our friendship is destroyed.

Give me a break!

Martin Rapaport

Code 6034

Security Reminder — Security forms

The use of certain Standard Forms (SF's) for security purposes is mandatory throughout the Department of the Navy. Labels for ADP media are SF 706 Top Secret, SF 707 Secret, SF 708 Confidential, SF 709 Classified Label, SF 710 Unclassified Label, SF 71 Data Descriptor Label (para 0710, Chapter 7, NAVAIRDEVCENINST 5510.13D). Other forms are: SF 702, Security Container Check List (Para 1101.d, Chapter 11); SF 703, Top Secret Cover Sheet; SF 704, Secret Cover Sheet; SF 705, Confidential Cover Sheet (Para 1102.2, Chapter 11); and, SF 701, Security Check List (Para 1103.a, Chapter 11). (NAVAIRDEVCENT 5510.13D)

If the SOC fits

By Robert G. Janes

A letter to the editor this month questions one of the most controversial recent developments in the federal Standards of Conduct (SOC) area — the law which prohibits the acceptance of an honorarium for an appearance, speech, or article. In an earlier column I explained this law briefly and noted that it would take effect on January 1, 1991. Since then, the law has come under a great deal of attack. At least one lawsuit has been filed challenging it as a violation of federal employees' first amendment rights, and there has been legislation proposed in Congress to tone down the effects of the law, if not repeal it outright. If and when that happens, as I expect it eventually will, I will advise you in this column. As of now, however, the law is applicable to all federal employees.

The law defines an honorarium as "the payment of money or anything of value for an appearance, speech or article...." It permits reimbursement for actual and necessary travel expenses incurred by the employee and one relative, but aside from that, no payment can be accepted. The Office of Government Ethics (OGE) is currently preparing regulations to implement the law, and has published interim guidance which can be relied upon until those regulations are issued. The OGE guidance defines an appearance as "attendance at a public or private conference, convention, meeting, social event, or like gathering, and the incidental conversation or remarks made at that time." A speech is defined as "an address, oration, or other form of oral presentation, regardless of whether presented in person, recorded, or broadcast over the media." An article is "a writing other than a book, which has been or is intended to be published."

A key concept here is that honoraria for all appearances, speeches, or articles are forbidden, even though they may have nothing to do with one's job. Thus, the prohibition would apply to a speech on bird-watching, or coin-collecting, even though those activities might have no relationship whatsoever to a government employee's job. Another important point is that the term "article" as defined above excludes books, and the interim guidance indicates that it likewise excludes works of fiction, poetry, lyrics, and scripts. The guidance also helps clarify just what constitutes an appearance or speech. For example, it remains permissible to accept payment for teaching a course, although such teaching must involve multiple presentations, and be done on behalf of either a state or local government or an accredited institution of higher education. Finally, the law does not apply to situations where one is performing or providing entertainment "using an artistic or other such skill or talent primarily for the purpose of demonstration or display," which would encompass things like acting, singing, etc.

With regard to the questions posed in the letter to the editor, then, the answers are as follows:

(1) Yes. The prohibition applies even if the topic is completely unrelated to one's job.

(2) No. The prohibition extends only to articles and does not encompass novels, poetry, lyrics, or scripts. It should be noted, however, that if the published work is an article, one is prohibited from accepting an honorarium for it no matter what the subject matter and the connection to the job.

(3) No. It is permissible to receive payment for teaching a night course at a community college.

I urge anyone with any questions to please refer them to us in the Office of Counsel on extension 3000. We have a copy of the interim OGE guidance, which we can make available to any interested employees.

Spadafora gets protective coating patent against corrosion

By Lawrence L. Lyford

Stephen J. Spadafora, Code 6062, has received a patent for a protective coating which provides corrosion protection to the underlying metal and is thermally stable at high temperatures. The coating has a binder formed from a blend of silicone resin and a silicone alkyd co-polymer resin. It contains a binary pigment system of zinc dust to provide chemical corrosion protection and leafing aluminum pigment to provide barrier protection against corrosion and solvents.

Many metal services require coatings that resist temperatures of 500° to 700° while providing corrosion protection. Low carbon steel surfaces of heat shields around aircraft turbine engines are examples of surfaces requiring this resistance. In addition, it should have good adhesion properties with minimal prior surface preparation, dry reasonably hard and fast at room temperature. Prior to this, no coating combined all these characteristics.

The solvent-borne binder provides good adhesive and film properties and is comprised of a blend of two resins. One provides high-temperature binder properties and thermal stability. The other provides ambient temperature coating properties. It has two kinds of corrosion-protecting pigments. One is sacrificial anodic particle pigment providing chemical protection against corrosion. This means it is a pigment that degrades to protect the coated substrate. The other is a leafing pigment that can overlap when applied to form a physical barrier. This is similar to fall leaves coating a lawn, particularly if they dry in place as the sun rises.

The coating, two-thousandths of an inch thick, dries in eight hours and partially self-cures at room temperature and cures completely on first high-temperature use.

It has tested well in 500 hours of 5% salt spray, cooling and reheating up to 700° for five days and when exposed to hot lubricating oils and other aircraft operating chemicals.

NADC CBR ensemble helps protect Desert Storm Aircrews

Dr. Lawrence Frank, Code 602, departs for aircraft with full Chemical Biological system on. He is protected going to, from and in the aircraft.

Continued from Protect Page 1.

testing, wind-blast test and water survival.

"What is most impressive about this endeavor," said Frank, "is that within a two month period, we designed, fabricated, tested, assembled the systems and sent them directly to the desert. This process normally takes four to five years in the normal course of military acquisition. Through vigorous support from OPNAV and NAVAIR, and most importantly, the personnel at NADC, the impossible got done."

Although there were a core of about 30 individuals, it involved nearly 300 people at the Center to get the job done. "Everyone was extremely motivated and went well beyond the call," said Frank. "The contracts department did the impossible in expediting procurement of essential parts. The machine shops outdid themselves in fabricating components designed by our engineering team. The maintenance department kept the aircraft flying. Operations extended air field hours to help us get our night developmental test flights in. Shipping and receiving were exceptional in helping get the equipment to the troops. The list could go on."

Not only did NADC design and build the CB ensembles, but it developed and produced training tapes, test procedures and maintenance manuals. It also trained "Tiger Teams" of Aeromedical

Dr. Lawrence Frank, Code 602, is protected as he enters test aircraft.

Safety Officers and Parachute Riggers to introduce the ensembles to the aircrews in the desert and in the States.

Center is nation's authority on aircraft corrosion problems

Continued from AUTHORITY Page 1.

- Assessment of current practices; identification of gaps.
- Transference of applicable existing military products, procedures, and techniques.
- Performance of additional R&D.

Many of the initial tasks have been done including several in-depth presentations on corrosion control as well as active participation in national and international conferences on aging aircraft. One major achievement has been a review and update of the FAA's 17-year-old advisory circular on corrosion control. The age of this document, DeLuccia notes, is indicative of how far behind the civilian air community is in the corrosion control arena.

At the request of Admiral James Busey, the FAA's Administrator, formerly Commander Naval Air Systems Command, a Navy corrosion team was asked to visit and assess a major airline's corrosion maintenance program. DeLuccia was tasked to form and lead the team.

One such product — AMLGUARD — has saved the Navy over $45 million in the last nine years, was unknown to them.

To get a firsthand view of commercial airline maintenance, DeLuccia, heading this Navy corrosion team, visited the United Airlines Maintenance Facility in San Francisco. Here they found evidence of old technology and compounds being used throughout the industry. The visit gave him an opportunity to introduce the Navy's newest methods and corrosion control products — cleaners — coatings, sealants all of which were developed at NADC. One such product — AMLGUARD — which has saved the Navy over $45 million in the last nine years, was unknown to them.

The second of the two interagency agreements is perhaps even more important. It tasks NADC to educate/train FAA inspectors and engineers in understanding and recognizing the problems of corrosion in aging aircraft especially the corrosion control aspect. This is a 3-phase program:

Phase I - Provide an aging aircraft corrosion control seminar.

Phase II - Develop & implement corrosion control programs.

Phase III - Corrosion control training in certification management.

In Phase I, DeLuccia says, a 2-1/2-day, quick-start program was developed to provide an introduction to corrosion theory and control technology. This program is now being presented successfully at a series of 18 FAA locations throughout the country to 25-30 inspectors per class and includes an hour-long videotape on catastrophic damage by DeLuccia. While this is a new course, specifically developed for the private sector, it is all Navy in that DeLucia and Bethke have trained five Naval Air Engineering Service Unit (NAESU) representatives to give the course on location.

With these two interagency agreements, the Center is sharing its preeminent knowledge in materials technology with the civilian sector and demonstrating its technical leadership in aerospace corrosion control.

Phase II will build on Phase I and be expanded to cover a 5-day period. Finally, Phase III will become an FAA Academy course of 1-2 weeks and become an integral part of the FAA certification program.

With these two interagency agreements, the Center is sharing its preeminent knowledge in materials technology with the civilian sector and demonstrating its technical leadership in aerospace corrosion control.

Morale Welfare & Recreation donates to the Youth Center

By Heather O'Rourke

James Phelps, age 9, Adrienne Trevalthan, age 7, and Tiffany Saunders, age 7, used the new sound equipment the same day it arrived.

Wade Mohr,Age 8, puts the donated artist's easel to good use as other equipment was unloaded.

D.J. Trevathan, age 10, and Nicole McTiernan, age 8, use the new double-sided easel donated to the youth center by Civilian Welfare and Recreation.

Morale, Welfare & Recreation had a visit from the Civilian Welfare and Recreation "Santa" bearing gifts for the Youth Center in the Shenandoah Woods Housing Area over the holidays.

The Welfare and Recreation organization wanted to donate items to an organization needing additional equipment. They also liked the idea their donation would remain on-Center, benefiting Center military and civilian employees.

The following items were donated: stacking chairs and two adjusting tables, perfect for a smaller child and adjustable to the appropriate size for teens; a listening center with headphones and phonographs; and a double-sided artist's easel complete with a selection of paints.

According to Trea Kelly, Youth Center Director, "The members of the Youth Center will enjoy these new additions to their program. The after-school program already is using and enjoying them."

Morale Welfare and Recreation extends a hearty "Thank you" to their civilian counterpart for their kindness in giving these items to our youth.

"MWR appreciates immensely the donation of these items," said Ron Brewer, MWR Director. "With the onset of additional budget cuts, it becomes increasingly more of a challenge to continue to provide quality programs. But with the interest and involvement of groups such as the Civilian Welfare and Recreation organization, MWR will have a little bit easier time. I look forward to our continued involvement with the Civilian Welfare and Recreation organization."

Black Interest Group participates in the UNCF Telethon

By Maureen Sullivan

The NADC Black Interest Group (BIG) participated in The Lou Rawls Parade of Stars United Negro College Fund (UNCF) Telethon held Saturday, December 29, 1990 from 6 p.m. until 1 a.m. The telethon was televised on Channel 29.

The UNCF provides scholarships at over 41 historically Black private institutions of higher learning. This fund allows disadvantaged students the opportunity to obtain a college education.

Nationally, the UNCF Telethon raised an estimated $11 million. Locally, the UNCF Telethon raised an estimated $410,000 (toward the national amount). Fifteen NADC employees donated their time and efforts to help make this telethon a huge success. The Black Interest Group donated a check for $280 to the UNCF. Five BIG members served on the UNCF Telethon Star Panel from 11 p.m. until 12 a.m. These BIG members phoned their family and friends requesting personal donations to the UNCF. The BIG Star Panel raised an estimated $300 during their rotation. Bernard Write, the Chairperson of the Star Panel wrote thanking NADC stating BIG's actions will help deserving young men and women to a better way of life.

"This was the first time I have been able to give anything back to the community," said eleven year Navy veteran, MS1 Arthur Mason, "It wasn't the first time I've been on TV but its the first time I asked friends to give money when I was on it."

The NADC Black Interest Group (BIG) would like to thank all who volunteered their time, money and materials to help make this effort a success.

BIG looks forward to NADC's continued support in future endeavors. BIG holds monthly meetings every third Thursday. For more information, contact Maureen Sullivan, Code 1043, ext. 3550).

Black Interest Group (BIG) members Morgan Woods, Teri Berrain, Maureen Sullivan, AS1 Arthur Mason and Carol Taylor-Blakey serve on the UNCF telethon Star Panel.

Test your knowledge with Black History Month Quiz

By James M. Ferguson

The nation celebrates Black History Month in February and this year the theme is "Educating America: Black Universities and Colleges — Strengths and Crises."

Historically Black Colleges and Universities have traditionally produced many successful graduates and have provided NADC with many scientists and engineers. However, the majority of these institutions are in financial difficulty and are in need of support. For these schools to continue their mission of turning out highly skilled college graduates to society, America (and Americans) must support these colleges and universities.

The Center has scheduled several events for the month. During the week of February 4th the featured guest speaker, tentatively Mr. Joshua I. Smith, Chairman of The Presidential Commission on Minority Business Development and President and CEO of The Maxima Corporation, is slated to appear. Last year's very successful food sampling event also is scheduled for this week. Three separate episodes of the highly-praised documentary series "Eyes On The Prize - Volume 2" are set for February 5, 14, and 26, respectively. The much-acclaimed choir from Philadelphia's Simon Gratz High School is scheduled to perform on February 22. For specific dates and times please check the Log and Center bulletin boards.

Test your knowledge of Black History with the following quiz:

1. In 1712, Jean Baptiste du Sable was the first Black man who established a small settlement, which became one of America's greatest cities. It opened new doors to the West and North. Name the city.

2. What Pennsylvania-based religious group was the first to sign an anti-slavery resolution in 1688, which became the first formal protest against slavery in the Western Hemisphere?

BLACK HISTORY MONTH

3. In 1872, "Freedom's Journal" became the first Black newspaper to be published in the United States. In what city was it published?
a) New York City b) Philadelphia
c) Boston d) Chicago

4. In 1697, Carl Stokes became the first Black mayor of a major American city. Name the city.

5. Dr. Percy Julian was the renowned Black chemist who, in 1935, developed a drug for the treatment of what dreaded eye disease?
a) retinitus b) astigmatism
c) color blindness d) glaucoma

6. Who was the free-born inventor, mathematician, astronomer, and essay ist, called the "sable genius"? He made, completely of wood, the first clock wholly made in America. This clock kept accurate time for over 60 years. He is best known as the man who laid out the plans for the City of Washington, D.C.

7. Name the famous agricultural-chemist whose crop research at the Tus kegee Institute led to better and more productive farming in the South. He also discovered a multitude of products and uses for the soybean, peanut, and sweet potato.

8. This Black physician and scientist was the pioneer in Blood Plasma Research. His method of storing blood plasma for the injured and wounded was a significant fact in turning the tide in the Allied war effort in World War II. Ironically, this Black man died from loss of blood, sustained in an auto accident, having been denied admission to a "white" hospital.

9. Name the explorer who actually first placed the U.S. flag on the North Pole. This arctic explorer, for years lost in the shadows of Admiral Peary, was in actuality the first man to discover the North Pole. Favored by the Eskimos because of his dark complexion, this explorer proved indispensible on Peary's many expeditions.

HISTORY MONTH

10. Daniel Hale Williams was an outstanding physician and surgeon. In Chicago, in 1893, he accomplished an important surgical procedure that had never been done before. What operation did he perform?

11. Who was the outstanding historian who founded the Association for the Study of Negro Life and History in 1915, which was later named the Association for the Study of Afro-American Life and History. He is the founder of Black History Month. One of his most famous works is "The Miseducation of the Negro".

12. In 1940, this important Black educator and founder of Tuskegee Institute became the first Black to be honored on a U.S. postage stamp. The stamp belonged to the "Famous American Series". Who is he?

13. This novelist, poet, NAACP official and diplomat is most famous for his poem, "Lift Ev'ry Voice And Sing," which, when set to music by his brother, became "The Black National Anthem." One of his most famous written works is "The Autobiography of an Ex-Colored Man".

14. What is the name of the first Black university founded in the U.S. here in Pennsylvania in 1853? It was originally called the Ashmum Institute.

15. In 1894 in Cambridge, Mass., this important Black scholar, writer, and philosopher became the first Black man to receive a Ph.D. from Harvard University.

Answers to Black History Month Quiz

Answers to Black History Month Quiz
1. Chicago
2. Quakers
3. a) New York City
4. Cleveland, Ohio
5. d) glaucoma
6. Benjamin Banneker
7. George Washington Carver
8. Dr. Charles Drew
9. Matthew Henson
10. Open heart surgery
11. Carter G. Woodson
12. Booker T. Washington
13. James Weldon Johnson
14. Lincoln University (Oxford, PA)
15. W.E.B. DuBois

PHUN PHYSIOLOGY

Becoming 'hot to trot': what is a warm up and why isn't it a stretch

By Jolie Bookspan, Ph.D.

Dear Dr. Phun Phys:

What is the difference between a stretch and a warm up? What does 'warm up' really mean? Why shouldn't you bounce on stretches when bouncing works so well?

- Signed 'Eduardo Dangannan, Acoustical Engineer in 50'

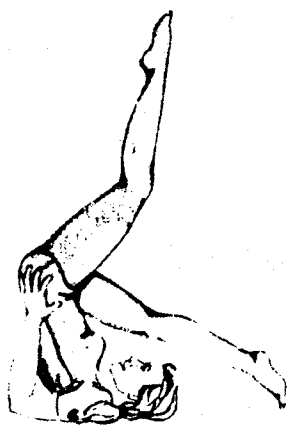
Dear Eduardo,

To begin my answer, here's a question. Have you ever started to drowse in your chair? You lost your struggle against sleep and dropped your head forward only to suddenly wrench it back. Pulling your head back was not a voluntary move on your part. It was a reflex arc deeply tied in to stretches and bounces, so stick with me as I answer your questions starting with warm up.

What is a warm up? 'Warm up' literally means raising your body temperature. About 75% of all the energy you produce through movement, digestion, and all your other body processes converts into heat. You wouldn't want a car only 25% fuel efficient, but human inefficiency works in your favor to heat your body to 98.6 degrees Fahrenheit (35 degrees Centigrade). Muscular work above resting levels converts more mechanical energy into heat, increasing your temperature.

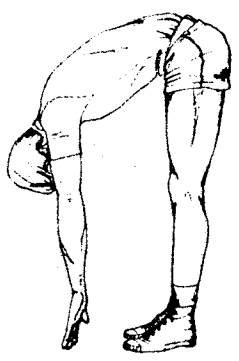
What a warm up does. Muscles work faster and more efficiently at 40 degrees C than at normal resting temperature. Muscles become more pliable and injury resistant making it safer to exercise.

Increased body temperature increases blood flow and oxygen consumption, and decreases blood viscosity. Abruptly beginning intense activity without adequate warm up can leave you without enough blood and oxygen supply to your heart.



Increased body temperature also increases the enzyme reactions you need to produce energy. Your body's chemical reactions are very sensitive to small increases in temperature. A 10 degree C increase doubles the rate of enzyme reactions. This is called the **Q_{10} Effect**. Of course your internal temperature could not change 10 degrees without severe health consequences. But the few degrees of temperature increase during warm up uses the Q_{10} Effect to increase your metabolic efficiency and athletic performance

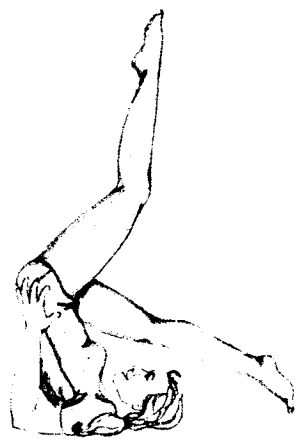
How to warm up: Cold blooded lizards must lie in the sun before they're hot to trot. Since they can't internally maintain their body temperature they are called **poikilotherms** (variable temperature). But warm blooded people (**homeotherms**) can warm up for exercise in three ways: active direct warm up, active indirect warm up, and passive warm up.



An active direct warm up is the same activity as the actual exercise, but lower intensity. For example, fast walking warms you for running. Active indirect warm ups use any large muscle activity, like bicycling. Passive warm ups use sauna, steam, or conventional baths. Body temperature rises with passive warm up, but without the increased circulatory benefits of active exercises. It takes about 10 minutes of exercise at any given intensity to reach a steady state muscle temperature, so your warm up should last at least 10 minutes.

Stretching. Stretching increases the range of motion of your joints. Greater flexibility reduces your susceptibility to muscular injury. Unfortunately, people damage themselves over time by making four main stretching mistakes.

1. Stretching before warm up. Stretching will not warm you up. And the exercises that raise your body temperature enough to begin exercise do not, and should not include stretches. Never stretch until *after* you warm up. Stretching cold muscles can microtear and weaken your muscle fibers, and is more likely to stretch ligaments than muscles.

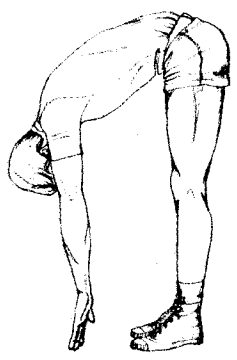


2. Stretching ligaments not muscles. Ligaments normally do not stretch much. They hold your bones in line so they glide past each other along anatomically healthy paths. When injury or chronic improper stretching forces ligaments to lengthen, they do not readily go back to their former length. Technically speaking, they are *plastic* but not *elastic*. Stretched ligaments hang shapelessly loose like worn out underwear waistbands. What's so bad about that? Stretched ligaments don't hold your bones in line, allowing them to rub and grind at unhealthy angles past each other, contributing to degenerative changes over time and their accompanying pain and disability.

Here are three ways not to stretch ligaments. First, never force or stretch to the point of pain. Next, keep the limb in line with the joint. Several well known stretches hold the joint at an 'unnatural' angle, putting too much weight and pressure on the ligaments. For example, the 'hurdlers' stretch twists the knee sideways, and some lunges don't keep the knee centered above the toe. Third, don't exert constant pressure over extended periods of time. An example is continuously leaning forward in a chair with a rounded back. Slouching overstretches the long ligament running along the back of the spine (the **posterior longitudinal ligament**) weakening the back.

3. Putting more weight on joint capsules than they can withstand. Extra weight stretches ligaments and can tear or abrade joint tissue over time. The joint capsule jams many structures into little space. Joint cartilage and ligament, unlike other tissues, have a poor blood supply. Low blood supply means slow healing. The abused joint capsule becomes less mobile and more uncomfortable as it thickens with fibrous scarring. Some tears never heal, forcing their owners into surgery. Knee tearing examples are squats and duck walks which force knee joints open. A neck mangler is lying on your back with your legs in the air over your head and all your weight on your shoulders and neck. A stretch that puts too much weight on the spine is bending over with straight legs for toe touching or worse - bouncing while bending over for toe touching. Most back-foolhardy of all is bent over weight lifting, like dead lifting.

4. Bouncing. With bouncing, also called **ballistic** stretching, you quickly go to a farther position than is safe before your pain receptors have time to signal you not to do such a thing. Bouncing increases flexibility but at the cost of stretching ligaments. Bouncing also contributes to post exercise muscle soreness. In contrast, a slow **static** stretch not only prevents but relieves soreness after you've already overdone it.



Bouncing also has a very odd effect on your muscles. The sense organs that pick up and send information about what's happening to your body are called **proprioceptors** (*proprio* means self). The most abundant proprioceptors in your body are your **muscle spindles**. Spindles lie embedded in your muscles parallel to muscle fibers. During stretching the embedded spindle stretches, activating its sensory nerve. The sensory nerve carries the message to your spinal cord about how much and how fast its muscle stretches.

An example is maintaining balance while standing. If you lean too far for-

See STRETCHING Page 7.

Exchanges have something special for special someone

That special day, when the special someone in your life can receive a wonderful gift from you, is coming. February 14th, to be exact. For those who don't know what day this is, just go on to something else.

For the rest of you, the Navy Exchange system is offering an array of gift items for your Valentine during the Valentine's Sale, February 6-14. The exchange system has perfume for the women and fragrances for the men.

You'll also find jewelry, lingerie, crystal, china, porcelain, candy and flowers.

Here's a Valentine favorite, stuffed animals and the Exchange is offering 20% off on all stuffed animals currently in stock. Details of all these special values are in the Navy Exchange Valentine's Sale circular.

♥ ♥ ♥ ♥ ♥ ♥ ♥ ♥ ♥ ♥

Trident II flag presented to NADC as a well earned "Thank You"

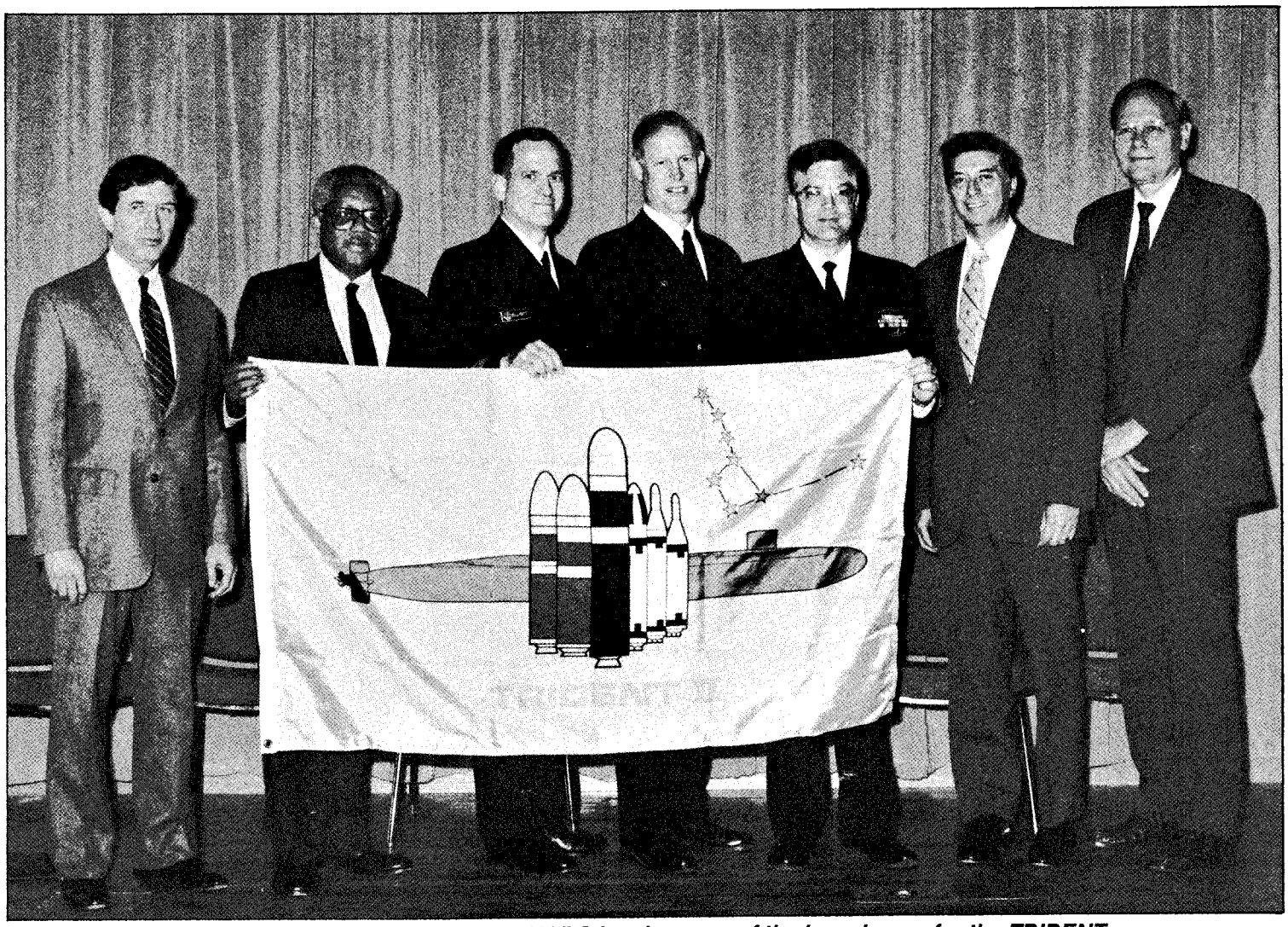
By Neil Barnett

Recently, the Director of the Navy's Strategic Systems Programs, RADM Kenneth C. Malley (SP-00) awarded a TRIDENT II (D-5) flag to the Center.

CDR Vernon Hoffman, acting Head of the Navigation Branch (SP-24) of the Strategic Systems Program Office (SSPO), presented the flag to Captain Winters, Center Commander, at a ceremony in the Center's auditorium. On behalf of RADM Malley, CDR Hoffman noted the one stipulation that goes with the flag: "Display it somewhere proudly."

A letter from RADM Malley to the Commander also accompanied the flag. It stated: "As a member of the TRIDENT team you made significant contributions in the area of USNS Vanguard test support, Electrostatically Supported Gyro Navigator (ESGN) and Gravity Sensor System (GSS) development, and Global Positioning System (GPS) evaluation for the Navigation Subsystem of the TRIDENT II Weapon System, thereby contributing materially to the success of the TRIDENT program."

CDR(S) Daniel Elliot, Head of the Navigation Systems Section (SP-241) of the Strategic Systems Program Office also attended the ceremony.



TRIDENT II flag arrives at its new home because NADC has been on of the key players for the TRIDENT.

In his opening remarks, Mr. Louis Naglak, head of the Communication and Navigation Technology Department (Code 40), noted NADC would like to celebrate the past 35 years in support of the Fleet Ballistic Missile (FBM) Program.

He indicated our support to Fleet Ballistic Missile navigation first started at the Brooklyn Navy Yard and now is part of the Communication and Navigation Technology Department. The Center has supported the Polaris, Poseidon and TRIDENT programs. "We are glad to commit ourselves to support the TRIDENT program in the future, promised Naglak.

According to CDR Hoffman, "The nice thing about the program is it's a team effort. It requires the best efforts of all the players to get the job done. You, at NADC, have been one of the player's in our world in all kinds of roles."

He acknowledged NADC has been involved with the program as long as the Strategic Systems Program Office has. He noted NADC's involvement goes back to the beginnings of systems now used in TRIDENT submarine navigation.

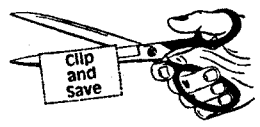
He expressed keen interest in the advanced navigation technology work (e.g., ring laser gyros) going on at the Center. He said the Center is "helping us look downstream on what may be coming next" in navigation.

In commemoration of the occasion, Capt. Winters presented a plaque, he termed 'a piece of the Center' to CDR Hoffman. Winters said, "We are proud to have been associated with the ballistic missile submarine for 35 years, beginning with navigation support."

The Communication and Navigation Technology Department already has started some new tasks for SP-24. These include efforts to: (1) characterize the spatial and temporal variations in ocean currents to develop 3-dimensional ocean current maps which can enhance inertial system Schuler performance; (2) reduce the time to get a bathymetric fix; (3) characterize sources of EM Log instability and recommend corrective actions; (4) provide technical support in the development of a passive navigation capability using gravity gradiometer sensor systems and magnetometer systems; and (5) provide technical support of test planning and testing on the Navigation Test Vehicle (NTV), the USNS Vanguard.

Data to accomplish the ocean current characterization task will be obtained from the NADC provided Acoustic Doppler Current Profiler (ADCP) installed on the USNS Vanguard.

COAS Corner



KEYBOARD

Speed Keys

Speed function keys (when pressed alone or with Shift, Ctrl, or Alt):Speed formatting keys. Press Alt plus the following letter

Alone	Shift	Ctrl	Alt	Character Formats	Paragraph Formats
F1 Next window F2 Calculate F3 Glossary F4 Repeat edit F5 Overtype F6 Ext. selection F7 Prev. word F8 Next word F9 Prev. para. F10 Next para.	Undo Outline view Record macro Repeat search Outline org. Col. selection Prev. sentence Next sentence Current line Whole doc.	Zoom window Header Step mode Toggle case Line draw Thesaurus Load Print Print preview Save	Set tab Footer Copy to scrap Show layout Go to page Spell Show line breaks Font name Text/graphics Record style	B Bold I Italic U Underline D Double underline K Small caps S Strikethrough E Hidden text + (plus) Superscript - (hyphen) Subscript Spacebar Remove formatting	C Centered L Left-aligned R Right-aligned J Justified F Indent first line 1 tab stop M Reduce left indent 1 tab stop N Increase left indent 1 tab stop Q Indent from left & right margins O Open spacing between paragraphs P Remove all paragraph formatting T Hanging indent 2 Double-space lines

Note: When style sheet attached, press Alt+X+speed formatting key.

Highlight Movement and Selection

To move highlight	Press	To select	Press	To Create	Press
Up	↑				
Down	↓	Word left	F7	New line	Shift+Enter
Left	Left Arrow	Previous sentence	Shift+F7	New paragraph	Enter
Right	Right Arrow	Word right	F8	New column	Alt+Ctrl+Enter
Beginning of line	Home	Next sentence	Shift+F8	New page	Ctrl+Shift+Enter
End of line	End	Previous paragraph	F9	New division	Ctrl+Enter
Top of window	Ctrl+Home	Current line	Shift+F9	Optional hyphen	Ctrl+hyphen
Bottom of window	Ctrl+End	Next paragraph	F10	Nonbreaking hyphen	Ctrl+Shift+hyphen
Next window	F1	Document	Shift+F10	Nonbreaking space	Ctrl+Spacebar
Next word	Ctrl+ Right Arrow	Extend selection on/off	F6 or Shift + any arrow key		
Previous word	Ctrl+ Left Arrow	Column selection on/off	Shift+F6		
Previous paragraph	Ctrl+↑				
Next paragraph	Ctrl+↓				
Next col. in show layout	Ctrl+5+ Right Arrow				
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Beginning of document	Ctrl+PgUp				
End of document	Ctrl+PgDn				

Note: Press Shift with any key in above list to extend selection.

PHUN PHYS: Stretching

Continued from STRETCHING Page 6.

ward the spindles in your back and the back of your legs stretch. They signal your spine, which sends a return signal to your muscles not only to contract, but how much to contract. You are pulled back to the upright, but not past it. You make thousands of minor adjustments all day while sitting, standing, and walking without thinking about it. The muscle stretch-contraction loop is called the **myotatic reflex, or stretch reflex.**

What has all this to do with bouncing? The sudden stretch of bouncing activates spindles which send a sensory message up to your spine, triggering a motor message back down the chain of command to contract the muscle. Bouncing activates the stretch reflex to make muscles contract. So you didn't do a stretch, you did a shrink!

Remember falling asleep at the beginning of this story? When the sudden stretch of your head bouncing forward activated neck muscle spindles, the message came back to contract your neck muscles just as suddenly, pulling your head up again. Now you know it was your muscle spindles at work without you being aware of it. Your stretch reflex, busy behind the scenes, is like government. The system is working well if you don't notice it's there.

Next Month: More on diets. Send questions for Phun Physiology, and stumper questions for the April Phool's edition to: Editor, REFLECTOR, Code 041.

Udder MistakeS:

We regret bloopers. In the November Phun Physiology article on Lipoproteins, the paragraph order was jumbled in production. Also, the graphic of the cow had a little something extra - five teats per udder (not four).

SPORTS WORLD SPORTS WORLD SPORTS WORLD

NADC mixed bowling finishes first-half in style

By Larrie Wallace

Well, we've all returned from a wonderful holiday vacation and it's time to finish the first half. And boy did we do it in style. The races for both A and B divisions were really close. It came down to the last night of the first half. The "A" Division winners are **SPARE US**, captained by Betty Price. The **Alley Cats** and the **Lucky Strikes** gave them a run for their money. In the "B" Division, the **NINE PINS**, captained by Jim Campana took top honors. They were closely matched by the **Magic Markers** and the **Eleventh Frame**.

Jim Campana, 242 and **Kathy Sedlock, 246** have the highest single game scores while **Al Knobloch, 179** and **Kathy Sedlock, 170** hold the highest averages. Other notable achievements include:

A Division

Hi 1-w/hcap

Leo Hoffman,	273
Denise Eck,	263
Jack Horning,	264
Andrea Sicher,	273

Hi 1-w/hcap

Ed Scholl,	709
Donna Morgan,	655
Bob Kittner,	676
Judy Jerdan,	715

B Division

Hi 1

Dave Oliver,	233
Joann Coughlan,	216
Dave MacNeill,	237
Sharon Robinson,	227

Hi 3

Joe Emperly,	579
Carla Dragon,	560
Jim Campana,	573
Linda Stickney,	569

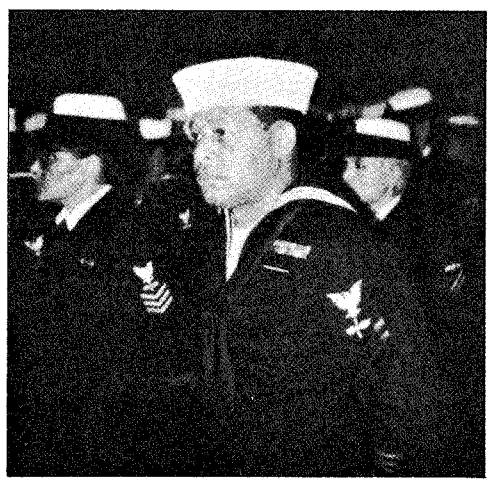
All of our bowlers are special and we congratulate each and every one of them for a job well done. January 19, 1991 marked the beginning of the second half of the season and we expect great things from all of our members. There are still openings on some of our teams for female bowlers. (We welcome all employees of NADC; however, female bowlers are needed more than male bowlers at this time). If you would like to give it a try, call Lorrie Wallace, ext.3626.

A Division, First-half champs, "Spare Us," Gary Dunn, Margaret Douglas, Carlton Brown, JoAnn Coughlan, Bob Connison Celebrate. Terry Grau, Betty Price, Donna Morgan, Dick Coughlan, Bob Bollard, John Brett, and Carolyn Riemer were absent.

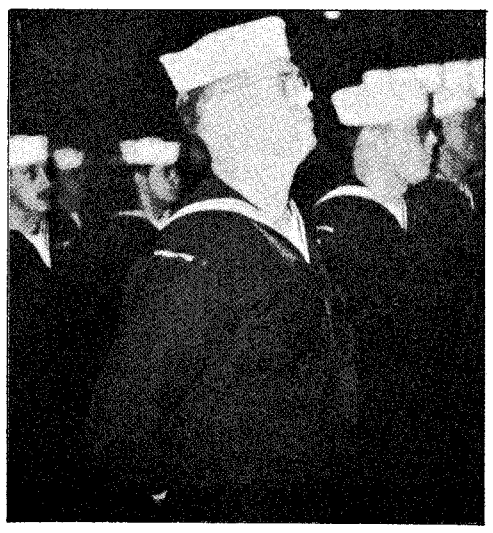
B Division, First-half champs, "nine pins," Linda Stickney, Mike Devlin, Lorraine Kittner, Jim Campana, Rick Stickney enjoy evening. Mary Campana and Bob Kittner were absent.

Center Commander Inspects Troops

Capt. Winters begins his inspection with AZ John Lefuvge at attention.



AD2 Michael Vaught waits inspection.



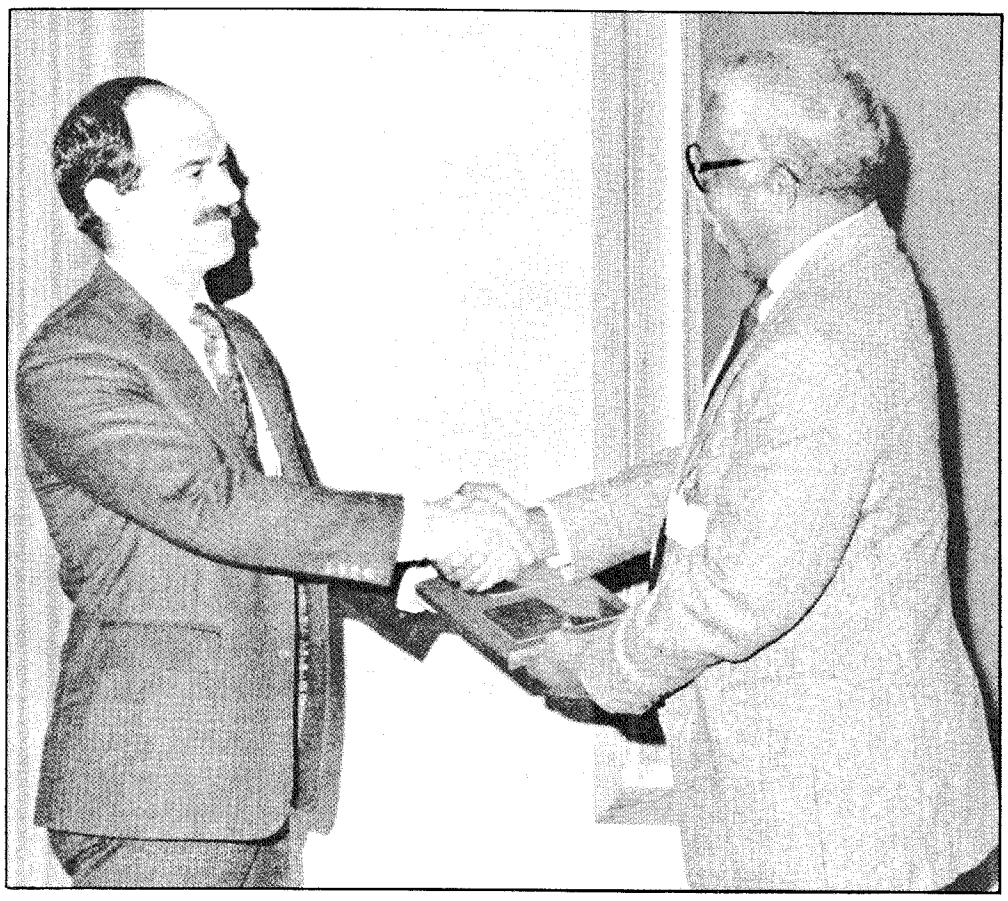
AW3 Herb Raulston at parade rest.

NADC **Reflector**

Volume 36 Number 3 NAVAL AIR DEVELOPMENT CENTER, WARMINSTER, PA. March1991

In this Issue:
- AI Award
- EO Awards
- 4th Book for Varma
- DOD Hotline
- Local Hotline
- Scientists at Sea

Oxidation of Silicon Carbide reinforced composites wins IR Award



Randall R. Sands is congratulate by Guy C. Dilworth Jr for IR award.

By Lawrence L. Lyford

Randall R. Sands has won the Best IR project award for 1990 for his work on the oxidation of silicon carbide fiber in reinforced ceramic composites.

Sands has developed several theories which explain how ceramic composites behave in a high temperature, oxidizing environment. These theories are allowing researchers to develop ceramic composite systems which maintain high fracture toughness at very high temperatures.

The Navy's interest in structural ceramics is relatively new. The main technology drivers are in advanced jet engine applications.

If composites can withstand high temperatures, be tough and fracture resistant they can have a place inside future jet engines. You can cook with a ceramic pan but you can't drop it so you certainly can't put it in jet engine. Strengthen it with strong fibers and you make it strong enough. But heat it at hot as will be necessary and it again becomes brittle.

Ask how this happens and how it might be prevented and you're in line with Sand's important work. Here's why.

Future Navy engines must produce high thrust, be light and have low fuel consumption. Thus these engines will have to operate at much higher temperatures than current generation engines.

The materials now being used in jet engines can not take any higher operating temperatures or they will begin to melt. Therefore, NADC has been investigating materials which have a high temperature capability, high strength and low weight. Ceramic materials possess high strength, low weight and extremely high temperature capabilities. However, ceramics have a very low toughness which limits their usefulness in the gas turbine engine. This limited toughness can be overcome by adding ceramic fibers to a ceramic matrix to form a composite.

By way of background, ceramics are a class of materials which posses the unique ability to maintain their strength at very high temperatures. Most of us have used Corningware

See IR AWARD Page 3

Center begins this year with fiber optic patent

By Lawrence L. Lyford

The Center's first patent of the year came on the first day of the year when Howard D. Krumboltz and Dr. Lloyd C. Bobb of the Mission Avionics Technology Department received a patent for an Optical Fiber Refractometer. The patented device enables users to measure the index of refraction of very small volumes of liquid.

The index of refraction is the measure of the speed of light in a medium. It's an inverse measure. The higher the index the slower the speed. Associated with this, it is a measure of the bending of a ray of light when it passes from one medium to another. A rod placed in water looks like it bends at the water's surface due to light refraction.

In the invention, a multimode optical fiber is heated and stretched over a short length of the fiber.

In the stretched region of the fiber the outer layer (the cladding) is removed by etching. When this section of optical fiber — typically less than one-hundredth of a centimeter in diameter and a few tenths of a centimeter long — is immersed in a liquid, the fraction of light which is transmitted depends on the index of refraction of the liquid surrounding the tapered region.

By measuring the light intensity, the index of refraction may be determined. Also, by varying the launch angle of the light into the optical fiber the range of the refractometer may be extended.

In laboratory measurements, changes of index of refraction of 6×10^{-5} (.00006) were easily detected with this device according to Bobb.

A previous method to determine an index of refraction required a prism-shaped cell filled with a cubic centimeter or more of the liquid to be tested and cumbersome equipment with manual adjustments.

A later refinement used a curved light-transmitting tube to correlate the amount of light transmitted to the index of refraction of the liquid surrounding the bent tube.

Dr. Varma reaches Navy-wide R&D publishing pinnacle

By Lawrence L. Lyford

Visit Dr. Asha Varma's office in her role as Deputy Director of the Office of Science and Technology and you could see a new book on a back bookshelf. It's titled Handbook of Inductively Coupled Plasma Atomic Emission Spectroscopy and sits beside three other technical books written by her during an exhausting eight year period.

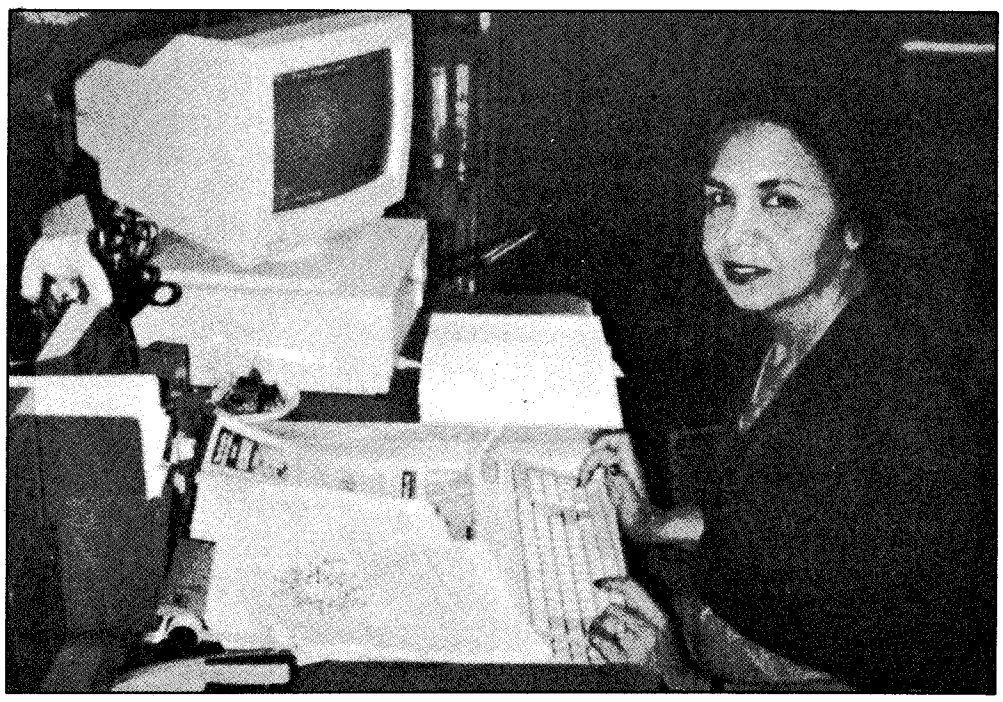
Her first two books have sold over 5,000 copies — already two and three times initial projections. Her first, the Handbook of Atomic Absorption Analysis, published in 1985, is one of her publisher's all-time top ten best sellers. In addition, her publisher now expects her most recent two to do even better.

How did this begin? In the early 1980's, she embarked on a task to facilitate the work of bench chemists. She views these colleagues, the bench chemists from around the world, affectionally as her kind of people. She simply wanted to share her knowledge accumulated over 25 years with these peers. She wrote subject units which were distributed by a well-known manufacturer to its customers as a service. Her intent was to provide data on one analytical technique from its conception to maturity and its applications in various industries.

A graduate student suggested she try to publish a complete book. In response, she sent a book summary to a Philadelphia based non-profit organization and CRC Press Inc., Florida. Both agreed to publish it! She chose CRC Press, a well known publisher for reference books because it could publish her book as much as two years sooner.

With her latest book, she accepted the monumental task of writing on

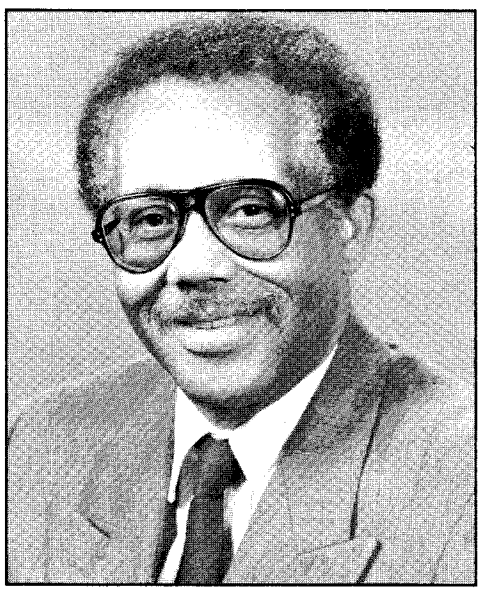
See Varma Page 4.



Dr. Asha Varma prepares book manuscript at home.

Command Corner

Captain Curtis J. Winters
Center Commander



Guy C. Dilworth, Jr.
Technical Director

Letters to the Editor

How do you fly the Colors at night?

I remember from my Boy Scout days that the flag is raised at dawn, lowered at dusk, and flown at night only if it is illuminated. Is this correct or has this been changed? With the renewed interest in patriotism in support of Operation Desert Storm I see many neighbors displaying their flags, but leaving them up day and night. This question came up the other day, can you help?

Joe Laska, Code 5023

Dear Mr. Laska:

You have a good memory from your scouting days about flag etiquette. But according to federal, state and local officials, there is no law governing the display of the American Flag. Most legislators' offices stock voluntary guidelines but most reported depleted or almost depleted stock when I asked.

This means tradition abounds and there are many sources of rules but none are binding. Historically, none had to be. Citizens just learned what was appropriate and did it. Interestingly, all countries appear to treat their national flag the same way. Some legislate the treatment, some don't.

Thanks to Thomas Edison, it became practical to light flags at night and this has become the preferred practice after sunset and before sunrise. But a lit flag is not required. With the increased availability of all-weather flags and current events permanent flag displays lit and unlit are becoming more popular.

There are rules for the display of the United States Flag at federal buildings or by federal agencies in rented facilities. Even these rules only state, "It is the universal custom to display the flag only from sunrise to sunset on buildings and on stationary flagstaffs in the open. However, when a patriotic effect is desired, the flag may be displayed twenty-four hours a day if properly illuminated during the hours of darkness."

Even each military service has slightly different rules regarding the display of the national flag. This leads to inconsistency when one service flies the flag at half mast and others even on the same base (such as at Willow Grove NAS) don't. But each respects the flag in its own way.

Some states incorporate the display of the U.S. flag in their state as part of their state code. The Commonwealth of Pennsylvania has no specific legislation for the U. S. flag but requires displaying the Commonwealth flag lit at night.

It used to be, manufacturers refrained from placing U. S. flags on clothing. Now, anything goes. Recently, I saw one sewn upside down on the butt of someone's dungarees but I also saw one sewn across the chest of a tea shirt of a rather formidable individual above the phrase "Just try to burn this one, &## @^$%."

Editor

Security Reminder

Some unclassified documents require careful destruction

Unclassified material, including formerly classified material, FOR OFFICIAL USE ONLY (FOUO) material, and unclassified messages do not require the assurance of complete destruction but should be disposed of in a manner that precludes reassembly. The following unclassified material will be destroyed in the manner prescribed for classified material: Navy Nuclear Propulsion Information (NNPI), Militarily Critical Technology Information, personnel data, and contractor designated proprietary information. (Para 1305, Chapter 13, (NAVAIRDEVCENINST 5510.13D)

Commander Salutes

CAPT James L. Murphy, (Code 00A); John Kupetz, (Code 0442); Aris Pasles, (Code 602); Dr. Phillip Whitley and HMC Duane Murray, (Code 6023); LT Richard Pierce, (Code 9112): For your support and help to the family of Dr. Harald von Beckh.

Lusi Dunbar, (Code 092): For your involvement in coordinating the NADC Hispanic Interest Group's Children's Christmas Party.

James J. Crockett, (Code 30311): For your professionalism, dedication, and participation in the Air-to-Air Warfare Over Land Symposium at the Naval Weapons Center.

Lamar Seifuddin, (Code 4011): For your fine efforts and can-do attitude as a member of the Source Selection Review Board for a GPS Guidance Package.

Edward Coleman, (Code 4043); Paul Faherty, John Paynter, John Petro, John Pye (Code 4044): For the outstanding service you performed in training active and reserve Marine Corps personnel on Counterintelligence Communication Systems built on Center.

William A. Schmidt, (Code 5011); Dr. Jon P. Davis, Timothy Keck, Michael Umehara, (Code 5012); Peter Cho, Jeannette Evans-Morgis, (Code 5024); Michael L. Draham, Dr. Mary Eileen Farrell), Paul A. Labonski, Anthony P. Passamante, (Code 5032); Lee Allen, (Code 5033); James Verdi, (Code 5052): For your participation in the "ASW Processing in the Year 2000" Symposium and the fine contribution your presentation made toward a successfull symposium.

Dr. Kenneth Gish, Phyllis Morway, Dr. James Sheehy, (Code 6023); John Tye, (Code 6031): For your dedication and positive manner in providing assistance to the Aviation Life Support System.

Brandon Johnson, (Code 6033): For your participation in the Sixteenth Annual Career Awareness Program.

Margaret Lamartine, (Code 705): For your clerical support and efforts during the AH-1W Attack Helicopter briefing to industry.

Harvey Jaffe, (Code 8451): For your professionalism and assistance at the U.S. Army Communications-Electronics Command Small and Disadvantaged Business Office's Small Business Procurement Fair.

AMH2 Shawn Crawford, AMS2 John DeYoung, AMH1 Donald Eddy, AMS2 Thomas Eichstaedt, AMS2 Mark Fossesca, AMS2 Joseph Gentile, AMH2 Robert Lee, AMS3 Anthony McDowell, AMS3 Allison Williams, (Code 90212): For your commendable performance of duties while serving as members of the Airframes Shop. Your expertise, professionalism, and "can do attitude" reflect great credit upon yourself and the United States Navy.

Reflector to accept your questions

Here's an open invitation to readers. Give us questions to ask fellow employees so we can print them and the answers.

Many newspapers like the Reflector offer opportunities for selected readers to answer questions of the day. Often these have the form of "What do you think about ... ." Several employees are interviewed and their photographs and brief comments are published.

Many of the questions, I've read are inane, pedestrian, timeworn or trite. The best way to avoid this is to ask you to write your own questions and let others answer them. If you have a question, send it to the Reflector and we'll try to see what others think. As always, you may ask your name be withheld. We honor these requests, but we need to know who you are to comply with regulations.

To make the offer more interesting you may suggest people you'd like us to ask to respond to your questions.

Your question doesn't have to be profound. Just interesting to you. Maybe you'd like to give others a chance to voice an opinion. You may simply want to let people go on record about some subject - possibly the display of the national flag. You may want to let people speak on potential cutbacks on certain research, proposed reorganizations or something light or humerous.

Perhaps you may want to ask others what they think about a narrow subject such as a co-worker who demonstrates a total disregard to personnal hygene. I know this is important to one of you since you addressed this passionately in a letter to the editor but unfortunately you didn't sign it so you won't see it printed.

If any of you desire, you also may submit a commentary of your own. You may give your observation, assessment or opinion about something you believe.

NADC Reflector

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Number 3
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NAVAL AIR DEVELOPMENT CENTER WARMINSTER, PA.

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Commander, NADC . . . . . **CAPT Curtis J. Winters**
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Editor . . . . . **Lawrence L. Lyford**
Assistant Editor . . . . . **JO2 Michael Delledonne**
Assistant Editor . . . . . **Margaret Vigelis**

EO Awards given at Martin Luther King, Jr. Commemoration

By Margaret Vigelis

Three individuals and two groups were honored here at a special Martin Luther King Jr Commemoration for their efforts in support of the Center's EEO objectives.

Dr. Donald McErlean, (Code 60), received an individual award in the Manager/Supervisors Category, and also accepted a group award on behalf of the Air Vehicle and Crew Systems Technology Department. Maureen Sullivan, (Code 1043), accepted the group award given to the Black Interest Group. Rebecca Gray, (Code 0462), and Barbara Kempf, (Code 6001), both received awards in the Personal Incentive Category.

According to Deputy EEO Officer, Kathleen M. Gause, the event was an appropriate coupling — honoring a man who had a deep commitment to helping his fellow man while recognizing Center employees who carry on King's message of justice, peace and human dignity.

Center Commander and EEO Officer, Captain Curtis J. Winters, opened the ceremonies by recalling the 1960's as a time of great social changes. He spoke of King's commitment to equal rights and how, in the face of considerable danger and opposition, King continued his crusade with great courage

Kathy Gause and Guy C. Dilworth (l.) flank award recipients Maureen Sullivan Dr. Donald P. McErlean, Rebecca Gray and Barbara Kempf as Capt. Curtis J. Winters (r.) looks on.

— finally making the ultimate sacrifice.

Our task now, Winters continued, is to understand each other and learn about our cultural differences, our special needs, and become a truly integrated work force. "Today," he said, "I applaud our workers for their service to humanity."

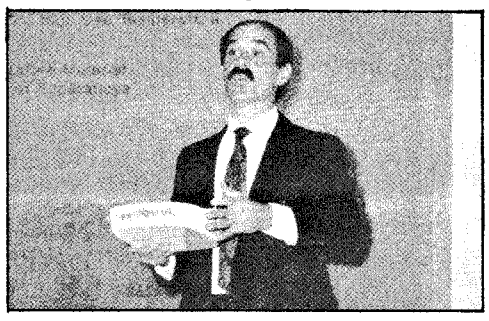
Next, Thomas J. Brennan, (Code 20), spoke of the contributions by NADC people over the past year to Dr. King's legacy. He observed that the Center was particularly fortunate to have had two winners of the 1990 Philadelphia Area Navy EEO Council Awards: John Harding, (Code 603), in the Manager category and Joe Kaszupski, (Code 5022), in the Personal Incentive Category.

In closing remarks, Richard O. Mitchell, (Code 70), noted how the spirit of Dr. King permeated the ceremony and, as we remember what King did and stood for, how fitting it was that we recognized these Center's employees who so faithfully carried on those goals.

The NADC choir closed the activities by leading the audience in a rendition of the "Battle Hymn of the Republic."

Oxidation of Silicon Carbide reinforced composites wins IR Award

Continued from Page 1.



Randall R. Sands

ceramic dishes and plates in the kitchen. Corningware has some very interesting properties which make it very attractive for use in a gas turbine engine.

One such property is thermal shock. One can take a Corningware dish out of an oven at 450°F and drop it into a sink filled with ice water and the dish will not break!!

However, drop the dish to the floor and it will shatter into hundreds of pieces. Brittleness is an intrinsic problem with ceramic materials. This brittle behavior can be overcome by incorporating ceramic fibers into a ceramic matrix thereby forming a ceramic composite.

The main concept in composite design, is to improve the mechanical properties of a material by adding another material which has a complimentary effect on to overall properties of the combined materials. In the case of fiber reinforced ceramic composites, continuous fibers are added to a matrix to improve the toughness.

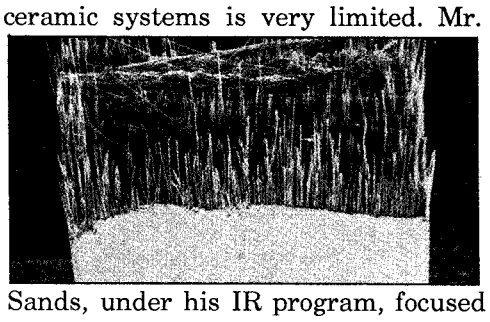
What does it mean to improve toughness in this sense? Think of toughness as the ability of a material to tolerate damage. Adding fibers to the ceramic matrix changes the manner of failure. Instead of failing catastrophically, the composite fails like wood.

The ceramic fibers interact with growing cracks in the matrix. When a crack meets the fiber, the fiber debonds from the matrix and this deflects the crack. The fiber/matrix debonding and the crack deflecting consumes energy which would be available for further crack growth.

If the fiber does not debond from the matrix, the crack shears through the fiber and the composite fails as if without fibers. Toughness is an important property for materials which are being considered for applications in a gas turbine engine. The gas turbine engine environment is extremely harsh and requires materials which can withstand thousands of hours of abuse.

When designing a high temperature ceramic composite system, special consideration must be given to the chemical and mechanical compatibility between the reinforcing fiber and the ceramic matrix. If care is not taken then catastrophic reactions can occur between the fiber and matrix, rendering the composite useless.

Information needed to ascertain the chemical compatibility between ceramic systems is very limited. Mr.



Sands, under his IR program, focused on determining and modeling the high temperature chemical reactions active between a ceramic fiber and a ceramic matrix.

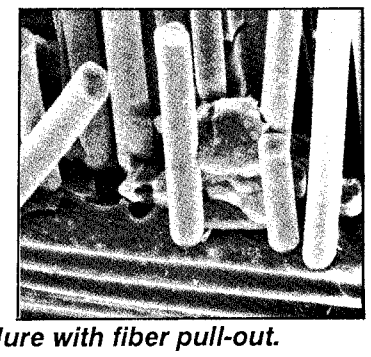
His work is allowing researchers to select likely candidates for a ceramic composite. His work also is helping predict possible high temperature reactions which could lead to a deleterious effect on the composite strength.

Another aspect of Sands' IR program was to investigate the affect of oxygen on the thermochemical stability of ceramic composites. At very high temperatures oxygen can react with a ceramic and modify it's chemical and mechanical properties. It is important to understand these reactions to design a composite system for high temperature use.

One composite system Sands has studied is silicon carbide fiber reinforced lithium aluminosilicate ceramic matrix composite (SiC/LAS). This composite system has an upper use temperature of 1400°C and a strength which is comparable to metal alloys. However, when the composite cracks at temperatures above 800°C, oxygen migrates to the fiber/matrix interface causing severe reactions leading to catastrophic failure.

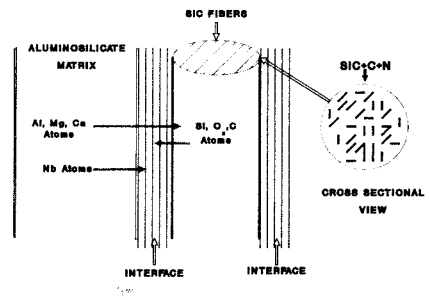
The oxidation of the fiber/matrix interface is not well understood. Mr. Sands has found that during the processing of the ceramic composite a carbon-carbide interface zone is formed between the fiber and the matrix. This zone facilitates fiber debonding allowing fiber pull-out to occur during fracture. As mentioned, high fracture toughness is achieved through fiber pull-out, much like the fiber pull-out of wood when broken. When this carbon-carbide fiber/matrix interface is absent in the Compglas system, the composite exhibits low fracture toughness.

Sands' experimental findings indicate at elevated temperatures, in an oxidizing atmosphere, the carbide interface is chemically unstable. Reactions apparently enhance the mechanical bonding between the fiber and surroundings matrix making the pull-out mechanisms ineffective. This causes the composite strength and toughness to degrade.



Failure with fiber pull-out.

Interface Zone



A scanning electron microscope, energy dispersive x-ray analysis, powder x-ray diffraction and transmission electron microscopy techniques were used to study the microstructural changes in the heat treated fibers.

This work indicated at high temperatures oxygen reacts with the silicon carbide fibers to form a protective silica layer. This silica layer stops oxygen from further attack on the silicon carbide fiber. If the silica layer is not allowed to form, then the silicon carbide fiber will oxidize away to nothing.

In the ceramic composite, **when oxygen reacts with the fiber/matrix interface, the reactant products can effect the silica formation around the fiber leading to loss of the fiber.** This oxidation process must be considered when selecting a compatible matrix for silicon carbide fibers. Sands' work also indicated that water vapor affects the formation of the silica film during high temperature exposures.

Sands has initiated several new programs, using the results from his IR, to investigate tailoring the chemistry at the fiber/matrix interface to gain thermal stability. To Sands these new programs are very exciting and novel.

If successful, they will add a new dimension to the design and fabrication of ceramic matrix composites. He acknowledges the Technical Director and the Office of Science and Technology for support and guidance throughout this program.

MWR club renovation is underway in a significant way

By Heather O'Rourke

It's official—the Crews Rest Club is a thing of the past! Public Works is currently putting in long, arduous hours in the soon to be "new" club readying the electrical capacity for high energy lighting fixtures. While demolition on the interior is 90 percent complete, the renovation is just underway.

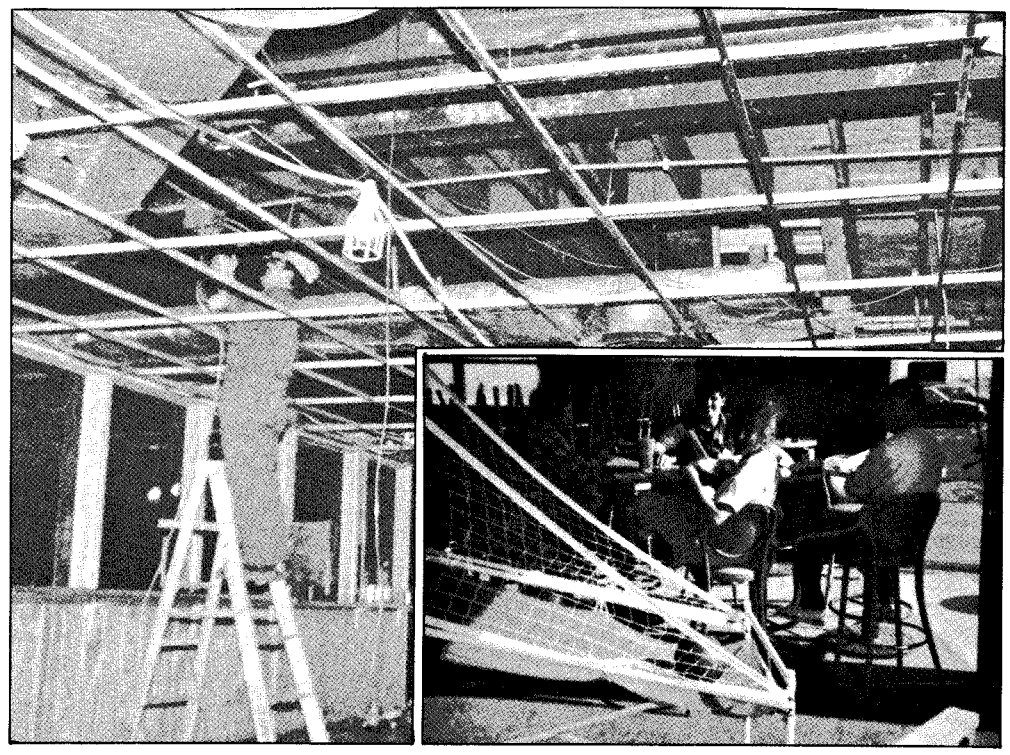
According to MWR Director Ron Brewer, "This is a massive undertaking, but an exciting one as well. I feel certain that when the NADC community sees what has been put into the club, they will be pleased and proud."

MWR is working closely with vendors considered to be tops in their field planning the day to day operation of the club and the grand opening slated for late spring.

All decisions on actual format, food and music are pending the completion of the focus group information. Over 200 randomly selected NADC civilian employees and 150 military personnel participated in the fact-finding mission led by MWR employees Greg Parker, Tammy Edmundson and Heather O'Rourke. "The NADC military and civilian in-put and participation in these focus groups is a critical element in the overall success of the club renovation," said Brewer. "We want to get it right from the beginning and want to serve what you want to eat, play the music you want to hear and be the kind of club you want to participate in and be a part. We can safely say we do have a strong feel for what NADC wants in the club and we will most definitely act on those desires," he added.

MWR would like to thank all of the participants in the survey and focus group process for donating their time and comments.

For more information on the club, call MWR Marketing at extension 2510.



Electrician prepares wiring for state-of-the-art lighting system as patrons enjoy themselves, elsewhere, in the converted auto club facility.

If the SOC fits

Personal gifts may be given under certain conditions

By Robert G. Janes

A letter in last month's Reflector questioned the "If the SOC Fits" column which appeared in December's issue. That column addressed the prohibition against the acceptance of gratuities from defense contractors, particularly as it involved holiday season parties.

The letter writer was concerned that this prohibition could be extended to some extreme circumstances, so that a Navy employee would not be able to accept a personal gift from a long-time friend.

That is not the case, and it is important to bear in mind that the prohibition extends to gifts from defense contractors and not necessarily the people who work for those contractors.

The fact that a friend or relative works for a defense contractor does not mean that a Navy employee cannot accept a gift from that person. The regulations specifically permit the customary exchange of gifts and gratuities between Navy personnel and their friends and relatives so long as two conditions are present.

For one thing, it must be clear that it is the personal relationship, rather than the business of the person concerned, which motivates the gratuity.

Secondly, the gratuity must be paid for by the individual and not by his or her company. So long as these conditions are met, it is perfectly appropriate to accept gifts from and attend parties given by friends who happen to work for defense contractors.

Women in Science and Engineering open tape library

Women in Science and Engineering (WISE) has announced the organization has established a reference library to be located in the Equal Employment Opportunity office. The library will loan career development materials on an as come basis.

It will stock a variety of video and audio tapes which will be available to all employees according to Lisa J. Cowles, the WISE Recorder. She says all employees may take advantage of these excellent aids to improving their career opportunities.

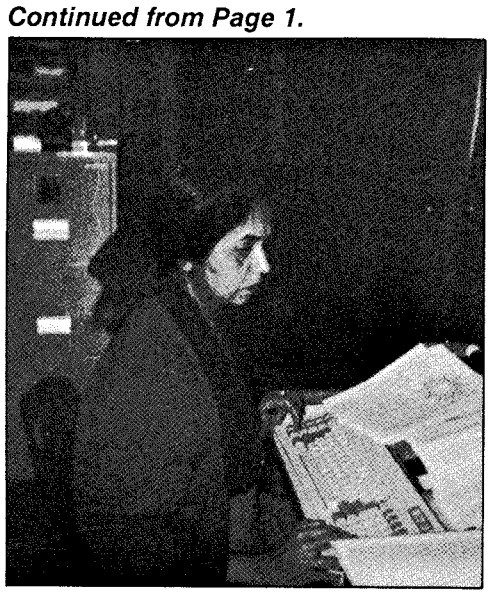
Presently, audio tapes are available with the following titles: Image and Self-Projection, Power Communication Skills, How to Deal with Difficult People, Salary Negotiation, Overcoming Procrastination, First-time Manager, How to Set and Achieve Goals, Leadership Training and How to Listen Powerfully.

Video tapes include, The Best of Career Track, Playing the Business Game - Survival Skills, Managing Change, by Dr. Dina Lichtman, Confident Public Speaking and How to Set and Achieve Goals.

"WISE plans to purchase more personal development tapes each year. If anyone has recommendations or has tapes they want to donate we will be glad to put them all together under one name at one place," said Cowles, ext. 1562.

Dr. Varma reaches Navy-wide R&D publishing pinnacle

Continued from Page 1.



Dr. Varma Asha working at home.

inductively coupled plasma atomic emission spectroscopy (ICP-AES) which she believes this is the analytical spectroscopic technique of the century. She says today, ICP-AES is the state-of-the-art technique and is the most frequently used method for multi-element analysis.

How did she manage to add authorship to her other responsibilities? She worked 18-20 hours a day; first, as a mother, a professional here, and then as an author. She gave up leisure weekends and vacations. Simply, she used any available time as best as she could to meet established deadlines.

But she readily acknowledges this was insufficient. She says everyone in her family helped in many ways and they, too, sacrificed to make her writing a family affair.

Her father, for example, typed 3,100 pages of her first book manuscript. When the author's courtesy copy arrived, he raised the book saying, "I knew that you could do it, I knew it." In response, Varma has dedicated all her books to specific family members whose support made her writing possible.

When asked what events stand out, she says the lowest point occurred when she lost her mother while writing the third book. She lost her focus and couldn't concentrate enough to meet the publisher's deadlines. Her daughter, Veena Agarwala, finally, encouraged her to seek extension and complete the work as her mother would have liked.

On a lighter side, she says the first thing her son, Vinay Agarwala did at Massachusetts Institute of Technology was to find her book in the library. He made a search and gave her a printout during her visit to campus. He said, "It's not that I doubted you, I just wanted to see what MIT thought of your book."

Her father, for example, typed 3,100 pages of her first book manuscript. When the author's courtesy copy arrived, he raised the book saying, "I knew that you could do it, I knew it."

She was flabbergasted when a Chinese Professor appeared and asked her to autograph a book on her visit to the Peoples Republic of China. Later, she was stopped at a professional society meeting and queried, "Are you the same Dr. Varma who is the author who works for the Navy."

Its been her desire to save chemists hours in data search and equipment set-up time which led her to publish more books than anyone else in the Navy-wide R&D community. Her desire to contribute to her kind of people continues to bring recognition to her and the Center.

It's bad news for her publisher but publication of her fourth book ends a stage in her career. After a respite, she plans to write books for children to stir their imaginations and creativity. She plans to begin by adapting works that have been around for more than a thousand years.

After a respite, she plans to write books for children to stir their imaginations and creativity.

Dr. Varma received her Ph.D. from Banaras Hindu University, India in 1963. She was the first woman selected as an Assistant Director of the Forensic Science Laboratory, India; had held postdoctoral fellowships at the University of Connecticut, Storrs.

She served as the Supervisor of Analytical Laboratories at the Laboratory for Research on the Structure of Matter, University of Pennsylvania and is a Certified Professional Chemist and a fellow of the American Institute of Chemists. She has authored over 50 research and technical publications.

Center hotline produces results for Center related allegations

By Lawrence L. Lyford

Posters and flyers around the Center promote using the DOD Fraud, Waist and Abuse Hotline, but, of equal importance, NADC has its own hotline for Center-related allegations. Responsible for this one is Ron Kabin, Head of the Command Evaluation Program Office.

"Our hotline receives more calls pertaining to Center problems than the DOD, Navy IG, and SPAWAR Hotlines combined. That's the way the program is supposed to operate," said Kabin. "Over the past year we received an average of four new cases a month from our internal hotline compared to only two for the entire year from higher level hotlines."

According to Kabin, we have a very high success rate with callers who are serious about resolving a legitimate problem. Many cases require follow-up said Kabin. However, that is not possible with one time callers who do not provide a way to establish contact again. "We don't have to know who the person is, but we need to have continuing dialogue if we are to get all the facts and provide a timely resolution to the problem." "Also," he stressed "callers may identify themselves when making the allegation and be guaranteed their identity will not be disclosed if they request anonymity."

It's good to know that we have concerned people watching out for the government's welfare. "On occasion, we receive calls reporting perceived rather than actual problems," Kabin said. "That may be because of one not having complete understanding or knowledge of an operation or a regulation. We can always provide an immediate explanation directly to the individual to satisfy his or her concerns except when allegations are received anonymously. Regardless of how they are received all allegations are reviewed and corrective action initiated, when required."

In those instances where a case involves alleged wrongdoings of an individual seeking personal gain, neither internal nor external hotline personnel may divulge punitive actions to a caller.

Depending on the severity of the offense, personnel who have been found guilty of improprieties disclosed through the Center's hotline program have been fired, allowed to retire immediately if eligible, reduced in grade, suspended without pay, given letters of reprimand or caution, or have received verbal admonishments or warnings. In addition, financial restitution is generally required. It should also be noted that contractors, as well as military and civilian personnel, are subject to the program.

While everyone's privacy must be protected, Kabin was able to provide these examples of some of the kinds of offenses and their resultant penalties identified through the Center's Hotline:

Improper use of the Central Computer System by a contractor employee which required the individual to make $8,000 financial restitution to the Government.

Using Center resources for copyright infringement of commercial publications, coupled with travel claim falsification and fraudulent timekeeping entries resulted in a Center employee being fired.

The use of Center personal computer resources for a private business in addition to falsification of timekeeping entries resulted in a Center employee retiring early.

Travel claim falsification which included submitting bills to the government for cars and rooms for relatives. In addition to making financial restitution, the individual was demoted and retired early.

Unofficial use of a government telephone for numerous personal calls which included running a private business during working hours. In addition to making financial restitution for the calls, the employee was suspended for 30 days without pay. A letter to this effect will remain in his personnel folder for the remainder of his federal career.

When asked about the frustrations of the program, Kabin responded that "there are some individuals who try to use the Hotline for personal gain by attempting to discredit others. These individuals do not really care about the Center, nor are they intent on trying to resolve an operating deficiency, but rather they are trying to see what kind of problems they can create for others.

Generally, it doesn't take long to identify the situation. However, according to our charter, we must conduct a thorough investigation since there is always the possibility that there is some truth to the allegation. In addition, it is difficult for us to take action against chronic abusers since they may claim the action is, in fact, retaliation against them as whistleblowers.

What usually happens in these cases is that a higher authority hotline investigator gets involved. When he or she, too, recognizes the situation for what it is, corrective action is initiated to ensure that the offending employee does not continue to use the Hotline inappropriately."

As for the value in operating the Hotline, Kabin said "It is reassuring when people come to see me before initiating action that could lead to problems. While they may not receive the answer that they want to hear, at least they know there is someone to listen to their questions and discuss their options."

Of those individuals who have already violated a rule or a regulation, Kabin said "People do wrong things for reasons which are not always obvious. We try to determine the reason for an individual's actions so that he or she may receive the required help, regardless of the offense.

In addition, we make an assessment of existing controls to ensure adequate deterrents are in place to prevent others from violating the system. "When we provide alternate choices to those who previously felt there was no where to go for assistance, and when we prevent others from making the same mistakes, the Center benefits in the long-run. At this point the Hotline is accomplishing what I believe is its true objective: helping to keep honest people honest," added Kabin.

"Individuals may call ext. 3033, write Code OOR, or visit the office to report a Center problem. They can also phone the Center Hotline Recorder on 441-3015 which operates seven days a week 24 hours a day. If they do not feel that the Center has responded properly to the allegation following a review, they can phone the SPAWAR IG on AUTOVON 332-1000; the DOD Hotline on AUTOVON 223-5080; or the Navy Hotline on AUTOVON 288-6743 to discuss their concerns further," Kabin concluded.

Department of Defense Hotline saves $100,000,000 in eight years.

By Lawrence L. Lyford

"The Defense Hotline program has resulted in $100 million in savings over the past eight years," according to Benjamin J. Simon, the Department of Defense Hotline Director. "Continued success depends upon insuring continued awareness of the program by service members and DoD employees."

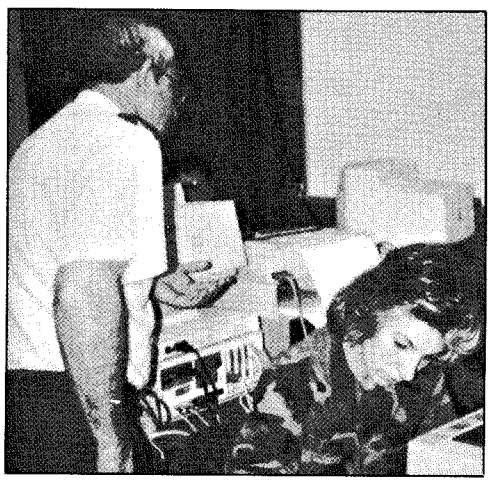
The hotline is one of a number of channels available to members of the military and general public to seek resolution to fraud, waste, abuse and mismanagement which they perceive to exist. The Secretary of Defense has directed the services remind members and employees of the hotline program to emphasize the President's and his personal commitment to reduce fraud, waste, and mismanagement in Defense programs.

The Defense hotline has received over 75,000 communications and 14,500 substantive complaints. It has resulted in documented savings averaging $22 million each year of its existence.

"The hotline has identified instances of product substitution, falsified test records and defective material that could have endangered the lives of our military personnel," according to Secretary Cheney. "The protection, of those who call or write the hotline against identification or retaliation is a cornerstone of the program. Reprisals will not be tolerated.

Hotline telephone numbers are 800-424-9084 and AV 223-5080. Mail may be addressed to the Defense Hotline, The Pentagon, Washington, D.C. 20301-1900.

Center helps Army Reserve soldiers during mobilization



Maj. Saeed Khawaja instructs class.

By Lawrence L. Lyford

For two years NADC has been helping the local Army Reserve train its soldiers on the use of their Zenith 248 computers on weekends when the computer training room, the Blue Room, is not in use.

The Army Reservists supply the course material and the instructors. Maj. Saeed Khawaja, (Code 3032 as a civilian) the officer in charge of training says, "Using these facilities prevents the reserve from transporting unit computers by private auto to each class. Every move like this risks damage to the machines the units depend on."

Khawaja creates the training program. He selects the designs the courses to be taught, develops the lesson plans, trains the instructors and monitors each of three training sites.

The classes presently teach basic DOS, word processing, spreadsheet and a specialized utility program based on PC-FOCUS.

"What the Center is doing for us is really appreciated particularly since one of the sites has lost all but four computers to Desert Storm activities," revealed Tom Collins, the civilian who heads the department for the Army Reserve on a full time basis. "We are loaned good training facilities and don't damage our equipment relocating it."

Sgt. Rush ponders new material.

Federal Women's Program plans active year

This year in honor of Women's History Month the FWPC will sponsor a presentation on "Two Career Families" by Jan Radabaugh of Bucks County Community College. In addition, Julia Cummings will speak on "Handling Stress with a Sense of Humor" at a buffet luncheon. The video "One Fine Day", a bulletin board display, and other events are also being planned.

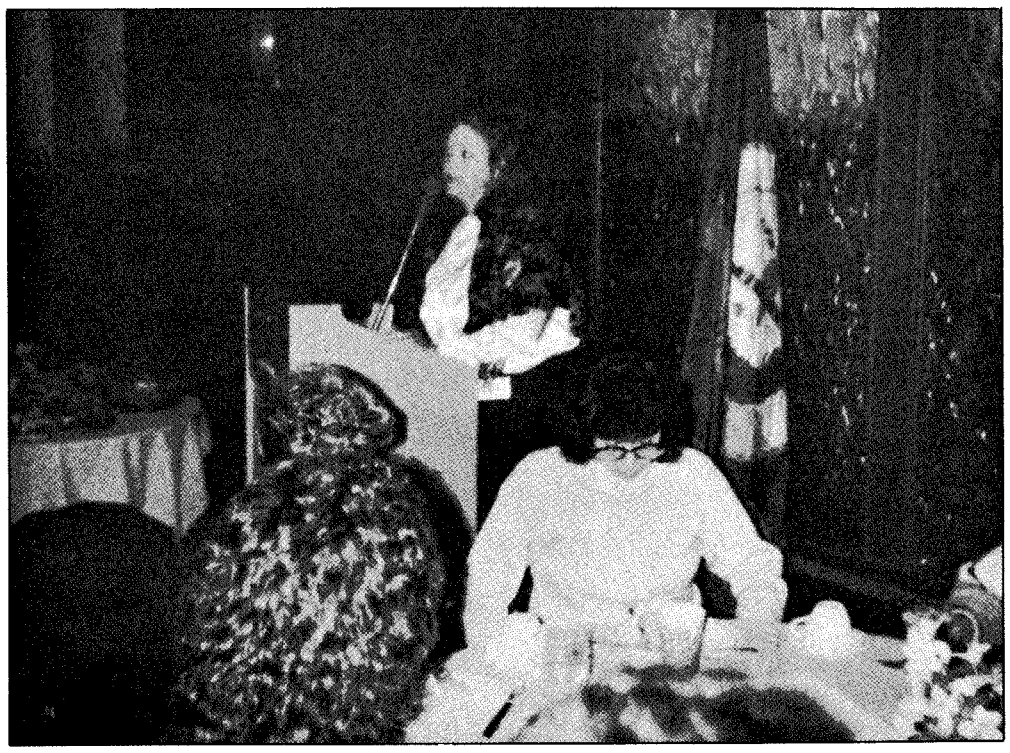
The Federal Women's Program Committee (FWPC) is organized under the guidance of the Equal Employment Opportunity (EEO) Program, serving in an advisory capacity. The committee may, according to its by-laws, study any programs affecting Center women or sponsor events which will enhance the Federal Women's Program. The program's primary goals are:

1. To end sex discrimination and prevent sexual harassment;
2. To increase job opportunities;
3. To increase educational opportunities; and
4. To become involved in the community.

The FWPC is comprised of members from each department across the Center. This year, under Chairperson Margaret Russo (Code 6062) and Vice-Chairperson Elaine Picard (Code 1012), the FWPC will focus on balancing career and personal life by presenting a networking series on topics of interest, as well as other enriching programs and functions.

The highlights of the year are the commemoration of Women's History Month in March and the celebration of Women's Equality Day with luncheon in August.

The FWPC meets the third Wednesday of every month at 1030 in the Walnut Conference Room. If you are interested in what we do, we invite you to attend our meetings (with supervisory permission). Or, send your question or comments to the FWPC Chairperson or the Federal Women's Program Manager (Code 03E).



Gerry Keenan, Code 033, recently spoke on special work opportunities at a Federal Women's Program event.

Two "Scientists at Sea" experience shipboard life at sea

By JO2 Michael Deledonne and Lawrence L. Lyford

"I wasn't sure what to expect, said David Lewandowski, from the ASW Systems Department. I only had a vague idea about what our mission would be. I hoped that our experience would include some aspects of antisubmarine warfare." Stephen Cloak, Jr. Code 1043, wanted to know how equipment is used in the Fleet and what it's like being on a ship for an extended period of time.

Both were participating in the Scientists at Sea Program which places scientists and engineers on board various U.S. Navy vessels and exposes them to various aspects of Naval operations in an attempt to orient them to real-world conditions typically not existing a Navy Laboratory environment.

"Before our arrival at the USS Boone, I had only a vague idea about what our mission would involve, —'Helo Ops'. I hoped our experience would include some aspect of ASW: exercises, wargaming, system testing, etc., and was prepared to be involved in some related capacity. Maybe, I would observe a specific problem, acquisition/analysis of experimental data, noting the effectiveness of voice coordination on target acquisition rate, or perhaps some other avenue of investigation that required fresh eyes."

As it turned out, they served as observers during training exercises for pilots, consisting of RAST Landing Qualifications (RLQ's), Deck Landing Qualifications (DLQ's) and Helicopter IN-Flight Refueling (HIFR's). "Although my first reaction was that this sounded somewhat nontechnical, soon after my initial exposure to the ship, **I became impressed with the overall magnitude of the ship's complexity and realized the observation of these seemingly routine exercises could provide a noteworthy experience to someone totally unfamiliar with the ship's operations, as I was,"** said Lewandowski.

The first day, Lewandowski and Cloak observed RLQ's. "The DLQ's consisted of RAST recoveries. The helo is actually winched aboard from hover above the deck. But a problem with the RAST system caused the cable to break away from the helo connector when cable slack was taken up and tension applied." said Cloak. "Watching pilots requalify at night deck landings was extremely interesting and somewhat nerve wracking to watch. The word 'Rodeo' came up a lot." Lewandowski suspected weak pin/tensioning system problems.

The second day, the 400 Hz power converter failed a second time. Lewandowski watched the technician perform the corrective maintenance for four hours and Cloak noted how the 400 cycle power failure affected the roll stabilizers. Both had an extensive tour of engineering spaces such as the gas/power turbines, gearbox, rudder control, diesel engine, and gas/oil purification equipment.

That night both witnessed the space shuttle during launch. "From the pitch black starboard bow deck we clearly saw the separation of the Solid Rocket Boosters as glowing dots to the naked eye. It still proved to be spectacular." said Cloak.

"We observed firsthand, the frustration every crew member felt during periods of equipment failure and weather delays. It became apparent having tasks interrupted by various breakdowns was not conducive to sustained, positive morale," said Lewandowski. "I thought of possibilities to improve the general deck landing situation."

"To determine the readiness of the RAST system, an inexpensive metal cable capture box similar to the RAST cable capture device found on the SH-60 could be developed to 'preflight' the RAST system which normally is reliable."

"The LSO relies on visualizing an imaginary line descending from the helo's retaining pole in order to direct the pilot. An inexpensive, low-powered laser pointer could be mounted along the axis of the helo's RSD mast to provide a clear indication of the helo's position above the critical point."

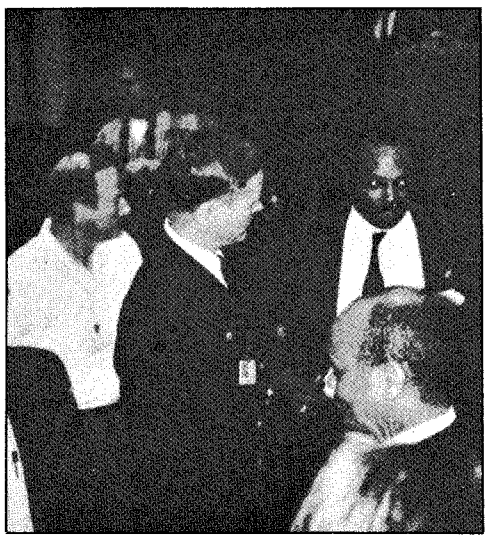
Cloak remembers a tour given by PO1 Glascock, "He was obviously proud of his ship and explained all the systems encountered from the main control room to the seal at the point where the screw shaft pierces the hull. We even entered the compartment where the GE gas turbine engines were mounted."

Lewandowski found many aboard the ship were interested to learn more about the Center's activities. "Hopefully, we encouraged further investigation of Center career opportunities." Lewandowski observed the crew seemed personally disappointed when some of the systems would periodically fail. **"I decided I would be well advised to hold Readiness and Maintainability equivalent to functionality when I become involved in a project resulting in a fleet-deliverable system."**

"I highly recommend this program to anyone. If you need someone to fill a slot, let me know. I'll gladly go again."

According to Dr. Dick Bromberger, who heads Fleet Interface Office, the opportunity to visit ships helps NADC civilians understand the Navy better. "It gives our folks an idea of what the Navy does. Sometimes there's a huge disconnect between what Center civilians believe happens in operational environments and what actually does."

Black History Month Celebrated at Center



Captain Winters converses with guest speaker.

By James M. Ferguson

The Center's celebration of Black History Month in February was very successful. All of the scheduled events, sponsored by the Black Interest Group (BIG), were outstanding, according to BIG chairperson, Maureen Sullivan, Deputy EEO Officer, Kathy Gause, and most Center employees who attended them.

The three episodes from the award-winning "Eyes On The Prize II" documentary series received good reviews from Center employees. These episodes focused on the brave men and women who helped lead America's civil rights movement.

On February 6th, Center employees lined up for samples of traditional African-American foods. BIG members volunteered to prepare and serve both familiar and novel dishes to enthusiastic, not to mention hungry, Center workers.

The next day featured NADC Commander, Captain Curtis J. Winters, Technical Director, Guy Dilworth at the speech of Mr. Major L. Clark III, Corporate Senior Vice-President of the Maxima Corporation.

Clark replaced the scheduled Joshua I. Smith, Chairman of the President's Commission on Minority Business Development and Chairman of the Board and CEO of the Maxima Corporation who had a death in the family the previous evening. Mr. Clark gave an informative and thought-provoking speech.

The Charles Belcher Choral Ensemble performed rousing renditions of "The Star-Spangled Banner" and "Lift Every Voice And Sing" prior to Captain Winter's short speech on Historically Black Colleges and Universities (HBCU's) and an introduction of Mr. Clark.

On February 22nd, Philadelphia's Simon Gratz High School Choir gave a stunning one hour performance of gospel hymns before a very appreciative audience who rose for several ovations.

The Black Interest Group thanks all members and employees who helped with and/or attended the various events.

Combined Federal Campaign meets Center's goal

By Margaret Vigelis

The Center's Combined Federal Campaign (CFC) successfully concluded its 1990 fundraising efforts on November 20. According to Larry Lake, Code 4041, the Center's CFC chairperson, NADC raised $128,551. This does not include $600 contributed by Lockheed, a contractor at the Center.

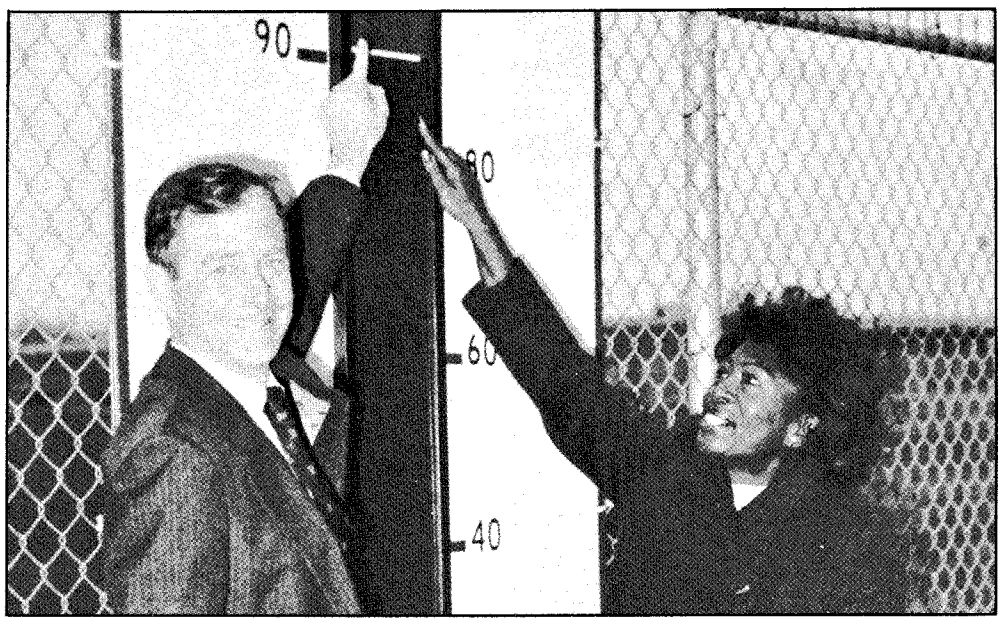
Lake was especially appreciative of the many individuals who helped make this possible. "The department chairpersons, and the keypersons who assisted them, were invaluable. Without their efforts a successful campaign would not have been possible."

Such people as Bettie Simpson-Lawrence, who provided the CFC "corporate memory", made his job easier, as did John Booterbaugh and Joseph Kulsicavage from Keystone Computer Associates, Inc.

They gave tirelessly of their own time, including holidays, to devise a computer program to track the campaign's progress.

Lake commented that while all the departments did great, three in particular should be commended for exceeding their previous year's contributions: the Computer Department, chairperson Beth Shadday; the Tactical Air Systems Department, chairperson Annmarie Burke; and the Air Vehicle and Crew Systems Technology Department, chairperson Donna Aragon.

On behalf of the 635 charities involved, Lake thanks everyone who contributed. "You can be assured your gift will make a difference in someone's life."



CFC Chairperson, Larry Lake and Bettie Simpson-Lawrence point to sign of success.

Shenandoah Woods Youth Center Summer camp coming soon!

By Heather O'Rourke

What will your child be doing this summer? Shenandoah Woods Youth Center, located in the NADC Housing Area, has an excellent summer day camp program for youths five through 12 years of age.

Why worry about arrangements a few months from now when you can make plans today to have your child spend the summer with us in a fun, stimulating and rewarding camp setting.

The program will be open to dependents of NADC and NAS Willow Grove military personnel, other military personnel residing in Shenandoah Woods and all NADC civilian personnel.

The eleven week fun camp will begin on June 17, and run through August 30. Hours will be from 8:00 a.m. to 4:30 p.m. Extended care is available for an additional charge half and hour before and after these times.

For the first time, Red Cross Swimming lessons will be offered as an option for campers at the beginning of each camp session for an additional $15.00 fee. Three sessions will be offered.

For more information call Trea Kelly, Youth Center Director, ext 2510 and read next month's reflector for additional details.

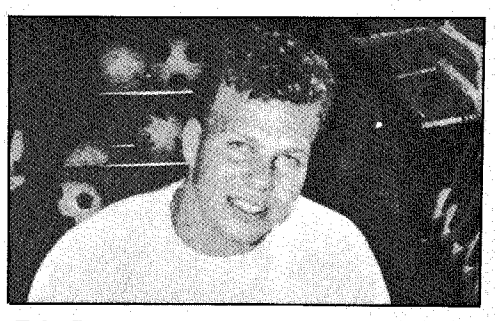
Morale, Welfare and Recreation now has three new faces

By Heather O'Rourke

Morale, Welfare and Recreation (Code 045) has added three recreation professionals to their staff. Eric Benner is now supervising the Fitness Center, Gear Issue and Auto Hobby Shop Operation. Tammy Jo Edmundson and Greg Parker have joined MWR as Program Specialists.

Eric Benner is no newcomer to a fitness facility having worked out for the past seven years. Eric attended Millersville University for 2 1/2 years, where he played Rugby. He has also handled lifeguarding responsibilities at Nockamixon State Park for three years. Eric's interests range from tennis, swimming, diving and biking to old classic cars.

MWR is pleased to have someone as customer-service oriented as Eric and invites you to stop by the Fitness Center to meet him. Let Eric set up a fitness program tailored to your personal goals.



Eric Benner

Eric hails from Upper Black Eddy, Pa. His father, Paul Benner, works at NADC as an aerospace engineer. His mother, Jackie, is also a NADC employee in the Personnel Division.

Tammy Jo Edmundson, a Lock Haven University graduate with a BA in Speech Communications, brings to MWR extensive expertise in promotions and public relations gained through her work with the Huntington County Tourist Promotion Agency. She also worked for the Huntington Borough as a playground supervisor creating youth programming, fund raising, and spearheading community-awareness drives.

More recently, Tammy worked for the Intelligencer/Record newspaper as a Traffic Supervisor handling the planning and space requirements for the news and advertising departments. In addition, she acted as the liaison between the numerous departments and the publisher.

According to Tammy, "I am very thrilled with the opportunity to work for MWR and am excited about the challenges ahead of me."

Tammy Jo Edmundson

Tammy is originally from Huntington, Pa.

Greg Parker was born and raised in Warminster, Pa. After graduating from William Tennent High School, he earned a BS in Education from West Chester University.

No newcomer to MWR, Greg worked for over 6 years at NAS Willow Grove in their MWR Division. He started out as a lifeguard in 1984 and moved up to the pool manager position, which he held for the last three years. He also served as the Head Coach of the Navy Youth Swim Team since 1985. Most recently, Greg has assisted the Willow Grove MWR Division with their fitness center operation.

"I am looking forward to working here at NADC and providing events for everyone of all ages to enjoy," said Greg. "This is an exciting opportunity and I really can't wait to start getting involved and meeting new people."

MWR is pleased that Greg has turned his career goals from Education to the numerous opportunities available with Morale, Welfare and Recreation.

Tammy and Greg can be found in Building 99, Gate 33 or call MWR Marketing at extension 2510. Eric is located in the Fitness Center, adjacent to Building 99. He can be reached extension 2169.

MWR has exciting plans, programs and ideas in the works for 1991. We look forward to your input and participation.

Greg Parker

Morale, Welfare and Recreation has "Mission: IMPOSSIBLE!"

By Heather O'Rourke

MWR invites you to accept this mission: find 10 or more items related to Saddam Hussein in the MWR Scavenger Hunt on March 22. Beginning at 7 p.m. in the temporary club in the Auto Hobby Shop, two teams of 15 players will be presented with maps, photos and clues and briefed on their "mission" for locating specific items within the designated area.

Teams will be driven in vans by MWR staff armed with cameras to record their "finds." Two hours later, the teams will report back to "headquarters" and debrief their "superior officers."

The team earning the most points for the most items found will win Saddam Hussein T-shirts and a free round of beverages. Sustenance will be provided on the vans to ensure stamina for the successful completion of the mission!

The scavenger hunt is open to all 18 years old or older. There is a $5.00 per person advance fee. For registration and information, contact Tammy Edmundson at ext. 2510.

Collector Desert Storm T-Shirts are available

By Heather O'Rouke

Morale, Welfare and Recreation is selling original, exciting Operation Desert Storm T-Shirts. Unlike mass-produced items available all over the country, the shirts are available only at NADC.

Imprinted on both sides, these T-shirts are unlike any you've seen. MWR staff is selling the shirts for $7.50 each. Proceeds assist active duty military and their families. For more information, call MWR Marketing, ext. 2510. T-shirts are on display on the MWR bulletin board in the hallway across from the cafeteria.

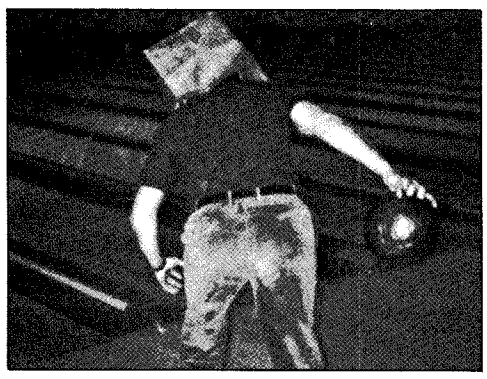
Team has a typical night at NADC Men's Bowling League

By Dave Gauntt

It's a typical Tuesday night after bowling. I'm depressed. Not that I bowled badly, mind you; I was 50 pins over average and won all my individual points. It's not the comraderie at the alleys either. My team's a great bunch and the opposition a friendly sort and good sports. We swap some jokes, hit on some sports or topics of the day and down a brew or two. So, what's with the gloom.?

Could it be the team's modus operandi? Our team has a penchant for folding the tents and dispersing at about the eighth frame. No lead is safe. Tonight, for example, we held a commanding lead at the three quarter mark of all three games, finishing each game with a team total of three marks for the last two frames. This effort was duly rewarded with two losses, out of a possible three, to a team that never approached its team average all night.

How could this be done? The answer is, "In every conceivable way." Take the last game. Our lead-off bowler has a double going into the ninth. A gutterball and an eight pin follow-up neatly erase that effort. The second man splits, and our number 3 slides one by a "head-



Dutch Krauss "bagging a strike".

pin stinger" for the third open. Four man spares, then our anchor pulls the spare attempt, but a very slow rack allows a miracle.

The tenth frame starts with that tough little spare, the 1-3, being missed by barely a foot. Our Number 2 gets a ten-pin stinger and channels the conversion effort at mid-court. Our third man fogs up on how to get lift and slides by the spare attempt. The four man spares, to save the possibility of a win, and sets the stage for the anchor to do his thing.

Working on a spare, a double and a good fill will ice it. The first ball careens off his leg with more spin that you could amass with a Lawn Boy starter rope. The seven pin is picked cleanly. So much for the spare in the ninth. His second ball runs true and converts the spare but the game is history.

Total pins are still in the balance, however. Ten pins to win or nine to tie. Exceptional care is taken not to hit the leg again, to the detriment of concentration on the mark, which is missed by a full board and a half, sending the team quickly packing. Comraderie wears thin about this time.

Just one of those nights? Nay, it's typical - for six years now. The lead roles change, but you can make book on the outcome. We even won the first half last year, but we fooled no one. True to our code we finished the second half 71 games off the pace and performed accordingly in the roll-offs. Could this cause tail dragging on Tuesday nights? May "The Farce" be with you.

Phil Richardson, Mike Bubb, Dutch Krauss, Nick Travto, Chuck Halko, Dave Gauntt and Bill Schork smile at it all.

Mixed Bowling League news

New Year's resolutions — most broken already

By Tom Reiter

High Time -"We're going to be bringing **Jerry Guarini** back any day now".

Rolling Thunder - **George Delisi** will be bowling every week this half.

11'th Frame - **Kathy Sedlock** will ease up on the rest of us mortals.

Red Winos - **Eileen Dobrowolski** will be on time every week.

Nine Pins - **Rick Stickney** will keep trying to outscore his wife **Linda.**

Spare Us - **Donna Morgan** says that they *will* sweep both halves.

Les Champignon - **Dave Oliver** will master the left side of the alley.

Destroyers - **Lorrie Wallace** will make sure everybody finishes bowling before the 9 o'clock league starts.

Alley Cats - **Kevin Ryan** will bring his own score sheets since the automatic scorekeeping Leprechan always blanks out his computer screen.

Goofers - **Leo Markushewski** won't needle **Al Knobloch or Tom Reiter.**

From The Gutter - Will schedule **Denise Eck** for more bowling.

Warveyhallbangers - Will find a way to quiet down **Mike Lizbinski.**

Magic Markers - **Jeff Irvin** will help **Larry Sicher** shoot spares.

Pinguins - **Debbie Wood** will not have a birthday party at the lanes this year.

Oh Split - **Frank Yelinek** knows he will be able to schedule twelve people to bowl an equal amount of games during the season without needing any asprin.

Bullshooters - **Ed Scholl** will get **Bill Halpern's** average up to 170.

Dynamic Duos - **Nick Doto** will not be the last team finished (the next league doesn't mind waiting).

Lucky Strikes - **Bob Gindhart** will try to pay for his bowling with the Government Credit Card.

Screwballs - **Jack Horning** will face all his bills in the same direction when he pays the treasurer each week.

Ten Pinners - **Joe Emperly** will let his wife **Jacque** beat his scores at least twice this half.

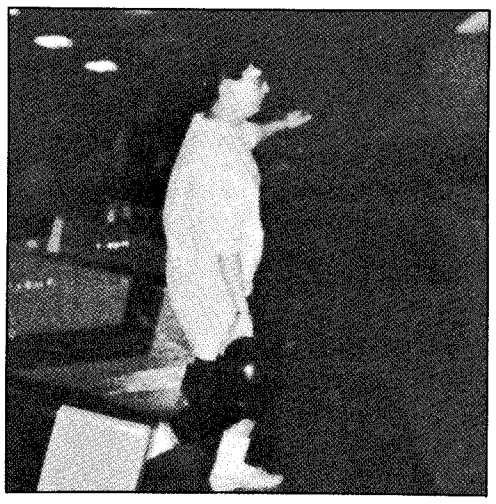
Steve's Side Show - Will get a real name for their team next season.

Big Spenders - **Neal Polin** says they will get in first place early and stay there.

Ten Pins Standing - **Danny Chun** said that he only named his team that as a joke, he resolved that they would throw the ball, turn around, look back and hope that ten pins were not still standing.

Gutter Duster's - **Wes Gleason** reasons that with all their talent no one will catch them, but they **are** looking up at a lot of teams in the standings.

Art Duhaime, "I hate this game!"



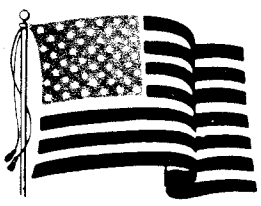
Gina Fowler launches ball.

Fun Run to be held this March

By Heather O'Rouke

Welcome the warmer weather with a 5K Fun Run hosted by Code 031, the Wellness Program, and MWR. All NADC active duty military and their dependents and NADC DoD civilian employees are encouraged to participate in this FREE event scheduled for March 14.

Advance registration is recommended, however you may register the day of the event beginning at 11 a.m. in front of the Auto Hobby Shop, Building 99. All participants will be eligible for awards and refreshments will be provided. Age groups will consist of: Male-19 and under; 20-29; 30-39; 40-49; and 50+. Females: 30 and under and 31 and over. For more information, contact Greg Parker at extension 3220.



Several Center employees plan to experience WalkAmerica

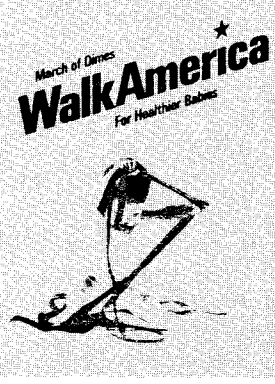
By Lawrence L. Lyford

Several Center employees are actively supporting WalkAmerica of Bucks County in an effort to help the March of Dimes in its campaign for healthier babies.

Marcela Pisano, Volunteer chairman of Lower Bucks County WalkAmerica invites others to join the spirit by registering with the forms available at display sites around the Center. Interested people may also contact one of the NADC team captains; Teri Reis, Code 1041, Ext. 1505; Carole Preston, Code 70M, Ext. 2764. Volunteers also are welcome from other codes according to Pisano. "Anyone interested may become a team captain, register participants, staff checkpoints or help in numerous other ways by calling me at Ext. 3529."

A NADC Teamwalk is scheduled for April 28, 1991 at Lower Bucks Core Creek Park. "The visibility and positive image attending Walk America will make a sound investment for NADC," according to Pisano. "Who knows, family, friends or co-workers can come for fun and win prizes or even a 1991 Honda."

"Most of all we want to help education and research programs directed at more than 3,000 conditions collectively termed birth defects.



NADC Reflector

In This Issue
–Center supports war
–Patents increase
–Daughter writes song
–Safety awards given
–Stilo helps Center

Volume 36 Number 4 NAVAL AIR DEVELOPMENT CENTER, WARMINSTER, PA. April 1991

NADC proposed for realignment; Commission to decide fate

By Jim Kingston

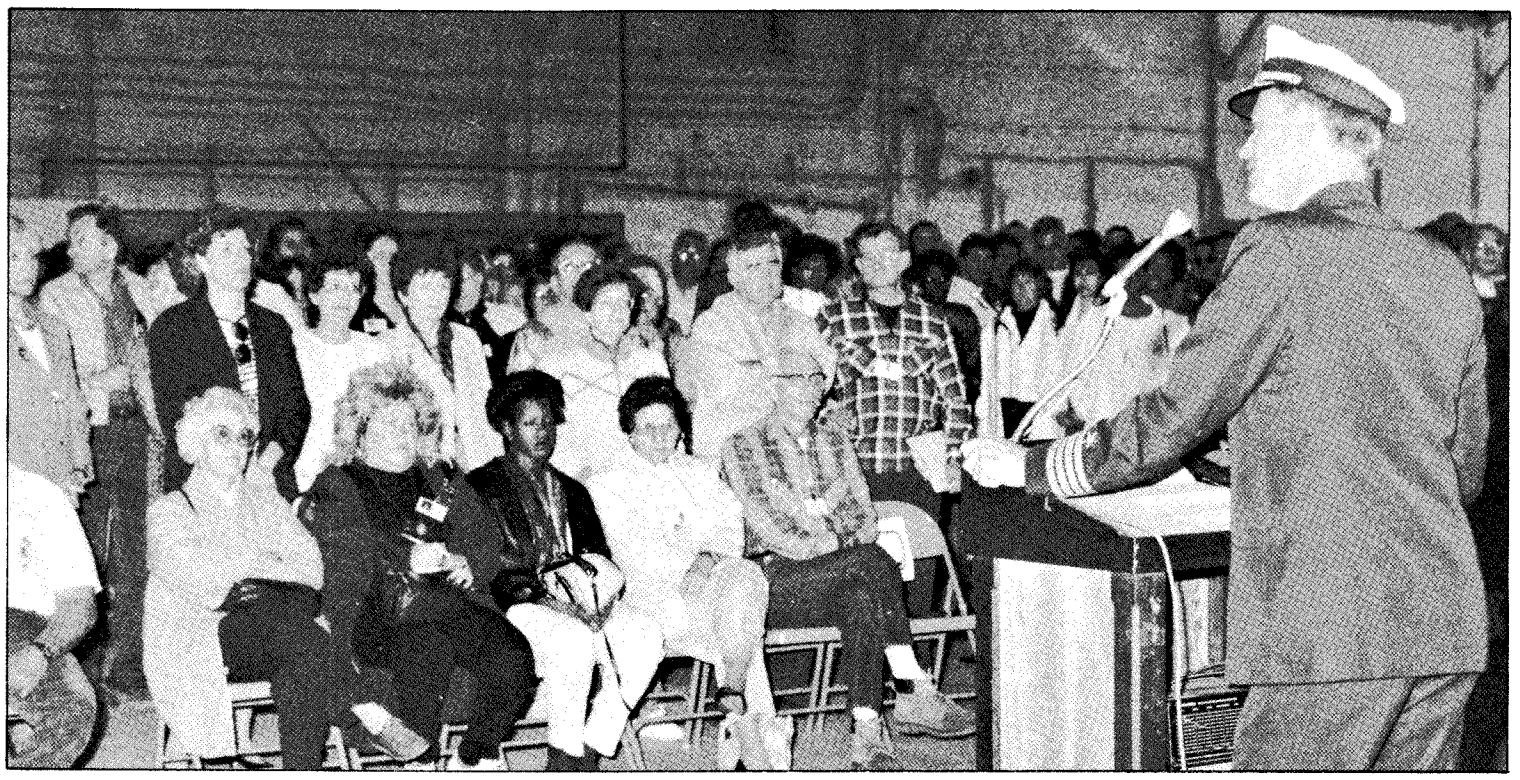
Hundreds of Center employees huddled around television monitors at 1400 on Friday, 12 April as Defense Secretary Dick Cheney formally made public the list of military bases recommended for closure or realignment.

Viewers were left puzzled since Cheney did not give a litany of the recommended bases. The list had been previously made available to the Pentagon press corps who were his primary audience — and the only ones who knew which names were on the list. As a result, members of the local media got blank stares from some employees when asked their reaction to the announcement. The official announcement to our employees was made later by Captain Winters and Guy Dilworth in a series of sessions available to all.

Warfare Center proposed

By now, virtually all of you know the recommendations delivered to the Base Closure and Realignment Commission as they concern the Naval Air Development Center and other Navy Labs. If approved, they call for the establishment of a Naval Air Warfare Center (NAWC) headquartered at Washington, D.C. with its Aircraft Division located at the Naval Air Station Patuxent River (Pax River). This new command will encompass the functions of NADC, NAPC, NAEC, NWC, NAC, and other facilities, all of which will operate as part of its Aircraft Division.

Over the next 4-5 years, certain functions of NADC and the other centers are proposed to be transferred to Pax River. Naturally, as functions are moved, personnel will also move.



Captain Curtis J. Winters, Center Commander provides available information on proposed realignment and answers questions from employees.

Photo by Robert Goodyear

Commission must approve

The proposed list is now before the Base Closure and Realignment Commission for its review. Public hearings are being held and it is expected that some of the commission members may even visit certain sites as part of their investigation and decision-making. These commission hearings are the only window of opportunity for any changes in the composition of the list. Once the list leaves the Commission with its recommendations, the President and Congress may accept or reject it in its entirety — no additions or deletions may be made.

Two other driving forces

In addition to the realignment, two other pieces of legislation mandate downsizing within the naval establishment. The Budget Enforcement Act directs a 21 percent reduction in the Navy's Total Obligation Authority between 1990 and 1995. Added to that is the Defense Authorization Act which calls for a 20 percent cut in our Acquistion Workforce over the five years beginning October 1991. This alone — exclusive of any realignment or consolidation — can reduce the Navy laboratory community's overall work force by as much as 13,000.

Hotline still open

We will attempt to keep Center employees well informed here, however, this publication is not in the spot news arena. For day-to-day information, branch, division, and department heads will pass on information given them. A "Hot Line" was established in Public Affairs a couple of years ago and, although little used, it is still operational. The number is extension 3088.

Center Supports nation's victory in Persian Gulf War

By Lawrence L. Lyford

Following the August 1990, Iraqi invasion of Kuwait, America began preparing for a desert war. In appears now, NADC received more missions than any other Navy laboratory. Adapting current systems to meet these new demands, NADC delivered reconnaissance and protective equipment to the fleet in just months. Proven systems, such as TARPS, were upgraded and deployed to the Fleet as well.

To aid in maintaining a low institutional profile for security reasons other contributions were not mentioned with one exception. Only the Chemical Biological (CB) work was covered. It was better for all concerned that the enemy understood the futility of CB attack.

The following is brief outline of major contributions of the Center to the victory in the Gulf.

Chemical/Biological Protection

As covered in the February issue of the Reflector, NADC developed all CB protection for tactical jet aircrews in the Gulf War. Previously, the Center developed protection for the Marine helicopter aircrews.

In response to the urgency of the Gulf Crisis, the Center, in just weeks, procured all necessary equipment, performed laboratory and flight tests, assisted with flight tests at the Naval Air Test Center (NATC), trained Fleet Tiger Teams, prepared technical manuals, assembled and shipped complete ensembles ot the war zone.

Laptop Image Transmission Enhancement System

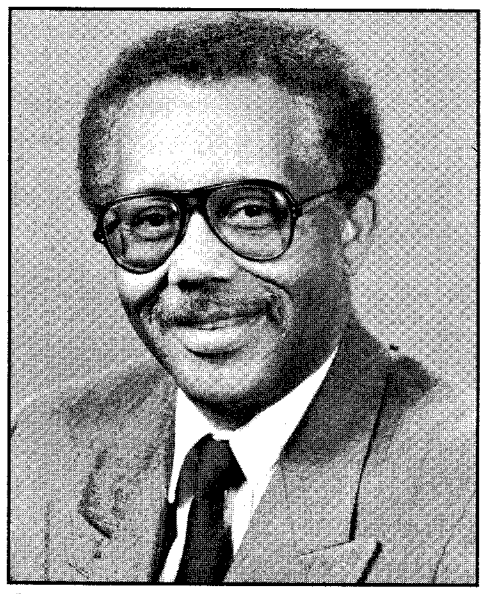
LITE is a portable reconnaissance camera system. It was used by Marine ground reconnaissance forces successfully throughout Operation Desert Shield/Storm. NADC developed, produced, shipped and supported all LITE systems deployed and received high recognition within the Marine Corps as a result.

continued on page 3.

Mike Mocenter, Oliver Wallace and Tom Briggman take a break from working to support Desert Storm to demonstrate the support by hanging support flag.

Command Corner

Captain Curtis J. Winters
Center Commander

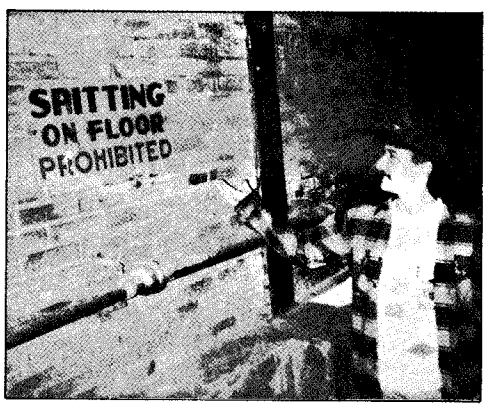


Guy C. Dilworth, Jr.
Technical Director

Letters to the Editor

I am curious about what the origin of the sign "Spitting on floor prohibited." It's near the ramp in Building 2. Was there a big problem with people spitting on the floor at NADC at one time?

Al Kaniss



Al, You've joined a the elite of those who seek answers to what others ignore.

I am told the sign is from the ancient Brewster days. Could be, back then, spitting caused numerous injuries. Maybe, only one slipped and the sign exists as a memorial to his injury and wet bottom. Perhaps someone can petition to make the sign part of a **Pennsylvania** historical registry.

The safety people confirmed spitting is not a problem there. Never was — as far as they know. However, they heard tell of a tobacco chewer who used to spit on or near a sidewalk in that area. Several female employees complained that even heavy rains only added streaks to the little brown clumps that looked like something else. Tracked down, this infamous spitter readily agreed to make his deposits elsewhere.

Similar to you, in the 1950's, a young Russian captain asked why two military academy guards were posted by a park bench 24 hours a day for decades.

It turns out, in 1910, guards were posted to prevent people from sitting on wet paint. For that bench, the order was never canceled. In 1939, an order doubled all guards.

For his initiative, the young Captain immediately was promoted to Major. I believe he made Field Marshall. Good Luck.

I am told today's tobacco chewers, mostly several young sailors, carry soda cans when they chew and travel.

Editor

Speak your piece

Earth Day and the Global Citizen

By Kevin Hutchins

The 21st Earth Day was marked on April 27. Those who don't remember the first, may remember the last which celebrated the spirit of the first. Once, 20 million people stood for making the earth our home, not our dump.

Today, the fate of the environment, the earth and ultimately our kids, rests in our hands. It's time to get re-involved to make our voices heard. One voice can make a difference, many voices can change the world.

There were many organized events including a "Clean up Tyler Park," a mountain bike ride and walk. "Earth Sunday in the Park," an ecology fair featuring recycling events, entertainment and food was held at Memorial Hall, Fairmount Park.

If public events don't suit you, organize your own family project. Pick an area, like a stream and clean it up. Make a commitment to being a global citizen by thinking and acting locally.

Before you buy something, think about where and how it was produced. Consider unnecessary waste it will produce. Recycle more than your townships require. Conserve energy with efficient home devises.

All thesewill make you a global citizen and make Earth Day a year round success.

Commander Salutes

Stanley Konopka, (Code 0442): For the exceptional assistance and service you provided a motorist having difficulty with his automobile. Your efforts to help in such an unselfish manner reflected very favorably on the Center's image.

AW2 Stuart Mattocks, (Code 103): For your keen eyesight and quick call to maintenance when you noticed something fall from the aircraft. After the aircraft returned to base, it was determined that the aft port nose wheel well panel was missing. You not only saved the cost of a new part, but extensive hours of down time for the aircraft. Bravo.

CDR Winston E. Scott, (Code 20A): For your outstanding presentation to the Upper Moreland High School's student body, faculty, and administration, making their tribute to the Persian Gulf troops a success. Your professionalism and dedicated enthusiasm make you a valuable asset to this Center.

John McIntyre, (Code 2011): For the time, expertise and effort you devoted to educating the Naval Air Systems Command on Systems Engineering. Your selected material was very pertinent to their new program. Your dedication and support have enhanced the Center's image.

D. Scott Kee, (Code 4012): For your most effective and in-depth participation as a member of the Block III team upgrading the Tomahawk Weapon System. The efforts you sustained are an outstanding example of your dedication to a program of paramount importance within the Navy Department.

Larkin Lake, (Code 4041): For your work as Chairman of the 1990 Combined Federal Campaign. Your personal leadership and commitment contributed to the successful outcome of this campaign.

John Kaercher, (Code 5021): For the fine support you provided to the Full Rate Production Antenna source selection evaluation team speaks well of your personal capabilities and the fine caliber of personnel at the Center.

Victor A. Caddick, (Code 7012): For the commitment and significant contributions you have provided relative to numerous, complex TACAMO High Power Transmit Set software issues. Your technical talents and overall professionalism have served to enhance the Center's reputation.

Marybeth A. Jupina, (Code 7013): For the level of commitment you displayed in contributing your personal time in preparing the TAMPS Laboratory for a valuable training demonstration. Your extensive contribution to "getting the job done" is noteworthy.

Irene Simmons; Charles B. Webster, (Code 7031): For the fine work that you performed with the Logiscope software analysis tool in support of the P-3 UP-DATE-IV. Your perseverance and effectiveness in transitioning this NAVAIR Software Engineering Environment tool into use is an example of the type of effort that will continually improve our software engineering capability.

James S. Kingston; Margaret Vigelis, (Code 041); HMC Duane Murray, (Code 6023); William Zarkowski, (Code 6024); Jacob Eyth, (Code 6035); F. Taglang, (Service America): For your outstanding contribution to the success of the recent Navy League dinner and tour. Your professionalism and attention to detail that made this event such a memorable experience for the Navy League are greatly appreciated.

Eugene Lehman, (Code 2012) and Frank Plonski, (Code 5021): Your outstanding support at the End-Game Measurement and Modeling Conference held at the Pacific Missile Test Center. Your presentations directly contributed to the success of the conference. Your dedicated enthusiasm and support have enhanced the image of the Center.

Ask your Question

Reflector Editor:

Your question and answer program for Center Employees is a great idea. I am submitting the following:

How can NADC recycle glass and aluminum? Warminster is a recycling community. Shouldn't we support this worthy cause?

Thank you

Olga Haug, Code 8133

Employees with answers may call me at Ext. 3545 or write: Editor, Code 041. My E-Mail address is LYFORD.

NADC Reflector

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Engineers and scientists benefit

Patent productivity increases dramatically at Center

By Lawrence L. Lyford

In the last calendar year, the Center's patent staff received 46 new invention disclosures from its scientists and engineers. This is substantial when compared to any other 12 month period in NADC's history.

James V. Tura, Esq., NADC's Patent Counsel, in a recent interview, provided some revealing numbers about the turn-around accomplished by his office. "We received more than double the number of disclosures that were received in 1989."

Tura believes the procedure for getting a patent application filed has been streamlined over the past year and the amount of time that it can take drastically shortened. "I think that the Scientific and Engineering community has caught on that we are turning applications out at a faster pace.

The Center attorneys currently have an 80% success rate; nationally, the average is about 65%.

We've noticed that, since we're filing more cases, more and more disclosures are coming in. So far this fiscal year, we've already received 16 disclosures."

Historically, it has taken up to four to five years to get an application filed once the disclosure was reported. With this time lag, many inventions no longer had the importance they initially had.

The Center's patent staff, Tura, Jim Bechtel and Sue Verona, is now attempting to make this turn-around no longer than one year.

"We want our inventors to realize that they should no longer just keep their discoveries in their notebooks." They should contact the patent staff and get the proper forms to report the invention to the Navy. Whenever there is a Statutory Bar to filing a case on the horizon, those cases will get moved up to the front of the pack and filed first. This occurs when there is public knowledge of an invention before it is patented.

Last year, the Center disbursed over $29,000 to inventors. "That amount is substantially more than has been awarded in any previous year," according to Tura.

Each inventor receives $200 when a patent application is filed with the U. S. Patent Office. If the application turns into an issued patent, a sole inventor receives an additional $500 and multiple inventors each receive $250.

The records maintained in Tura's office show NADC is successful at obtaining patents. The Center attorneys currently have an 80% success rate; nationally, the average is about 65%. In 1990, the Center filed 50 new cases with the Patent Office. Most of these cases should issue in 1992, according to Tura.

After the Center's patent attorneys write the applications, they defend them before the Patent Office. In some cases, it may take up to three years for a patent to issue. In FY90, seven patents issued to NADC inventors.

With the enactment of the Technology Transfer Act in 1986, every time the Center gets a patent issued, there is a chance a private company will want to license it and pay royalties to the Government. The Government will share up to 20% of any patent royalties with the inventor.

As Tura puts it, "This is the inventors' bonus. They profit from what they did on government time with government equipment as an added incentive to invent."

Tura wants to encourage each member of the NADC scientific and engineering community to keep reporting invention disclosures. He promises that the Center patent staff will continue filing cases so that they don't get outdated.

"We've noticed that, since we're filing more cases, more and more disclosures are coming in. So far this fiscal year, we've already received 16 disclosures."

Table of Patent Accomplishments

12 month period	Disclosures received	Patents on hand	Applications filed	Applications issued	Award
FY					
1985		61	19	15	$850.
1986	25	63	6	17	1,250.
1987	28	68	7	16	5,700.
1988	27	71	14	2	18,738.
1989	17	78	10	8	15,364.
1990	39	78	**30**	**7**	**29,200.**
1991*	**16**	70	**21**	**4****	**4,400.**

* First 3 months FY 1991 only

**** 53 more applications are ready for issue but cannot be reported because of confidential status.**

Note: If the chart was recast for the 1990 calendar year (to include high Sep-Dec 1990 activity the results would be as follows:

12 month period	Disclosures received	Patents on hand	Applications filed	Applications issued	Award
CY					
1990	**46**	**50**	**7****	**15,300**	
1991*	**16**	70	**21**	**4****	**4,400.**

One shot gives life-time high in a two-to five-second trip

HM2 Paul Minnich sits on the ejection tower before testing.

By JO2 Michael Delledonne

It could be the ride of your life. One shot...literally straight up. One shot so fast it would almost be over before you blinked. One shot you would never forget. Hospital Corpsman Second Class Paul Minnich recently experienced this sensation as a human test subject on the ejection tower.

"It's something not too many people get the opportunity to do,"said Minnich."There's nothing really dangerous about it or at least no more dangerous than getting into your car and driving somewhere. I had a great sense of curiosity about what it would be like and it was everything I expected and more."

Minnich explained the actual ride on the ejection tower lasts between two and five seconds."I don't care who you are or how tough you think you might be, but when you're sitting in that chair and the countdown starts you start to perspire and get nervous."

"My heart rate goes from 68 or 70 to about twice that fast when the site engineer begins the countdown,"said Minnich."The next thing you hear is the click of the valve which means you're live and ready to go. At about five, everything goes to slow motion until they fire. Next thing I know, I have a nice view of the parking lot."

The 25-year-old from Bethlehem, Pa., said he has an incredible rush of adrenalin after the run."It takes me a while to calm down. When the ride is done you just take a deep breath and try to get back to normal."

Minnich, who works as an Aerospace Medical Technician, noted he doesn't feel any pain afterwards."You feel like you just went through a good workout. It's expected because you are putting a tremendous amount of strain on your body for those few seconds."

Before any test subject goes through with a project, several committees see the protocol (experimental procedure) before it's approved and explained to the subjects."They tell you in detail what's going to happen,"said Minnich."You feel very safe. If I didn't, I would never do it."

"I would recommend doing this to anybody,"explained the eight-year Navy veteran."It's just a tremendous experience that nothing can come close to. It's the ride of your life."

Center Supports nation's victory in Persian Gulf War

Continued from page 1.

AGIFLITE Reconnaissance Camera

The Center modified its AGIFLITE camera system, originally developed for the P-3 community, for use on the F-18 aircraft. The system was used by Marine reconnaissance squadrons in the Middle East.

Global Positioning System

NADC software provided updated GPS information to the SLAM missile. Every aircraft carrier with SLAM missile capability used the NADC system successfully during Operation Desert Storm.

DM-150 Antenna

The Center installed the DM-150 antenna in two P-3 *Special Projects* aircraft. The antenna permits satellite communications from an airborne platform.

Noncooperative Target Recognition System

The NCTR system was installed onboard designated guided missile frigates, such as the *USS San Jacinto*. The system identified aircraft prior to missile firing.

Body Armor Protection System

The Center's body armor protection system integrated a standard aircrew survival vest with body armor. Designed for Marine Corps helicopter aircrews, the system provided front and back armor protection as well as quick release capability.

Lightweight Aircrew Helmet

NADC developed and acquired the Cobra Attack helicopter lightweight Helmet for use in the Middle East. The Helmet, used successfully by Marine Corps aircrews during the war, is compatible with both night vision goggles and a target reticle system that attaches to the Helmet.

Windscreen Protection

Early in Desert Shield/Storm operations, the fleet expressed concern about scratching and erosion of F/A-18 acrylic windscreens. In response, NADC developed three protective films for canopy protection against desert sand. The war ended before the anticipated sandstorm season and the anticipated high number of take-off and landings expected.

As the nation celebrates Independence Day this July 4th, those who worked long, hard and successfully on all the systems supporting the United States and United Nations war effort may help celebrate their own contribution.

Employee's daughter writes song for reservist/teacher

By Lawrence L. Lyford

Wesley F. Mostello, Code 054, has good reason to be an especially proud father. His daughter, Kyla, a high school sophomore, helped her class send off their popular American Studies teacher with a song titled, "Hurry Home." She wrote the lyrics, then the music and finally sang it to her teacher, Walter Conner the day before he became Colonel Conner, a mobilized marine.

"This goes down as one of the top five events in my life and the number one surprise," revealed Conner.

Mostello reports Kyla almost couldn't finish her dedication performance of the song. She told him halfway through the song tears blinded her. "I couldn't see the words. I hadn't memorized them. I just stopped trying and just sang it from my heart. Because the words were from my heart, I could remember them." She wanted to say good-by in a special way.

The rendition was a hit and created a demand for a recording. A neighbor started to promote the song. Soon Kyla formed an ad hoc band of friends and together they chipped in to pay for a recording session. The neighbor played the song over the telephone for others and now Mostello's daughter may be on the Joan Rivers Show.

Kyla says this song has ties to the average person with family or friends overseas. It says what's on their mind. It's not a war song, nor is it a kick-butt, pro-violence song. "It supports the troops; it tells them we support them; and it tells them we won't forget them," she pointed out.

She says if the song makes any money, it will be donated to the Connor's family. He is also the father of eight.

Connors and dad agree, "If anything, Kyla is just too sensitive." But you can tell a beaming dad wouldn't change a thing about her.

Kyka Mostello, daughter of Wesley F. Mostello, Code 054, (inset) shows where she wrote her song gift for her teacher who became a mobilized marine.

Security Reminder

"Need-to-know" is a must to release some information.

The "Need-to-know" principle is the basis for releasing classified or sensitive unclassified information. It is "A determination made by a possessor of classified information that a prospective recipient, in the interest of national security, has a requirement for access to, knowledge of, or possession of the classified information in order to perform tasks or services essential to the fulfillment of an official United States government program. Knowledge, possession of, or access to classified information shall not be afforded to any individual solely by virtue of the individual's office, position, or security clearance." Code 044 is responsible for challenging proposed releases of information using the criteria above. (OPNAVINST 5510.1H AND NAVEAIRDEVCENINST 5510.13D)

MWR plans events in May

10th MWR Scavenger Hunt #2
18th Miller Summer Series of Volleyball Tournament #2
24th Pool Opens
29th Fun Run
30th Fashion Show
31 GRAND RE-OPENING OF THE CLUB!

Volleyball Tournament Starts

By Heather O'Rourke

The volleyball tourney season will start on April 27 with the 2nd Annual Miller Summer Series Tournaments.

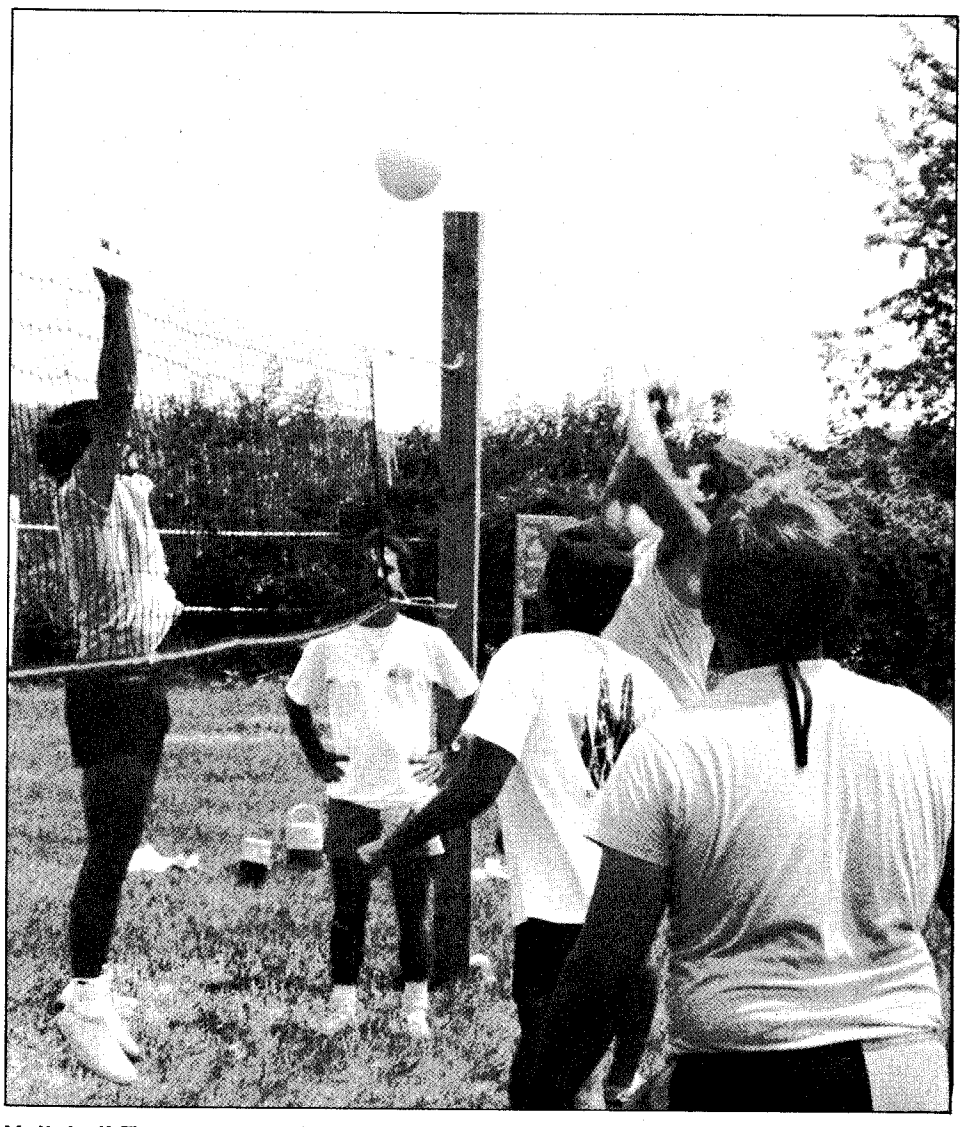
Six events will be held between April and September. Teams will accrue points during the series for their tourney finishes and a grand prize winner will be named at the close of the tourney season.

A special prize will go to this winning team courtesy of MWR & Miller.

Competition will be held in Four-On-Four and Doubles on grass and sand courts in a round-robin tournament.

T-Shirts, refreshments and awards will be provided. Registration fees are $10 per person.

To sign up your team call Greg Parker at Ext. 3220.



Vollyball Tourney promises to be better than last years'.

"Hurry Home"

By Kyla Mostello

We know you have to go,
And it fills us all with pride,
That you'd leave to protect our country,
But somehow that knowledge doesn't stop the pain inside.

So we wear our yellow ribbons
Close to our hearts
So you know our prayers are with you,
Even when we're far apart.

Hurry home
We'll miss you with our hearts
Hurry home to us
With hope the time of peace will start.

There's a message in the air
The skywriters made quite clear;
It's exactly what we've said
In every filling tear.

If only you could read our minds;
Or tell what is in our souls,
You'd find your way through our confusions,
And find that all we really want is for you to hurry home.

Hurry home
We'll miss you with our hearts
Hurry home to us
With hope the time of peace will start.

Safety expert nearly cuts off his own foot and admits it!

By Jimmy Culpepper, Head, Occupational Safety Division, Naval Safety Center, Norfolk

As a safety professional, I analyze risks every day. I make recommendations to managers and line supervisors based on this analysis. I try to do the same thing in my private life, such as making conscious decisions to wear safety belts or use the right tool for a job.

Sometimes, I think I am impervious to risk. After all, I study a job, identify potential hazards and take appropriate actions. Once I am aware of a hazard, I know I can't be hurt by it. At least, that's what I used to think until one Saturday.

I had just finished painting the trim on my house and was ready to move on to the next "honey-do" list item: cutting the grass. It was around 2 p.m., and the weatherman predicted rain later that afternoon.

Because I was in a hurry, I decided to keep wearing my tennis shoes rather than take time to switch to my steel toed boots. Besides, the last time I wore boots while I cut the grass I got a blister on my heal.

I checked the yard for toys, sticks or anything else that might get thrown by the lawn mower and started to cut the grass. When I got to the front yard, I saw my wife weeding the flower bed using my daughter's wagon to hold the weeds. I made a mental note of the wagon's location and continued cutting the grass.

However, I don't know how much good my mental note did; I was preoccupied and not paying attention to where I was stepping.

By being preoccupied and in a hurry, the inevitable happened. As I was cutting under a shrub, I backed up and tripped over the wagon. While I was falling and clutching the handle, I pulled the lawn mower up over my foot. When I finally let go, the automatic cut-off activated and the mower stopped

running.

As the dust settled, I gathered enough courage to look at my foot. Luckily, my sneakers took the brunt of the damage. Aside from a slight pedicure and a bruised toe (and ego), I escaped unscathed.

Another inch and my wife would have had to call a "toe truck".

My painful lesson taught me not to leave my safety sense at the center. Now I practice what I preach so I won't have to write another embarrassing, first-person account of a mishap.

Editor's Note: I excerpted story because of its message and because someone made a mistake, admitted it and was willing to use his misfortune to help others.

Editor.

Center Employees continue safety records in five categories

By Michael Masington

The following organizations and individuals have received safety awards for calendar year 1990:

Commander's Safety Award - Presented to departments that have not sustained a lost workday injury during the year: Civilian Personnel Department 5 yr., Antisubmarine Warfare Systems Department 1 yr., Warfare System Analysis Department 3 yr., Systems and Software Technology Department 2 yr., Aircraft Maintenance Department 3 yr.

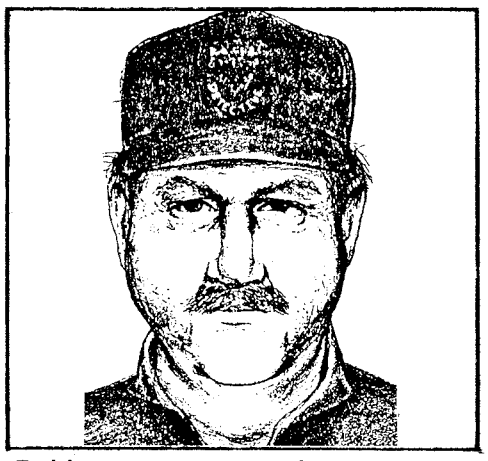
Group Safety Award - Presented to departments that have not sustained a lost workday injury during the year: TSD Electrical Shop, TSD Sheet Metal Shop, Quality Assurance, Aircraft Division, Power Plants Branch, Airframes Branch, Aviation Life Support Systems Branch, Egress/Environmental Systems Branch, Electronics Branch, Electric Branch, Ordnance Branch, Plane Handler Branch, Aviation Armament Division, Line Division, PW Mechanical Systems Branch, PW Service Branch, PW Utilities Branch, PW Transportation Division, Shop Stores Branch, Fuel & Liquid Gases Branch, Storage Branch, Traffic Branch, Packing and Preservation Section, Receiving and Delivery Section, Aviation Support Division.

Supervisor's Safety Award - Available only to supervisors of workcenters eligible for the Group Safety Award: Vincent A. Morelli 8112, 9 yr., Joseph K. Weidner 8113, 3 yr., Thomas J. Morrison 8441, 2 yr.,
Donald J. Shaw 8443, 1 yr., Philip T. Shannon 8443, 3 yr., Mohan G. Verghis 8444, 1 yr., Robert D. Reed 84441, 5 yr., AKC Allen Devore 846, 1 yr., William G. Hogarth 8342, 4 yr., George F. Sterling 8345, 7 yr.,
Edward W. Linke 835, 9 yr., Cron P. Eckman 044, 4yr., Joseph Tangye 044, 1 yr., Gary L. Kelly 044, 2 yr., Charles E. Mayers 90122A, 4 yr.,
Alfred W. Keiss 90122, 7 yr., Carlos A. Sanchez 90122, 6 yr.,
James D. Myers 90122, 6 yr., John M. Dworsky 90122, 3 yr, John M. Scott 90122, 1 yr., ADCS R. Cooker 90204, 1 yr., AMSC Raymond Steele 90212,
1 yr., AME1 T. Brown 90214, 1 yr., ATC D. Spyker 90221, 1 yr.

Safe Driving Award - Presented only to full-time drivers who have not been involved in a vehicle or lost time mishap during the year: Thomas R. Ryan 835, 19 yr., Robert C. Simononis 835, 3 yr., Francis J. Flannery 835, 3yr., Calvin Harvey, Jr. 90122, 12 yr., Paul E. Cronin 90122, 9 yr., Kinzel R. Edwards 90122, 7 yr., Stephen G. Fisher 90122, 5 yr., Claude S. Mobley 90122, 3 yr., Mark S. Showmaker 90122, 1 yr., Thomas C. Young 90122, 2 yr., Richard W. Gerhard 90122, 2 yr., Robert H. Hewins 90122, 1 yr.

Material Handler Construction Equipment Operators Award - The criteria are the same as those for the Safe Driving Award, but eligibility is restricted to full-time forklift and construction equipment operators: Charlie F. Belcher 844, 6 yr., Francis J. Hanna 844, 3 yr., John J. Mc Gee, Jr. 844,
17 yr., Kenneth R. Danser, Sr. 844, 17 yr., T. William Singleton 844, 15 yr., Paul Newborn 844, 6 yr., John W. Flowers 844, 1 yr., Oliver W. Byrd 844, 1 yr., Kenneth L. Beebe 844, 3 yr., Michael J. Avillion 844, 3 yr., Robert D. Pullen 844, 3 yr., Paul K. Shelkin 844, 2 yr., Silas Green 844, 1 yr., Francis R. O'Mara 844, 1 yr., Eladio Colon 835, 16 yr., Nick Markwald 835, 6 yr., Mary Ann Kane 846, 3 yr., Carlos S. Soldevilla 846, 9 yr.

Information sought on whereabouts of robbery suspect



Robbery suspect may be in this area

By Lawrence L. Lyford

The Federal Bureau of Investigation (FBI) is seeking assistance from NADC in locating an individual responsible for several bank robberies.

The subject is believed to be connected with the military (possibly Navy) either as a service member or civilian employee. He is believed to have lived in the San Diego, Ca. area from 1979 to 1982. At present he may be in this area.

"If he is in this area, we would like to apprehend him," said Kevin B. Hutson, Special Agent with the Naval Investigative Service.

The subject is described as a white male, aged 45 to 55, five feet ten inches tall, weighing 200 pounds. He has light hair (possibly gray or blond), a light complexion (with irregularities), and a trimmed moustache.

His clothing has included a three-quarter length Army fatigue type jacket and a Navy blue baseball cap with a "detective" emblem on it. The subject has displayed police identification.

According to the FBI, the subject is responsible for the July 1989 Hanover, Pa. bank robbery and series of other bank robberies in Pennsylvania as well as California and Nevada.

The individual should be considered armed and dangerous.

Anyone with information on this individual is encouraged to call Hutson at ext. 1555 or the FBI in Harrisburg at 717-232-8686.

"If a reader is unsure about an identification, give professional investigators the opportunity to confidentially verify the identity," said Hutson.

Survey placed Center in top 25 for Hispanic Employment

By Lawrence L. Lyford

NADC was cited in an article in the April 1991 issue of the *Hispanic Magazine* in an article titled, "Top 25 Places for Hispanics to Work in the Federal Government."

The Center was cited for its recruitment of Hispanic engineers at colleges and universities across the country, particularly the University of Puerto Rico and its Hispanic Program Committee work with local Hispanic high school students.

According to the National Association of Latino Elected and Appointed Officials (NALEO), the federal government may be grouped with many major corporations which acknowledge Hispanics and other minorities are the work force of the future but don't reflect this in increased recruiting and hiring.

However, information compiled by the editorial staff revealed many government agencies show a genuine commitment to increasing the representation of Hispanics in the federal work place. NADC is one of the best of these. No ranking was provided within the top 25.

According to the survey, Hispanic college graduates are up 50% nationally, but representation in resultant jobs requiring this education increased only 29%. In addition, according to this article, minorities run up against a "glass ceiling" regarding promotions once hired.

Intelligence Liaison Office helps entire Center

By Carol Beckett

The Scientific and Technical Intelligence Liaison Office (STILO) provides intelligence support to the scientists, engineers and analysts at the Center.

STILO accomplishes this task by providing support for entire projects or programs, as well as rendering assistance to individual researchers.

For example, STILO recently provided intelligence information on threat emitters to a Center group involved in Naval Aircraft ESM sensor development.

The Center's Foreign Materiel Exploitation Program (FMEP) also is conducted by STILO. STILO notifies appropriate personnel when foreign materiel is available and then ensures the material is shipped to the Center for study.

For example, STILO arranged for the Center to receive foreign pilot headgear and protective clothing for examination, evaluation and comparison with U.S. technology.

A vast intelligence library is maintained in STILO and includes many classified reports, periodicals and messages.

Incoming documentation is received on automatic distribution from various commands including the Defense Intelligence Agency (DIA), Central Intelligence Agency (CIA), National Security Agency (NSA), and Army and Air Force Intelligence Commands.

Upon receipt, STILO disseminates the information to those Center employees with appropriate clearances and a certified need-to-know.

On a daily basis, we answer a variety of technical intelligence questions and provides guidance on the proper use of its resources.

If the information requested is not available on Center, we try to obtain it from other activities in the Intelligence Community.

Current threat briefings, on a variety of topics, are available as are briefings on topics requested by sections or individuals on Center.

Recently our staff members presented "Operation Desert Storm" briefing.

The STILO staff has four permanent employees. In addition, two engineers who have applied for a two-year rotational assignment in the office.

These engineers benefit STILO by providing new areas of expertise and a fresh approach to specific responsibilities.

The departments benefit as the returning engineers bring back detailed awareness of current threats and an understanding of how intelligence impacts U.S. Naval air systems and sensors under development.

Soon, we will have availability of the Naval Intelligence Data Base, providing us up-to-date information on threat systems and platforms, their characteristics and performance. This system will be user-friendly and help engineers quickly obtain complete information on specific threat systems.

Employee volunteers to be a Big sister with special request

Carla Dragon explains center to Heather, age 8.

Carla Dragon, Code 0214, does occasional translation for the hearing impared on Center on short notice when contract translators aren't available as legally required. Through this work, Dragon met Jackie Benner of EEO and asked Benner if she could locate a deaf child who need adult companionship. Through Renne Levine of Centenial Schools, Benner was successful in finding Heather, an eight-year old deaf girl. Levine, working throught the Big Sister program, brought Hearther and Dragon together. Dragon learned Heather is eight years old, has three bothers and a sister.

Heather and her Big Sister now get together once a week to do such things as making chocolate chip cookies, going to a playground, completing coloring books and playing cards.

Through the Big Brother/Big Sisters of Bucks County they will have added group activities such as swim parties, roller skating, full day trips and holiday parties.

Dragon says boys 9-14 and girls 6-17 usually growing up with only one parent are eligible for the program. Only concern and dedication are necessary for the Big Sister or Big Brother. "Big" means 18 or older, willing to make a one year commitment to make 3-5 hours a week available for a child.

"Little" means being on a list with 100 others waiting for a Big Brother or Sister.

The organization has two telephone numbers 343-8260 and 785-6310.

If the SOC fits

Navy has rules regarding lobbying that affect Center employees

By Robert G. Janes

With rumors of NADC's being a possible candidate for relocation, there have been a lot of questions lately about the rules regarding lobbying. What do the Standards of Conduct (SOC) say about lobbying, and are we as NADC employees permitted to lobby Congress concerning proposed changes involving NADC?

There are basically two Federal statutes which address lobbying. The first of these, 31 U.S.C., 1352, is a 1989 law often referred to as the Byrd Amendment, which pertains to government contractors rather than us. In very general terms, it provides that government contractors who expend money in lobbying cannot charge those lobbying costs against government contracts.

The law directly affecting us as government employees is 18 U.S.C., 1913, which is known as the Anti-Lobbying Act. This is a *criminal* law which has been on the books for many years. It prohibits the use of appropriated funds, either directly or indirectly, to pay for "any personal service, advertisement, telegram, telephone, letter, printed or written matter, or other device" intended to influence a Member of Congress in acting upon any legislation or appropriation.

There are two important points to bear in mind here. First, the law is not intended to inhibit or limit the normal communications between Legislative and Executive Branch personnel. It is perfectly appropriate, for example, for interested legislators to visit here for briefings and exchanges of information.

Second, we must remain aware of the distinction between actions taken in one's private and one's public capacities. The law addresses the use of appropriated funds. It regulates what we can and cannot do on the job when acting as government employees and being paid with appropriated funds. It does *not* address what we can and cannot do off the job in our personal capacities.

Thus, we are prohibited from using NADC time and resources to write letters to try to influence Congress, but so long as we are acting on our own time and in our own personal capacities, it is perfectly appropriate to write and send such letters.

Shenandoah Woods Youth Center offering Summer day camp

By Heather O'Rourke

Shenandoah Woods Youth Center will be offering another summer day camp for children ages 5 through 12 years.

Exciting programs are planned targeting different age groups' interests, activities and ability levels. Programs include trips, pool parties, dances, sports activities, swimming, water safety awareness and more.

For an additional fee campers can enroll in Red Cross swimming lessons.

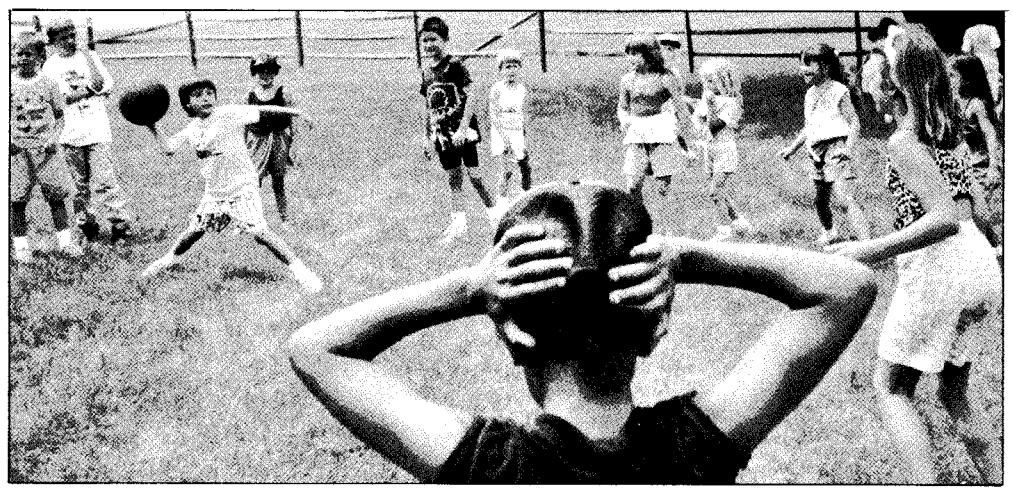
Camp will be offered in three sessions with separate registration for each session. Dates and fees are listed below.

Payment is required at time of registration. For more information, contact Trea Kelly, Ext. 7233.

Session I (4 weeks) June 17-July 12, Registration no later than May 30. Fees: Civilian - $220, Active Duty Military - $120.

Session II (4 weeks) July 15-August 9, Registration no later than June 10. Fees: Civilian - $220, Active Duty Military - $120.

Session III (3 weeks) August 12-August 30, Registration by July 10th. Fees: Civilians - $165, Active Duty Military - $90.



Youth have day of safe fun in "endless summer."

Armstrong contributes to Center and Desert Storm at 71.

By Joe Kaszupski

Norbert Armstrong is one of a dozen employees over 71 years of age working at the center. Currently, Armstrong is leading the effort in the Mission Avionics Technology Department to introduce long range sensors for the Navy's carrier based reconnaissance capability.

In the mid 80's, Armstrong spent extended periods on travel as the primary engineering support for sensors during testing of the RF/A-18 aircraft.

Though a Mechanical engineer by training, Armstrong primarily is responsible for the introduction of low voltage solid state light emitting diodes to replace high voltage CRT's in reconnaissance cameras.

This results in major cost, maintenance and performance improvement and has been adopted on all major Navy reconnaissance sensors.

At the Thadeus Low Society luncheon, April 11, Capt. J. F. McFillin, head of Air-547 said without NADC and in particular Norbert Armstrong the Navy would not have had tactical air intelligence during Operation Desert Storm.

Armstrong (whose father was in the plumbing business) still holds a master plumber's license earned at night after service in the Navy. He joined his brother, here, to develop image sensors and still serves here though his brother retired.

Like many others at the Center, Armstrong actively supports physically handicapped employees. For example, several years ago, he helped Anthony Teti. As a result of an automobile accident Teti suffered both speech and motor coordination loss.

Professional counselors had advised Teti not to pursue engineering inspite of his very high grades in Engineering science from his community college. Yet he applied at the Center for Summer employment. However, he applied too late. Armstrong arranged a task and project funding to support his employment.

With the confidence his work experience provided, he currently is pursuing a career in the sciences and already has completed several physics courses at St. Joseph's University.

Johanson receives Wiley Post Award from Aerospace Society

By JO2 Michael Delledonne

LCDR David Johanson received the Wiley Post Award from the Aerospace Physiology Society (APS) of the Aerospace Medical Association. The ASP consists of scientists, engineers, and medical personnel from several nations, all uniformed services, academic, and civil aviation communities who work in the field of aerospace physiology.

"LCDR Johanson's pioneering work in acceleration-induced of consciousness (G-LOC) and his practical application of his work in passing his knowledge directly to Fleet aircrews to prevent G-LOC episodes is in the true spirit of Wiley Post's original work," said Commander David Smith, Deputy Air Vehicle and Crew Systems Technology Department.

The Wiley Post Award is presented annually to a member of the ASP who has made a significant contribution to operational physiology. This means the awardee has done something that directly makes a tangible and useful contribution to improving safety, physiological well-being, or human performance capability in the aircraft.

Wiley Post himself designed, tested, and flew the first full pressure suit. His work enabled pilots to fly higher than ever before and take advantage of the jet stream winds for faster more fuel efficient flight. He demonstrated his work by being the first pilot to fly around the world in a single engine aircraft using the jet stream.

EEO Committee has "Partners for the Future" Career Day

By Mary Kearns

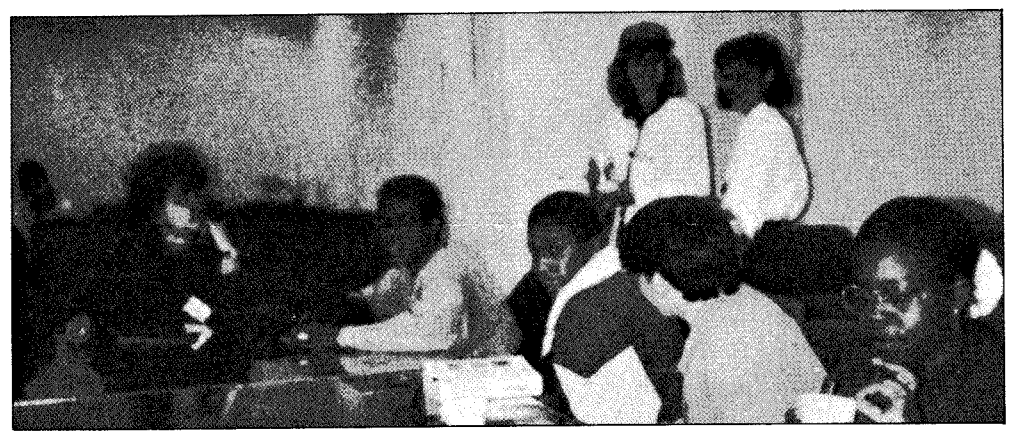
On March 22, 1991 the Center opened its doors to more than forty students, teachers, and guidance counselors from twelve local schools in the EEO Committee's first Career Day.

The students and teachers learned the Center's mission, and the various programs we have to develop future scientists and engineers.

The morning started with an overview of the Center by our Civilian Personnel Officer, Ron Young. This was followed by discussions of our Federal Junior Fellowship Program, new high school tutoring efforts, the Minorities in Engineering Program, and Careers in Science. This new Center program is directed at grade school students.

After a break, the participants toured the F-14, and learned how the chemical/biological warfare equipment was developed here.

Students described the F-14 as "awesome" and "unbelievable." Teachers and guidance counselors said they were impressed with our dedication to establishing partnerships with local schools.



High school students review their day before leaving Center.

Conservation and Energy Strategy will reduce our dependency

By Michael Blank, Ph.D., P.E.

America has depended heavily on the Arab world for it's prime source of foreign oil. The Persian Gulf War again has shown how unstable is this area of the Middle East.

On February 20, 1991, President Bush announced a national energy strategy. "I believe this is a strategy for the future, an energy future that is secure, efficient, and environmentally sound," the President said.

This includes a comprehensive approach to implement the following:

* Increase R&D funding for electric batteries, solar wind, biomass, and geothermal technologies.
* Increase federal purchase of alternative fuel vehicles.
* Develop safe, standardized nuclear power plants.
* Promote clean coal technologies.

This strategy goal is to reduce oil use in the United States to 3.4 million barrels per day by 2010. This is equivalent to increasing domestic oil production by 3.8 million barrels per day. Such an increase would require access to a portion of the Arctic National Wildlife Refuge and the outer Continental Shelf According to the U.S. Department of Energy.

A major element included in the President's strategy is to increase efficiency. Appliance efficiency standards and speedy transfer of efficiency technologies to the marketplace is provided. New appliances will provide substantial consumer energy savings. National Appliance Efficiency Standards require all new electrical and gas appliances to be 25% more efficient than today's average models.

According to *The Delaware Valley Report: (Vol 7, No 1, Winter 90/91)* these standards will save consumers at least $28 billion for products sold through the year 2000. This is about $300 per household.

These standards also will reduce peak electric loads for 25 large power plants.

An other strategy is to involve the scientific and engineering community. Recently, the American Academy of Science announced a breakthrough in hydrogen technology to make it cheaper to operate a car on hydrogen than gasoline.

According to Dr. R. Billings a hydrogen fuel cell provides a vehicle range of 300 miles per charge and significantly reduces the cost of energy. The hydrogen fuel produces water and electricity with no air pollution. It will become one of the major parts in our national conservation plan for the near future.

Mark Singel, the Lieutenant Governor of Pennsylvania, enthusiastically excepted this idea and recommended it for use in testing in the Commonwealth.

New pamphlet offers valuable scholarship information

(NES) If you are thinking thinking about college for your kids or for their kids, the "Family Members Scholarship Pamphlet," published by the Naval Military Personnel Command, provides information on a variety of scholarships available to family members of sea service personnel.

The 37-page pamphlet offers information on 100 scholarships ranging from $1,000 to $10,000 and other available financial resources. It provides active-duty, Reserve and honorably-discharged family members of the Navy, Marine Corps and Coast Guard with an initial listing of agencies, organization, clubs and other military-affiliated groups that may help pay for further education.

For a free copy of "The Family Members Scholarship Pamphlet" write to Commander, Naval Military Personnel Command, NMPC-602, Washington, D.C. 20370-5000 or call a Family Service Center or Command Career Counselor Office.

Editor's note: *The Philadelphia Library has one of the best scholarship search facilities on the East Coast.*

SPORTS WORLD SPORTS WORLD SPORTS WORLD

Mixed Bowling League News

Banquet is planned at the country club as season rolls by

By Tom Reiter

Plans are under way for this year's banquet which will be held at the Warrington Country Club, Route 611 and Almshouse Road, Friday night, June 14th. This year, **Jeff Irvin** is the host in charge of the wining and dining. Everyone is looking forward to a special evening.

As the second half approached it's midway point, both Divisions, as usual, were having very competitive races. Both first half winners were resting in third place ready for a sweep. **Betty Price**'s Spare Us and **Jim Campana**'s Nine Pins claim that their pictures in the February edition of this Reflector were inspiring. Individually, **Al Knobloch**'s 180 average (B Division) and **Kevin Ryan**'s 175 average (A Div.) lead the male bowlers. Leading female averages belonged to **Kathy Sedlock** at 173 (B Div) and **Carla Dragon** with a 157 (A Div) average.

League standing, as of March 1, was:

A Division	
From The Gutter	22.0-10.0
Alley Cats	21.0-11.0
Spare Us	20.0-12.0
Red Winos	17.0-15.0
Bullshooters	17.0-15.0
Ten Pins Standing	16.5-15.5
Oh Split	16.0-16.0
Dynamic Duos	13.0-19.0
Lucky Strikes	11.0-21.0
Pinquins	11.0-21.0
Tin Pinners	11.0-21.0
Les Champignons	10.5-21.5
B Division	
Rolling Thunder	22.0-10.0
Big Spenders	20.0-12.0
Nine Pins	19.0-13.0
Steve's Side Show	18.0-14.0
Goofers	17.5-14.5
High Time	17.5-14.5
Warveyhallbangers	17.0-15.0
Magic Markers	16.0-16.0
Eleventh Frame	16.0-16.0
Destroyers	13.0-19.0
Screwballs	11.0-21.0
Gutter Dusters	11.0-21.0

Each team's individual high games, as of March 1, were:

A Division

From The Gutter
Bill Pohle(220) Lorraine Williams(210)

Alley Cats
Kevin Ryan(227) Patty Aspinall(192)

Spare Us
Dick Coughlan(211)
JoAnn Coughlan(216)

Red Winos
George Dobrowolski(212)
Carla Dragon(216)

Bullshooters
Bobby Smiler(198)
Eileen Cunnane(201)

Ten Pins Standing
Danny Chun(221) Lori Strobel(163)

Oh Split
Bob Helm(215) Terese Wells(184)

Dynamic Duos
Scott Fowler(213) Gina Fowler(185)

Lucky Strikes
Bob Gindhart(243) Mary Feeley(192)

Pinquins
Sol Fink(184) Lynn Fratrik(200)

Tin Pinners
Joe Emperly(225)
Jacque Emperly(189)

Les Champignons
Dave Oliver(233) Ann Harris(199)

B Division

Rolling Thunder
Matt Meer(238) Sharon Robinson(227)

Big Spenders
Joe Catto(203) Gina Luce(179)

Nine Pins
Jim Campana(242)
Linda Stickney(214)

Steve's Side Show
Jim Williamson(236)
Judy Jerdan(202)

Goofers
Al Knobloch(248)
Lorraine Reidinger(216)

High Time
Dom Ottaviano(206)
Collee Cerino(162)

Warveyhallbangers
Jack Figgles(214) Winona Pelo(204)

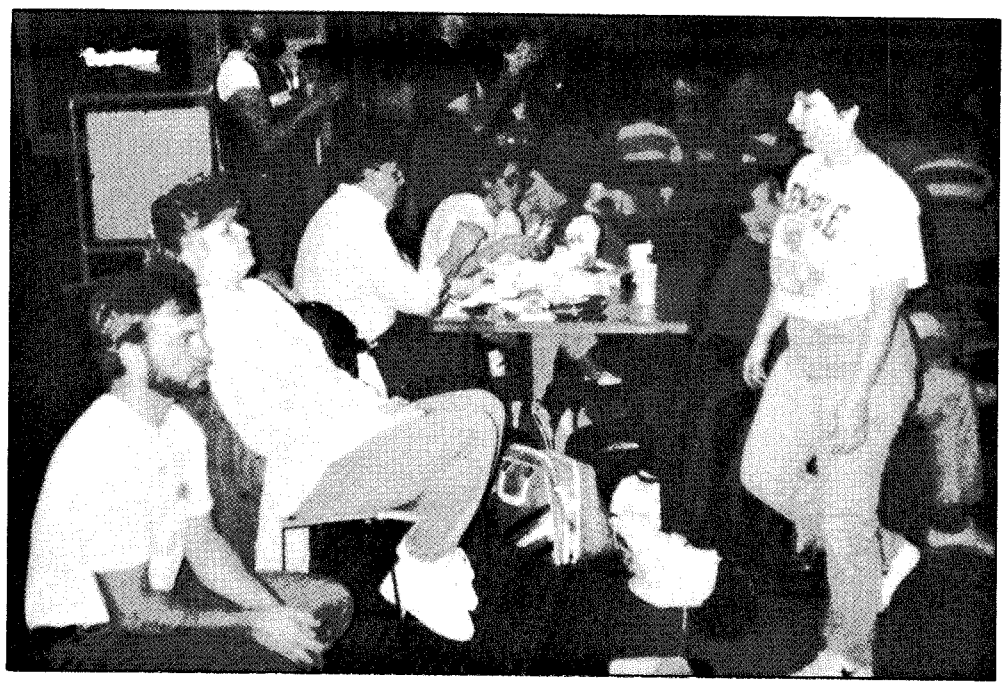
Magic Markers
Jeff Irvin(219) Andrea Sicher(225)

Eleventh Frame
Ted Weathers(227) **KathSelock(247)**

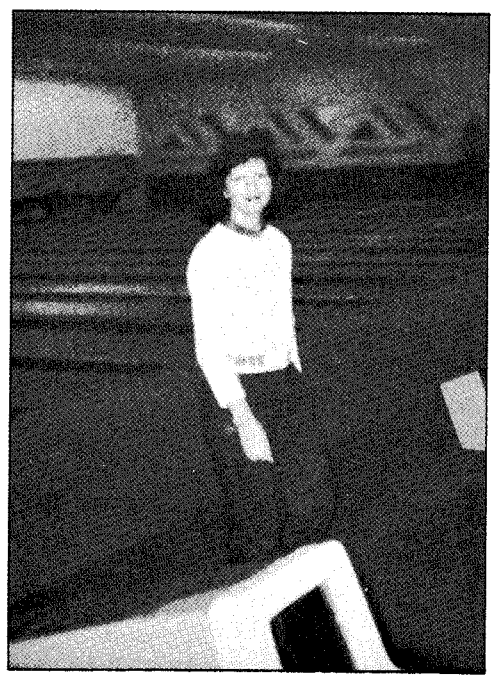
Destroyers
Dave MacNeill(237)
Lorrie Walace(196)

Screwballs
Jack Horning(229)
Peggy LaMartine(190)

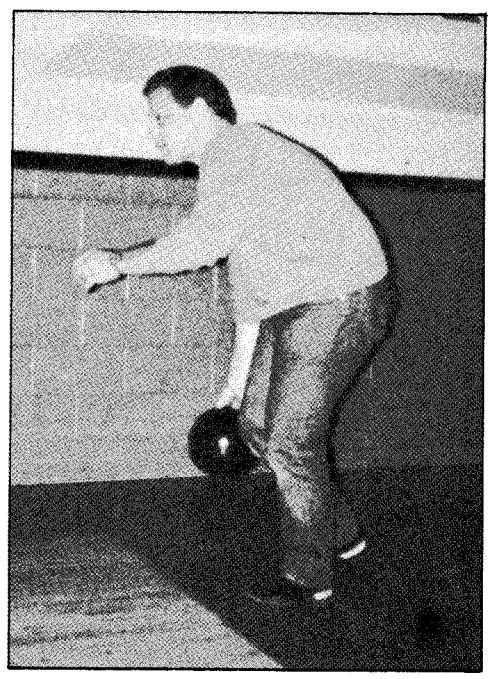
Gutter Dusters
Wes Gleason(250) Mary Vaughn(211)



Some of us are happy, some of us are hungry and some of us can't wait 'til it's over!



After getting a strike, Helene Goldstein says, "I love this game."



Bill Halpern shows his form with is back against (beside!) a wall.

W & R 1991 Golf Tournament Schedule arranged for "real golf"

The golf season is upon us.

Once again it is time to transition your game from armchair golf to real golf and begin to answer those questions such as"how can they miss a putt that short?"

The Welfare and Recreation monthly tournaments have begun and will continue through November under the supervision of W&R Golf Committee Chairman Frank Sheedy.

Prizes will be awarded in both gross and net categories for each tournament and for season totals.

Tournament prizes for closest-to-the-pins and long drives will also be awarded.

All NADC civilian and military personnel, retired personnel, contractor personnel (under contract), and their guests are eligible.

See the Golf League bulletin board and the NADC Log for periodic updates.

W&R 1991 Tournament Schedule

CourseCommissioner

7 May
Five Ponds*Scott Fowler
Warminster, PA x3665

6 Aug
Center SquareBob Lehman
Center Square, PA x1669

11 Jun
Twin LakesMike Mirabella
Mainland, PA 674-0200

9 July
Locust ValleyJohn Sniscak
Coopersburg, PA x2482

10 Sept
Upper PerkGreg Hell
Pennsburg, PA 675-6753

8 Oct
Fox HollowScott Perry
Quakertown, PA x2230

5 Nov
Horsham Valley*Rob Muller
Horsham, PA 947-1674

* Scramble Team Events

NADC Reflector

Volume 36 Number 5 NAVAL AIR DEVELOPMENT CENTER, WARMINSTER, PA. May 1991

In This Issue
–Cheney —New Era
–Missle measurement
–Dilworth wins award
–AAIA Awards
–E-Mail help
–Fashion Show

Missile Misses measured by Scalar Scorer developed at Center

By Joe X. Palumbo

Early in 1980, Naval Air Systems Command tasked the Center to prepare a technical specification for the development of a scalar scoring system for aerial targets. This is a system to measure the distance a missile misses an airborne target. It works with closures up to 8,000 feet per second.

The specification was prepared by the Target Auxiliary Augmentation Systems (TA/AS) group, Code 2012, in the Aerial Target Branch of TACAIR. It became part of a procurement package which led NADC to award a $12 million contract to Cartwright Electronics Incorporated (CEI) Fullerton, CA. The award was to develop the AN/USQ-104 system for both aircraft size and smaller sub-scale targets.

According to Joe Palumbo, the TA/AS Team Leader, doppler radar used in conjunction with coherent imaging techniques is employed to provide miss-distance information during a missile's engagement of a target.

System Engineer, Ronald Schwartz, explains this is needed by missile weapon systems developers to evaluate missile performance. The system reports the closest approach of the incoming missile. "Since it uses very sensitive doppler radar, parts of the attacking missile such as the nose, wing tip or tail can be detected." This indicates the approach path and other information as well.

The system is comprised of two sets. One is an airborne set consisting of a radar transmitter, encryption support package, and a telemetry pack. The other is a ground based set which processes the received data automatically. According to Schwartz, this saves two days or more of work once required.

The airborne set is placed in a target vehicle. Once a missile is in the vicinity of the target, the airborne set detects the missile and transmits digital data to the ground set. The ground set contains the software algorithms needed to perform required complex calculations.

Even if the target is destroyed no

Continued on Page 7.

Joe X. Palumbo, Target Auxiliary Augmentation Systems (TA/AS) Team Leader, Code 2012, discusses placement of the AN/USQ-104 System's airborne component in a BQM-79C Target craft with System Engineer Ronald Schwartz.

Silbert develops efficient algorithm to avoid airborne obstacles

Mark Silbert examines algorithm

By Lawrence L. Lyford

One of the major problems confronting computer-controlled vehicles is to automatically generate a path in real-time to guide them to their destination while avoiding all lethal obstacles. The flight path generated should be the shortest for fuel and time economy; should avoid stationary and moving obstacles; and, must be computed fast enough to be useful.

Mark Silbert, Code 7013, an electronics engineer in the Artificial Intelligence Branch has developed a new algorithm to simplify this problem so rapid, workable results can be obtained.

Competing concepts have unfortunate limitations according to Silbert. Most only consider static obstacles. Even obstacles with constant velocity cause published algorithms to become unusable. Three-dimensional problems need computers with very large memories and extremely high processing rates and still take minutes to hours to generate a path.

Silbert developed a very general path-planning algorithm, called the Event-Step Algorithm. It has been implemented to generate paths around moving obstacles within a few seconds using fairly modest hardware.

This Event-Step algorithm generates alternative paths when it determines a collision with an obstacle would occur. Flight deviations are based on where and when collisions would occur.

According to Silbert, a key feature has eliminated the need for an underlying grid used in other concepts. He uses vector algebra to determine where the vehicle needs to turn. Here is how it works.

While other algorithms treat obstacles as "globs" distributed above a grid, Silbert treats them as a set of geometric shapes (right, convex prismoids, to be precise).

By using geometric shapes for the obstacles, computations for collisions and paths around obstacles are straightforward says Silbert.

According to Silbert, any three-dimensional object can be modeled by these shapes. For our three-dimensional world, convex polygons are "stretched" to form a "cylinder" i.e., a cylinder whose cross-section is the convex polygon.

Continued Page 7.

Guy Dilworth Receives Presidential Rank award in Washington

By Lawrence L. Lyford

Recently, Guy C. Dilworth received a 1990 Presidential Rank Award for the Senior Executive Service at a Washington, D.C. ceremony. He was awarded the rank of Meritorious Executive for his service as Technical Director here at NADC.

Dilworth was cited for providing both executive and technical direction as well as leadership ensuring the effectiveness of Center RDT&E efforts. This included broad planning, evaluation, redirection, project and program accomplishments.

He ensured the internal organizations and procedures resulted in effective, responsive support to assigned missions.

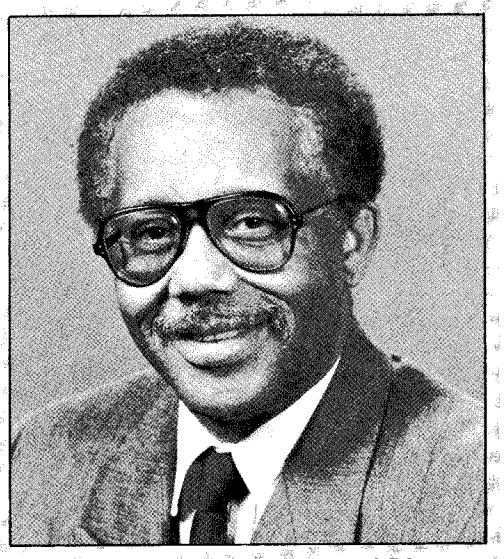
He initiated research and development efforts to generate new technology leading to systems and subsystem. He aggressively met the Navy's R&D priorities in many technical areas. He restructured the organization to achieve improved effectiveness.

The results greatly enhanced the timely completion of programs, projects and personnel capability.

Throughout his service, he forged effective working relationship between his organizations and the Chief of Naval Operations, SPAWAR and NAVAIRSYSCOM.

Under his leadership, NADC has been focused on the Navy's critical and top priority warfare areas facing the 21st Century.

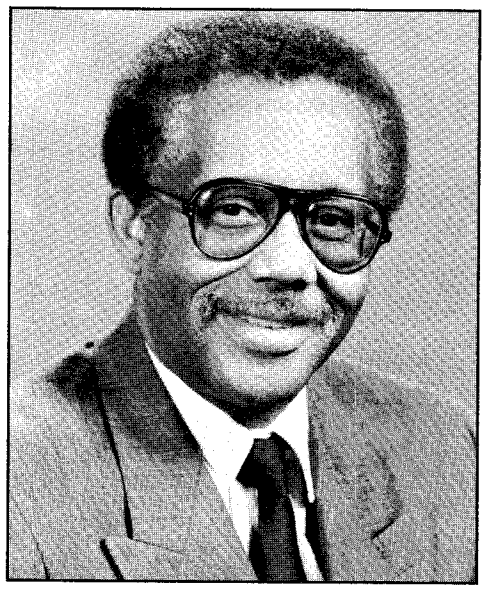
This award, authorized by the Civil Service Reform Act of 1978, is established on the principle that employees should be recognized based on performance. Career Senior Executive Service (SES) members whose performance is exceptional for an extended period of time may be granted one of two Presidential ranks: "Distinguished Executive" and "Meritorious Executive." The "Distinguished Executive" may be awarded to no more than one percent of SES members and the "Meritorious Executive" may be awarded to no more than five percent.



Guy C. Dilworth, Jr. Technical Director

Command Corner

Captain Curtis J. Winters
Center Commander



Guy C. Dilworth, Jr.
Technical Director

The Reflector to provide appropriate realignment information

By Lawrence L. Lyford

The Reflector will provide information regarding NADC's future research role *as information becomes available and is authorized for release by higher authorities.*

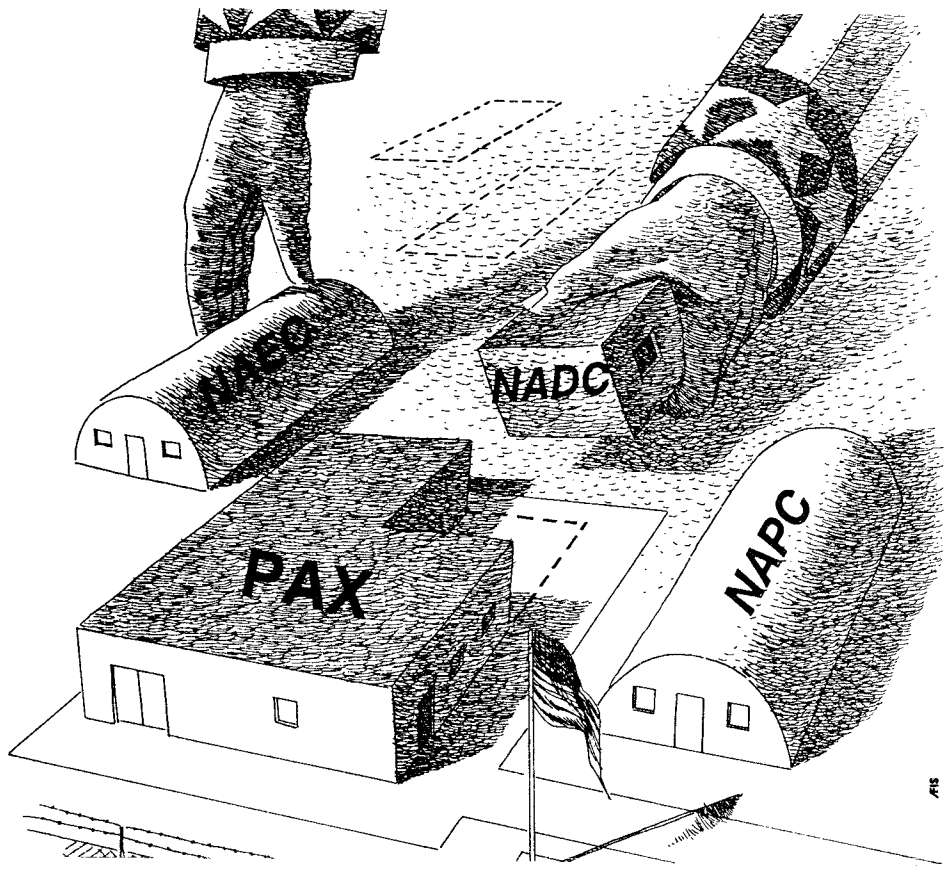
We will provide perspective when appropriate. For instance, it might be interesting to some readers to learn the Army is advocating similar realignment of seven laboratories to two Maryland sites, Aberdeen Proving Ground and the Adelphi Laboratory. This recommendation is certainly public information but may not be well known within our Navy circles.

This Reflector issue contains highlight information about the military budget and trends. This may be useful to readers who do not have ready access to military journals and other publications presenting similar information.

Together, we are entering a period when not much information is available. Final decisions have not been made and intense contingency planning is just beginning.

Fortunately, the stated goal of the Center leadership is to provide information as soon as possible so employees have all the possible information to make very important personal decisions.

We will do our part to provide you information as it becomes available.



Speak your piece

By Larkin W. Lake IV

I want to thank all the people who participated in this year's Combined Federal Campaign for another successful effort.

Our goal of $130,000 was exceeded by almost $5,000 according to the final tally. This was a direct result of this year's keypersons and their assistants. Without the diligent efforts of these individuals, it simply would not have happened. They ensured each employee had the information to make an informed decision.

This achivement was made more impressive because it was achieved in the midst of bad econonic news and a recession.

Again, my sincere thanks to all contributors to this year's campaign. Your gifts are indeed "Making the world a better place".

Commander Salutes

Bettie Simpson Lawrence, (Code 031): For your participation in the "Negotiating Labor Agreements" training course and your personal contribution to make it a success.

JO2 Michael Delledonne, (Code 041): For your exceptional speech at the United Way's "Cheers for Volunteers" dinner.

AT2 Joseph Emperly, (Code 101); AT3 Christine Adams, AT2 Thomas Clay, AEAA Kristine Gausepohl, (Code 92): For your participation in the Color Guard Unit's performance at the United Way's "Cheers for Volunteers Dinner."

AT2 Joseph Emplerly, (Code 101); ADAN Caroline L. Cobb, AD2 Johanna L. Cummings, AEAA Kristine Gausepohl, (Code 92): For your outstanding performance while participating in Warminster's Desert Storm homingcoming parade. Your precision Color Guard Unit made an outstanding impression on the local audience, promoting a very positive image of the U.S. Navy.

Robert M. Lehman, (Code 1021): For your superb efforts as Senior Systems Engineer for the SH-60F and Variants Helicopter Weapons Systems. Your contributins to these important weapons systems have made a positive impact on the success of this Center and most importantly, the Navy's future ASW capabilities.

Michael Mocenter, (Code 5013): For your support of the 1st Marine Division in their support of Operation Desert Shield. You have made a significant contribution to the U. S. Marine Corps.

Fred Shocket and John Mochulski, (Code 7013): For your selfless dedication and significant contributions made to the production of quality documentation, hosting an industry brief and the technical evaluation of the contract proposals relative to the award of the TAMPS Software Modification and System Integration Contract.

R. W. Moore, (Code 8141); J. R. Hughes (Code 8142): For your outstanding support in providing calibration services to the U.S. Coast Guard. Efforts such as yours serve to enhance the stature of the Center.

Frank Drummond, (Code 845): For your leadership and expertise which are essential to the successful completion of CNR's Personnel Review Panel task. Your participation brings credit to the Center, the Supply Department and your superlative Contracts Division.

Thomas Reiter, (Code 845): For the positive spirit of cooperation and time you spent with representatives of the Naval Air Engineering Center Contracts Department. It is truly a pleasure to hear such glowing comments regarding your cooperative customer service attitude.

Fire chief Donald Meadows, (Code 9012): For you and your personnel in your expression of sympathy for your fellow fire fighters of the City of Philadelphia Fire Department who perished in the tragic fire at Meridian Plaza. Your kindness and support is indeed commendable.

Dear Editor:

Today as I was walking to the post office from building 125, I encountered two smokers in non-smoking areas.

One was on the bridge connecting building 2 with the GPS building: the second was outside the Center Auditorium. I politely informed each they were not smoking in a designated area. The first questioned why, then, there was an ash receptacle there. I told him it was there so people entering from the outside could put out cigarettes.

A minute later, I spoke to a woman smoking outside the auditorium. She replied nastily, "Who are you?" Annoyed myself, I said I was an employee and a breather.

There are many other times I've passed smokers in non-designated areas. Clearly, there is ignorance and disregard for the smoking an health regulations on Center. May I ask your assistance to please publish what the smoking regulations are so that we may all be better informed. Thank you.

Sincerely,
Frank A. Corredine, Code 4032

Dear Frank

The Centers smoking policy has two thrusts: involuntary/passive smoking poses a significant health risk to nonsmokers and smokers have a right to smoke. The policy goal is to create a social environment in which smoking abstinence is encouraged. Employees have a freedom to smoke as long as they don't infringe on another's freedom not to be exposed. NAVAIRDEVCENINST.5100.34A spells out everyone's rights and responsibilities relating smoking.

NADC Reflector
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May 1991

NAVAL AIR DEVELOPMENT CENTER WARMINSTER, PA.

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Public Affairs Officer . . . . . **James S. Kingston**
Editor . . . . . **Lawrence L. Lyford**
Assistant Editor . . . . . **JO2 Michael Delledonne**
Assistant Editor . . . . . **Margaret Vigelis**

Carl D. Reitz, Code 201R; John J. Dorff, Code 6011, and Membership Chairman of the Greater Philadelphia Chapter of AIAA; John W. Clark, Code 6053; and Captain Curtis J. Winters stand before Brewster wing after award ceremony for Reitz and Clark.

Women's History Month celebrated at the Center

By Mary Eileen Farrell and Nancy Whitesell

The commemoration of Women's History Month began March 7th at a buffet luncheon in the NADC Barnaby Room with honored guest speaker Dr. Julia Cummings, a well-known author, speaker, and Temple University professor.

Speaking on "Managing Stress With A Sense of Humor" Dr. Cummings encouraged the audience to increase its awareness of daily activities and to use laughter as a structured means of relieving tension and pain.

Center employees had the opportunity on March 14, to attend a brief seminar on "Two Career Families" presented by Jan Radabaugh, a counseling expert from Bucks County Community College.

On March 28, employees filled the Center auditorium to attend a personality workshop, "Improving Interpersonal Communication Skills," given by Ayn Decker, Director and Founder of Creativity Lab, in Doylestown. This included a brief personality indicator and a discussion of how different personalities communicate and interact with one another in the workplace.

Throughout March the solarium bulletin board displayed the theme "American Women: Four Centuries of Progress" with pictures and short biographies of famous women in history who made significant contributions to such fields as: law, medicine, physics, education, journalism, and politics.

This year's activities were organized by Federal Women's Program Committee (FWPC) members Marianne DeCicco, Code 032, Lam Ta, Code 6061, Ruth Pickering, Code 1021, Elizabeth Piergiovanni, Code 2021, and Margaret Russo, Code 6062. According to FWPC Chairperson Margaret Russo, "The subcommittee worked very hard and the month was very successful."

Engineers receive AAIA awards

Carl D. Reitz, Code 201R, Unmanned Space Vehicles and John W. Clark, Code 6053, Flight Dynamics Branch both received awards from the Greater Philadelphia Chapter of the American Institute of Aeronautics and Astronautics (AIAA). Reitz received the Aviation Systems Award for engineering excellence and dedication to the Navy's Unmanned Air Vehicles program and Aviation Systems. Clark received the Ground Testing/Simulation Award for Engineering Excellence in support of the Navy's Simulation Program for the three aircraft programs.

"Carl and John have reason to be justly proud and congratulated for having been selected for these awards. They were not only selected from among their peers here, but from the Greater Philadelphia Aeronautic and Astronautic community," said John J. Dorff, Code 6011, Design and Engineering Branch and Membership Chairman of the Greater Philadelphia Chapter of AIAA.

Security Reminder

Want to be the center of attention? Leave classified papers around

Lonely? Want to meet new people? Want to be the center of attention? *Leave your safe open or classified material adrift on your desk.* These are ways to influence people who wear a badge and a gun. When you are working with classified material, ensure it is all returned to the container when you are finished. Close the container carefully, spin the dial four times in the same direction past "0" and check *each* drawer to ensure *its* are locked properly. (Chapter 11, NAVAIRDEVCENINST 5510.13D)

Galley reopens in grand style after a two year hiatus

By JO2 Michael Delledonne

A giant step was taken in the face-lift of NADC's BEQ as the galley officially reopened after a two year hiatus. Congressman Peter H. Kostmayer: Center Commander, Captain Curtis J. Winters and Food Service Officer MSC(SW) Renato Rilloraza officiated at the ribbon-cutting ceremony.

"It sure is nice to see it open again. There was a time when we didn't know if this was going to happen," said AFCM Joseph Valentino. "There was a lot of doubt. Some forces wanted it closed due to financial considerations and others wanted it reopened. The important question was how were we going to feed our people?"

According to Rilloraza, there was a lot of hard work involved. "It's a big operation. We have new people who came from the Fleet," he said. "They have been working in other departments and not working within their own rate. Shore duty is a totally different environment than sea duty, but they're doing an outstanding job."

Rilloraza described the opening as a smashing success. "We had a lot of compliments ranging from the appearance to the quality of food. There were some minor complaints, but we take that criticism and use it to make ourselves better."

Several goals have been set by the food service personnel including projecting a seven week menu, getting a computer to help maintain accurate records and establishing a Menu Review Board. "We'll take into consideration the preferences of the crew," explained Rilloraza. We'll offer a variety of items including low calorie menus for those who are health conscious and provide as many fresh items as possible."

"We want everybody to know we take care of our people," said Valentino. "The galley will give the crew a meeting place with a very pleasant atmosphere and hopefully will foster a togetherness among the troops."

The bottom line is can the galley stay open? "We have to operate in the black and that's very feasible," said Rilloraza. "With the people here working as hard as they have over the past few months, it will happen."

AMS1 John Sablyak and ADCS Robin Cooker enjoy the galley's salad bar.

New strategy drives Force Structure changes

American Forces Information Service

The new Defense Department budget request continues the about-face in defense planning reflected by world events.

The military's force structure won't be geared for global conflict with the Soviet Union on short notice, said Secretary of Defense Dick Cheney.

The Navy will face a 20 percent reduction of its fleet.

Atlantic forces will be configured to meet the requirements of the Conventional Forces in Europe treaty. Pacific forces will provide regional access and a base for power projection, Cheney explained.

A U.S.-based contingency force will be able to deploy quickly to trouble spots around the world for crises limited in scope and time, Cheney added. "We can now focus more upon regional contingencies rather than the need to be prepared for a global conflict with the Soviet Union on short notice," he said.

The fiscal 1992-1993 DoD budget request addresses this strategy, said Cheney. Rapid response to global crises requires superior U.S. force capabilities. This requires high-quality personnel, vigorous defense research and development, advanced military systems, an ability to deploy military power rapidly to areas of U.S. strategic interest and preservation of an industrial and technology base.

To preserve the technological superiority of U.S. forces, the fiscal 1992 research, development, test and evaluation budget authority will be 10 percent above fiscal 1991 levels. DoD technology base funding — $3.9 billion for fiscal 1992 and $4 billion for fiscal 1993 — includes high performance computing and improved materials for electronics, gas turbine engines and airframe components, continued Cheney.

Consistent with streamlining its force structure, U.S. military manpower levels will decline because fewer people are needed for the smaller force, continued Cheney. By the end of fiscal 1995, active military will decrease to 1.653 million, about 24 percent below the post-Vietnam peak of 2.174 million in fiscal 1987.

National Defense

Cheney says new defense strategy reflects new era

American Forces Information Service

America's defense strategy is on the threshold of a new era. It reflects technological advances, political change and cautious restructuring.

Defense Secretary Dick Cheney recently outlined his six key strategic elements for a Georgetown University audience in Washington, D.C.

First, the United States needs to maintain a system of alliances worldwide, Cheney said. "Our way of life cannot remain secure in isolation."

Second, the United States will maintain forward-deployed forces. Cheney noted that America's security structure in the Persian Gulf failed on Aug. 2, 1990. "Therefore, we will enhance our presence compared to the pre-crisis period," he remarked.

Third, the United States must retain enough mobility to respond to crises and to reinforce forward units. The United States will increase the amount of prepositioned equipment and material to expedite deployments.

The new strategy shifts focus "to regional threats and the related requirements for forward presence and crisis response," he said.

Another set of threats includess insurances, terrorism and drug trafficking.

Fourth, the United States needs a robust Navy to control the world's oceans. Free access to waterways and control of the seas is vital for the economy and security of America and its alliances. During Desert Shield operations, the Navy demonstrated the importance of naval strength and strategy, Cheney noted.

Fifth, the United States must be able to reconstitute its forces should they be needed.

For that reason, the secretary said, "Our strategy recognizes the need to be cautious as we proceed with plans to reduce and restructure our forces. We will have smaller forces. In fact, on our current course, by the mid-1990s, America will be spending only 3.9 percent of our gross national product on defense. That's less than at any time since 1939.

Sixth, the United States needs to preserve a strong strategic offensive and defensive capability. The Soviets retain significant strategic capability and will have a fully modernized nuclear force by the mid-1990s.

Also, by the year 2000, Cheney said, "It is estimated that at least 15 developing nations will have the ability to build ballistic missiles — eight of which either have or could be near to acquiring nuclear capabilities. Perhaps some 30 countries will have chemical weapons, and 10 will be able to deploy biological weapons as well."

Cheney emphasized that the technological edge witnessed during Operation Desert Storm was developed decades ago. "The decisions made today will dictate whether or not this nation keeps pace with the rapid changes in the weapons of war. New strategies and equipment must be developed today if we want to be ready for the battlefield of the future," he added.

W&R had a successful trip

According to Peter Youssef and Joe Cooke the trip's coordinators, the bus was on time and everyone was ready and left NADC at 7:30 A.M. — right on time.

After arriving at Annapolis they met their tour guide, Harry, and visited the sights. His knowledge of the area's history was impressive, said Youssef. "Harry's vivid descriptions made everything come alive, taking us all back to a time when our nation was young."

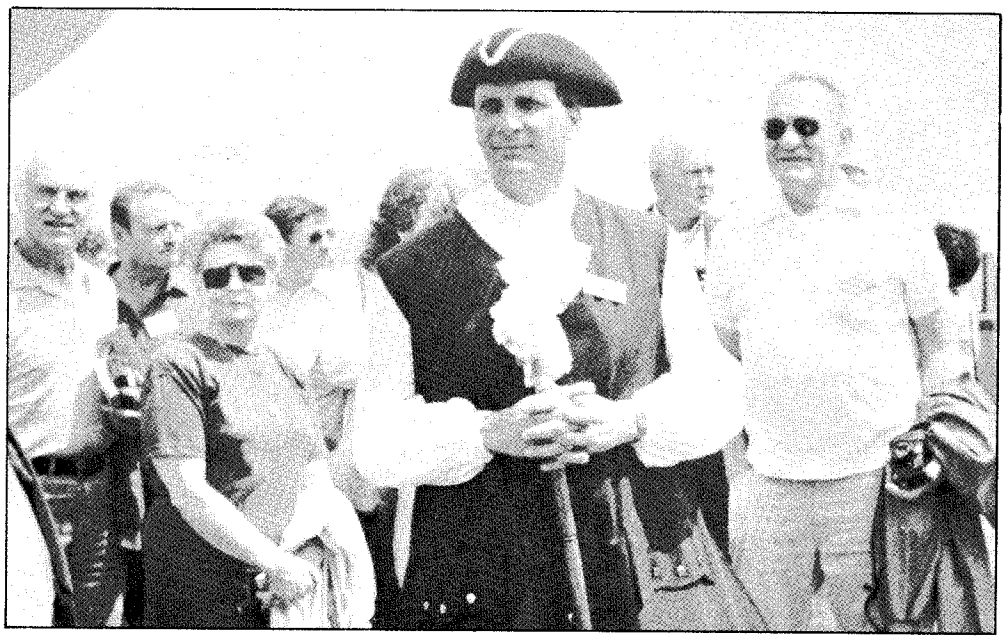
Later that day, everyone boarded a tour boat and enjoyed seeing Annapolis from the water.

Early the next morning in Washington they visited the monuments, Embassy row, Georgetown, the Old Post Office, Union Station, and the Smithsonian museums. Then, said Youssef, as we headed for home, we stopped for a relaxing dinner, returning to NADC around 9:30 PM tired but happy. "As group leader, I was pleased with the way everyone was helping one another — it really showed the NADC spirit."

"Our Boston trip is filled, but Montreal is coming up in September. To find out more about this great trip come to the Center auditorium on Thursday, June 13, at 11:30 A.M. for a 30 minute slide presentation. All are invited to attend," said Youssef.

If anyone has suggestions, recommendations on trips/shows/events he or she would like to see offered call Peter Youssef, Ext. 7210, or Joe Cooke, Ext. 7210. They'll try to do their best to please everyone.

Joe Cooke (center) and NADC Cohorts pose on the steps of the Lincoln Memorial. Smiles abounded throughout the trip.



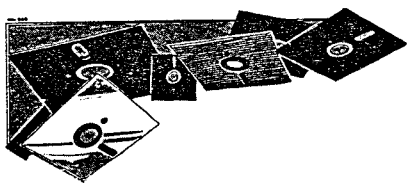
NADC travelers see the sights and hear the accounts of our heritage from Arlington tour guide, Harry, who added a bit of "Colonial flavor" to the tour. Harry showed history is interesting if presented well.

NADC Civilian W&R announces Summer events schedule

By Peter Youseff and Joe Cooke

W&R has been busy planning baseball games, trips, and shows. A sampling of things to come in 1991 are:

- Phillies Games
vs Houston, Thursday, June 20, 7:35 P.M.
vs LA, Monday, July 15, 7:35 P.M.
vs MTL, Monday, August 12, 7:35 P.M.
vs Houston, Wednesday, August 28, 7:35 P.M.
- 3 day trip to Boston, June 28-30
- 4 day trip to Montreal, September 13-16
- 1 day trip to Baltimore Aquarium, in the Fall
- An overnight trip to Gettysburg is in the planning stage
- Les Miserables, Sunday, October 13, 8:00 PM (discounted Tickets) Philadelphia
- Phantom of the Opera, Philadelphia, sometime around February 1992
- Miss Saigon, New York, Summer 1992.



Cyber electronic mail system quick reference guide

This quick reference guide describes the procedure that will allow you to easily retrieve and send mail using the Electronic Mail System (EMS) on the CYBER Central Computer System (CCS). It is presented to encourage wider use of the Electronic Mail System. If you desire more information it can be found within Technical Memorandum 85-8429 available from the Computer Department.

ACCESSING THE CENTRAL COMPUTER SYSTEM FOR ELECTRONIC MAIL

These instructions describe how to log into the CCS using the NADC COAS Managerial or Secretarial Workstation.

1. At the first screen of the COAS Menu select #1 Crosstalk, then press RETURN.
2. At the second screen (Crosstalk XVI menu) select #1 Crosstalk, then press RETURN and follow below.

At this Prompt	You Type
At the cursor	Press return
#	call ccf0 (press RETURN)
# CALL COMPLETED...	
USER NAME:	Your Account Number (press RETURN)
PASSWORD:	Your Password (press RETURN)
#######	
JSN: ADHL, NAMSAF.	
/	Menu (press Return)
Welcome to NADC CCS	select Electronic Mail (press RETURN)

LISTING MAIL

1. To list your incoming letters:
   at "Command ?" type "list i." (press RETURN)
2. To list your outgoing letters:
   at "Command ?" type "list o." (press RETURN)
3. To list your filed letters:
   at "Command ?" type "list f." (press RETURN)

READING MAIL

1. To read a specific incoming letter:
   at "Command ?" type "read i.x" (press RETURN)
   where x is the number of the specific letter.
2. To read outgoing letter #2:
   at "Command ?" type "read o.2" (press RETURN).
3. To read filed letter #5:
   at "Command ?" type "read f.5" (press RETURN).

FILING MAIL

To file a specific incoming letter in your filing cabinet:
at "Command ?" type "file i.x" (press RETURN)
where x is the number of the specific letter.

RESPONDING TO MAIL

To answer a letter just read:

a. At "Command ?" type "answer" (press RETURN).
b. At "Subject ?" press RETURN for the current subject or type a new subject and press RETURN.
c. At the EMS message prompt, type your response.
d. Press RETURN at the end of each line.
e. When you are finished and at the beginning of a blank line: type a period (.) and press RETURN.

SENDING MAIL

1. Use a person's NOS account number to reference the person.
2. Message Format:
   a. At the EMS "Enter your message" prompt, type your message.
   b. Press RETURN at the end of each line.
   c. When you are finished and at the beginning of a blank line: type a period (.) and press RETURN.
3. To abort a message: at the beginning of a blank line, type a semicolon (;) and press RETURN.

For example, if you want to send a letter about training to accounts AB5678 and AB6354, you would:

At This Prompt:	You Type
Command ?	send AB5678 AB6354 (press RETURN)
Subject:	Training (press RETURN)
Enter your message.	
Terminate with a "."	
	Training will begin (press RETURN)
	at 0800 on 4 Mar 91 (press RETURN)
	(press Return)
Letter sent.	
Command ?	

DELETING MAIL

To delete a specific incoming letter:
at "Command ?" type "delete i.x" (press RETURN)
where x is the number of the specific letter.
To delete a filed letter #3:
at "Command ?" type "delete f.3" (press RETURN).

Garrett Augutus Morgan's invention still protecting life

By Lawrence L. Lyford

Few Americans assigned to Operation Desert Storm, with family in the Near East or those living in Israel have ever heard the name Garrett Augutus Morgan.

He was the inventor of the original gas mask, a vital part of the protection of our ground, sea and air forces in the Middle East from Iraqi Chemical/Biological (CB) threats. What he invented will now be used to help others extinguish the burning oil wells left burning by the Iraqi forces.

How important were the gas masks? Recently, some in the Middle Eastern part of the world paid up to $1,500 for their gas masks. Said one purchaser, "Sure, its a lot of money if I don't need it. If I do, its not expensive at all."

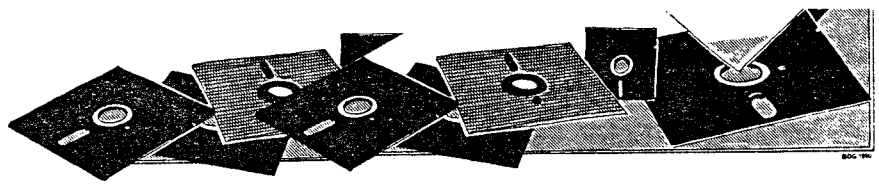
Morgan developed the gas mask in 1912. Morgan's mask had a hood, breathing tube and filter. In 1916, he used it, himself, to rescue 20 trapped mine workers. His original mask was used in war time, as well as in fires and mine disasters.

Updated gas masks were significant components of CB protection made available by the Center to Desert Storm aviators.

A black inventor, born in Paris, Ky., Morgan lived from 1877 to 1963.

Morgan added to the long tradition of black inventors developing novel ideas to improve the human condition. This tradition was obscured but not lost even under pre-Civil War slavery in which blacks either could not legally obtain patents or the rights were owned by their masters.

Readers may remember the inventor of the gas mask when they are waiting for a traffic light to change because he invented our modern traffic light too, and sold the patent rights in 1923 to General Electric, Inc. for $40,000.



HELP

The following on line help options are available:

help	Prints explanation of available commands.
help,and	Prints explanation of specified command.
?	Prints list of available commands.
and?	Prints an explanation of how to use the command.
and,?	Prompts for all parameters of specified command and executes.
and	Prompts for required parameters for specified command and executes.

TERMINATING YOUR EMS ACTIVITY AND LOGGING OFF THE CCS

1. To leave the mail system:
   at "Command ?" type "quit" (press RETURN)
2. The following steps describe the procedure to leave the Electronic Mail System and log off the CCS.

At This Prompt:	You Type:
Command ?	quit (press RETURN)
Welcome to NADC CCS	select Logout (press RETURN)
HOST DISCONNECTED...	
#	press the END key
	quit (press RETURN)
Communications Menu	Select Return to the Main Menu (press RETURN)

THE ELECTRONIC MAIL SYSTEM OVERVIEW

Commands

1. EMS prompt is "Command ?".
2. Commands may be in upper or lower case.
3. Commands may be spelled out or abbreviated with the first letter. For example: quit or q.
4. If you do not reference a command with a letter, the command will default to the most recently accessed letter.

Letter Types

1. Incoming mail (new or old) is mail you receive.
   Format is "I." or "i.". i.e.: Incoming letter #4 is I.4 or i.4.
2. Outgoing mail is mail you send out.
   Format is "O." or "o.". i.e. Outgoing letter #2 is O.2 or o.2.
3. Filed mail is mail received, read and filed.
   Format is "F." or "f.". i.e.: Filed letter #5 is F.5 or f.5.

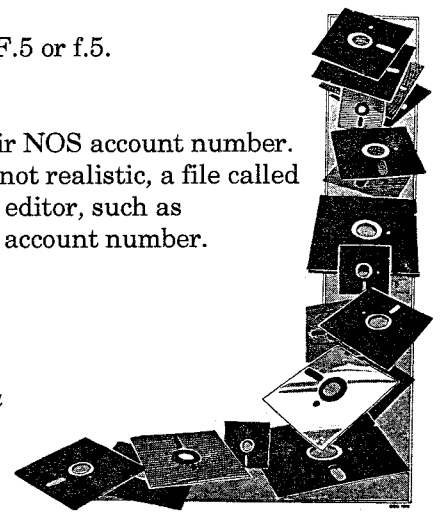
Users

1. Users of the Cyber EMS are specified by their NOS account number. Since remembering many account numbers is not realistic, a file called "ZIPCODE" can be established with any Cyber editor, such as FSE, to relate a person's name with their NOS account number.

For example:

JOE=AB9876
DEBBIE=AB2211
ADMIN=JOE/DEBBIE

For additional information on establishing a ZIPCODE file or any aspect of CYBER EMS do not hesitate to call User's services on X-3219.



Morale, Welfare, and Recreation offering swimming lessons

By Heather O'Rourke

Morale, Welfare and Recreation will be offering Red Cross Swimming Lessons during the summer season. Lessons will be open to children ages 5 through 12 years.

Swimming lesson sessions will run concurrent with the Summer Day Camp sessions and can be included in the camp package.

twelve 1/2 hour lessons will be offered in two four-week sessions (June 17 through July 12 and July 15 through August 9) and one three-week session (August 12 through August 30). Classes will be held from 9 to 10:15 a.m.

Children will be placed in Beginner, Advanced Beginner or Intermediate level classes based on ability not age.

However, every effort will be made to keep same age children together in similar ability level classes.

Lesson fees are $20 per session without camp registration or $15 with camp.

Swim Lesson registration will be held at the Youth Center beginning May 1. For more information call Ext. 2510 or Ext. 7233.

Swimming lessons for children under the age of five will be offered if interest warrants. These "Water Babies" classes are geared to toddlers 10 months to 4 years and teach water awareness.

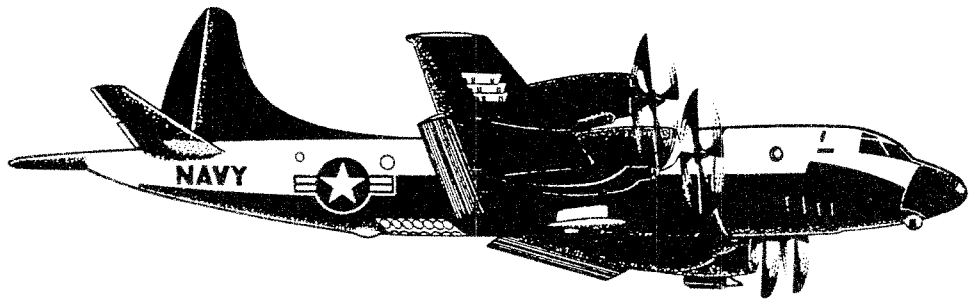
The lessons strive to make toddlers water safe and help them to feel comfortable in the water. One parent must accompany the child in the water at each session. Parents interested in these lessons should call Heather O'Rourke, MWR Marketing, Ext. 2510.

If the SOC fits

No Lobbying allowed on the Job

Last month's column discussed the rules regarding lobbying. The column was written in late March, amid rumors of NADC's possible placement on DoD's list of bases recommended for closing and realignment. Since that time, NADC has been placed upon the DoD list, and the matter is now in the hands of a Base Closure Commission, which will issue *its* proposed list on or before 1 July.

The rules I addressed last month involved lobbying, i.e., communications made to one or more Members of Congress intended to influence them concerning a proposed course of action. In essence, those rules provide that lobbying cannot be undertaken with appropriated funds, i.e., on the job, but it is perfectly permissible on one's off-duty hours. Now that the matter is before the Base Closure Commission, some different considerations come into play. To attempt to persuade the Commission to do something (e.g., remove NADC from the proposed list) would not constitute lobbying since the Commission is not made up of Members of Congress. Nevertheless, it is the official position of the Department of Defense that NADC is in large part proposed to move to Patuxent River, and for any of us to communicate with the Commission in an effort to undermine or take issue with that decision *on the job*, i.e., on government time or with government resources, could be construed as a form of insubordination. DoD has rendered its decision, and any of us who seek to challenge that decision on the job should follow proper channels and pursue the matter up through the chain of command. If, on the other hand, any of us want to express our views on the matter *off the job*, in our own capacities as private citizens, we have a right to do so. The courts have said, however, that while government employees retain their basic first amendment right to freedom of speech, that right is not unlimited, and must be balanced against the government's rights as an employer in efficient management. Obviously, any outside comments regarding the DoD decision would call for the exercise of some judgment and tact (and the higher one's position within NADC, probably the more judgment and tact is called for), but as a general proposition, it remains a basic first amendment right of citizens to comment upon matters of public concern. In summary, it is perfectly permissible for any of us to write letters or sign petitions to the Commission, but any such efforts must be undertaken off the job and on our own time.



Center marks 16 years of accident free flying

By JO2 Michael Delledonne

Team effort is essential for overall success in any successful organization. That was evident at here where the Center's aviation team completed its' 16th year of accident free flying.

Lt. Michael Millazo, NADC Safety Officer, attributed the safety record to quality pilots and a determined maintenance crew.

"The caliber of our pilots is second to none. Most were tops in their squadrons and that's why they come here after being in the Fleet," said Millazo. "The Maintenance Department has been doing its job and obviously doing it very well over the past 16 years. You don't go accident free this long without a strong maintenance effort."

During these 16 years, aircrews have logged 44,296 flight hours and missions to such remote destinations as Iceland, Italy, Germany and Kenya. This past year alone, Center pilots and crews flew 2,500 hours 349 of them at night.

Headed Anti-Submarine Warfare Module

Remember Captain RDASWM?

By Jim Kingston

The Center is noted for Research and Development (R&D) on the shipboard Antisubmarine Warfare Module (ASWM). We, and the Navy in general, are also noted for the use of such acronyms as R&D and ASWM. These very useful shortcuts permeate our everyday language.

Now, someone has come up with a new application of the two acronyms — R&D ASWM. Bob Hefty of Code 6013 uses them to remember the names and sequence of six Center commanders, including the incoming replacement for CAPT Winters, CAPT William McCracken. Here's how it looks:

R - Rigsbee
D - Dudley
A - Anderson
S - Sturm
W - Winters
M - McCracken

It may never become a question on TV's "Jeopardy", but it's an interesting addition to NADC trivia.

Enlisted sailors offered the chance to become Navy pilots

By Michael Delledonne

Navy personnel can become a part of the future in Naval Aviation in the Naval Aviation Cadet (NAVCAD) Program.

The NAVCAD program offers single sailors a proven path to professional accomplishment in the Navy with the education, training and experience available to them in Naval Aviation.

The program is open to 19-24 year-olds, single males and females, with no dependents, and at least two years of college education.

After selection and completion of flight training, a NAVCAD will be commissioned an Ensign, United States Naval Reserve (USNR) designated 1315.

NAVCADS selected for augmentation will be provided the opportunity to pursue a Bachelor's Degree at a civilian institution prior to 10 years of commissioned service, while receiving full pay and allowances; tuition and other school related expenses will be paid for by the NAVCAD.

For more information and application guidelines call AT2 Levault at ext. 2159.

Navy corpsman received war's first Desert Storm Purple Heart

Eastern Saudi Arabia (NNS)

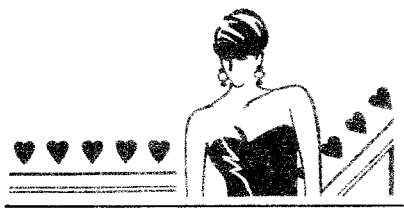
A few hours after the liberation of Kuwait began Jan. 17, Navy Hospitalman Clarence Dean Conner became the first American to earn the Purple Heart during Operation Desert Storm.

Conner became the first official U. S. ground force casualty after he and seven Marines were on the receiving end of an Iraqi artillery barrage.

"I heard a whistle, like something was falling, then a whole bunch of explosions in a row," Conner said. "It all happened so fast."

Shrapnel from an Iraqi shell tore a three-inch hole in his right sholder, severing a nerve.

"L.A. Looks" coming to the Club day before scheduled opening



Morale, Welfare and Recreation will present "L.A. LOOKS", a Spring and Summer fashion show, on Thursday, May 30. In addition to a spectacular production of exciting and colorful spring and summer fashions ranging from swim wear to formal wear, the event will give show-goers a sneak preview of the newly renovated Club, scheduled to open the next evening.

This Spring/Summer event has a tough act to follow, coming after the highly successful November '90 show.

However, MWR feels up to the challenge with a show featuring men's and women's clothing from Annie Sez in Doylestown, men's clothing from the NADC Navy Exchange and Formal Affairs Tuxedos in Hatboro and women's clothing from Panache of Hatboro and Necessary Accessories of Warminster.

Other sponsors include Miller Brewing Co., Mary Kay Cosmetics, World of Music, SATO Travel and Creative Cuts of Warminster.

This show will also feature a surprise segment - something previously untried in other shows.

Models for the May 30 show will be: James Dean Pipkins, Mac McClerklin, Edward Parker, Joe Emperly, Tom Eichstaedt, Dennis Hargis, Rob Long, Joe Valentino, Dan Murphy, Pete Konopelski, Eric Benner, Gary Mandeville, Fred Pappalardi and Greg Parker, Debra Chaffin, Margaret Vigelis, Dotty Harner, Caroline Cobb, Terry Reis, Beth Mumford, T.J. Dudley, Melissa Caizza, Dee Wilkerson, Lisa Truesdale, Carole Preston and Mia Dudley.

MWR will offer two showings of the event this time to allow more people to experience and see the event. As in the past, the first show will be a lunch time production scheduled to begin at 11:45 am and running until approximately 12:30.

The $11 ticket price will include admission to the show, a buffet lunch and door prizes. After this lunch showing is sold out, MWR will then sell tickets to a cocktail hour show scheduled for a 6 p.m. start. The cost of the cocktail hour show is $7.50 and includes admission to the show, a complimentary beverage, heavy hors d'oeuvres and door prizes.

All guests will receive discount coupons good for food and beverages at the new Club.

Tickets are scheduled to go on sale May 1 and will be available from the Public Affairs Office and from MWR. The last show sold out in four days, so, make your plans and buy your tickets early. (Remember, the cocktail hour show will only be available after the lunch show is sold out.)

For more information call Heather O'Rourke or Tammy Edmundson at MWR Marketing, Ext. 2510.

Sailor plans to be a physician

Hospitalman Jesse Hopper named Bluejacket of the Quarter

By JO2 Michael Delledonne

Every sailor nominated for Bluejacket of the Quarter displays qualities above those of their peers and that was no exception for Hospitalman Jesse Hopper who was selected NADC Bluejacket of the Quarter, second quarter 1991.

HM1 Thomas Hughes, Hopper's leading petty officer, said the award was well deserved. "He displays unusual motivation, organization and leadership skills that you don't often see even in some senior petty officers." He added, "Jesse shows a can-do attitude and uses his resources to get the job done. Barriers do not get in his way and he freely accepts responsibilities, whether they're his or not, to contribute to the overall effectiveness of the clinic."

Hopper, 20, said he was surprised about his nomination. "I just do my job, but I think I do it very well. I've been doing the same thing for the past year-and-a-half, but I didn't even realize my performance was being noticed."

Originally from Bloomsburg, Pa., Hopper handles the administration duties which includes quality assurance minutes, quality of care reports and ordering correspondence courses for training. He also verifies medical records and handles supply.

Even with all those duties, Hopper's favorite part of the job is taking care of people. "You do what you can for the patients, whether it's providing moral support or physical help," said Hopper. "It's hard to separate your emotions especially with dependents because you've got little kids coming in hurt and you have to stay calm in order to do your job. I don't think anybody can separate those emotions completely."

Hopper said he was very happy when he learned of his selection. "I was really excited. The first thing I did was call my dad who is a retired senior chief. He was very proud."

With his sights set on a Navy career, Hopper has definite goals. "I just took the third class exam and I feel pretty confident about it. When, not if, I make second class I'll apply for the Enlisted Education Advancement Program and try to become a physician by the time I'm 30."

"Gray area" retirees gain another shopping privilege

By Lois Giovacchini

New Commissary and Exchange shipping privileges were extended to "gray area" Reservists under the National Defense Authorization Act of FY 1991. The act also authorized these Reservists to use Navy Lodges and other Morale, Welfare and Recreation (MWR) facilities.

"Gray area" reservists are those who have served honorably for 20 years, are entitled to receive retired pay at age 60, but have not yet reached age 60.

Recently, they had no benefits at all during this "gray," limbo, period. They were no longer "red (ID) card" drilling reservists, but they could be mobilized. The weren't yet "gray card" retirees. So they got called "gray area" reservists.

Sometimes, this, limbo period lasted 20 years or more — with no benefits. Unlike active duty military who may retire with pay immediately after qualifying, Reserve members have to wait until they reach age 60 to retire with pay and be considered legally retired.

"This new act means these gray area reservists and their families can fully enjoy the purchasing benefits of their dedication to their country," according to a spokesperson of the Navy Resale and Services Support Center, "Shopping at both the Commissary and the Navy Exchange is a sure way for members of the Navy family to get value, savings and service." (The priveledge extends to reservists of *all services*.)

These reservists now may join Center employees who regularly shop at the McGuire-Dix and Philadelphia Naval Base facilities.

Navy Commissaries recently announced new procedures allowing these retirees to shop in their stores with a Reservist Commissary Privilege Card. Using this card, retired Reservists in non-pay status are no longer required to wait until age 60 to enjoy Commissary privileges.

The new card policy requires Reservists to show a Commissary Privilege Card and a Reserve identification card, upon entering a store. This card records each visit and authorizes 12 visits a year.

This card may be used by the Reservist's family members. All they will need is this RCPC card if it lists their names.

"Gray area" retirees and their dependents were granted unlimited shopping privileges at Navy Exchanges in October 1990.

Silbert develops algorithm

continued from page 1.

The algorithm first computes a straight line connecting the start and finish points of the vehicle using it. It then determines if any stretched obstacles will intercept this line. If they do, collision times and locations are computed.

Once future collisions are determined, the algorithm inserts one or more intermediate points just outside the perimeter of the obstacle intercepted, then finds a path from these intermediate points to the destination. This continues until all collisions are eliminated. The path yielding the shortest distance is finally produced.

One version of the algorithm was coded in Common LISP on a Symbolics 3675 LISP machine. Testing has been done on scenarios of five to 45 obstacles. In all cases, the algorithm produced solutions in a few seconds or less. "As a result of this initial testing, we have a very good and general approach to quickly compute paths to avoid dynamic obstacles," said Silbert.

Silbert has worked with Artificial Intelligence (AI) since 1979, before the Center had a formal department. He teaches AI for Penn State locally and just celebrated his son's "9 month" birthday.

Missile misses measured

continued from page 1.

data is lost. But more importantly from an economic standpoint, this system requires no costly modification of the incoming missile. A system requiring modification to a missile to be tested requires $10,000 in modifications for each test shot.

The system's accuracy was verified at Sandia National Laboratories, Albuquerque, NM followed by flight testing at the Pacific Missile Test Center, Point Mugu, CA and at the Naval Weapons Center, China Lake, CA. Milestone III, granting authorization for production, is scheduled for June 1991.

This R&D effort required a dedicated team of individuals at NADC. These individuals were here from the conception of the program and remained throughout its entirety.

They specified the AN/USQ-104 System's performance, reviewed documentation, drawing packages, chaired progress program reviews, participated in meetings, laboratory and field testing of the system.

The NADC team included Ronald Schwartz, Code 2012, Systems Engineer, Robert Greenwood, Code 2011, Configuration Management, Steve Skilton, Code 2011, Reliability and Maintainability, Frank Plonski, Code 5021, Microwave Technology, John Walker, Code 7012, Jerry Robinson, Code 7012, and Brigitte James, Code 7011, Software, Dave Thomas, Code 7021, Electromagnetic effects, and Forestine Akinfosile, Code 8451, and Robert Moy, Code 8453, both of Contracts.

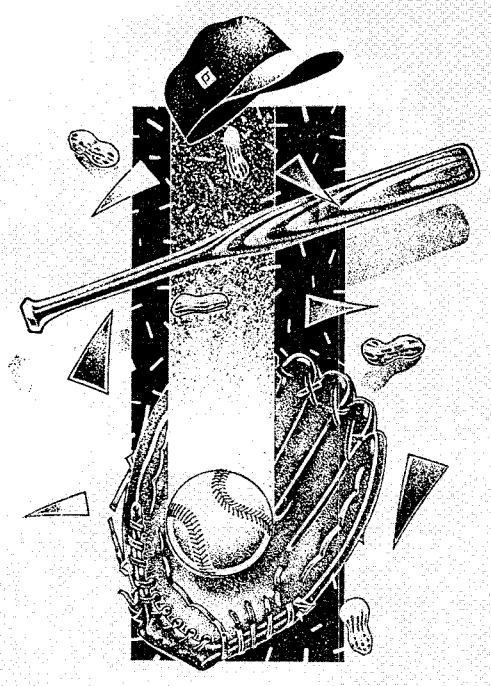
SPORTS WORLD SPORTS WORLD SPORTS WORLD

Renegades take early lead

by Jack Eyth

Duplicating their fast start of last season, the Renegades have jumped out to a 5-0 record and one game lead in the NADC Division of the Softball League. After easily handling the Misfits, 10-2, and the Bearcats, 13-2, they squeaked by the Herassers, Rebels and the resurgent Life Supporters to remain undefeated. The Misfits are right behind the Renegades at 4-1. In the PAX RIVER Division, the Eighth Inning is on top at 4-1, followed closely by the slugging Sand Fleas whose 3-1 record includes victories over the Granfalloon and the Eighth Inning.

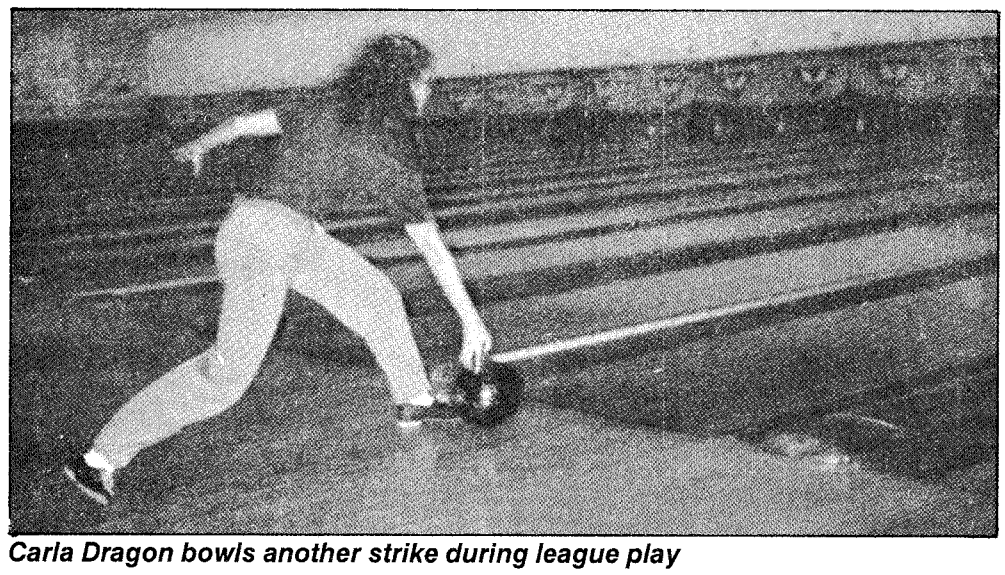
Some interesting developments have taken place on other teams in the League. The Dynatigers have landed a World Class pitcher in the form of Dave McNair and have reduced their league-leading runs-against average to 5.7 runs per game on their way to a 2-1 record. On the other side of the coin, the Bearcats are struggling at 0-4 since their veteran pitcher Skip Reed suffered a broken finger in a pre-season practice. The Granfalloon is looking erratic at 2-3, having dropped decisions to the Eighth Inning, Dynatigers, and finally the Sand Fleas in a slugfest, 20-27.



The most interesting game of the month has to be the 17-17 tie between the Life Supporters and the Rebels. The Life Supporters pounded their way to a 16-0 lead after three innings, only to have the Rebels bounce back to tie the game at 17-17 with 9 runs in the bottom of the 7th inning. At this point the game was called off due to rain. It will be finished as part of a double header the next time the two teams meet.

League Standings in early May

TEAM	WINS	LOSSES	TIES	RUNS/GAME FOR	RUNS/GAME AGAINST
NADC DIVISION					
1. Renegades	5	0	0	10.8	6.0
2. Misfits	4	1	0	13.0	6.2
3. Life Supporters	1	2	1	10.5	12.3
4. Herrassers	1	2	0	6.0	9.3
5. Rebels	0	2	1	11.3	13.0
6. Bearcats	0	4	0	2.8	11.8
PAX RIVER DIVISION					
1. 8th Inning	4	1	0	12.8	9.2
2. Sand Fleas	3	1	0	15.3	13.8
3. Dynatigers	2	1	0	6.7	5.7
4. Granfalloon	2	3	0	8.4	9.6
5. Crush	1	2	0	8.7	10.3
6. Phantoms	0	4	0	5.8	9.8



Carla Dragon bowls another strike during league play

Mixed bowling league news

Banquet plans are rolling on

By Tom Reiter

Plans are under way for this year's banquet which will again be held at the Warrington Country Club, Route 611 and Almshouse Road on Friday night, June 14'th, . This year **Jeff Irvin** is our host in charge of wining and dining. Everyone is looking forward to a special evening.

As the second half approaches it's midway point, both Divisions are, as usual, having very competitive races. Both first half winners are resting in third place ready for a sweep. **Betty Price**'s Spare Us and **Jim Campana**'s Nine Pins claim that their pictures in the February edition of this Reflector were inspiring. Individually, **Al Knobloch**'s 180 average (B Division) and **Kevin Ryan**'s 175 (A Div.) lead the male bowlers. Leading female averages belong to **Kathy Sedlock** at 173 (B Div) and **Carla Dragon** with a 157 A Division weekly average.

League standings and each team's individual high games as of March 1'st were:

A Division			
From The Gutter	22.0-10.0	Bill Pohle(220)	Lorraine Williams(210)
Alley Cats	21.0-11.0	Kevin Ryan(227)	Patty Aspinall(192)
Spare Us	20.0-12.0	Dick Coughlan(211)	**JoAnn Coughlan(216)**
Red Winos	17.0-15.0	George Dobrowolski(212)	**Carla Dragon(216)**
Bullshooters	17.0-15.0	Bobby Smiler(198)	Eileen Cunnane(201)
Ten Pins Standing	16.5-15.5	Danny Chun(221)	Lori Strobel(163)
Oh Split	16.0-16.0	Bob Helm(215)	Terese Wells(184)
Dynamic Duos	13.0-19.0	Scott Fowler(213)	Gina Fowler(185)
Lucky Strikes	11.0-21.0	Bob Gindhart(243)	Mary Feeley(192)
Pinquins	11.0-21.0	Sol Fink(184)	Lynn Fratrik(200)
Tin Pinners	11.0-21.0	Joe Emperly(225)	Jacque Emperly(189)
Les Champignons	10.5-21.5	**Dave Oliver(233)**	Ann Harris(199)
B Division			
Rolling Thunder	22.0-10.0	Matt Meer(238)	Sharon Robinson(227)
Big Spenders	20.0-12.0	Joe Catto(203)	Gina Luce(179)
Nine Pins	19.0-13.0	Jim Campana(242)	Linda Stickney(214)
Steve's Side Show	18.0-14.0	Jim Williamson(236)	Judy Jerdan(202)
Goofers	17.5-14.5	**Al Knobloch(248)**	Lorraine Reidinger(216)
High Time	17.5-14.5	Dom Ottaviano(206)	Colleen Cerino(162)
Warveyhallbangers	17.0-15.0	Jack Figgles(214)	Winona Pelo(204)
Magic Markers	16.0-16.0	Jeff Irvin(219)	Andrea Sicher(225)
Eleventh Frame	16.0-16.0	Ted Weathers(227)	**Kathy Sedlock(247)**
Destroyers	13.0-19.0	Dave MacNeill(237)	Lorrie Wallace(196)
Screwballs	11.0-21.0	Jack Horning(229)	Peggy LaMartine(190)
Gutter Dusters	11.0-21.0	Wes Gleason(250)	Mary Vaughn(211)

League elects new officers and friends see Dom Zaccaria

by Tom Reiter

Dom Zaccaria surprised us with a visit to the lanes on the 27'th of March to thank all his bowling friends for their good wishes during his recent hospitalization. Dom looked great and seems to be recovering nicely from serious surgery; he assured me that he would be joining all of us at this year's bowling banquet. A repeat reminder that the banquet will be held on **June 14'th** at the Warrington Country Club. **Jeff Irvin**, our VP hosting the affair, has contracted with the Pros for our music and promises a rocking good time. The votes are all counted and next seasons' officers have been announced. **Steve Jerdan**, this year's mens league Chief, will be our President (this mixed league has got to be easier than handling a bunch of griping jocks). **Patty Aspinall** takes over for Jeff, maintaining our tradition of electing a strong Vice President (arranging the banquet will give you some practice for your upcoming wedding). **Tom Reiter** moves over from Treasurer to Secretary (we'll find out why no one ever wants this job). **Jack Eyth** volunteered to be our Treasurer (should we get him bonded?). The Executive Board members will be **Sharon Robinson, Helene Goldstein,** and **Carla Mackey** (the President will get excellent support from these three ladies).

High games bowled with one full month to go include **Al Knobloch** 248, **Kathy Sedlock** 247, **Jim Campana** 242, **Dave MacNeill** 237, **Sharon Robinson** 227, and **Andrea Sicher** 225. League high averages - **Al Knobloch** 179, **Kathy Sedlock** 174, **Kevin Ryan** 174, **Carla Dragon** 158.

Wallyball team goes undefeated before injuries

By Heather O'Rourke

Led by Coach Chief Rob Long and the stellar play of Chief Terry Darnell, the NADC Intramural Wallyball team roared to an undefeated record during the intramural season held at the Naval Air Station Willow Grove. However, due too many injuries, the NADC team lost to the Marines in the finals.

In addition to Long and Darnell, the team consisted of Herb Raulston, CDR Pete Kallin and MWR Director Ron Brewer.

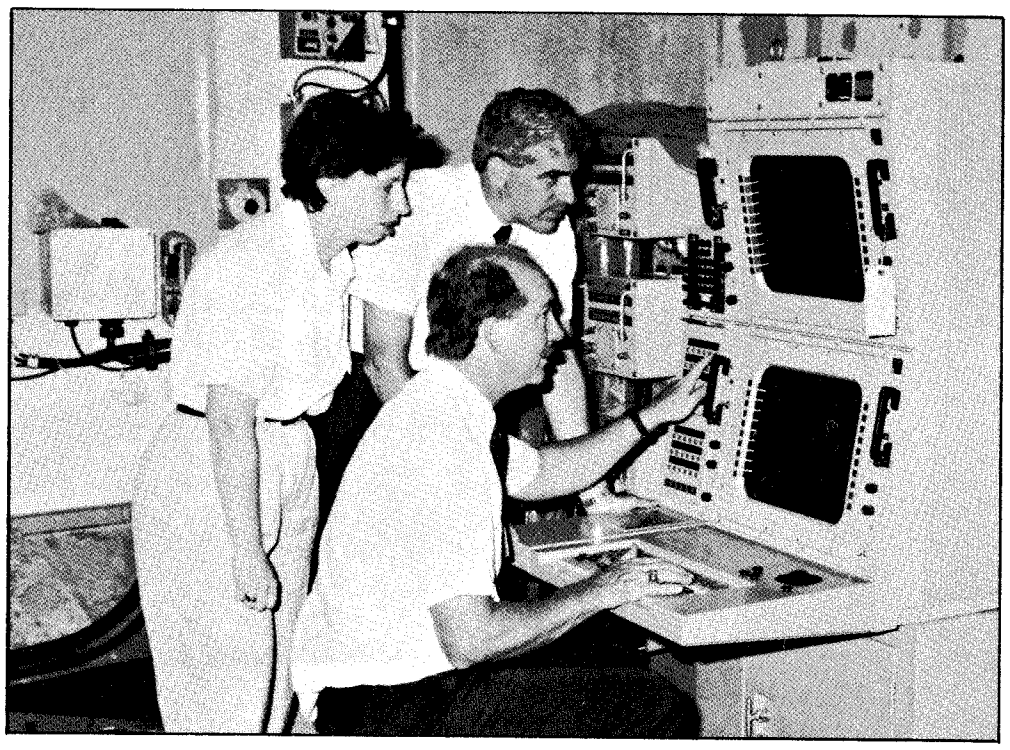
The points earned in this competition were enough to keep NADC in second place in the Captain's Cup Competition.

NADC Reflector

Volume 36 Number 6 NAVAL AIR DEVELOPMENT CENTER, WARMINSTER, PA. June 1991

In This Issue
–ASW Module Upgraded
–Scott for Astronaut
–New CMC Selected
–Winters Pictorial Review
–New Shuttle Suit
–Walkers Raise $1500

Major upgrade to carrier-based ASW module system completed



Vivian DiCristofaro, Jack McFadden, and Bruce Whiteman, Code 10, check out the upgrades to the CV-ASW Module aboard the carrier, KITTY HAWK.

By Vivian DiCristofaro

Under the technical guidance of NADC the Carrier-Based Anti-Submarine Warfare Module (CV-ASWM) has completed several major systems upgrades. The new equipment and software, designated CV-ASWM Model 4.2, provides the fleet with significant enhancements over the previous systems.

The expanded ASW capabilities of the NADC-developed CV-ASWM Model 4.2, coupled with increased processing speed and the resolution of previous system deficiencies, gives our fleet a powerful sea-based ASW analysis potential that closely emulates the capabilities that can be achieved at land-based sites. Operational evaluation will provide the official acceptance of this system for full-fleet introduction.

The Acoustic Analysis Subsystem provides the acoustic data processing and display capability for the system. It functions as an independent subsystem which features and AN/UQX Upgraded Fast Time Analyzer System. This gives the CV-ASWM increased channel processing capability, added vernier capability and increased signal bandwidth.

Acoustic processing capability has also been augmented in the system with the addition of the AN/BQR-22 Acoustic Analyzer. This system enhances acoustic analysis capability with a spectrum analyzer and waterfall display and is used primarily for broadband and active acoustic processing.

The AN/UYK-43 computer is the center of the automatic data processing (ADP) subsystem for the Model 4.2 system. The ADP subsystem also supports the intercomputer interface with the Advanced Combat Direction System (ACDS) and the S-3A/B mission computer interface via magnetic cassette.

Recent software upgrades already installed on board nine carriers, allows

Continued on page 8.

NADC Wins Naval Science and Technology Awards . . . again

By Margaret Vigelis

The Naval Air Development Center has proved once again that its scientists and engineers lead the way in the awards department. This year was no exception, as NADC employees recently received one monetary award and two honorary mentions from The Office of Naval Technology (ONT) for work performed during FY-1989. Presenting the awards on behalf of ONT was Dr. Eli Zimet, Director, Anti-Air Warfare/Anti-surface Warfare/Surface-Aerospace Technology.

The ONT Extraordinary Accomplishment Award for Exploratory Development was given for "The Development of Unicoat-Self Priming Paint." Honors for this go to Charles Hegedus, Anthony Eng, Donald Hirst, and William Green of the Air Vehicle and Crew Systems Technology Department. A cash award of $100,000 went to the Center for future research and development.

Honorable Mentions for Exploratory Development Programs were given to Michael Hess, Stephen Campana, and Thomas Pohle for "HARPSS Infrared Search and Track Sensor" and to Michael Mele, Robert DeChico, Edward Schmidt and William Barclay for "Low Frequency Acoustic Source Projector." All work in the Mission Avionics Technology Department.

These awards honor the accomplishments of not only the Navy's scientific and technology community but university laboratories as well. The awards were established in 1987 to recognize the Block Programs and NADC has been a consistent winner — taking 60 percent of them.

ONT's Dr. Eli Zimet (3rd from right) presented awards to Charles Hegedus, Anthony Eng, Dr. D. McErlean, William Green and Donald Hirst, Air Vehicle and Crew Systems Technology Department.

Scott shuttles his way to astronaut program

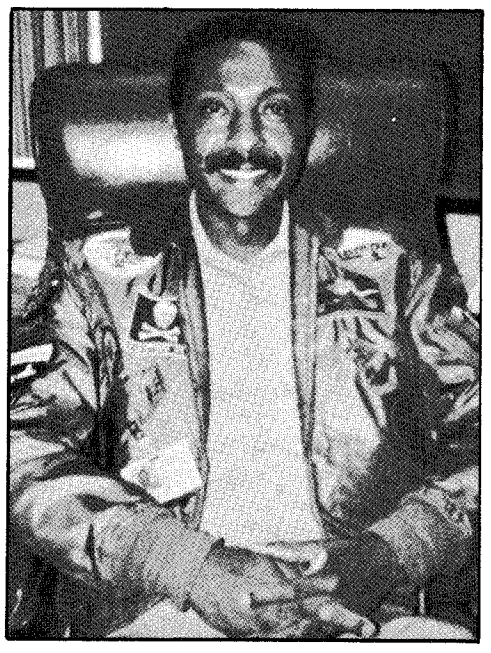
By JO2 Michael Delledonne

Becoming an astronaut is a dream of many youngsters, but it's a dream that doesn't often come true. For Commander Winston Scott that dream is one step closer to reality.

"I saw a message come out last year that NASA was going to be selecting astronauts," said Scott. "So I put together my application package with endorsements from Captain Winters and a few of my past commanding officers and sent it to the selection committee. I requested to be considered for pilot and mission specialist and was selected for mission specialist."

After clearing the Navy hurdle, Scott now becomes one of 2,500 applicants to be selected for NASA interviews which is the second step of the selection process. "Everybody won't be interviewed," said Scott. "NASA will look at

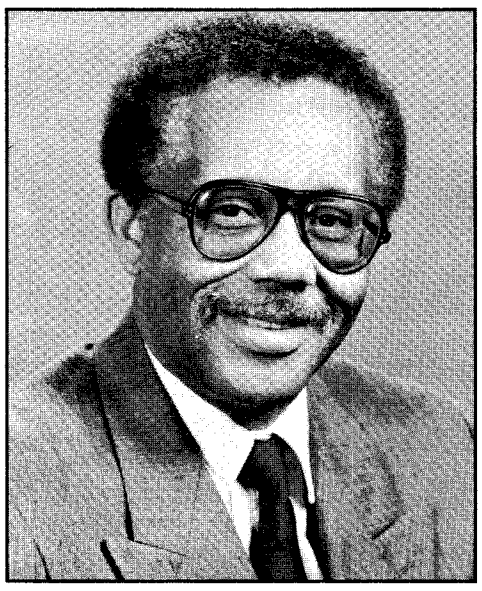
Continued on page 7.



CDR Winston Scott passed the first step in the astronaut selection process.

Command Corner

Captain Curtis J. Winters
Center Commander



Guy C. Dilworth, Jr.
Technical Director

To all hands:

By JO2 Michael Delledonne

With his tour here soon to end, Center Commander, Captain Curtis J. Winters, will leave with many memories of the area. Although he says he'll miss the people of Pennsylvania most, it's their eating customs which will give him hunger pangs in his Virginia home. "Soft pretzels, Dove bars, cheesesteaks, and hoagies will always have a special place in my heart," he said, smiling.

Speaking seriously, Winters admitted, "This is the best job I've ever had because of the diversity of work that is done. There will be a sense of sadness when I leave, but, at the same time, a sense of relief. When you're the focus of everybody's attention all the time there's a certain amount of tension that comes with it. Being out of the spot light will be nice."

The Captain said there were many outstanding Center accomplishments during his tour including: The many patent applications; various technical advances; the fluidic flight control system; the development of the Synthetic Apeture Radar into a flying Navy system; and the coming use of fiber optics in the F/A-18 aircraft; small business, EEO and civilian personnel awards. "There were also accomplishments with the flying of our aircraft all over the world. We went to Germany for six weeks, Africa, Norway, Alaska, Hawaii and Sicily without any problems. In fact, in all the detachments and test flights we've done, I can only think of two or three missed flights."

With all the success the Center enjoyed under the command of Captain Winters, he still feels disappointment. "The disappointment is that all good things must come to an end. Another is the large amount of time we spend justifying our existence. We were looked at for closure in 1988 and 1991 and that detracts from your day-to-day mission."

The Air Warfare Center, according to Winters will have its advantages. "We have already seen evidence of working more closely with Lakehurst and Trenton. I'm sure we'll see more benefits when we work closer with Pax River." He added, "The question is will the new Navy lose any capability due to the proposed move to Pax River? Will there be a lot of experienced people who won't go? I don't know that I can answer those questions. It's already been thought of by smarter people than I."

The Center Commander said his lasting impression will be living in Quarters "A." "It's a beautiful home. I'll miss getting up and walking to work in the mornings past the Picnic Grove trees. The natural beauty of the Pennsylvania countryside will remain a special image in my mind. I'll miss a lot about this place . . . including soft pretzels, Dove bars, cheesesteaks and hoagies."

Commander Salutes

ATCS Carl C. Newton, DPC Terry L. Darnell, ADC Richard Henshaw, ADCS Robin Cooker, ADCS Robert H. Morsdorf, AE3 Scott J. Veno, AW2 Alan L. Labombarbe, AT1 Donna L. Anderson, AMS1 John F. Sablyak, AO1 Darrell R. Watters, AO2 Robert J. Hines, AME2 William B. McElroy, AT2 Ronald Fronheiser, AOC Richard P. Morrone, AMS1 Barry R. Case, AT1 Gary C. Mandeville, AO1 Todd R. Mequet, AD2 Johnna L. Cummings, AT2 Thomas D. Clay, AO1 Robert Schofield, AX1 Macheath Stuecklen, AO2 Gregory A. Perrine, AZ2 Scott E. Rice, AD2 Joseph P. Zarzaca, AD2 John P. McLanahan, AMS3 Anthony McDowell, AT3 Christine Adams, AO1 William W. Maynor, AO2 Lonie L. Johnson, AD2 Gary T. Rippert, AT2 David J. Bailie, AT2 Frank J. McFalls, AO2 Rex A. Hower, ADAN Caroline L. Cobb, (Code 90): For your outstanding participation when the NADC Auxiliary Security Force (ASF) was activated during the elevated Threat Condition between January and March 1991. The security support and devotion to duty you demonstrated were truly outstanding.

MAJOR Kenyon R. Walker, CF, (Code 101); AT2 Joseph P. Emperly, USN, (Code 101W): For your contribution to the developmental testing of the S-3 "Viking" Communications Control Group. Your application of an exhaustive review of anticipated problems aided the contractor in delivering an acceptable product for further testing at the Naval Air Test Center.

Marybeth A. Jupina, (Code 7013): For the level of commitment you displayed in contributing your personal time to present a briefing and demonstration to the Reserve Unit on the Tactical Aircraft Mission Planning System.

John McIntyre, (Code 2011): For the outstanding service you provided the Naval Air Systems Command while serving as the Systems Engineering Advocate for the Systems Engineering Core Team.

Donald Gleiter, (Code 2021): For your outstanding support given to the Tactical Air Mission Planning Systems (TAMPS) Software Modification and System Integration Contract.

Harriet Y. McKinney, (Code 7012): For the level of commitment you displayed in providing pertinent documentation to the Department of the Air Force enabling them to analyze and assess its potential as a mission planning system for the Military Airlift Command.

Thomas Hess, (Code 60C): For the outstanding contributions you made to the Structures Team at Langley Research Center. Your exceptional efforts on behalf of this team reflect creditably on yourself and certainly enhance the Center's reputation.

Richard J. Stewart, and J. Allen Switzer, (Code 40): For your tremendous efforts in upgrading the software of the GPS receivers installed aboard several ships of the Atlantic Surface Force Fleet. Your professionalism was pivotal to the successful completion of this project.

If the SOC fits

The phrase does not, however, extend to any refreshments eaten in a contractor's dining spaces or cafeteria, or in a commercial restaurant or dining facility."

Under the very limited circumstances addressed above, it would be permissible to accept a sandwich at a so-called working lunch in a contractor's office.

As with most other aspects of the SOC, however, if you are at all in doubt about the propriety of accepting such a lunch, the safe course of action is to insist upon paying the contractor what you deem to be a fair price for the food involved.

If the SOC fits

Infrequent "coffee, doughnuts" from contractors are OK

By Robert G. Janes

One area of the Navy's Standards of Conduct (SOC) where questions sometimes arise concerns meals and refreshments provided by contractors at their work sites. As a general rule, it is improper to accept any sort of gratuity from a defense contractor, and the term "gratuity" includes, among many other things, meals and refreshments.

There are, however, several exceptions to the general prohibition against gratuities, one of which is pertinent here. The Navy's SOC instruction provides that "on an infrequent basis only" it is permissible to accept "coffee, doughnuts and similar refreshments of nominal value offered as a normal courtesy incidental to the performance of duty."

The instruction does not define the terms "infrequent basis", or "nominal value", but it does contain a definition of "similar refreshments", which, it provides, "can include sandwiches, if consumed in the contractor's offices, are incidental to the performance of official duties, not lavish or excessive, and cannot reasonably be paid for individually or on a pro rata basis by the government official concerned.

NADC Reflector

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Assistant Editor . . . . . **JO2 Michael Delledonne**
Assistant Editor . . . . . **Margaret Vigelis**

Carmichael takes over as Command Master Chief

By JO2 Michael Delledonne

A change of command took place April 15 with no ceremony or fanfare. AFCM Joseph Valentino turned over to AVCM Robert Carmichael his duties as Command Master Chief.

The CMC torch is now passed to Carmichael who is looking forward to the challenge. "It's something I've been looking to my whole career. It's the top rung of the ladder. The position is a people-oriented one and I'd like to think that's how I've been throughout my career."

Carmichael who has already served as CMC for a few weeks, has definite goals he would like to achieve. "Housing is a concern right now, among other quality of life issues. Another primary concern is Military, Welfare and Recreation. We want our sailors and their families to have the opportunity for as many recreational activities as possible. I'm a strong supporter of the Club because it offers a social gathering. Other recreational events such as our sporting teams are very important. All these activities will help MWR financially which will allow the MWR staff to provide a variety of activities for the sailors to take advantage of."

Carmichael said working closely with Valentino during the turnover was invaluable. "He was an individual with many personal contacts on Center. He was very much aware of the needs of the military and their families. Some of the accomplishments during his tenure as CMC were outstanding. He has done a super job and will be a tough act to follow."

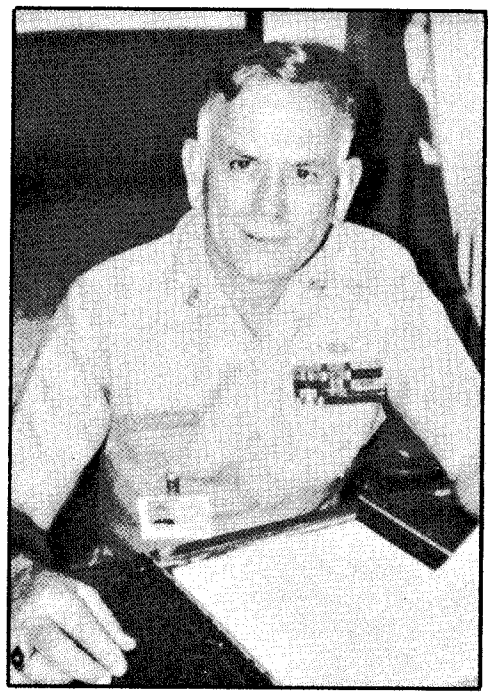
The new CMC expects a full day's work for a day's pay. "We have a very highly dedicated, professional group that goes the extra mile. That's the attitude which makes NADC the place it is."

Valentino, who served as CMC for more than a year, said the job was better than he thought it would be. "It was a challenge because there are so many things you don't know the CMC has to handle until you get the job," he said. "You can't have the attitude like you do when you're a department chief because as CMC you become responsible for all the sailors and their actions. It was my responsibility to ensure the sailors morale, health and welfare were the best they could get because they deserved it."

According to Valentino, what stood out most during his tour as CMC was the quality of people and their performance. "We have the cream-of-the-crop. They do a hell of a job."

Retiring in August, the former CMC reflected on his Navy career. "If you give your part to the Navy, through the good times and the bad, you'll reap back 100 fold. The things you can accomplish with a little bit of effort will be substantial. There is so much experience in the Navy, there's no reason you can't get help if you initiate it. The Navy is a great place to learn something because we do a very good job of teaching our junior people what they need to learn."

AFCM Joseph Valentino, NADC's departing Command Master Chief.



AVCM Robert Carmichael, NADC's new Command Master Chief.

He continued, "The camaraderie here at NADC has improved 100 percent in the last year. We've gone from an "us" and "them" attitude to a team attitude. I've got a good CMC replacing me. I want to thank all the people who helped me during my tour. Now, I'm going to get some flight time, which will be the hardest part to give up after I retire. At least I'm going out doing what I love to do."

Delledonne Sailor of the Quarter

By Margaret Vigelis

Journalist Second Class Michael A. Delledonne was named NADC Sailor of the Quarter for first quarter 1991. Delledonne works in the Public Affairs Office as editor of "Update" a monthly, eight-page newsletter for the military community. In addition, he is an associate editor for the "The Reflector" and assists with tours and VIP visits by technical and civic groups and local government officials.

"I was gratified that the board picked me for this honor," Delledonne said. "It must be difficult to choose one person from the many top-quality people who are nominated. I'm pleased that I was considered and privileged to have received this award."

The Command Administration Department's Chief Petty Officer Robin Long credits Delledonne's selection to his sustained superior performance, dedication, and reliability. "It's long overdue and well deserved," said Long.

A native of Springfield, Ohio, Petty Officer Delledonne spends his off-duty time coaching basketball at Archbishop Wood High School in Warminster.

JO2 Michael A. Delledonne

Center's Science Fair a success

By Tom Wardle

The second annual NADC Science and Engineering Fair hosted by the Air Vehicle and Crew Systems Technology Department was held recently in the Center's cafeteria.

Forty-two students from Archbishop Wood, Bensalem, Central Bucks West, Cheltenham, Pennridge, Souderton, Bishop McDevitt High Schools and Unami Junior High School participated.

The students' exhibits were grouped into three categories: Life and Environmental Science, Mathematics and Computer Science, and Engineering Science. Judging was conducted by selected NADC engineers and scientists.

First place winners and the overall champion received a $200 Savings Bond. In addition, the Center's Women in Science and Engineering organization awarded a $200 Savings Bond for the most outstanding project submitted by a female. Engraved plaques were awarded to category and overall winners and each student exhibitor received a certificate of participation.

The overall winner was Manish Patel of Bensalem, HS. Traci Tominovich of Central Bucks West HS received the Women in Science and Engineering Award. The Life and Environmental Science 1st place award winner was Lara Znotens of Souderton HS; 2nd place went to Barry Muchnick and 3rd place to Eric Logan, both are from Cheltenham, HS. The Engineering Science Award 1st place winner was Jon Pavlovcak of Archbishop Wood HS, taking 2nd place was D. Graham Romett, Soudeton HS; with Eric Logan, Cheltenham HS in 3rd place.

The Mathematics/Computer Science 1st place award was won by Jeffrey Mintz of Pennridge HS; 2nd place winner was David Glickenstein, Bensalem HS; 3rd place went to Daniel DiPasquo, Pennridge HS.

The awards were presented at a luncheon held on May 30 in the Barnaby Room. The students, their parents and advisors were guests of the NADC Science Fair Committee. The Chairman of this was LCDR David C. Johanson, (Code 6031).

NADC's Black Interest Group initiates mentoring project

BIG members presented an NADC plaque to Patricia Payne of Philadelphia Futures at a mentoring orientation held in the Center Conference Room.

By Maureen S. Sullivan

As a community outreach effort, the Center's Black Interest Group (BIG) has "adopted" Germantown High School to assist with its mentoring and role model projects.

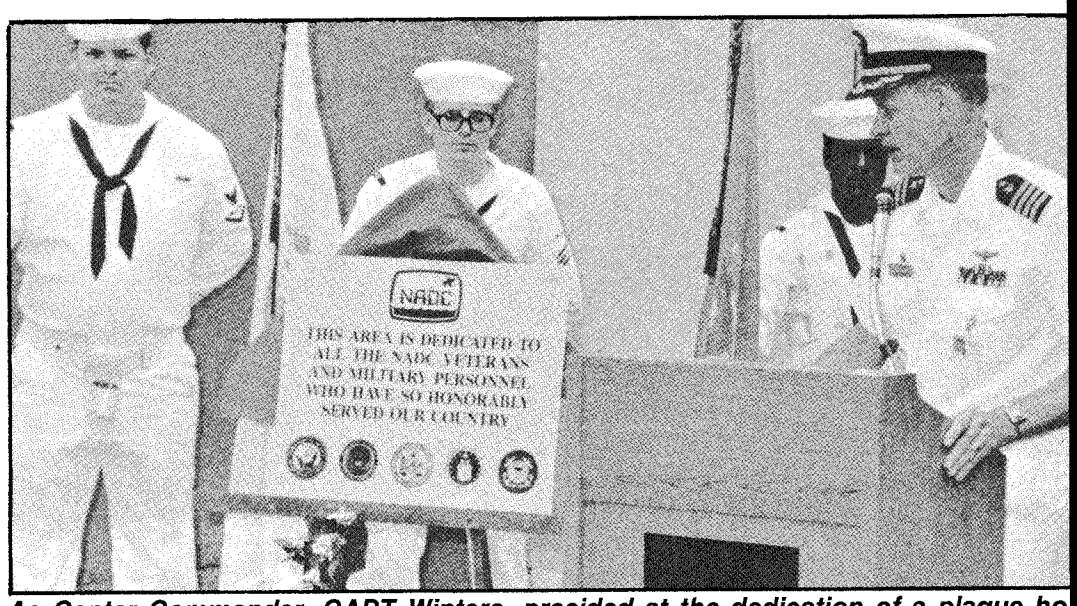
Earlier this year, BIG sponsored a mentoring orientation session with Philadelphia Futures representative Patricia Payne. Futures arranges mentoring relationships by matching interested adults with Philadelphia public school students. After attending the orientation, thirteen NADC employees volunteered to be role models and mentors.

Volunteers and students were matched at a recent BIG-sponsored reception following a tour of the Center. Response from both the students and their prospective mentors has been excellent.

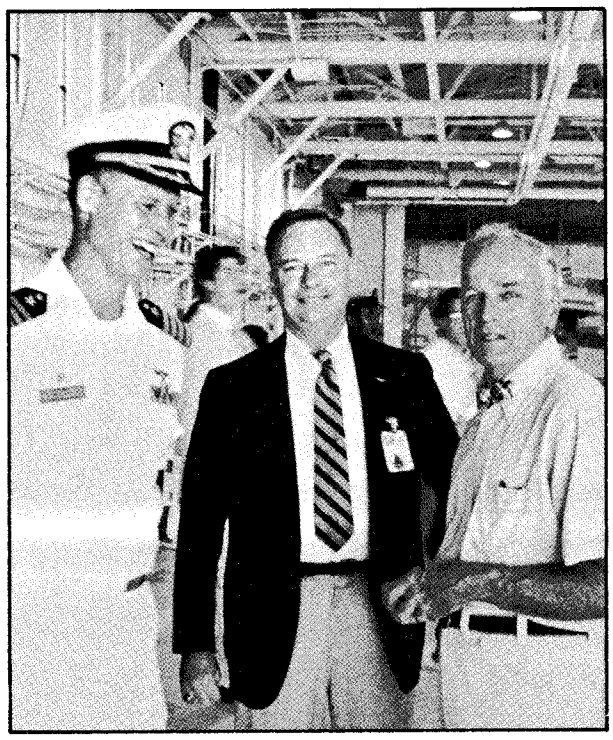
For more information on the Germantown H.S. mentoring project, contact Chester Terry, Code 7012, extension 2040. If you are interested in mentoring other Philadelphia public school students, call Patricia Payne, at 215-790-1666.

Captain Curtis J. Winters:

During his tenure at the Center, CAPT Winters experienced "first-hand" what the Dynamic Flight Simulator could do.



As Center Commander, CAPT Winters, presided at the dedication of a plaque ho NADC's veterans and military personnel.



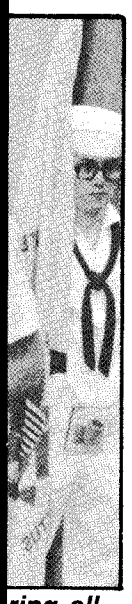
At NADC's ceremony to celebrate the Navy Bicentennial, CAPT Winters was joined by PAO Jim Kingston and Ivyland's Mayor Kelly.

On a hot May afternoon, Navy Relie CO — CAPT Winters looked as if he

VIP visits were a frequent occurrence. CAPT Winters and Technical Director, Guy Dilworth, watched as Dr. E. Tunstall, Director of Navy Laboratories tried flying the CREST Lab's Command Flight Path.

Political visitors found NADC interesting. Kostmayer during his visit to several Cente

four years of Leadership



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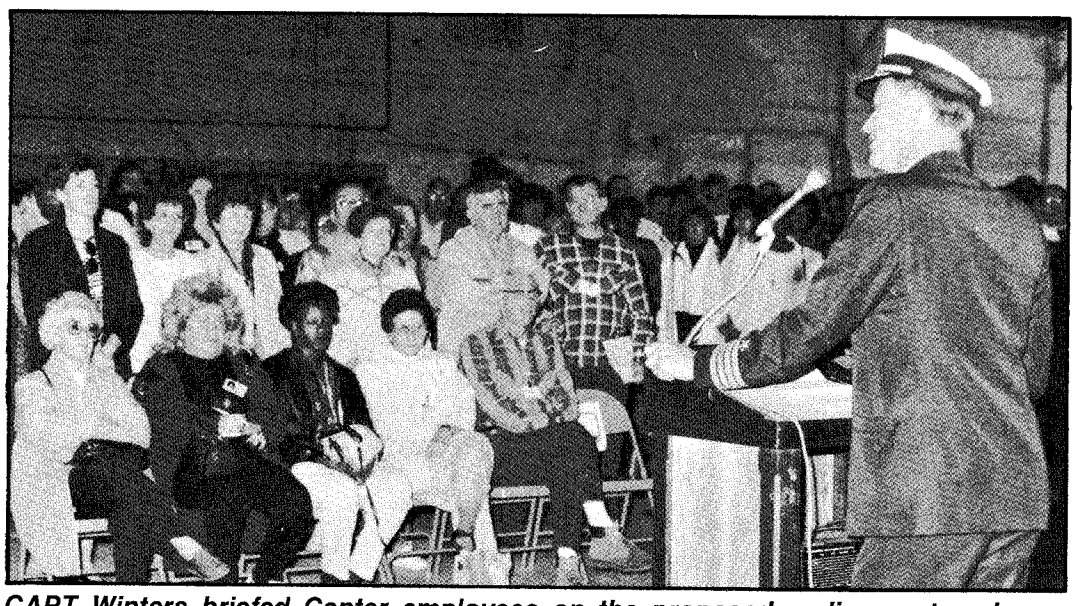
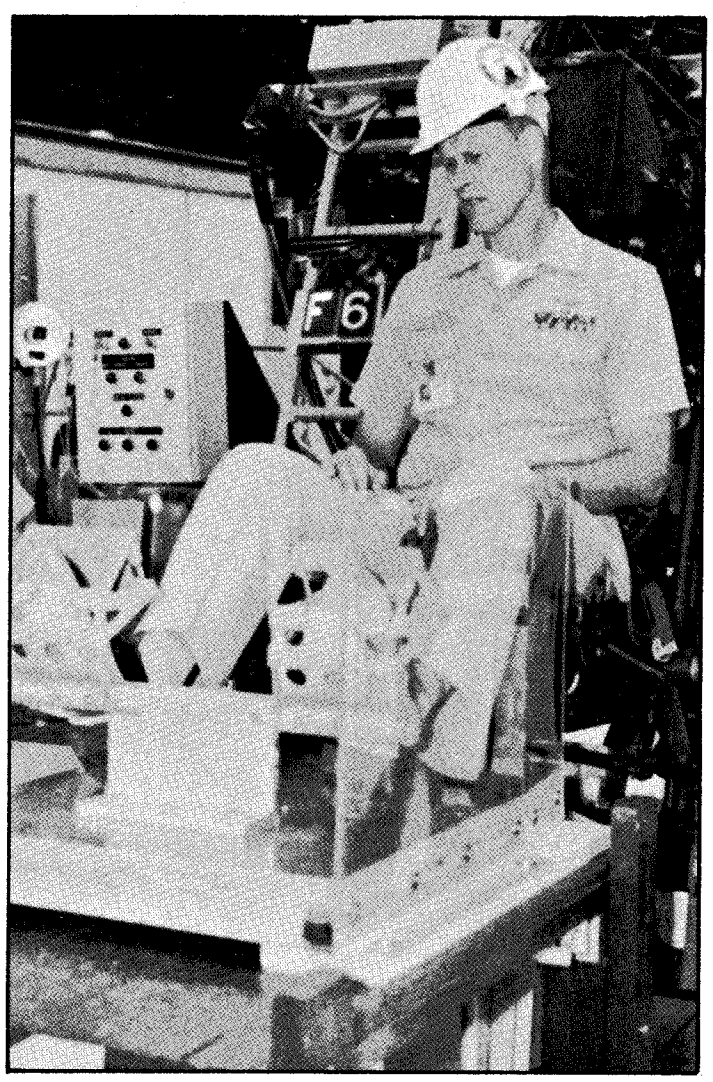
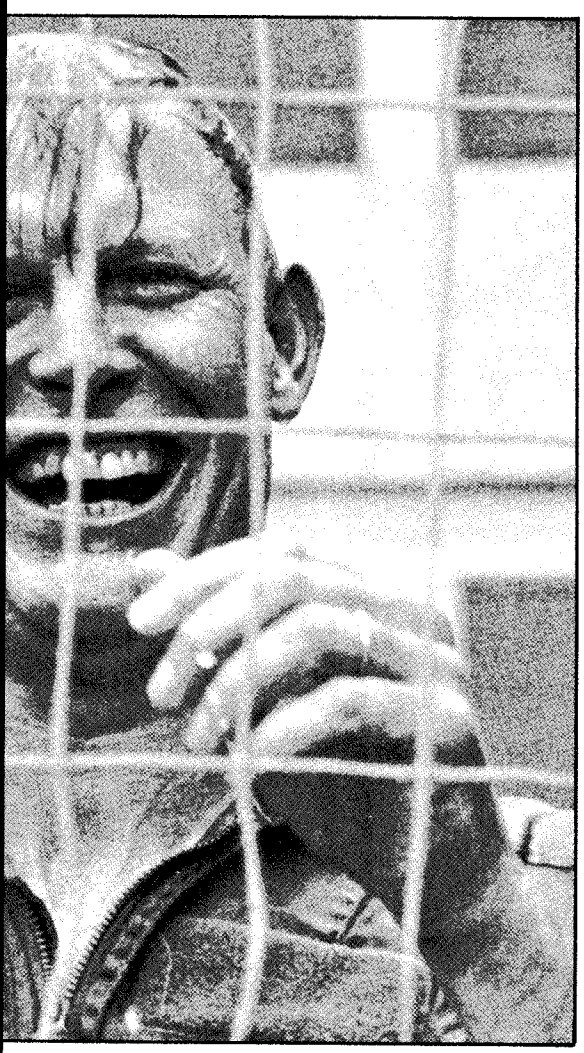


CAPT Winters briefed Center employees on the proposed realignment and answered their questions.



With great faith in Center personnel CAPT Winters took a seat on the Ejection Tower while he was briefed on its technical capabilities.

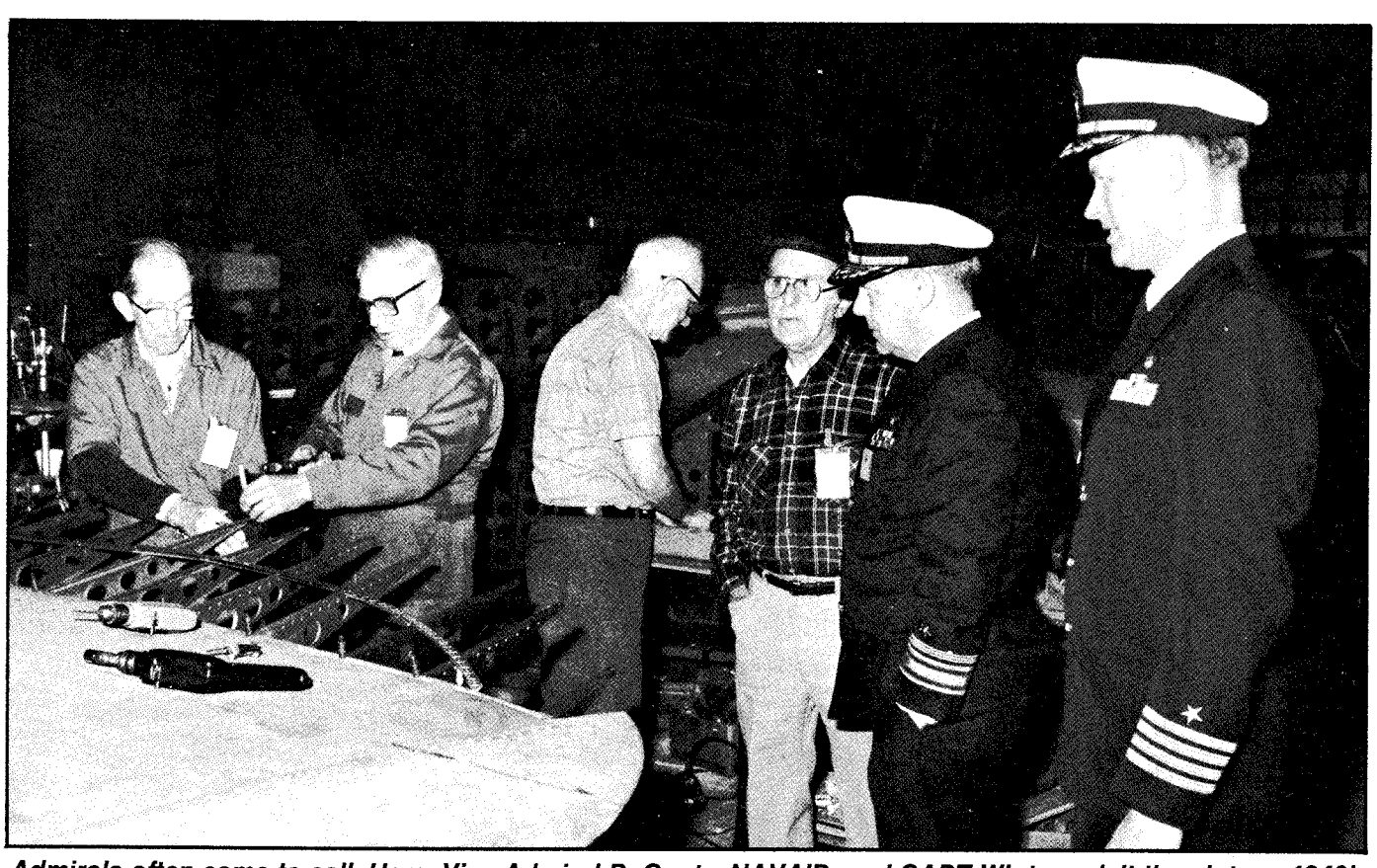


articipants enjoyed the privilege of dunking the lso enjoyed it.

As an active member of the Warminster Rotary, CAPT Winters was often requested to speak at their functions.

CAPT Winters believed NADC should be an active community participant. One of the many charitable events held here was the GTO car show.

APT Winters accompanied Congressman Peter acilities.



Admirals often came to call. Here, Vice Admiral R. Gentz, NAVAIR, and CAPT Winters visit the vintage 1940's Brewster being restored by volunteers in one of the Center's hangars.

The time for Energy awareness is now; the place is here

By Michael Blank

NADC like the rest of the world is trying to reduce its energy consumption. Toward that goal, the Center is currently improving external surfaces such as outside walls, roofs, and lighting systems.

We recently replaced the hangar door in building 1 because it no longer served its original use and was not energy efficient. The new door is insulated with DRYVIT and has a smaller roll-up door beside it. The replacement of another overhead door is currently underway and when construction is completed a considerable amount of energy loss will be minimized.

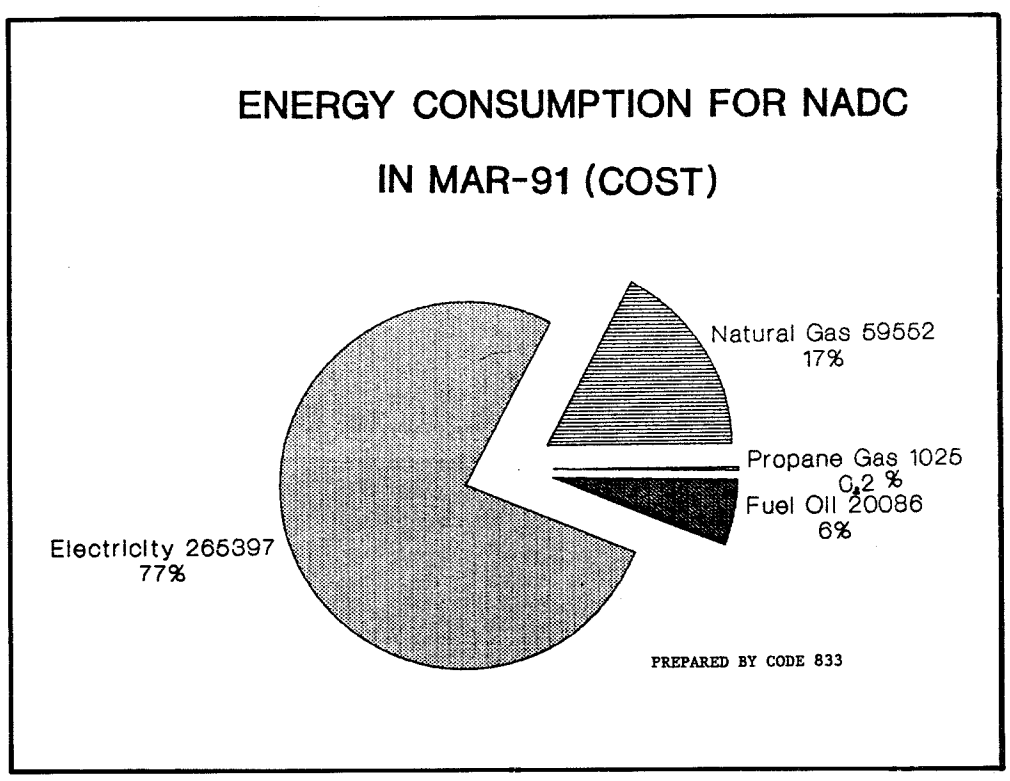
A large portion of the Center's budget on energy is for electrical consumption. March 1991's cost for electric was $265,397 (77 percent) while natural gas cost $59,552 (17 percent), see diagram. During FY-90 we spent $3,482,633 for electricity and $615,000 for fuel and natural gas.

When we look into our energy future, we see the National Energy Strategy (NES) becoming a milestone. The NES has urged the use of nuclear energy as a viable alternative. Although it is a controversial issue in the United States, nuclear energy is a great source of electric power generation, and is an unlimited energy resource.

The U.S. Department of Energy predicted that by the year 2000, nuclear energy may furnish 25-30 percent of the nation's electric power. Speaking before the World Association of Nuclear Operations, Admiral James D. Watkins said, "We only have a few more years to prove to the world that nuclear power is still needed and that we know what we're doing to manage this technology safely."

Another NES issue is the reduction of energy use in buildings. Federal agencies are already under mandate to lower energy use by 20 percent of their 1985 levels by the year 2000. A new Presidential Executive Order, requires a 20 percent cut in energy use in federal industrial facilities and a 10 percent reduction in petroleum usage by federal vehicles.

In an address before the National Ocean Industries Association, Admiral Watkins emphasized that "NES is a blueprint for America's future energy security. Technological innovation has always defined the American character and provided long-term solutions to our problems. If there is one lesson we should take from the events of the last six months, is that how and where our energy comes from is a decision that should be made by all Americans — not out of ignorance, or apathy, or acquiescence to shouting extremists, but from a level playing field of facts and common sense."



Memorial Day: Pride Mixed With Sadness

By F. Peter Wigginton
American Forces Information Service

Memorial Day produces mixed feelings in Americans. It's a time to recall the nation's military victories and to remember those who lost their lives in the armed forces that others might remain free.

One hundred and twenty five military people died during the Persian Gulf conflict in defense of Kuwait's sovereignty. Twenty-three gave their lives during Operation Just Cause in Panama so a dictator would no longer harass American citizens and mock democratic principles. Eighteen service people fell in Grenada to stamp out repression and to halt the spread of communism in the Western Hemisphere. More than 58,000 died in Vietnam.

Whenever people are deprived of freedom to create a life for themselves, all human dignity suffers. It suffers when, as in the example of the Persian Gulf, a dictator disregards the rightful territory of a neighbor and attempts to eradicate another culture through torture and wanton destruction.

Fortunately for this country — and the world — the United States is a nation whose history has been carved by those who gave of themselves so others might continue to live free in a free nation built on freedom.

These are glorious thoughts. Nevertheless, they cannot silence the bewilderment of those who question why they, and not their buddies, were allowed to live. Nor can they easily erase the memory of seeing comrades fall. Nor can they sweeten the grief of families left behind.

Just before the ground offensive into Kuwait, parents of a tank platoon officer permitted *The Washington Post* to publish the letter their son wrote prior to the assault. In it, he asked them to "find the families of anyone in my platoon who is killed and try to console them. To a man, they have excelled in a bad situation, and their families should mix some pride with their sadness."

The fact that Operation Desert Storm had so few casualties may seem to be a miracle. But, as Gen. Norman Schwarzkopf said, it will never be miraculous for the families of those people who were killed.

Through all the ceremonies, prayers and speeches of this Memorial Day, survivors should resolve never to forget the freedoms servicemen and women have won for them, nor the pain their families have endured. Possibly the best way to show gratitude is to live to the fullest that life the fallen have earned for those who remain. President Abraham Lincoln expressed the idea at Gettysburg, Pa., on Nov. 19, 1863.

Said Lincoln, "It is for us the living . . . to be dedicated here to the unfinished work which they who fought here have thus far so nobly advanced. It is rather for us to be here dedicated to the great task remaining before us, that from these honored dead we take increased devotion to that cause for which they gave the last full measure of devotion, that we here highly resolve that these dead shall not have died in vain . . ."

New shuttle suit put through tests

By JO2 Michael Delledonne

A new lighter and more comfortable NASA astronaut suit is undergoing certification tests in the Center's environmental chamber for possible use in future shuttle launchings.

The old Urethane-coated nylon material suit will be replaced with Goretex, a Teflon membrane that has fabric fused to either side of it which lets water vapor escape, but retains air pressure.

"From an operational standpoint, the new suit is considerably better because it's less bulky and requires less effort to do required tasks," said Bruce Sauser, Subsystem Manager for NASA and test subject for the studies. "The suit is cooler to wear and has better ventilation."

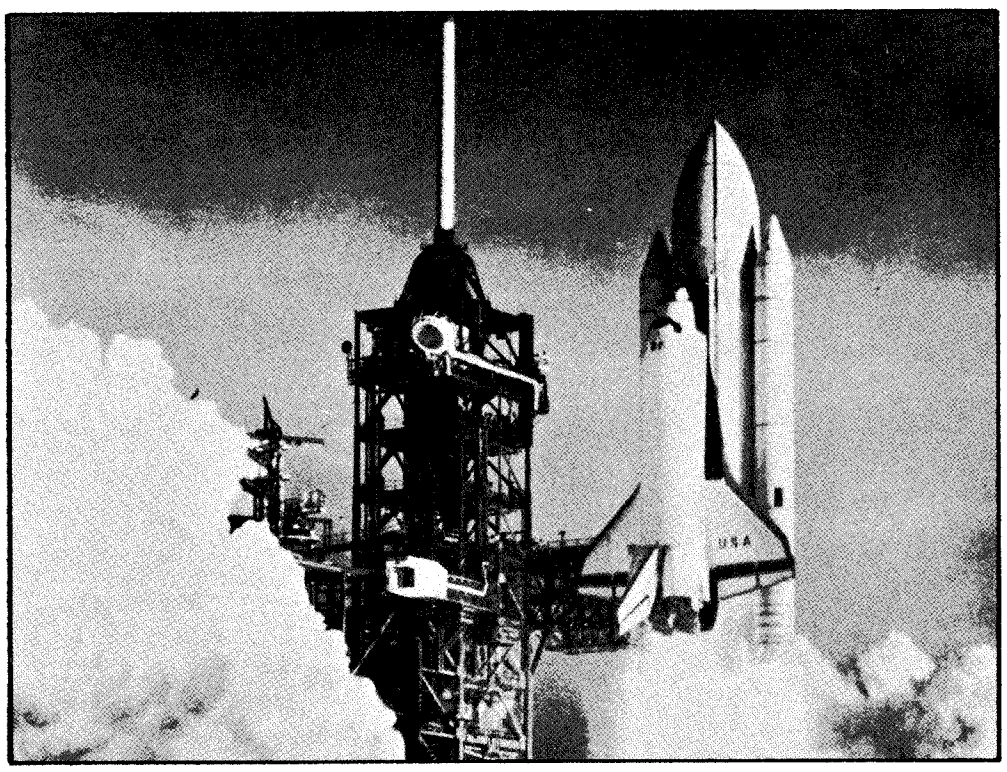
According to Sauser, the suit has been through several different evaluations while in the cockpit orbiter at the Johnson Space Center in Houston. "All the reports were 100 percent favorable and based upon that we went into the certification program. The first part of that program is cold water testing. If the suit isn't as capable as the old one, we won't bother to continue with the testing. We don't want to compromise our exposure protection for the astronauts."

Peggy Halford, Lockheed Test Conductor, said the results so far have been positive. "They've been going very well. Most of the time we are pulling the subjects because their feet are getting too cold, but somebody could easily survive having his feet extremely cold while keeping core temperatures up."

Documenting, scheduling and organizing the testing, Halford explained that Lockheed is responsible for the certification of the suit. "This is the first major test," she said. "The certification process is simultaneously being conducted with the Air Force. The next phase to be held at the Center will be heat stress."

Sauser said the Center's facilities have been great. "The new environmental chamber is heads and tails above the previous one," he said. "It has more room to move around and the water can get colder. The medical personnel assisting us have been outstanding. We couldn't have asked for more."

Center medical personnel feel they may be a part of something much larger. "We're doing our part, not only protecting the subjects, but helping the future of the overall space program," said HM2 Paul Minnich. "If at some point we ever live and work in space, it would mean the work we did was very important."



All systems are go . . . it's a lift off!

NADC Walkers Raise Nearly $1500 for March of Dimes

By Margaret Vigelis

On a recent weekend NADC team walkers and volunteers joined thousands of others at Core Creek Park, Doylestown and Quakertown to participate in the March of Dimes Walk America 1991 experience.

More than 3000 people participated in this annual event raising a total of $206,262. NADC volunteers and team walkers Marcella Pisano, Carole Preston, David Varner, Ted Reed, Leslie Detrick, AC2 Deidre Wilkerson, DPC Terry Darnell, Margaret Vigelis, HM1 Mike Hughs, HM3 Chip Hower, Alma Schneider, David Thomas, HM3 Theresa Griffith, Teri Reis, Carol Taylor-Blakey, Rosa Cerankowski, Jocelyn Beattie, Janet McGovern collected pledges amounting to $1,471.50.

Walk America of Bucks County is a community effort to raise money for the March of Dimes campaign for healthier babies. Funds raised locally support local programs, both research and educational, which strive to improve pregnancy outcome and prevent birth defects.

NADC Walkathon volunteers kneeling are HM1 Mike Hughs, HM3 Chip Hower; middle row Leslie Detrick, AC2 Deidre Wilkerson, DPC Terry Darnell, Margaret Vigelis; back row David Varner, Marcella Pisano, Ted Reed, Carole Preston.

Scott

Continued from page 1.

all the applications and decide who they want to interview. If you just look at the numbers they are discouraging, but I feel very confident I have a good, strong package."

Scott was very excited about his selection, but noted it's a slow step-by-step process. Interviews will be conducted between July and November and the final announcement will be made in January 1992.

"I was always fascinated by flight and the space program as I was growing up. I remember watching all those space movies thinking that's what I would love to do. I never thought I would have the opportunity just as I never thought I'd be flying airplanes today. There were no role models or guidance to do those kinds of things," said Scott.

A flight in the space shuttle has entered Scott's thoughts . . . a few times. "I can't think of very many people who wouldn't want to do this. It would be the ultimate of my career."

. . . and a dream come true.

Security reminder.

TRANSMISSION OF CLASSIFIED MATERIAL TO CONTRACTORS.

The only approved means of transmitting Secret or Confidential material to a cleared contractor facility via the U.S. Postal Service is: REGISTERED MAIL, CERTIFIED MAIL or U.S. POSTAL SERVICE EXPRESS MAIL SERVICE. The contractor's correct mailing address, the address on record with the Defense Investigative Service, must be used. Questions concerning material for contractors should be referred to Code 0441, extension 2553 or 1031.

Who they are; What they do

By JO2 Michael Delledonne

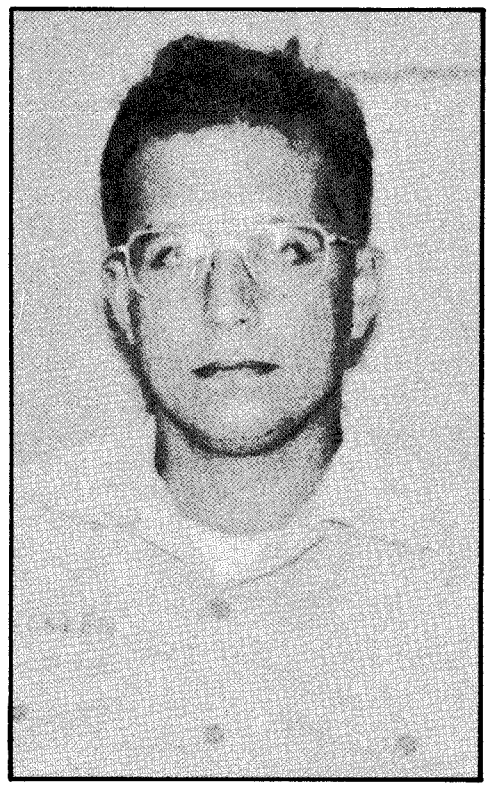
Aviation Antisubmarine Warfare Technician (AX) First Class Macheath Stuecklen joined the Navy to get away from Arlington, VT, population 179. "There's just not a lot of opportunities there," said Stuecklen. "I always had my eyes on the armed services and the Navy seemed to offer the most as far as extensive training and traveling."

"When I joined the Navy I wanted to fix airplanes and fly," noted Stuecklen. "The Navy recruiters said the best way to go was to become an AX and they didn't lie. I've gotten everything I wanted out of the rate."

Stuecklen maintains the avionics equipment onboard P-3 aircraft, such as antisubmarine warfare detection systems, radar, communication, and navigation gear.

At 27, Stuecklen said he will probably make the Navy a career. "I guess after 10 years it would be a wise decision," he said. "The Navy enables you to meet a very diversified group of people. It gives you the opportunity to make friends because you always have something in common, that being: the Navy."

Asked about NADC, Stuecklen acknowledged the Center as being different. "It really is interesting with all the various aircraft and all. The only thing I wish is that both sides of the street could communicate better, but I think that's just the nature of the beast. I really enjoy the people and the work here."



AX1 Macheath Stuecklen

Environmentally Speaking

By Kevin Hutchins

Bang! There goes the lawnmower again, blowing up, spraying grass clippings in your face and on the lawn. You could leave them and go have a cool one, maybe catch the last few innings of the ballgame at the park. But, you'll feel guilty and the neighborhood garden club will banish you forever.

Actually, the clippings are good for your lawn and makes maintaining it easier, too. They create a thatch that helps hold in moisture (less watering), especially on lazy, hazy, crazy days. If you really must rake, throw those clippings in the compost pile. If you don't have one — now's your chance to start.

A compost pile is a great addition to any home with a garden, trees, flowers or even indoor plants. It's really easy to do and provides free, organic fertilizer for mulching. There are many projects that come up during the spring/summer months and, when thought of environmentally, can actually save time, money, and the world around us.

Gardening, xeriscaping or landscaping, even washing the car, can become environmentally, very easy. In the next few months, we'll try to look at some ideas and show how they can work for you.

For information or questions call Kevin Hutchinson, extension 4102.

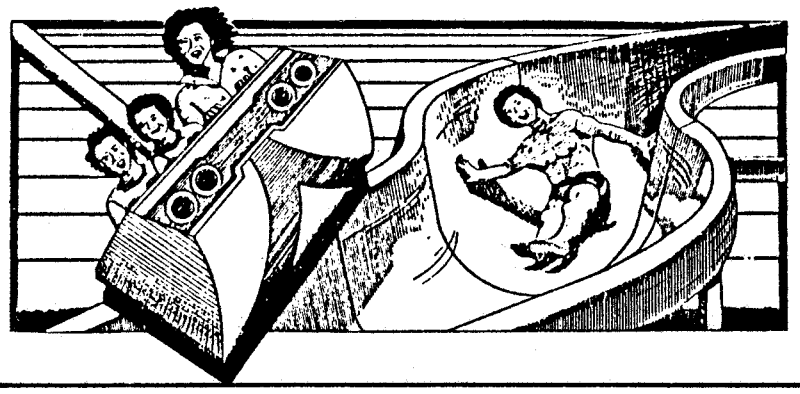
Planned your vacation yet?

To help with all of your personal travel arrangements, call SATO Travel, ext. 2729, Mon. thru Fri., 8 AM to 4 PM.

Coming Soon . . .

NADC's Annual Civilian W&R Picnic

NADC's Civilian W&R is again sponsoring a day of fun, sun, and prizes at Dorney Park and Wildwater Kingdom on 13 July. Tickets go on sale on 21 June at the W&R office located across from the Credit Union. Cost of tickets: Adults $14.; children 3-6 yrs/senior citizens 61-over $9.00; children 2 and under free. Price includes both parks and food.



SPORTS WORLD SPORTS WORLD SPORTS WORLD

NADC Mixed Bowling League — June 1991 News

Steve's Side Show — Mixed League Bowling Champions

By Tom Reiter

In an earlier issue, I kiddingly told Steve Jerdan to get a real name for his team. This name worked fine as they proudly became this year's champs. Using the Fregosi management style, Steve presented a different lineup for each of the three rolloff matches, allowing nine members of his roster to bowl in their most important night of the season. Our 24 team league has two Divisions. The season is split into two halves allowing for four different regular season winners. The rolloff format has the season winners bowling 3 games across 3 sets of lanes. The team with the highest pin total wins the League Championship. **Betty Price's Spare Us, Randy Yeager's From The Gutter** (last season's champion), **Jim Campana's Nine Pins**, and **Steve Jerdan's Steve's Side Show** were this year's rolloff participants.

Steve's started the night with a 1019 game. **Jim Williamson** (211), and **Aaron Burstein** (195), helped them take a 62 pin lead. Spare Us, with a 511 series from **Terri Grau** pulled ahead by seven pins after the second game but Steve's took the challenge, rolled a solid third game and captured the title. The Nine Pins **Lorraine Kittner** (204) and **Linda Stickney** (196) deserve mention for a couple of high games under playoff pressure. From The Gutter should find solace in remembering coming from second place on the final night of the regular season to beat **Kevin Ryan**'s dreaded Alley Cats by 17 pins to capture their second straight Division title.

It was an enjoyable season, with an exciting post season. Everyone is looking forward to the banquet and to next year's fun and frustration.

Steve's Side Show — NADC mixed bowling league champions, front row Aaron Burstein, Nancy Donahue, Dave Gumkowski, being held is Alyssa Gumkowski; back row Jim Williamson, Karen Baker, Stephen Jerdan, Judy Jerdan, Jamie Jerdan, Charlene Gumkowski. Not pictured Wayne Jerdan and Dave Furry.

Upgrade to ASW module

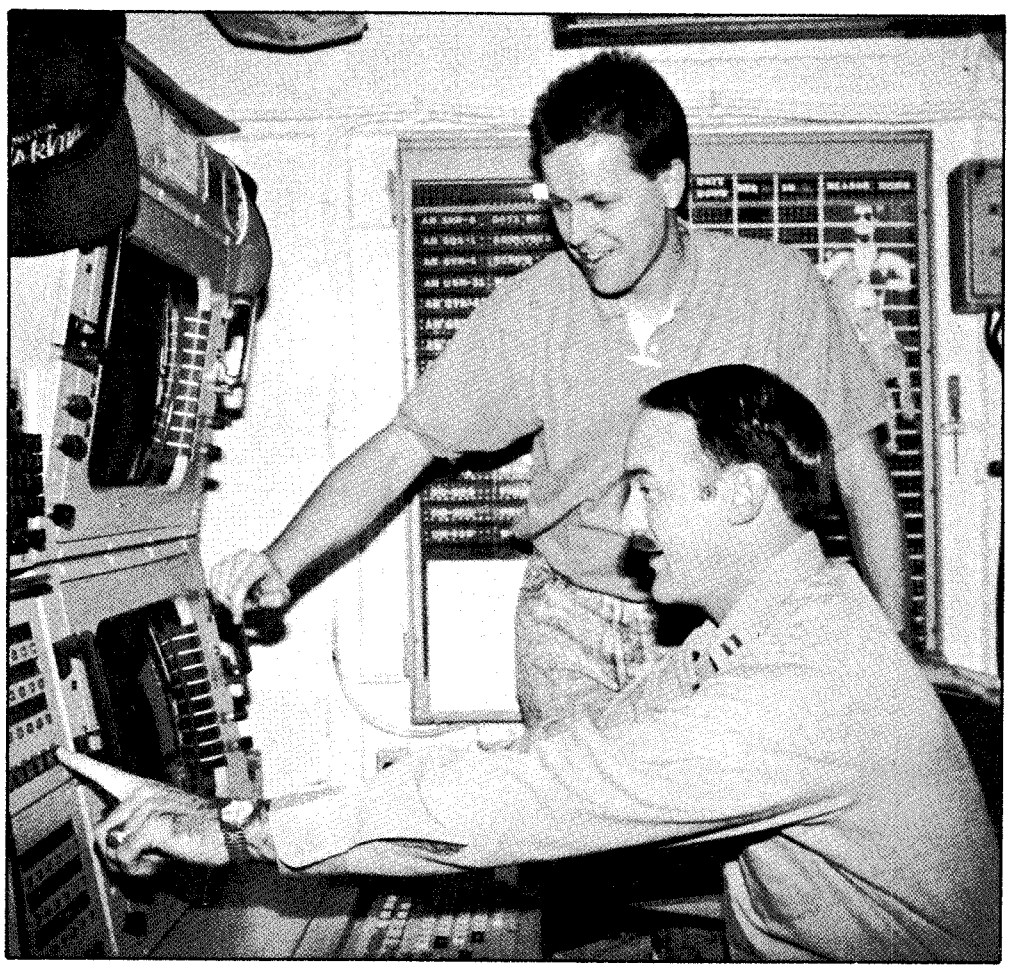
Continued from page 1.

interoperability with the newly deployed S-3B aircraft. Modifications to both the CV-ASWM and ACDS interface software make for an improved track data exchange between these two systems.

(CV-ASWM) is an integrated element of the multi-purpose aircraft carrier Combat Direction System with two primary missions; ASW coordination and aircraft support.

The ASW coordination includes real-time coordination of battle group assets in support of the ASW Commander, acoustic data processing and analysis, mission planning, tactical operations support, monitoring and directing aircraft on station, and reporting contacts and engagements. The CV-ASWM is the primary source of organic data gathered from embarked ASW assets and from external sources such as maritime patrol aircraft, surface escorts, and support submarines.

The ASW aircraft support to the S-3 and SH-3 includes: operator and aircrew training and evaluation; aircraft mission planning; aircrew briefing and debriefing; acoustic analysis of telemetry relayed sonobuoy signals; mission replay and, analysis of completed sorties. The secondary mission of the Module is Surface Surveillance Coordination.



NADC's Garth Torok, Code 10, and LT Harrison of the carrier THEODORE ROOSEVELT, test the CV-ASW module's new upgrades.

Dynatigers Mauling League

By Jack Eyth

The Renegades have run their record to 9-0, and the Herassers are surprising a lot of teams at 7-2, but the big story this year has to be the amazing turnaround of the Dynatigers organization. Riding the dominant pitching talents of Dave MacNeill, the Dynatigers have forged to a 5-3 record including an extra inning, 5-3 victory over the Misfits during which MacNeill struck out 18 batters. MacNeill's contribution to the team's success is even more impressive when you consider that the team has a .625 win/loss record in spite of scoring only 4.6 runs per game.

Other off-season player acquisitions have had variable effects on several teams. Mike "Move the Cars!" Garofalo signed with the Renegades after the Intimidators folded and now leads the team with 20 RBI's. The Granfalloon brought back a number of players from the glory days of the past: Jerry Guarini, Mike Bubb, Tom Weiss, Steve Fleischut and Buzz Cerino as Manager. Althought the team has yet to hit its stride, the 'Falloon now has the distinction of having more active grandfathers on its roster than they do "Grandfather Clause" players. Eighth Inning manager Fred Kuster got the jump on everyone else in the league by re-signing former teammate CAPT Bill McCracken, soon to be CAPT Winters' replacement. It never hurts to have a little political clout on your roster.

Short Stories (as reported by the League): The Life Supporters have had the most tough luck games so far this season. Their greatest disappointment was a 7-8 extra inning loss to the undefeated Renegades; John Metzer of the Bearcats took his friend and ex-teammate, Bill Schork, "downtown" for a two-run homer in a game that the Sand Fleas ultimately won 14-9; Renegade pitcher Joel Wexler, pupil of Dave MacNeill, is carrying a 32-5 strikeout-to-walk ratio.

League Standings as of early June

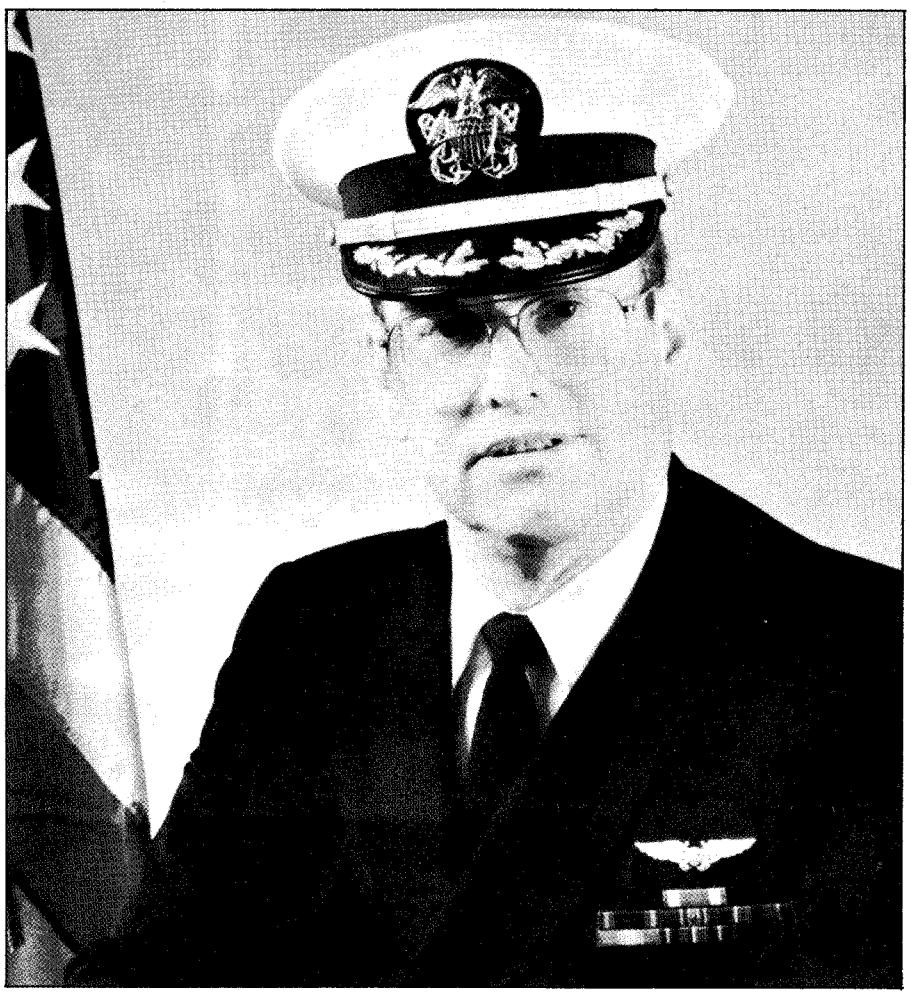
TEAM	WINS	LOSSES	TIES	RUNS/GAME FOR	RUNS/GAME AGAINST
NADC DIVISION					
1. Renegades	9	0	0	10.6	4.6
2. Herrassers	7	2	0	8.8	5.7
3. Misfits	6	4	0	11.0	6.4
4. Rebels	3	3	1	10.7	7.6
5. Bearcats	3	6	0	5.9	10.0
6. Life Supporters	1	7	1	7.0	10.1
PAX RIVER DIVISION					
1. 8th Inning	6	4	0	11.0	9.0
2. Dynatigers	5	3	0	4.6	3.3
3. Sand Fleas	5	5	0	10.4	11.0
4. Crush	4	5	0	7.7	8.9
5. Granfalloon	3	5	0	7.5	12.4
6. Phantoms	0	8	0	4.8	10.9

NADC Reflector

Volume 36 Number 7 NAVAL AIR DEVELOPMENT CENTER, WARMINSTER, PA. July 1991

In This Issue
–McCracken takes Helm
–Winters goes to Navair
–NWR has Tennis Matches
–Memorial Day Honors

McCracken takes the helm at NADC



Center Commander, Captain William L. McCracken

By Jim Kingston

Amid concerns of closures and consolidations of military bases and research and development laboratories, one Navy tradition continued as Captain William L. McCracken became the 20th Commander of the Naval Air Development Center at ceremonies here, Friday June 28th.

McCracken relieved Captain Curtis J. Winters, who has been the Center Commander for the past four years. Winters is returning to Washington, D.C. for a post at the Naval Air Systems Command.

The new Captain is no stranger to NADC having spent a tour here beginning in 1976, first, as the P-3C Update I/II Project Officer and, later, the Update III Project Officer and an Aerospace Engineering Duty Officer.

Prior to assuming command of the Center, McCracken served as Deputy Program Manager, Communications Satellite Programs in the Space and Naval Warfare Systems Command in Washington.

McCracken is a 1967 graduate of the U.S. Naval Academy where he received his degree in Aerospace Engineering. Following graduation, he underwent flight training and was designated a Naval Flight Officer in July 1968. His first assignment was as Squadron Anti-Submarine Warfare Tactical Coordinator with Patrol Squadron Eight.

He attended the Naval Postgraduate School, Monterey, California, receiving a Master of Science degree in Aeronautical Engineering and was selected for a third year of study earning an additional degree in Aero Computer Science in 1974. McCracken's next assignment was on board the USS Hancock where he served as Air Traffic Control Officer of the Deck.

In 1976, McCracken was assigned to the Naval Air Development Center as the P-3C Update I/II Project Officer. For two years he supervised the software development and delivery of the operational and test programs for the P-3C Update aircraft. In 1978 he was made P-3C Update III Project Officer and designated an Aerospace Engineering Duty Officer.

He was next transferred to the Naval Air Systems Command as P-3C Avionics Systems Project Officer. He managed the P-3C avionics programs and served as Chairman of the P-3C Software Configuration Review Board.

In 1983, he became Chairman of the

Continued on Page 3.

Winters leaves NADC for NAVAIR

By CAPT Curtis J. Winters

Four short, exciting years ago I was trying to learn as much as I could about how the Naval Air Development Center operated. The first impression I had was that this is the most talented, versatile group of individuals I have ever come in contact with. My opinion has not changed in four years. You have continued to impress me with your technical competence, your obvious dedication and your enthusiasm for what you are doing.

Your accomplishments and awards during the past four years have been many. Since the Chief of Naval Research established Scientific and Technology Awards among the seven R&D Centers and four university laboratories, you have been consistent winners — receiving 50% of the total awards presented.

During the past four years the Small Business Office won two All Navy Awards, the EEO Office was judged Best of SPAWAR, the Fire Department won the Best of Class Award and the Personnel Department received a top rating by outside reviewers. The record setting performance of the engineering and support groups who developed and produced equipment for Operation Desert Storm was spectacular.

But not all of you won an award or worked on new technology. All of you, however, contributed directly or indirectly to the success of this Center. You who work in Public Works have maintained and operated a 50 year old facility contending with the extremes of Pennsylvania weather and high priority construction around the clock, year after year.

The Aircraft Operations and Maintenance Departments performed flawlessly operating detachments flying out of Alaska, Iceland, Norway, Germany, Africa, Italy and the Caribbean.

But what about tomorrow? I know that many of you are wondering, what does the future hold for our nation, our Navy and this Center?

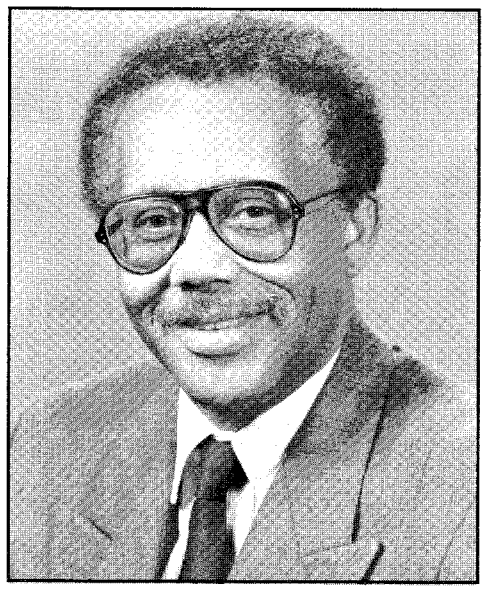
Significant changes in world events have occurred in the four years that I have been at this Center. The Berlin

Continued on Page 6.

Former Center Commander, Captain Curtis J. Winters

Command Corner

Captain William L. McCracken
Center Commander



Guy C. Dilworth, Jr.
Technical Director

Captain William L. McCracken's Speech

Admiral Ailes, Admiral Strohsahl, Admiral Olson, Captain Winters, Mr. Dilworth, distinguished guests, family and friends, men and women of the Naval Air Development Center . . . it's great for me to be back at NADC . . . and equally great for my wife Karen, who is returning to her hometown of Philadelphia . . . and I see her family is here to welcome us, thank you.

I also want to thank my family and close friends for traveling here to share this occasion with us.

I'd like to give special recognition to Captains Joe Kiel and Bob Bondi, and Commander Courtney Yelle — three of my former immediate supervisors and NADC alumni. They had faith in me and gave me the challenges and responsiblities that helped prepare me for this job.

Gentlemen . . . I won't let you down!

My Navy career is closely linked to the Naval Air Development Center. As a young Lieutenant J-G, in my first operational squadron, I had the good fortune to be directly involved in a research project with an R&D Center in Pennsylvania called NADC "Johnsville." I was so impressed with the professionalism and talent of the Johnsville engineers and the exciting things they accomplished, I made the career decision, then and there, to become an aeronautical engineering duty officer.

Again, as a student at the Naval Postgraduate School, I was able to come to NADC — now called "Warminster" — for an 8-week experience tour. I was assigned to a design team, where two super engineers — Ruth Pickering and Bill McMahon — and a very talented team took me under their wings and taught me the skills that motivated me through the rest of my graduate school training.

Later, I was *assigned* to NADC and served as a Project Officer. I learned from three great project engineers that a team of military (both officer and enlisted) and civilian engineers, together with support personnel and contractors could — together — accomplish great things . . . and we did!

Later still, as a Project Officer at NAVAIR, I often sought out NADC to do the challenging tasks — and the Center always delivered superior results.

Now, as your new Center Commander, I come with an appreciation of your capabilities . . . I know what you can accomplish . . . and I will expect nothing less!

Over the years, this Center's technology has contributed so much to giving this nation such a great deterrence . . . that the Cold War is now over. The perception is:

— The threat has gone away!?

— But has it? . . . or has it simply been replaced by a new challenge?

As Captain Winters pointed out . . . this country is now faced with a staggering deficit, the solution to which will affect all of us.

Our challenge is: to give the United States Navy the most value for every precious dollar!

My challenge is to keep you informed . . . so you can accomplish this task without worrying about any uncertainty to your future.

We saw in the Persian Gulf War what can and did happen when two armed forces of equal size meet in combat and one has the edge in both technology and will.

As you well know, — and as Captain Winters recognized — the Naval Air Development Center played a big part in giving the United States that technology edge. Now, we must help it maintain that superiority so our sailors, soldiers, marines, and airmen will never find themselves in the impossible position that the Iraqi armed forces did.

I can see that the real source of our technological lead lies *not* in any facility or well-equipped laboratory.

The real technology edge is in the minds of you NADC scientists and engineers . . . and the will to succeed is in the hearts of all of you . . . the entire NADC team. Captain Winters saw it, too: When he said, ". . . The essence of NADC — the knowledge, experience, and ability . . . is in the hearts and minds of you who work here."

Well, let me tell you, I'm here to serve and keep this NADC team strong and viable. I believe, God willing, that you men and women of the Naval Air Development Center can accomplish any task to which you set your hearts and minds.

Curt, you've already made my task easier by passing on to me a ship and crew that's second to none. I see now why NADC is referred to as — the Navy's premier laboratory! You can be proud of your accomplishments here. I wish you and Marian the very best in all your future endeavors.

Ladies and gentlemen of the Naval Air Development Center: It is with great pride and excitement that I look forward to serving you as your Center Commander.

Thank you!

Commander Salutes

Clara Laiss, Blaine Price, (Code 021); Michael Harding, (Code 0211); Cynthia Kotary, (Code 0212); Jacquelyn Benner, Tracy Kopper, Joanne Owen, (Code 03E); Diane DeRose, (Code 031); Richard Chern, Marianne DeCicco, (Code 032); Neil Abramson, (Code 05P); Robert Janes, (Code 095); Jason Craig, (Code 8132); Lisa Fitzpatrick, Olga Haug, (Code 8133); Ronald Simononis, (Code 8351); Rosa Cerankowski, James Cuorato, (Code 8454): For your outstanding assistance and contribution to the Philadelphia Area Navy Equal Employment Opportunity Council's tenth EEO Manager's Training Forum. Involvement such as yours is critical to the success of such major endeavors and reflects very favorably upon yourself and the Center.

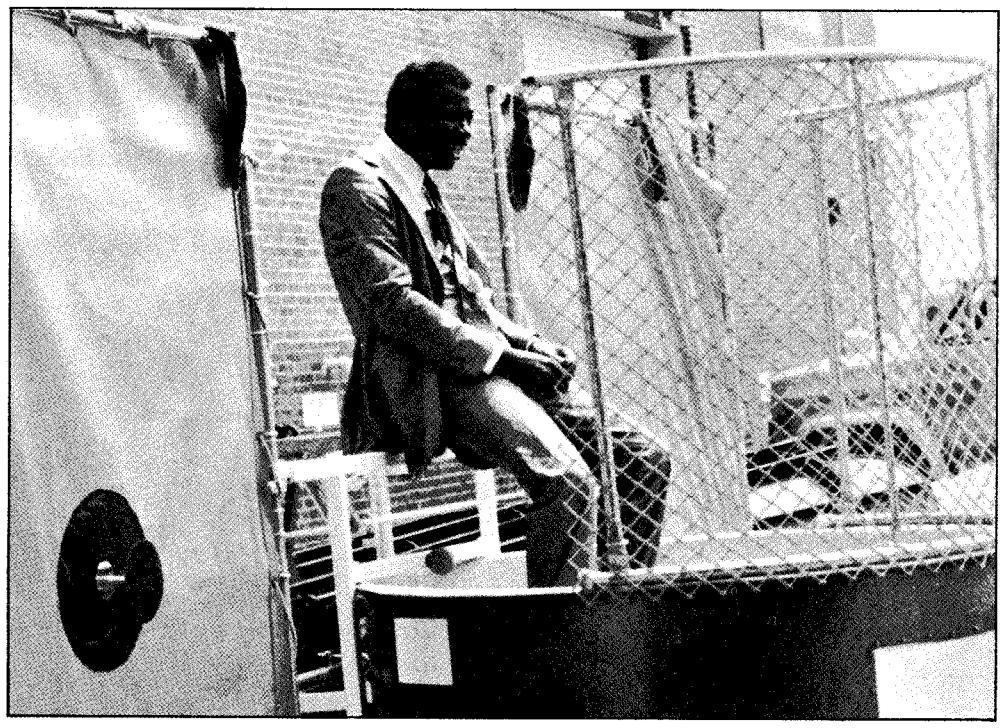
Joseph Kelly, (Code 601): For outstanding contributions you made to the Honors Network Symposium. Your expertise and professionalism were, to a great extent responsible for its success.

Jonathan Kaufman, (Code 602); Vinod Agawarla, James Katilaus, Georgette Gaskin, Eileen Armstrong-Carroll, (Code 606): For outstanding contributions during the second Navy R&D Information Exchange Conference. Your presentation and professionalism reflect creditably on yourselves and certainly enhances the Center's reputation.

John Clark, Jr., (Code 605): For outstanding contributions made to the Joint Assessment and Ranking Team and a U.S. ASTOVL Normalization Team. Your expertise on behalf of the cooperative effort between the United States and United Kingdom reflects creditably on yourself and enhances the reputation of the Center.

Larry Buchsbaum, Anthony Mickus, (Code 30B); Robert Geyer, Donald Promish, John Strobel, Cheryl Zorzi-Brozik, John Taylor, (Code 301); Carla Mackey, Jeanne Marie Kita, Arleen Anderer, Pascual Spensieri, Paul Poore, (Code 302); Joseph Paone, David Bailey, Carl VanWyck, Paul Bumgardner, William Bogdan, (Code 303); Steve Ganop, (Code 402): For extraordinary resourcefulness, professionalism and dedication to the Warfare Systems Architecture and Engineering effort. The professionalism and dedication you exhibited are highly commendable and your efforts greatly appreciated.

Mark Gindele, (Code 3033): For your outstanding performance in support of the Navy Advanced Tactical Fighter (NATF) program. Your noteworthy dedication and professionalism have represented the NADC extremely well.



Dick Mitchell sits in the dunk tank during the Navy Relief Fund Drive

NADC Reflector

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NAVAL AIR DEVELOPMENT CENTER WARMINSTER, PA.

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Commander, NADC . . . . . CAPT William L. McCracken
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Public Affairs Officer . . . . . James S. Kingston
Editor . . . . . Lawrence L. Lyford
Assistant Editor . . . . . JO2 Michael Delledonne
Assistant Editor . . . . . Margaret Vigelis

Technical Highlights

ATIP (Ada Technology Insertion Program)

The AJPO (Ada Joint Program Office) competitively selected and funded an NAVAIRDEVCEN, Systems and Software Technology Department, Software and Computer Technology Division R&D (Research and Development) proposal to develop reusable Ada bindings for an "X-Windows" graphics terminal capability. The Ada bindings will be used on the JIIDS NDA development effort for the Navy-Standard Desk Top computer which NAVAIRDEVCEN is also developing and will be delivered to the AJPO for reuse by other Ada developers.

AN/UYS-2 (Enhanced Modular Signal Processor)

The EMSP TDA (Technical Direction Agent) finalized ASIP (Acoustic System Integration Program) descoping exercise to effect a technically sound and cost minimal ASIP program. Participated with and formally presented to user community the descoped ASIP Program.

Finalized Unit Specifications for ALFS (Airborn Low Frequency SONAR) and BSY-2 (Seawolf Submarine) customers as basis for ASIP requirements for these platforms.

Supported planning for Production Readiness Review for SEM-E. Also responded to all Embedded Computer Resources Issues related to SEM-E PRR (Production Readiness Review) audit in preparation for Milestone III approval.

JTIDS (Joint Tactical Information Distribution System)

The Software and Computer Technology Division completed a comprehensive SDP (Software Development Plan) in accordance with DOD-STD-2176A for a Joint Service NDA (Network Design Aid). The NDA development effort will provide the Navy with a user-friendly, graphical, software tool with which to define and configure a multi-platform communications network to insure interoperability of deployed JTIDS terminals.

The Systems Speciality Engineering Division developed the format and published 22 Quick Look EMI (Electromagnetic Interface) test reports.

Provided an impact statement on shipboard electrical bonding requirements.

Request for Procurement (RFP) Completed for S-3B Co-Processor Memory Unit (CPMU)

The Advanced Systems Group in the VS Program has completed an RFP for the CPMU to replace the drum and post display processor in the S-3B avionics. This development is a joint venture with the Canadian Government due to the similarity between the S-3B and the CP-140 systems. The CPMU will provide the S-3B system with increased memory capacity, and increased reliability. The Center's procurement of a CPMU also includes a co-processor for the augmentation and replacement of the AN/AYK-10. Additional growth factors include a 1553 bus, fiber optics, and a Small Computer System Interface capability. The contract will be awarded by the Center's Contracts Division in early June 1991.

Dr. Vinod Agarwala, Code 6062, chaired sessions on "Coating Systems versus Aerospace/Marine Environments" and "Advanced Materials for Marine Aerospace Applications," at the First International Symposium on Environmental Effects on Advanced Materials, ADVMAT/91, held June 19-21, 1991 in San Diego. Agarwala also served as a member of the organizing committee and presented a paper on "Corrosion Behavior of Metal Matrix Composites."

John DeLuccia and John Boodey presented a paper on "Stress Corrosion of RST Al Alloy Extrusion Containing Molybdenum." Ronald Cocharan, Thomas Donnellan and Ronald Trobacco presented a paper on "Degradation of Imide Based Composites." Randall Sands and T. Kricher presented theirs on "Environmental Effects on Ceramic Matrix Composites."

The ADVMAT/91 was sponsored by the National Association of Corrosion Engineers, and cosponsored by The Metallurgical Society, American Society for Testing of Materials and the ASM International.

NADC Fire Chief presents an official commendation to former Center Commander C.J. Winters from the Bucks County Board of Commissions.

McCracken takes the helm at NADC

Continued from Page 1.

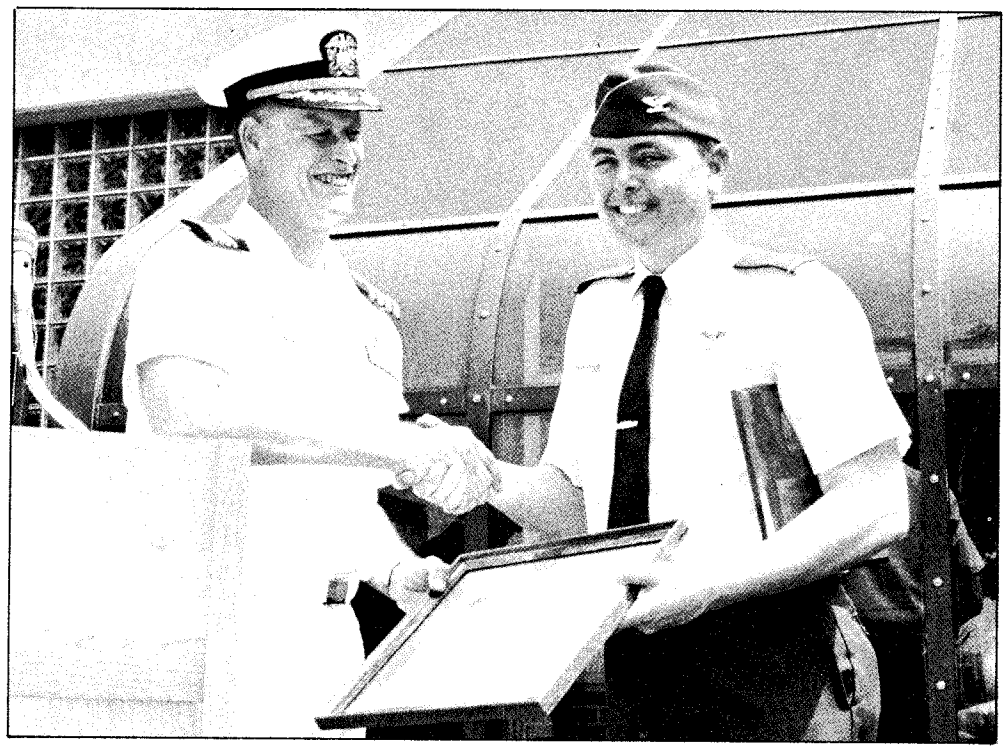
Aerospace Engineering Department at the U.S. Naval Academy where he expanded the Aerospace curriculum to include both an accredited aeronautical and space engineering curriculum. Next, he completed the Program Managers Course at the Defense Systems Management College.

McCracken's awards include the Meritorious Service Medal, Navy Unit Commendation, Meritorious Unit Commendation, Humanitarian Service Medal, and Armed Forces Expeditionary Medal.

He is married to the former Karen Antonitis of Philadelphia. The McCracken's have six children: Jennifer, Jason, Scott, Sauren, Ryan, and Gregory.

Memorial Day Service

Lt. Gen. Frederick A. Welsh speaks during the Memorial Day Service.

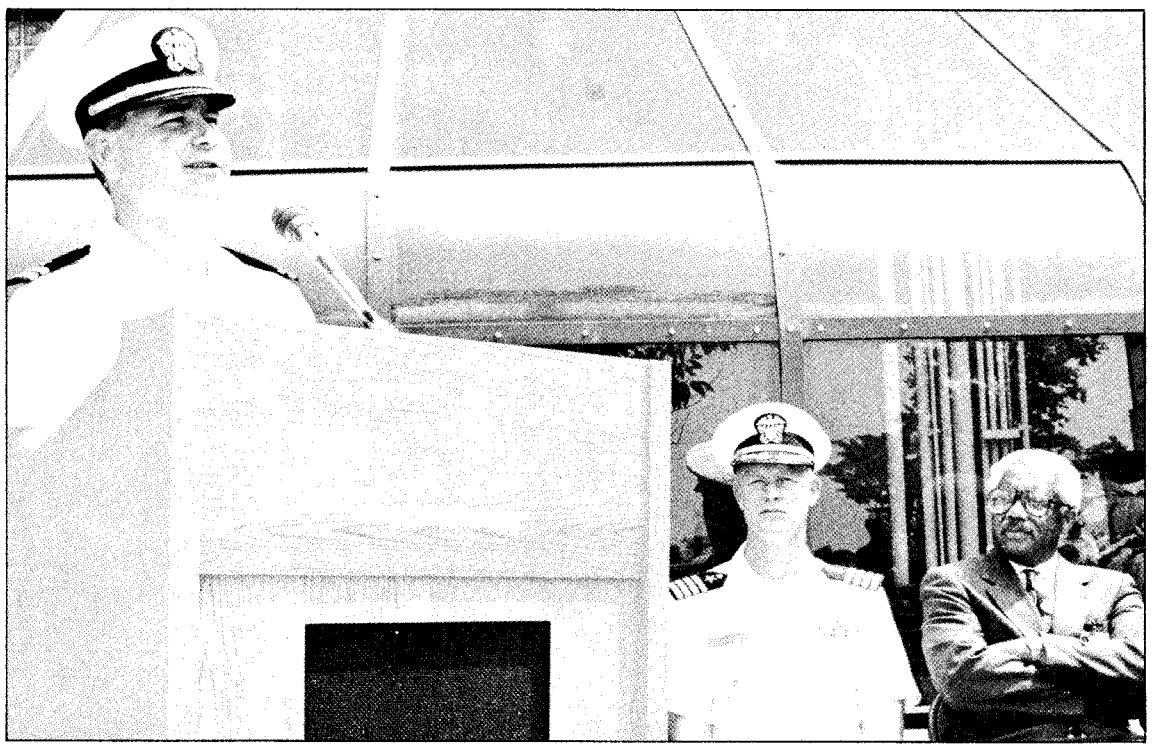


Dr. James Whinnery receives an award for serving in Operation Desert Storm from Captain Curtis J. Winters.

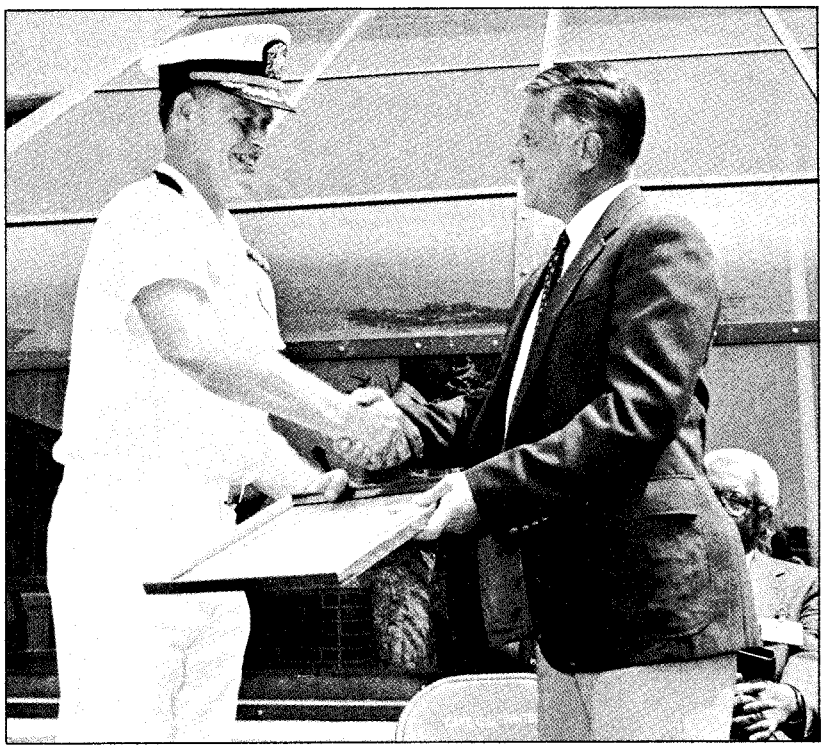
Members of the NADC Auxillary Security Force stand ready for the 21 gun salute.

YN3 Mark Hisert and AWAN Charles Harrison raise the flag during morning col

Honors Veterans



Navy Chaplain, T. Judge, reflects during Memorial Day Service.



Captain Curtis J. Winters hands John Kelly an award for participating in Operation Desert Storm.

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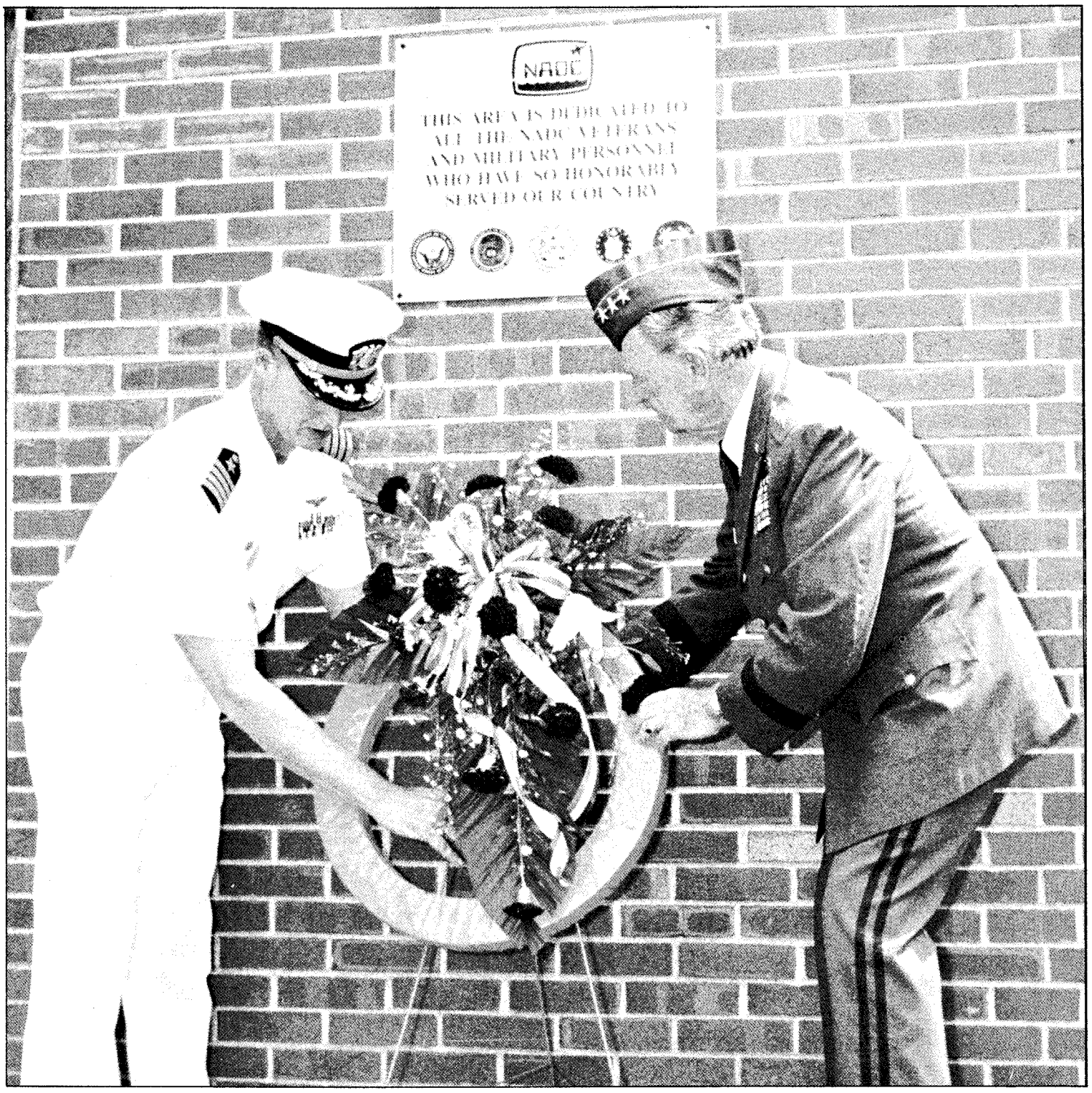


The former Center Commander and Lt. Gen. Frederick A. Welsh display the Memorial Day wreath.

MWR Designated as Ultra Slim Fast Team Tennis Site!

By Heather O'Rourke

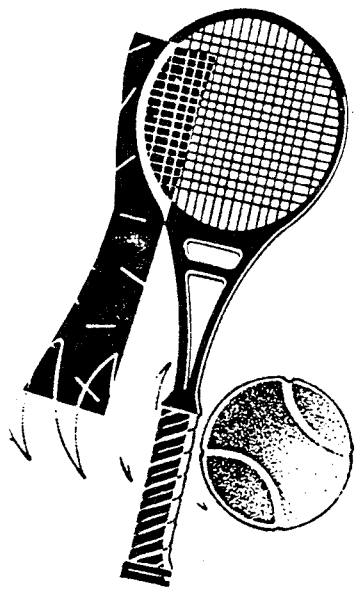
A recreational Team Tennis League for adults will begin August 3 through October 5 with July 22 being the registration deadline. Matches will be played at lunch time on Tuesdays and Thursdays for 10 weeks.

Recreation Team Tennis is a tennis league which allows men and women to compete in an exciting fast-paced format. A Team Tennis match consists of five or six no-ad sets including one set of men's and women's singles, one set of men's and women's doubles and one or two sets of mixed doubles. Scoring is cumulative with the team winning the most games winning the match.

Just by joining the league here at NADC, each player receives a free t-shirt, free court useage, a $5 MWR annual useage fee membership, the opportunity to play in regional tournaments and, to the winning teams, Team Tennis awards.

Recreational Team Tennis is played year-round across the country. Recreational players play the same format as Professional Team Tennis. Tennis legend Billie Jean King serves as the Chief Executive Officer of Team Tennis.

The league entry fee will be $25, which includes everything mentioned above. Remember the entry deadline is July 22. For more information, call Mike Dampf at X2510.



Dive . . . Dive . . . Dive!

By Heather O'Rourke

UnderWater World and MWR are jointly offering an Open Water I Scuba Course. The class begins on July 2 and meets Tuesday and Thursday nights, 7-10 p.m., at the NADC pool. All course instruction will be done by UnderWater World with certified instructors. A minimum of 8 students is needed to hold the class. The cost of the class is $125 per student plus books and certification fee. For more details, call MWR X2510.

Volleyball continues

By Heather O'Rourke

The Miller Summer Series of Volleyball continues with the third summer competition on July 20. Advance registration is required through the MWR Recreation Division. A $10 entry fee includes participation, a T-shirt, refreshments and awards to the first place finishers in doubles and fours on sand. The top teams in each division will win a trophy and prizes from Miller Brewing Co. Check-in starts at 8:30 a.m. and the tourney begins at 9 a.m. For details contact MWR X2510.

Discount Golf Passes

By Heather O'Rourke

MWR has a few discount golf passes for Northampton Valley Golf and Country Club still available for NADC Civilian employees and active duty military. The passes are sold in the Fitness Center for only $14 each — that's a savings of over $4 weekdays and $8 weekends! You must schedule a tee time for after 2pm if you are golfing on the weekend or on a holiday. For more information, call MWR X2510.

Security Reminder

Reproduction of Classified Material

Reproduction of classified material shall only be accomplished in the Navy Publishing and Printing Service (NPPSBO) (Code 060). Warning notices are posted on duplicating equipment throughout the Center prohibiting the use of such equipment for the reproduction of classified material. The prohibited use of the equipment is also addressed in NAVAIRDEVCENINST 5604.2. The instruction also identifies the mandatory requirement that each machine bear a round, serially numbered seal on the glass platen. The removal of such seals is prohibited and constitutes tampering with government property. The unauthorized removal of such seals could result in adverse action against persons found responsible. AFTER NORMAL WORKING HOURS, KEY CONTROLS WILL BE ESTABLISHED FOR REPRODUCTION FACILITIES OR EQUIPMENT UNDER THE COGNIZANCE OF INDIVIDUAL DEPARTMENTS. (Para. 0902. b., Chapter 9, NAVAIRDEVCENINST 5510.113D.)

Winters leaves NADC for NAVAIR

Continued from Page 1.

Wall has come down, the Warsaw Pact has disbanded, the Soviet Union has experienced an economic and political collapse, and the United States led a coalition of forces in the most stunning military victory of this century. The Cold War is over. The absence of a serious military threat and the pressures of a rising budget deficit are lowering defense spending to a level we have not seen in 50 years. We are going from a defense budget of 6% GNP in 1988 to a planned 3% in 1998.

Our nation has never maintained a large military force without a perceived threat. At the end of the Revolutionary War the last frigate was auctioned off and the Navy disbanded. At the end of the Civil War the fleet was cut from 626 to 60 ships. After the First World War a conference for the limitation of Naval armaments declared a 10 year prohibition on capital ship construction. During the Depression the Navy took a 15 percent cut in pay, many were furloughed, and only part of the 1933 Naval Academy Class was commissioned.

Yet during all the periods of disarmament there were always enclaves of technical capability and people who could be called upon when the need arose. I believe this need will continue and the men and women of the Naval Air Development Center will continue to play such a role.

In the future there will be more changes of management, a probable change of name, and possible change of location. But the essence of NADC: the knowledge, the lifetime of experience and the ability to accept challenges, is carried in the hearts and minds of you who work here. I know you will persevere and keep the flame whatever the future brings.

Years from now when I look back at my tour at NADC, what I will recall is the tremendous loyalty and support that I received from all of you. The employees of NADC, the Warminster community, elected officials at every level, the local news media, the Navy League, and the Rotary Club — you have made my job easy and my family a part of yours. I thank you for your kindness and know that you will welcome Captain McCracken and his family in the same way.

It is with pride and sadness that I relinquish command of NADC and bid farewell.

NADC's target acquisition system "looks" where pilot looks

By Lawrence L. Lyford

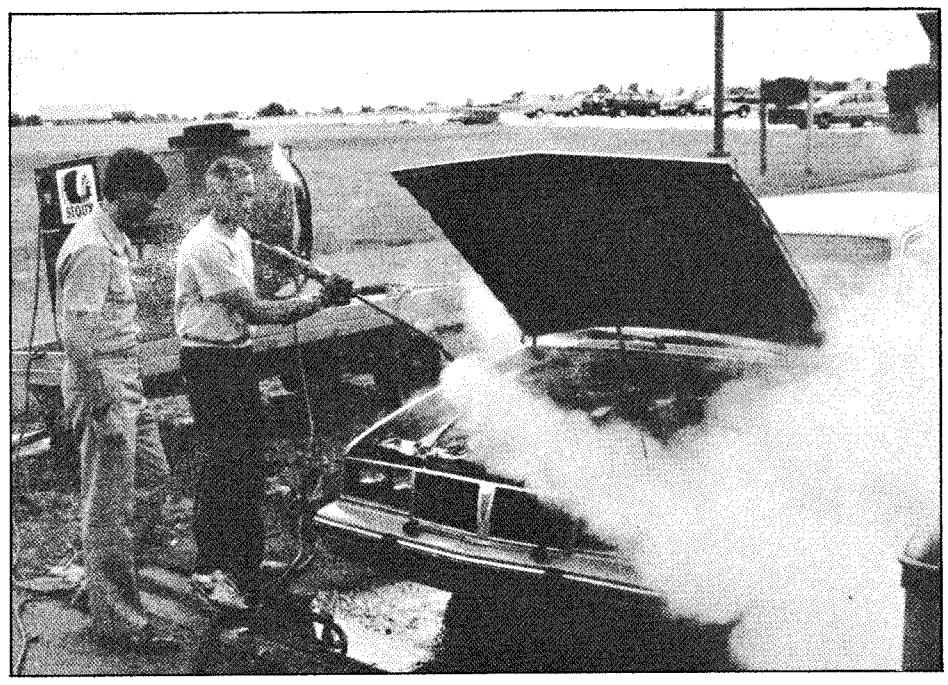
Telling your air-to-air weapons system where you want it to zero-in while quickly maneuvering high-performance aircraft to gain tactical superiority in close combat encounters is difficult — reactions of seconds count. Although modern aircraft canopies provide the fullest possible view, seats and helmets allow maximum over-the-shoulder head maneuverability, the weapons systems haven't known where the pilot is looking. If they did, crucial intelligence could have been transferred.

Now, a new technology, developed here at the Center, minimizes the time required by fighter and attack aircraft to acquire a target and reduces the need to maneuver in search of a target. It is a pilot tracker, called a Navy Standard Magnetic Tracker (NSMT) and it accurately tracks where a pilot aims his head, or rather his helmet.

The system determines helmet position and orientation by filling the cockpit with an alternating magnetic field from a canopy mounted device. The alternating magnetic field induces low level voltage into the helmet mounted sensor. The level of induced voltage depends on the distance between the field source and the sensor. The voltage formation then is sent to a computer through a signal processing system to calculate the helmet orientation and position. This information can be used by target acquisition systems to "look" where the pilot looks. The tracker, already, has completed initial developmental testing in the one Navy aircraft.

The unit consists of a helmet-mounted sensor, a canopy-mounted source source, an electronics and computer circuit and a control panel. Some of its important features include: lightweight, full-spherical coverage, high accuracy and reliability.

This program is another step by the scientists and engineers at NADC to ensure Navy/Marine aviators maintain air superiority during aerial combat engagements.



Steam cleaning by Chief Petty Officers Dwight Myllenbeck and Paul Yuknis.

Federal Women's Program holds luncheon to honor Women's Equality Day

By Mary Eileen Farrell and Nancy Whitesell

Women's Equality Day commemorates the passage of the 19th Amendment to the Constitution on August 26, 1920 granting women the right to vote.

The Federal Women's Program Committee will celebrate Women's Equality Day on Tuesday, August 20, 1991 with a luncheon at the Blair Mill Inn.

The highlight of the luncheon will be the presentation of the annual Federal Women's Program Award for Excellence to an NADC employee who has made a significant contribution to the enhancement of female employees at the Center and/or in the local community through volunteer work, mentoring, and counseling and has, at the same time, shown excellence in their own career achievements. The accomplishments and activities of each nominee for this award will be displayed on the Solarium Bulletin Board prior to the luncheon.

Councilwoman Joan Specter will be the distinguished guest speaker. Since her election to Philadelphia City Council in 1979, she has emerged as one of the Council's most active and respected members.

As an at-large member, Councilwoman Specter has focused on a wide range of problems facing the city while maintaining an active commitment to constituent service. In response to the fiscal crisis, she introduced legislation to amend the City Charter, privatize the Gas Works, and protect the city-owned airport from the crisis. In an effort to promote health and welfare of city residents, Specter initiated the CAUSE Task Force to bring the city's hospitals together to better serve the community.

Councilwoman Specter has also maintained a strong interest in promoting the rights of minorities and women. She introduced the first bill to divest the city pension fund from holdings in South Africa, and was the first to introduce hiring goals legislation for minorities and women.

For luncheon tickets or more information, contact Marge Russo, Ext 2660 or Elaine Picard, Ext. 1694. Tickets cost $11.00 per person and will go on sale 1 August 1991.

Planned your vacation yet?

To help with all of your personal travel arrangements, call SATO Travel, ext. 2729, Mon. thru Fri., 8 AM to 4 PM.

If the SOC fits

Serious procurement incident could have been worse

By Robert G. Janes

The most significant piece of legislation affecting the Navy's Standards of Conduct (SOC) over the last few years has been the Procurement Integrity Law. The law imposes various restrictions on three categories of people: current government employees, contractors competing for an ongoing procurement, and former government employees.

One of the law's provisions make it improper for a competing contractor to solicit or obtain any "proprietary or source selection information" concerning an ongoing procurement. A few months ago we had a violation of this portion of one of our Requests for Proposals when a former NADC employee, now serving as a consultant for one of the competing contractors, called up an old friend on the technical evaluation team and inquired about the status of the procurement. While this in itself would not have violated the law, he went on to ask certain questions about the ongoing evaluation that did violate the portion of the law forbidding contractors from soliciting source selection information. Fortunately, the government employee advised that he was prohibited form furnishing the information and abruptly ended the conversation. He reported the matter to the contracting officer, who in turn, acting pursuant to DoD regulations, reported it to the Naval Supply Systems Command. Since no information was divulged, NAVSUP concurred in our recommendation that the procurement be permitted to proceed, and it in fact did proceed without further incident. The contracting officer sent a letter of admonishment to both the consultant and the company involved, but no action was taken beyond that. Although this had the potential to be a very serious situation, the NADC evaluation team member alertly avoided any major problems by declining to provide the requested information.

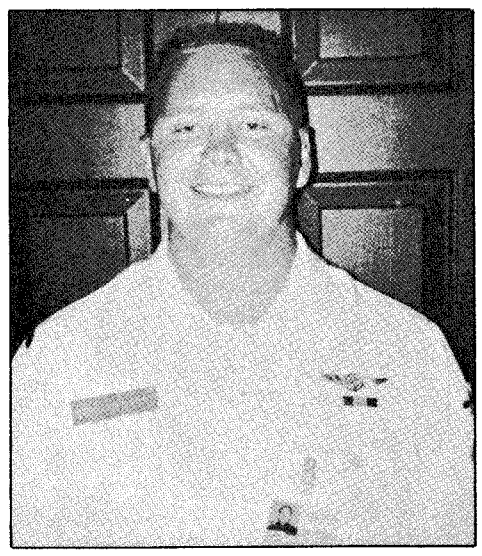
Who they are; What they do

By JO2 Michael Delledonne

Growing up in a military family and seeing the way the military is run, may or may not determine if that's what you want to do for a living. For Aviation Antisubmarine Warfare Operator Charles Harrison the decision was to join. "My father was in the Air Force, I was always around the military and I wanted to sign up," said Harrison.

The 20-year-old from Dayton, Ohio said the Navy offered him a better opportunity to fly, "I've always wanted to fly" he said. "Ever since I was a kid and we would go on vacation. I love it."

Harrison, who has been in the Navy for more than four years, enjoys service life. "I really like it a lot. You're part of a family that you know will stick by you in good times and bad. You meet a tremendous amount of people and form friendships which will last forever. I'm not sure you would have that in the civilian community."



AWAN Charles Harrison

SPORTS WORLD SPORTS WORLD SPORTS WORLD

NADC Mixed Bowling League

By Tom Reiter

Our annual awards banquet was held on June 14th, and as usual everyone danced the night away. In addition to fine wine, food, and music, the following bowlers from both of our Divisions received individual trophies for their highest, season ending accomplishments. We limit one award per person, preventing a back injury to some of our All-Stars by having to carry out an armful of trophies; therefore, names preceded by an asterisk had received a higher award.

Hopefully everyone, except for those diehards who bowl in summer leagues, will store their equipment in the garage or basement, rest their arms, and have a safe, sunny, summer . . . See you all in September!

High Series with Handicap - B -
*Steve Jerdan 728
Dave Furry 705
*Kathy Sedlock 743
Judy Jerdan 715

High Single - A -
Bob Helm 245
Joann Coughlin 216

High Single - B -
*Steve Jerdan 252
*Al Knobloch 248
Jim Campana 242
*Linda Stickney 256
*Kathy Sedlock 247
Sharon Robinson 227

High Single with Handicap - A -
Bob Gindhart 271
Denise Eck 263

High Single with Handicap - B -
*Steve Jerdan 278
*Jim Campana 274
*Al Knobloch 265
Jack Horning 264
*Kathy Sedlock 302
*Linda Stickney 286
Andrea Sicher 273

Most Improved Average - A -
Gary Dunn +20
Denise Eck +7

Most Improved Average - B -
Allen Goldstein +8
Lorraine Kittner +3

League Champions — Steve's Side Show
Steve Jerdan (Captain)
Dave Furry
Jim Williamson
Aaron Burstein
Wayne Jerdan
Dave Gumkowski
Charlene Gumkowski
Karen Baker
Nancy Donahue
Judy Jerdan
Jamie Jerdan

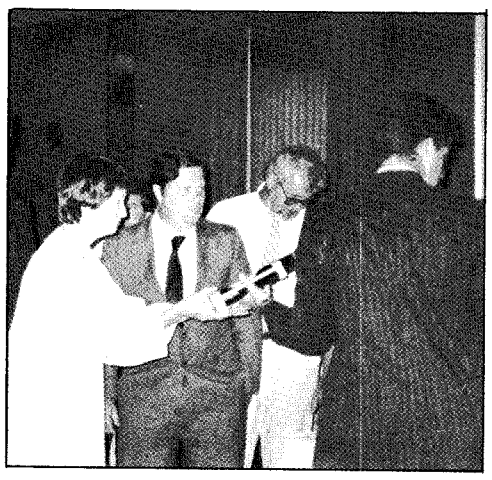
High Average - A Division -
Kevin Ryan 178
Terri Grau 175

High Average - B -
Al Knobloch 179
Kathy Sedlock 174

High Series - A -
*Kevin Ryan 640
Dick Coughlan 600
*Terri Grau 592
Carla Dragon 560

High Series - B -
Steve Jerdan 650
*Kathy Sedlock 606
Linda Stickney 592

High Series with Handicap - A -
Terry Moore 727
Leo Hoffman 727
*Terri Grau 708
*Carla Dragon 698
Barb Fleischut 528



Mixed League Champions, Steve's Side Show, receive their awards from President Jim Campana (right).

Sandfleas hop to the top

By Jack Eyth

In a season where most of the perennial powerhouses are in the middle of the pack, the constantly improving Sandfleas have taken first place in the Pax River Division. Although their 8-5 record is not overwhelming, it's enough to stay ahead of the new-look Dynatigers at 6-4, the Eighth Inning at 7-5 and the surging Granfalloon at 6-6. It will be interesting to see if the Fleas can hang on to first place and carry this momentum into the playoffs.

In the NADC Division, the Renegades continue to lead with a 13-0 record but the Herassers are having a "Dream Season" of their own at 9-3. The Misfits are more potent than their 8-5 record indicates, especially now that first-string pitcher Ed Swiski is back.

Play-off positions are going to be more difficult to predict this year as a result of changes to the play-off format. Only the first two teams in each Division are guaranteed to make the play-offs. The next four best teams, based on win-loss record, will be selected from either division. It is possible that five teams from one division and only three teams from the other division could make the play-offs. If the play-offs started today, the Bearcats, Life Supporters, Crush and Phantoms would be eliminated.

Notes from around the league: "Say it ain't so, Steve." One of the founding fathers of the Renegades, Steve Bazow, quit the team after eight years to join the Granfalloon. New 'Falloon coach, Doug Bancroft, says he picked up Bazow because "he needed someone to bring the cooler;" Crush coach, Jim Billy, says his team would have a better record if "Code 40 didn't travel so much." (Maybe the Crush should sign up some players from Public Works); Bill Donovan of the Herassers credits part of his team's success to the pitching of Rick Brodine and the hitting of Dave "Whitey" Whitenack. The infamous 17-17 tie game between the Life Supporters and the Rebels was resumed on 6 June and eventually won by the Life Supporters, 18-17, but the Rebels got revenge in the following game 25-4. Next month: The All-Star Extravaganza and the beginning of the playoffs.

Tuesday Night Mens League Champions: Carl Kizelowicz, Alan Victor, Joe Leonard, Mark Cahaill, Karl Geist, Ralph Collins, Buz Braun, and Bill Brown.

Pressing the Issue

Lee wins two bench press titles

By JO2 Michael Delledonne

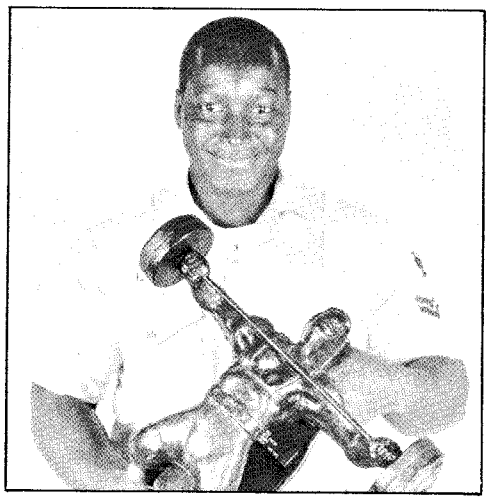
AMH2 Robert Lee continued his impressive performances in bench press competitions as he took first place at Willow Grove Naval Air Station and Gold's Gym.

Lee, who won the Willow Grove meet with a lift of 330 pounds, said he felt good and strong. "The competition went really well," he said. "I always go in a little leery because I don't want to get overconfident because that's when you get beat."

As if Lee's 330 pound press wasn't enough, he won the Gold's Gym meet with a lift of 335 pounds. "That was definitely a pins and needles competition," said Lee. "People came from all over the area including the Poconos just to compete. I wasn't just lifting against the military and the competition was stiff."

Lee said the 335 pound lift was no problem. "It was a little bit of work, but what scares me more is the time limit. The judges give you one minute from the time they call your name until the time you lock out the weight and that's not a lot of time."

Lee will next compete in August at the All-American Drug-Free Weightlifting Contest. "It's a really big meet. Hopefully, I'll place in the top three."



Robert Lee poses with his first place trophy from the Gold's Gym competition.

NADC Reflector

Volume 36 Number 8 NAVAL AIR DEVELOPMENT CENTER, WARMINSTER, PA. August 1991

In This Issue
— House vote comes
— Fire story
— Employees promoted
— Realignment text
— Specter announces suit

House votes to OK base closings and realignments

By Lawrence L. Lyford

On July 30, 1991, the House of Representatives overwhelmingly approved the Defense Base Closure and Realignment Commission recommendations. Though the Senate may vote on the package, such a vote is not necessary, said aides to Senate Majority Leader George Mitchell (D-Maine). They reported the Senator had not decided whether to schedule a Senate vote.

A Senate vote is not necessary because legislation only requires a vote by both houses of Congress in the event of a veto (by a two-thirds vote) by the first house to vote. The House voted 364-60 to accept the package.

Area lawmakers have sought a federal injunction blocking implementation of the plan as it pertains to the Philadelphia Shipyard and have indicated NADC will be added to future the legal action. A request seeking depositions of ranking Navy officials and release of documents has been granted.

Judge Ronald L. Buckwalter, U.S. District Court in Philadelphia, set a Sept. 30 hearing on whether a preliminary injunction should be issued.

According to Senator Arlen Specter (R-Pa.), the legal challenge will be precedent-setting. "This will be the first time the Base Closure and Realignment Commission process has been challenged in court as far as I have been able to determine."

During his recent visit to the Center, Specter said, "It's an uphill battle, of course, but the Navy is concerned this aciton, which could be joined by others around the country, could set aside the entire Navy plan. "Of course, the ruling could apply only to the parties to the suit. So I'm here at NADC to speak to the union and employees to learn how they feel about being included in the litigation."

Excellent work keeps dangerous fire from spreading

Center firemen relax before moving equipment back to the Firehouse. The second-story fire was extinguished before most employees arrived.

By Lawrence L. Lyford

By the time most employees arrived at the Center on July 18, a fire on the second floor of Building 2 in a large furnace used to heat fiberglass had been extinguished. Only Warminster and Center fire trucks, a charred furnace, some dripping water, an acrid odor, three broken windows and fighters removing protective clothing or mopping up remained.

According to Donald Meadows, Fire Chief of the Structural/Crash Rescue Fire Division, the fire could have been worse. As it was, the fire was extinguished in 15 minutes from being reported. "I'm so proud of my people. They did a magnificent job. But they always do. It's our standard."

At 5:27 p.m., a security guard reported heavy black smoke coming from a second floor window. Upon arrival, Vince Crusco, Assistant Chief notified Bucks County Radio to dispatch a second alarm. This summoned units from Warminster, Hatboro, Hartsville, Southampton and Northampton.

Had the fire not been contained quickly it would have spread very rapidly along the inside wall of the building. "It's better to call a second alarm early than to call five alarms later," said Meadows. "As it was, four additional units actively helped while the rest were held in reserve."

Two engine companies from the Center fire department stretched in a 3-inch water line and broke it down to two 1½-inch lines. The engine captain and crew crawled the hallway and confirmed heavy smoke and intense heat. A thermometer in the room registered 1,800. The engine captain requested immediate ventilation.

The incident commander, Assistant Chief Crusco, ordered Squirt 69, the new 1,000-gallon pumper with a 65-foot ladder, already positioned, to take out the windows in the affected room. The driver/operator used the ladder to punch out three windows. This let the inside crews attack the fire aggressively, extinguish it in less than a minute, and drive the smoke and heat out the broken windows.

Crews from the Warminster Fire Company assisted the Center engine company on the fire floor while other mutual aid companies protected property in the basement. They covered computers and equipment and later removed water collected on the first floor.

This was the 424th alarm for the firefighters. Last week, they responded to five hazardous materials calls, three housing unit calls for gas odor or sparking wall sockets, several medical emergencies and one airfield call when a flying club plane blew two tires.

The day before they assisted Warminster Fire Company put out a roof fire at William Tennant High School. The following night they covered all Southampton for three h ours when its company fought a major fire.

They have mutual aid agreements with Warminster, Warwick, Northampton, Upper and Lower Southampton, Hatboro, Upper Moreland and Horsham townships. However, they support Northampton, Bensalem and Philadelphia because of their specialized equipment and professionalism according to the Chief.

Warminster Fire Company member helps cleanup through mutual support program.

Woodcock completes Naval War College; earns Master's Degree

By Lawrence L. Lyford

Anyone looking for David Woodcock last year would not have found him. Visitors to his home would have found renters. The reason, he and his family moved to Newport, R.I. so he could attend the Naval War College.

For most of the nine months at Newport, Woodcock learned to think in a global context. His first core course at the war college used history as a vehicle to relate national policy to strategy. This and other courses altered his perspective, changing his professional orientation. Pass/fail electives challenged him to explore unfamiliar areas. He acknowledges this perspective broadening is built into the curriculum.

General Colin Powell; Admiral Frank Kelso; political figures; familiar people like DOD spokesman, Pete Williams; author, Tom Clancy and Retired Admiral Elmo Zumwalt all spoke to his class as did former U.S. ambassadors.

On a personal side, he joined five other University of South Carolina NROTC graduates in this course leading to a Master's Degree in National Security and Strategy. Because he previously served in a joint service billet, he is one course from qualification as a joint service specialist or "Purple Suitor" as a Reserve officer.

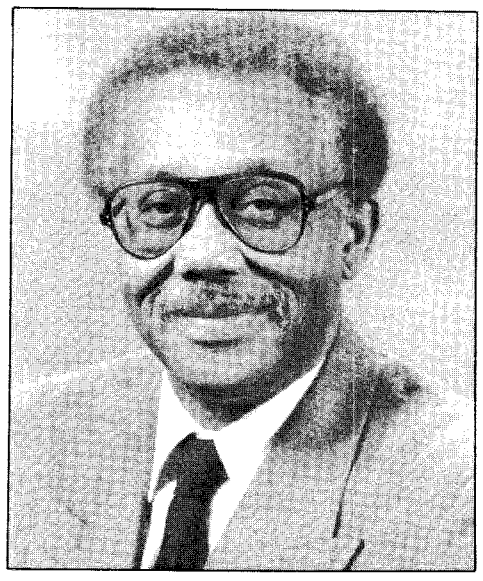
Now he is waiting confirmation by the war college of his acceptance to teach the on-Center Naval War College seminar course continuing here this fall.

Now that he's back at the Center, he is working on a project closely related to two areas of interest at the war college, modern diesel-electric submarines and shallow water submarine threats.

He highly recommends war college experience to others and is willing to share his experiences and course potential with others.

Command Corner

Captain William L. McCracken
Center Commander



Guy C. Dilworth, Jr.
Technical Director

Letters to the Editor

Parking is still a problem

Dear Editor:

Quite a while back I sent a letter about the lack of parking in NADC lot #2. At the time there was considerable construction in the area and much of the lot was closed.

Now virtually the entire lot is opened and there is still a lack of parking spaces. I know I am probably writing this letter in vain with the impending closure and an earlier command statement that parking was a privilege NOT a right.

I have worked at NADC for 18 years as a government employee. My work schedule is 8:45-9AM to 5:30PM. That is my choice. I know if I were to come in at 6:30AM I could have a front row parking place. At 8:45AM on any given day there are usually little if any parking places available in lot #2.

I have two basic complaints. One is that cars are parking out into the aisles and in every nook and cranny they can. Tickets are issued to some and not to others. The criteria is not known. Maybe it is the mood of the officer.

The other complaint is that not until the last five years or so has this problem existed. It seems to get worse not better. I contend that many of those parking in lot #2 are contractors, many on short term business.

I did my own informal survey of JUST the unpaved stone area at the Northeast corner of lot #2 on Monday, July 15th at approximately 1330 hours. There were a total of 54 cars parked. Of the 54, 24 exhibited NADC stickers, 8 had contractor or commercial passes and 22 had NO sticker anywhere on the car and none displayed in the window. I also spot checked the rest of the lot and found many more cars with NO identification.

My unconfirmed belief is that many of these unmarked cars are contractors who have limited business at NADC or commercial contractors.

I may not have a right to a parking space but why does a contractor or commercial pass person have more rights than I do? Let the non-full time contractors and commercial pass operators park across the street. Is this yet another erosion of the federal employees' great benefits? And we wonder why morale suffers!

Doug Crompton Code 5051

Blame construction

Dear Editor:

Regarding the above letter to the editor. The writer mentions the lack of parking spaces in Parking Lot #2. This is due to construction work. In fact, the date on the letter is the date the latest construction began. Those unaffected should understand, parking for 110 automobiles is temporarily dislocated by construction. Drivers parking on the strip between Bldg. **#2 and Jacksonville Road and where the building scaffolding is located now must park in Lot** #2 and the area in front of the fire department. As in a shopping mall, those arriving the latest park the least conveniently.

However, because of the construciton work and understood parking space limitations some leniency is shown regarding ticketing. However, unreasonable, willful disregard for safety such as obstructing emergency vehicles, blocking aisles, parking in stripped fire zone areas will bring citations. Parking areas are patrolled hourly unless personnel are required for other duties such as emergency responses, special guard services, destruction of classified material.

Contractors are directed to park in Lot #2 so employees have sole use of the other lots. Before the Parking and Traffic Regulations (Center instruction 5560.5C) were re-written in 1985, they could park anywhere. The writer or anyone else may stop by my office and examine the regulation or ask me to answer questions in more detail.

John Kupetz
Chief of Police

Commander Salutes

Joseph W. Cameron III, (Code 102): For your superb efforts in your temporary assignment at the Naval Air Systems Command in support of the Unmanned Aerial Vehicle-Medium Range Program.

Nigel R. Goodenough, RAF, (Code 103): For your professionalism in hosting the visit of Wing Commander John Platt. Your attention to detail in technical information exchanges such as this reflects highly on this Center, the ASW Systems Department, and yourself.

Scott M. Cote, (Code 605): For your outstanding contribution to the joint U.S. Air Force Advanced Tactical Fighter and Navy Advanced Tactical Fighter Source Selection.

Michael Strizak, (Code 601); Michael J. Caddy, (Code 605); Terry Miller, (Code 202); John M. McIntyre, (Code 201): For your outstanding performance and professionalism in supporting the Navy Advanced Tactical Fighter Demonstration/Validation Phase II.

Michael L. Kuszewski, (Code 202): For your leadership and support as the Navy Advanced Tactical Fighter Program Manager during the Demonstration/Validation Phase II.

Dr. James Sheehy, (Code 602): For your professionalism and outstanding presentation during the Vision Topics for Aviation Conference.

Kathleen Gause, (Code 03E): For your assistance and contribution to the Philadelphia Area Navy Equal Employment Opportunity Council's tenth EEO Manager's Training Forum.

Jeffrey Davidson, (Code 101): For your technical contributions to the S-3B "Viking" Weapons Systems Trainers. You provided outstanding technical liaison to the S-3 community.

CDR Peter L. Kallin, (Code 30): For your contribution to the resounding success of the ASO Compound 1991 Navy - Marine Corps Relief Fund Drive. Your assistance was indeed generous.

Aaron W. Burstein, (Code 302): For your assistance to the Naval Air Systems Command in development of the Advanced Air-to-Air Missile (AAAM). Your considerable analytic skills have made you a valuable asset to the AAAM Program.

LCDR David C. Johanson (Code 603): For your outstanding contributions and professionalism during the annual meeting of the Aerospace Medical Association.

CDR Lawrence H. Frank, (Code 602): For your presentation and professionalism during the DARPA/PM TRADE/IST Behavioral Representation and Computer Generated Forces Symposium.

James R. Orfe, (Code 022); Michael J. Markle, (Code 031); ENS Lisa M. Truesdale, (Code 042); AVCM Robert H. Carmichael, (Code 098); Robert N. Greenblatt, (Code 051); LT William V. Headley, (Code 101); CDR Paul M. Novak, (Code 102); AW3 Herbert H. Raulston, AT1 Robert D. Williams, LT James C. Clody, (Code 103); LT Robert A. Kametz, (Code 202); Deborah Stubinski, Noreen Lapira, CDR Peter L. Kallin, LT Eugene S. Caverly, (Code 30); LT Peter McHale, (Code 40L); Susan K. Porretta, LT Gordon A. Smith, (Code 50); HM3 Tujuana V. Dudley, (Code 602); Jerry D. Predhome, (Code 701); LCDR William G. Washnock, (Code 83); AK3 Arthur D. Brown, (Code 846); Jeanine M. Leahy, (Code 90C); AT1 Gary C. Mandeville, (Code 901); AX1 Macheath Stuecklen, AT1 David J. Bailie, AMH2 Shawn F. Crawford, AO2 Rex A. Hower, AE2 James Kuhn, AME3 Michael J. Romanski, Ad1 Gary A. Christian, AE1 Francisco Trevizio, AT1 Michael O'Rourke, PR2 Ramiro E. Flores, (Code 902): Congratulations. The 1991 Navy-Marine Corps Relief Fund Drive was a resounding success, raising over $11,000 — a new record for this command. This success was, in large measure, attributable to your personal enthusiasm and dedication.

Officer's Wives Association: For your generous donation of over $400 to the Center's annual Navy-Marine Corps Relief Fund Drive.

Security Reminder

Radios, purses, pocketbooks, loose change, cases, statues and other memorabilia having monetary or sentimental value and all highly pilferable items of Government property should be safeguarded by the owners/custodians at all times and secured at the end of each working day. Communal funds such as coffee messes, should be secured at all times. Security containers used for storage of classified material are not authorized for the storage of personal property or money. Further, doors to office and laboratory spaces should be locked during the normal working day when vacated by all employees and at the end of each working day.

NADC Reflector

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NAVAL AIR DEVELOPMENT CENTER WARMINSTER, PA.

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Closure/Realignment Commission issues extensive report

Base Closure and Realignment Commission Chairman James Courter speaks to reporters as part of visit to NADC.

The following are Base Closure and Realignment report excerpts not readily available to our readers. — EDITOR

Department of Defense Recommendation:

Close 10 and realign 16 Research, Development, Test and Evaluation (RDT&E), Engineering and Fleet Support Facilities as part of a facility consolidation plan. Create four centers: Naval Air Warfare Center; Naval Command, Control and Ocean Surveillance Center; Naval Surface Warfare Center; Naval Undersea Warfare Center.

Community Concerns:

The communities argued that implementing the consolidation plan would disrupt the RDT&E, engineering, and fleet-support functions these activities perform. Much of this disruption, they claimed, would result from the loss of key scientists and engineers who would be unwilling to relocate.

Communities expressed concern that the Navy underestimated the costs of the consolidation, that it failed to evaluate all alternatives, and that the new warfare centers would not emphasize research and development sufficiently. The communities requested the Commission to wait for the completion of the DoD Advisory Commission on Consolikdation and Conversion of Defense Research and Development Laboratories study before making any recommendations.

Commission Findings:

The Commissions found that the DoD did not adequately examine the availability of alternative facilities for the location of the East Coast in-Service Engineering Directorate. . . . While the Commission found inaccuracies in the DoD cost and savings estimates, these errors were insignificant.

Recommendation:

. . . The Commission recommends the following closure and realignments. . . . (10) Naval Air Development Center, Warminster, Pa . . .

Additionally, the Commission recommends to the President that the Secretary defer implementation of this consolidation plan until January 1, 1992 in order to give the Secretary time to consider the findings and recommendations of the DoD Advisory Commission on Consolidation and Conversion of Defense Research and Development Laboratories and to consult with the appropriate committees of the Congress.

The Commission also believes there is a clear role for the Advisory Commission to advise the Secretary of how best to implement this consolidation plan so as to minimize the impact of the turbulence it could create, including the loss of key personnel. Clearly, the challenge of undertaking such a comprehensive reorganization will require the careful development and execution of personnel management plans to minimize the disruption of critical research and development activities in the Navy laboratory system.

. . . Communities will have a wide range of experiences in developing reuse proposals . . . While short-term economic impacts form base closures are unavoidable, communities can take steps to mitigate these impacts and use the former base to stimulate new economic growth.

. . . Reusing former military base property offers communities the best opportunity to rebuild their economies. The buildings and facilities can fill residential, commercial, and industrial needs and this can replace jobs and income lost. Airfields are especially marketable because of the national shortage of available hangar space.

DoD's Office of Economic Adjustment surveyed reuse of closed military installations between 1916 and 1990 and concluded that 158,000 new jobs had been created to replace 93,000 jobs lost as a result of base closures. . . . But the experience of communities affected by earlier base closures clearly indicates communities can adjust successfully.

Environmental Restoration at Closing Bases

DoD is obligated . . . to restore contaminated sites on military bases. Within the capabilities of technology and the availability of funds, DoD is committed to restore closing bases to safe condition. The DoD Base Closure Account 1990 can be used to fund this environmental restoration.

DoD also has several initiatives under way to expedite the environmental restoration process and thereby speed local economic recovery.

* DoD is forming a task force to report on ways to improve inter-agency coordination of environmental-response actions. . . .

* DoD has established a model program that will test ways of expediting cleanup . . .

* DoD is re-emphasizing ongoing efforts, including expanded use of inter-agency agreements that detail restorations at National Priority List sites and memoranda of agreements between DoD and states for resolving technical disputes at National Priority List sites.

Homeowners Assistance Program:

The Homeowners Assistance Program, in operation since 1966, assists DoD military and civilian employees who are forced to move as a result of a base closure. The government helps eligible employees who cannot sell their homes within a reasonable time by either buying their homes for 75 percent of the pre-closure-announcement value or reimbursing them for most of the lost equity should the homeowners sell the house for less than the value before the closure was announced. The program also provides relief for displaced employees facing foreclosure.

The program is initially funded with appropriated funds; however, proceeds from the sale or rental of government-purchased houses replenish the fund.

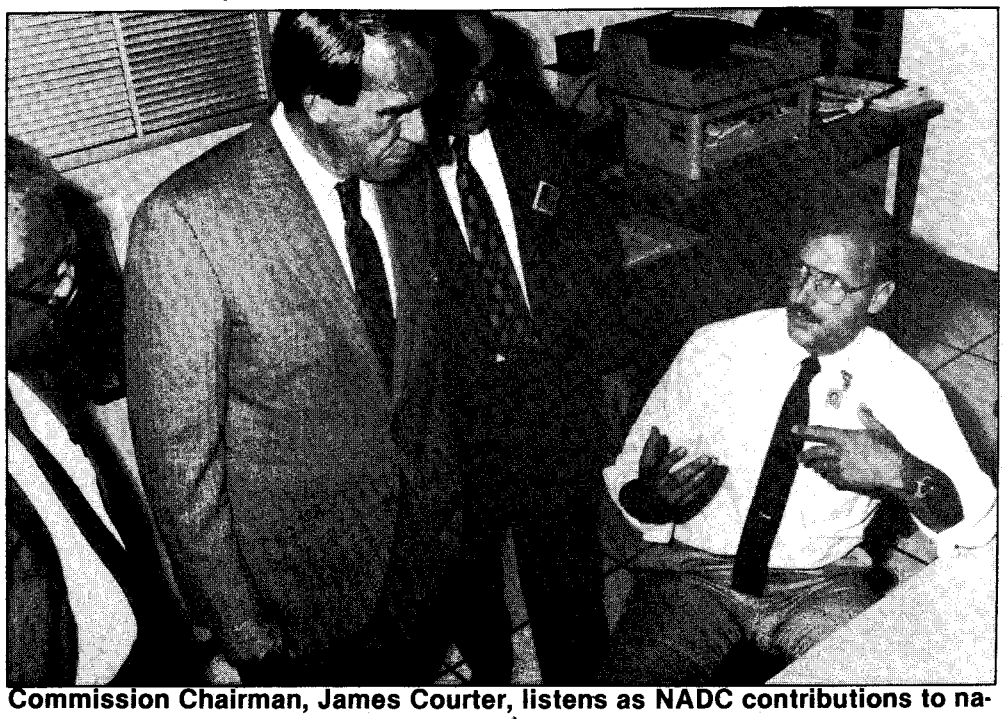
Civilian Employee Assistance:

. . . The displaced Employee Program provides for priority placement referral of separated employees to other federal agencies. In addition, DoD and the Office of Personnel Management have initiated a project to link data systems. Upon completion, the linked systems will support a significantly expanded Defense Referral System.

The communities that will lose bases as a result of the 1991 closure and realignment process face an uncertain future. Local leaders, with the assistance of federal and state agencies, can steer a path from economic dislocation to economic growth.

Technical Director, Guy Dilworth, reinforces achievement as Commission Chairman Courter listens.

Former Congressman from New Jersey, James Courter, hears about the Center everywhere he goes.



Commission Chairman, James Courter, listens as NADC contributions to national defense are explained by Dr. Donald P. McErlean, Code 60 Department head.

Specter/Coughlin visit Cen

By Jim Kingston

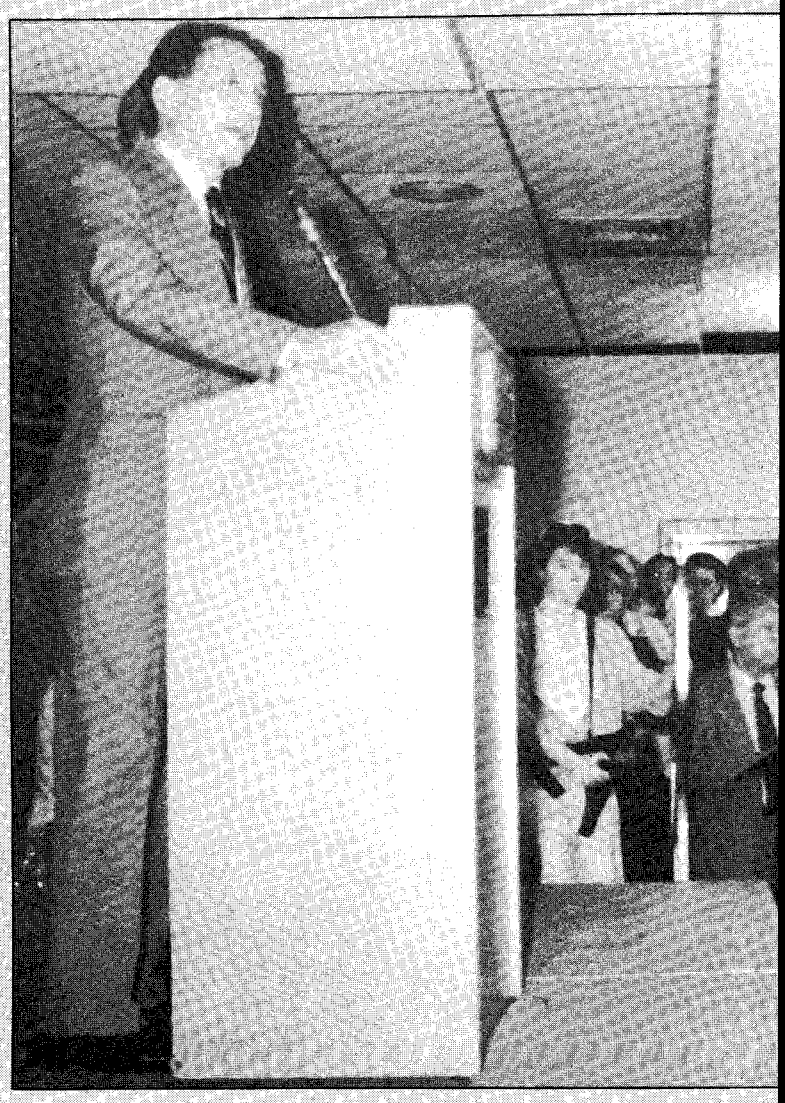
Senator Arlen Specter, accompanied by Montgomery County's Congressman Larry Coughlin visited the Center to address employees and express their opposing view of the Navy's methods used in selecting facilities for closure and realignment. Congressman Peter Kostmayer was unable to be here, but sent his aide, John Seager.

The two lawmakers were joined by such state, county, and local officials as State Senator James Greenwood, State Representative Jon Fox, Bucks County Commissioner Andrew Warren, and Warminster Township Board Chairman Chris Staub.

After a briefing with the Center Commander and Technical Director, Specter met with more than 150 bargaining unit employees in the Center Auditorium, then with several hundred Center employees in the cafeteria.

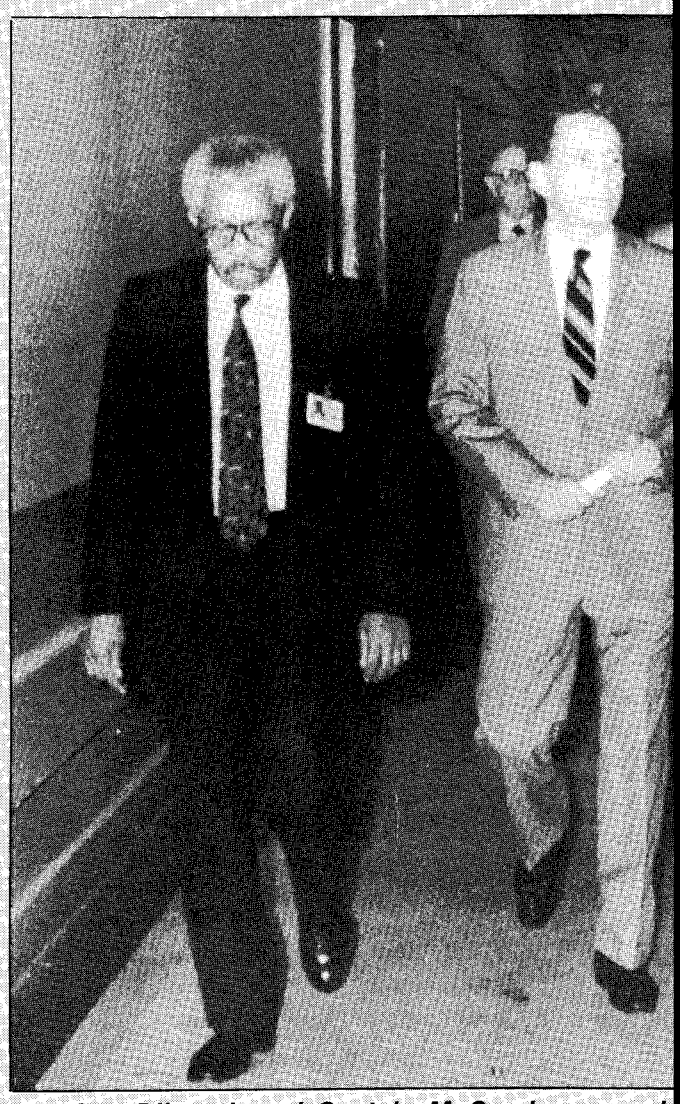
His last stop was the Center conference room which had been set up with displays of many high-technology projects including our Desert Storm achievments. It was here that the Senator spoke with large assemblage of media.

At the core of Specter's remarks was the lawsuit he and others have brought in an effort to stave off the closure of the Naval Base and Shipyard in Philadelphia and to include NADC in that legal action.



Senator Arlen Specter also addressed several hundred a show of hands on two major questions regarding the

Senator Arlen Specter and Montgomery County Congressman Lawrence Coughlin take to the podium to address Center personnel.

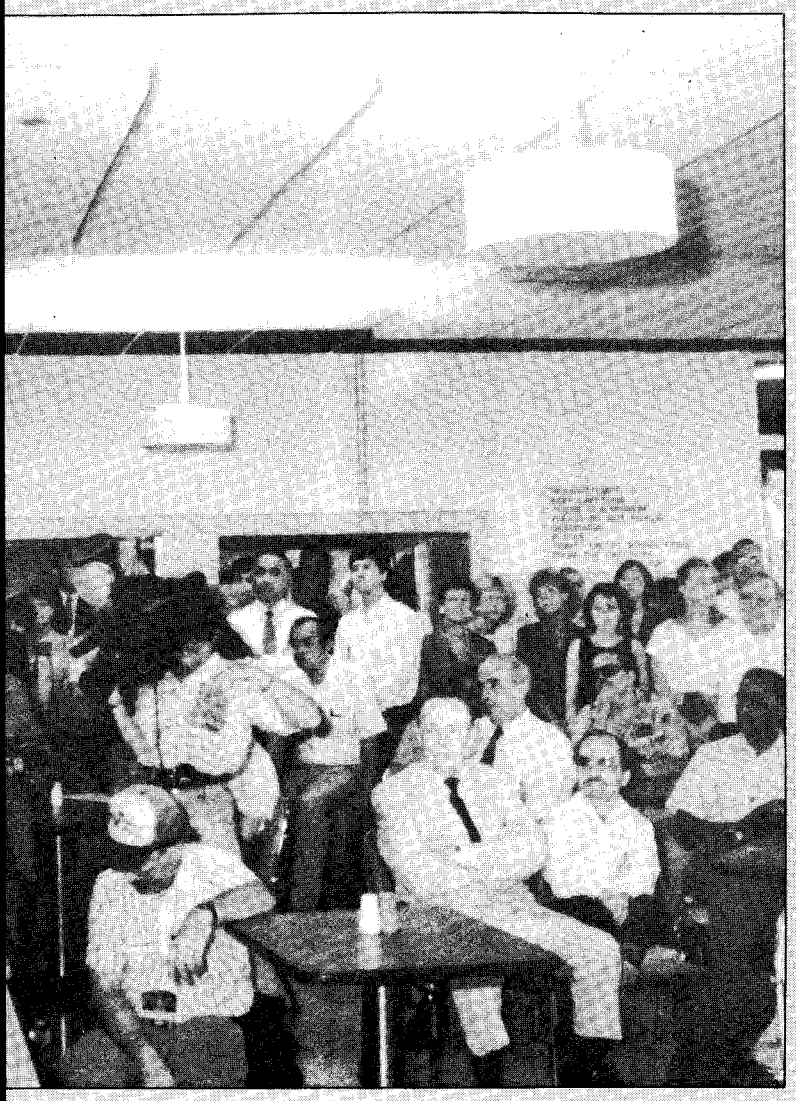


Guy Dilworth and Captain McCracken escorte moved from one meeting with Center employe

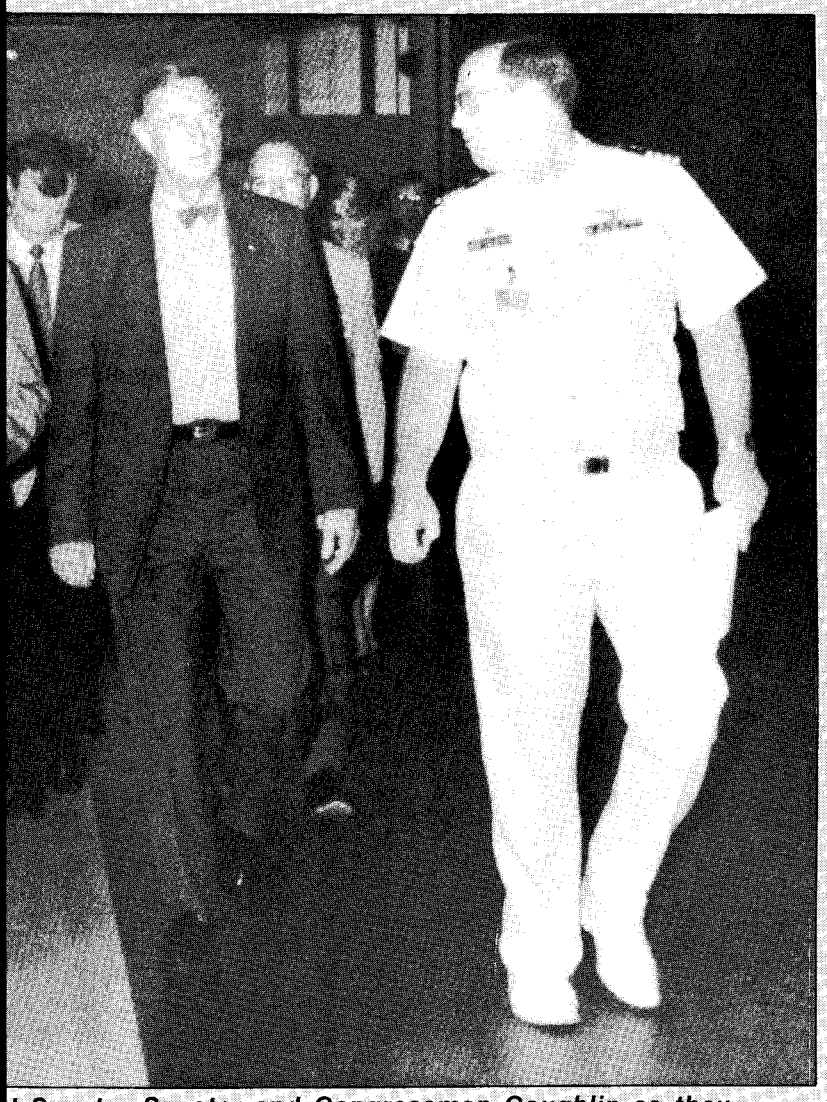
Senator Arlen Specter speaks to more than 150 assembled bargaining unit employees in the Center Auditorium. He was joined by AFGE Local 1928 president, Bruno Sposato, a hearing impaired signer, and Congressman Larry Coughlin.

Photos by Jason C

ter, promise a legal battle



enter employees gathered in the cafeteria. He called for proposed realignment and responded to questions.

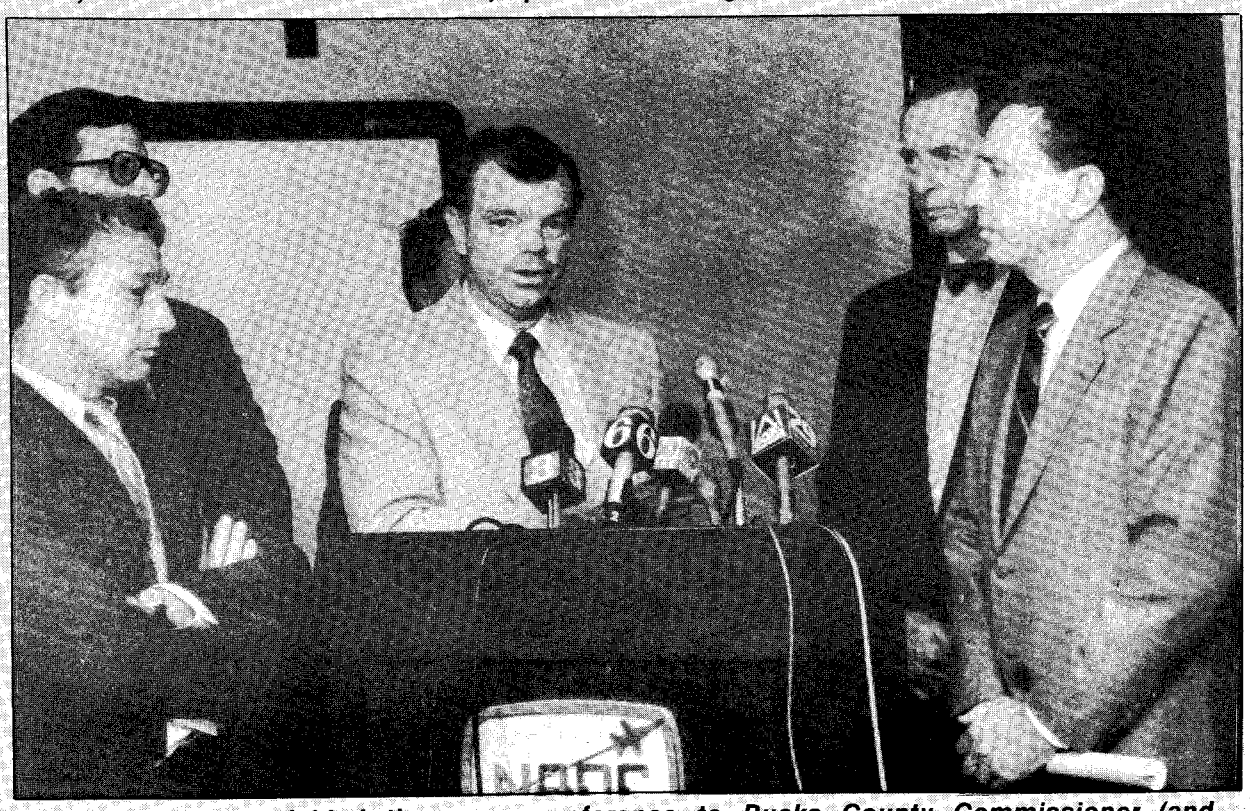


d Senator Specter and Congressman Coughlin as they s to another.

raig, NADC Photo Lab

Bucks County Commissioner Andrew Warren joined Senator Specter and Congressman Coughlin as they held a news conference in the Center Conference Room.

Jay Lloyd of KYW Newsradio, poses a question during the news conference. Assembled at the podium and microphones are State Senator James Greenwood; State Representative Jon Fox; Commissioner Andrew Warren; Specter and Coughlin.



Senator Specter yielded the news conference to Bucks County Commissioner (and Warminster resident) Andrew Warren, who added his support to the legal effort announced by Specter.

Employees promoted to GM-14

Richard D. Brookes of the Warfare Systems Analysis Department has demonstrated outstanding technical achievment and leadership in warfare analysis. His successful work on the Undersea Warfare Systems, LAMPS MK-III Block 2, ALFS, ATS and SV-22 demonstrated his ability to plan and execute unalytical approaches and the interaction of multiple systems, technologies, disciplines and organizations.

Brooks

Darmofal

William R. Darmofal of the Systems and Software Technology Department is a leading expert in military and commercial computer systems, flight maintenance systems, communications, display systems and data processing systems. He has distinguished the Center in the areas of the Mission Planning, particularly the TAMPS and GPS programs. In addition to developing the VH Flight Planning Station, he has analyzed, planned and developed solutions to the many problems generated when combining and distributing data bases from many agencies.

Robert A. DeChico of the Mission and Avionics Technology Department has demonstrated his technical expertise and leadership skills by advancing the transducer technology for both active and passive sonobuoy sensors. His self-initiated investigation and presentation of the results of an innovative cylindrical projector as a viable transduction scheme for low frequency Air ASW application have resulted in a major Center program, which is expected to have Navy-wide impact on future sonar systems.

DeChico

Gramp

Alfred W. Gramp of the Tactical Air Systems Department is a nationally recognized technical export on digital weapon and electronic warfare simulations used in, or specified for training ranges such as the Navy's Tactical Aircrew Combat Training Systems (TACTS), and several of the Navy's ground system training devices (e.g., 2E6, 2E7, 2F112, F-14D/A-6F). His broad analysis, systems engineering, design, and programmatic background has enabled him to develop and expand this product line.

John M. Tralies of the Mission and Avionics Technology Department has demonstrated his technical expertise and leadership on the Advanced Passive Acoustic Sensors Program. His initiative in defining the technical requirements and in proving the viability of the Horizontal Line Array Concept has impacted a number of advanced sonobuoy configurations including TSS, ETSS, ADAR and other advanced concepts. He currently heads a project investigating advanced concepts that will impact several future sonobuoy systems.

William O. Ailes of the Mission Avionics Technology Department has provided leadership and expertise deemed essential to the success of Navy programs and to the Center's ability to maintain leadership in Low Observable technology. He has continuously expanded his technical influence and overall responsibility in advancing the state-of-the-art in major programs that have had no technical precedent.

William G. Seeman of the Tactical Air Systems Department is recognized as an international expert in Target Systems. He provides technical and programmatic direction of the entire Targets Program at the Center which covers the entire life cycle of target systems including requirements definition, new target systems developments, target auxiliary/augmentation system development, and product improvement programs.

Seeman

Herbert

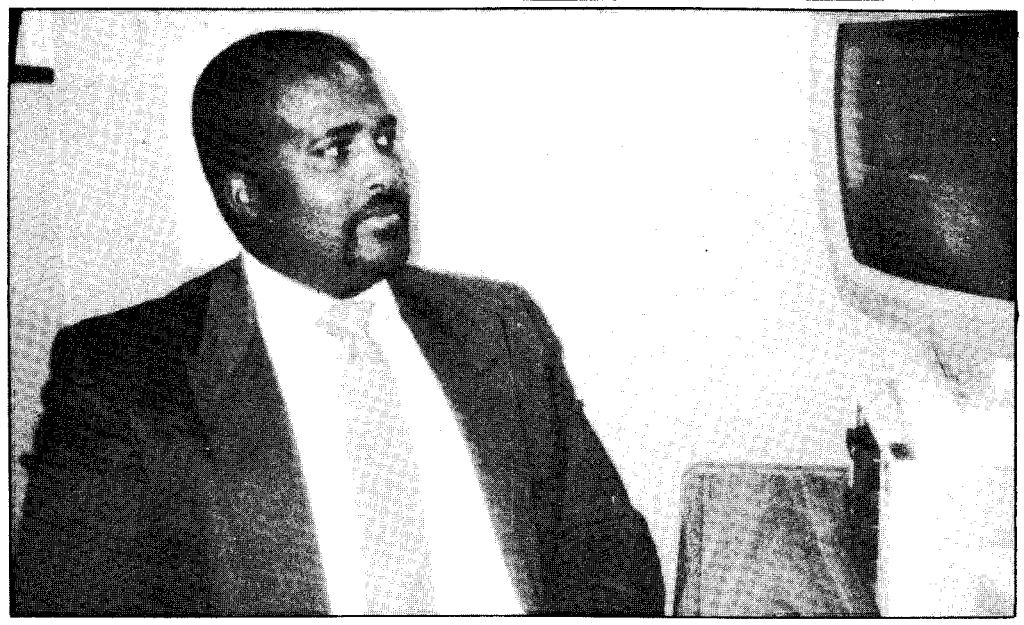
Dennis J. Herbert of the Air Vehicle and Crew Systems Technology Department is the Center's Project Leader for Aircrew Special Mission and Life Support Equipment, and is internationally recognized as the technical Chemical-Biological-Radiological (CBR) expert in the Aircrew area of the Navy. This non-conventional threat to aviators was clearly a major concern in Desert Storm operations and his contribution to countering the threat was an impressive achievement.

John G. Shannon of the Mission Avionics Technology Department has demonstrated strong technical expertise in all aspects of Nonacoustic Antisubmarine Warfare (NAASW) sensor developments. He is a recognized Navywide expert in the fields of ocean optics and magnetics. Currently, he is responsible for the entire "air" portion of ONT's Category 6.2 NAASW Block Program and has established himself as the technical focal point for all airborne NAASW developments throughout the Navy.

Tralies

Collins

Ralph R. Collins of the Antisubmarine Warfare Systems Department is a leading authority in the field of avionic systems engineering and is one of the principal designers of the system design for the integration of the Tactical Surveillance Sonobuoy (TSS) into the P-3C aircraft. He is a major design consultant on numerous advanced sensor development projects (e.g., ERAPS, AIS, etc.), and especially for the new Update III Computer System (ASQ-212) as well as continuing to support the Update IV program development.



Cameron ready to move up

Joseph Cameron, III works on the LAMPS MK III Block upgrade as an Electronics Engineer after returning from a detail to the Naval Air Systems Command.

Joseph W. Cameron, III, who is presently working on the LAMPS MK III Block upgrade as an Electronics Engineer, has just returned from a one year detail to Naval Air System Command (NAVAIR), Air-to-Air Class Desk Branch as a Senior Project Engineer for the Unmanned Air Vehicle Medium Range (UAV-MR) program.

He applied for this position to learn the big picture. "I wanted to see how everything fits together. I wanted to increase my contribution here, now, and be ready for the next level of responsibility."

He saw how the parts fit, as he expected, but he learned more. "I saw the politics in decision making and how budgets drive the programs and projects."

He learned when budgets are cut how to use meetings and decision making to revise plans, re-write contracts and modify schedules. "I had to develop options, maybe five that had to be briefed to the Admiral. The bottom line for each was cost. I also saw, first hand, the importance of project reviews," he said.

Before leaving NAVAIR he wrote Detail Specification, Statement of Work, and Critical Design Investigation Documents for the UAV-MR to meet the modified program schedule.

"I learned the importance of NADC's support to NAVAIR in carrying out the tasks needed to go from the concept phase to the operation and support phases," offered Cameron.

He sees a bright future for the LAMPS III program. He has seen the evolving offensive as well as defensive aspects of the program and its importance to the aircraft carrier battle group.

In his temporary position, he provided engineering management and technical leadership for all system engineering activities of the UAV-MR.

If the SOC fits

Suspended laws come back

By Robert G. Janes

On June 1, 1991, three Standards of Conduct (SOC) laws that had been suspended for the last year and a half came back into effect. I have written about each of these laws in the past and want to give just a general overview of them here. Each of them pertains to what is permissible **after** a federal employee leaves government service.

The most notable of the three statutes is the Procurement Integrity law, which was suspended on November 30, 1989. Many of the procurement integrity rules came back into effect in December 1990; on June 1, the post-employment provisions of the law also were reinstated. These provide that if a federal employee acts as a procurement official on a contract (this service must have been at a time when the law was in effect, i.e. from July 16 through November 30, 1989, or since June 1, 1991), then for a period of two years after the individual's last service as a procurement official, he or she is prohibited from working for the contractor **on that contract**. The person is permitted to work on other contracts, but not on that contract on which he or she had served as a procurement official.

Another law that returned is 10 U.S.C. Section 2397b, which applies to people who, on a majority of their working days during the two years before their departure, performed procurement functions involving a major defense system. If such a person participated in decision-making involving a contract for that system with a major defense contractor, he or she may be prohibited from working for that company altogether for a period of two years after departing from the government. It should be noted that this is the **only** law that flatly prohibits someone's going to work for a particular company. All the other post-employment restrictions limit merely the type of work that someone can perform, or the particular contract(s) under which it can be performed. This law would not affect very many NADC employees, and for those few to whom it would apply, usually no more than one or two companies are involved.

The final statute, 18 U.S.C. Section 281, is applicable solely to retired regular military officers. It reinstates the criminal prohibition against a retired officer's selling anything to the department from which he or she retired for a two-year period after retirement.

This is of course a very general summary of those statutes. If you have any additional questions on these, please don't hesitate to call us in the Office of Counsel on extension 3000.

Marc Julian, Code 6012, receives congratulations from Dr. McErlean, Air Vehicle and Crew Systems Technology Department as the Scientific and Engineering award winner for cooperative education.

Julian wins Co-OP award

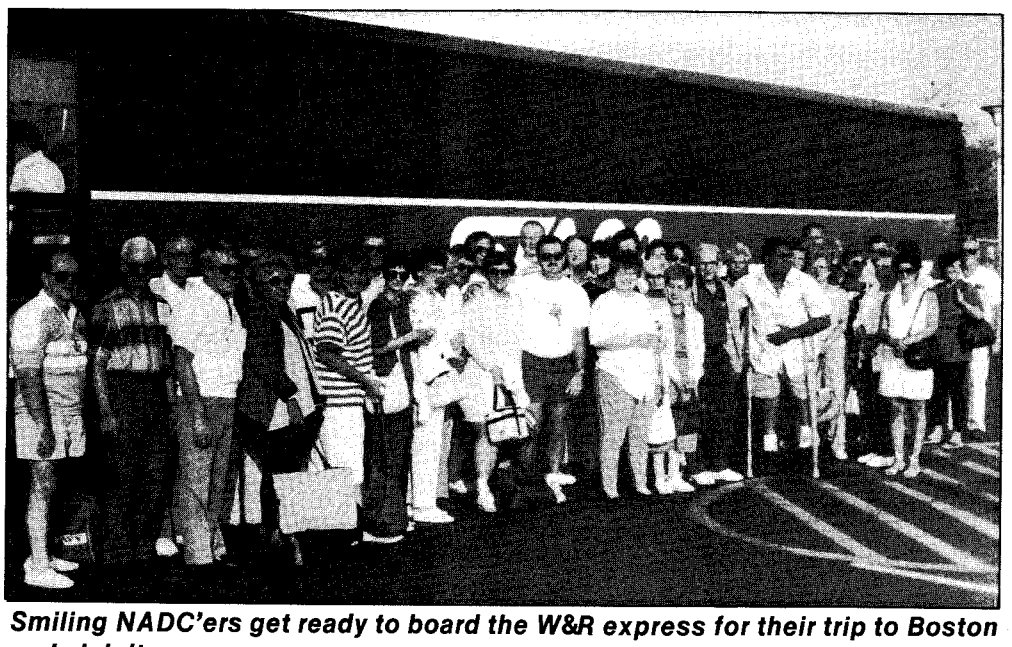
Marc Julian of the Electrical and Flight Control Systems Branch, Code 6012, recently was selected as the Scientific and Engineering Award winner for the Chief of Naval Operations' (CNO's) Cooperative Education Recognition Award.

Julian is a Penn State University junior with a 3.6 grade point average. His primary assignment at the Center is to develop high fidelity control surface actuator models for the V-22 tilt-rotor aircraft simulation. In addition to successfully developing models for three V-22 control system actuator types, he was able to generate real-time computer code for two of these actuators.

An important result of Julian's assignment was his producing a well-organized and documented procedure for developing these models. He did this using solid engineering principles and techniques.

His procedure will be used in the future by flight control systems engineers performing similar modeling tasks.

The CNO award was presented formally by Ms. Dorothy Meletzke, Deputy Assistant Secretary of the Navy (Civilian Personnel Policy and Equal Employment Opportunity) at the Officer's Club, Fort Belvoir, Va. on July 25, 1991.



Smiling NADC'ers get ready to board the W&R express for their trip to Boston and vicinity.

Center Employees enjoy Boston and Kennedy Library

By Peter Youssef and Joe Cooke

Another great W&R trip took NADC'ers to Boston, June 28-30. We left NADC early on Friday arriving at the John F. Kennedy Library in Boston just in time to see a movie on the Kennedy years — from their early beginnings to the assassination of President Kennedy. Then it was on to our hotel where we relaxed, savored a leisurely dinner, and called it a day.

On Saturday morning and afternoon, we wandered through early America's past with an excellent guided tour of historic Boston, Lexington, and Concord. Later, we headed to downtown Boston where we were on our own to enjoy an exciting, fun-filled evening.

At breakfast Sunday morning there were lots of interesting stories to be heard before boarding the bus for home. We arrived back at NADC around 7:00 p.m. tired, but with great memories of a terrific trip.

Other W&R items of interest:

Keep a lookout for Fall trips, being planned and will be announced later. A fantastic Winter trip is also in the offing, so keep an eye on this column as dates and places are firmed up.

W&R thanks one and all for the great response to Phantom of the Opera at the Forrest . . . both dates were sellouts. There may possibly be a third date in the future if enough people are interested.

Anyone with questions, comments, requests — call either Peter, ext. 7210, or Joe, ext. 1290.

Engineers get first-hand water egress experience

Nancy H. Tillmann of the Crash Safety & Survival Systems Branch, Code 603418, recently conducted a water egress evaluation for advanced crashworthy aircrew survival systems (ACASS) in the Welfare and Recreation pool. The safety swimmer for the training was Frank Boka. The instructor for the water survival training was LCDR Johanson of the Crew Systems Services Branch.

Water Survival training provides ACASS engineers practical knowledge of the obstacles encountered by crews' needing to escape helicopters from underwater.

Engineers in this program continue training at the Helo Dunker Facility in Norfolk, Va. They complete all helicopter related water survival training in full flight gear. Training includes hoist operations, breathing apparatus training, heed training, completing minimum laps in a pool using various swimming strokes, minimal time treading water and floating.

Finally engineers also are required to escape from an inverted helicopter airframe and escape through a series of windows and cabin door exits while blindfolded.

The training experience helps the engineers understand problem areas of helicopter underwater escape.

Larry Sickler, Code 6032; Brian Bohmueller, Code 603412; and Chris White, Code 603415, have the next water egress evaluation task explained to them by Nancy Tillmann, Code 603418. This practical experience helpe engineers designe quipment for underwater escape.

Eight promoted to GM-13

Richard E. Adams of the Air Vehicle and Crew Systems Technology Department is a technical specialist in the area of air vehicle design adn performance analysis. He has developed and demonstrated a unique technical expertise in the design and analysis of unconventional air vehicles which require innovative design approaches and the integration of advanced technologies.

Stanley E. Dunn of the Antisubmarine Warfare Systems Department is the Project Engineer for the Foreign Military Sales (FMS) Project for VP Variants. He is currently responsible for the direct technical liaison with six foreign countries to determine the countries' needs and he translates them into aircraft system and software requirements.

Donald G. Davis of the Warfare Systems Analysis Department is a senior warfare analyst in the TACAIR Analysis Division. He has successfully applied his technical expertise and demonstrated his initiative and project leadership as the Center's lead mission effectiveness analyst for the Advanced Interdiction Weapon System and other special Navy Programs.

Robert C. Ginn of the Systems and Software Technology Department is an Application Software Technical Specialist in the areas of signal processing software. His expert knowledge in software engineering and signal processing software development has been demonstrated most recently by his in-depth analysis of the FMSP graph instantiation problem and recommendations to resolve this complex and difficult engineering problem.

Jeffrey J. Miller of the Communication Navigation Technology Department has developed and demonstrated exceptional technical skills in RF data link receiver design and communications systems technologies. His expertise has been vital to assessing the impact which countermeasures have upon Navy ASW systems.

Khien B. Nguyen of the Communication Navigation Technology Department has made significant and innovative technical contributions to the analysis, design, and algorithm development for the integration of the Gravity sensor System (GSS) aboard TRIDENT II submarines, and efforts under the 6.2 Navigation and C3 Technology Block.

Frank E. Plonski of the Mission Avionics Technology Department is a technical leader in the design and evaluation of antennas and antenna systems. He provides technical expertise to such target systems as the RPV, Scalar Scoring, Vector Scoring, VSQ-1, and AQM-127A.

Edward J. Rebmann of the Anti-submarine Warfare Systems Department is the Center's lead analyst on all active underwater acoustic sensor systems. His broad background and experience have resulted in an ability to analyze major systems from a total systems engineering perspective.

SPORTS WORLD SPORTS WORLD SPORTS WORLD

Softball league's extravaganza is best all-star game ever

By Jack Eyth

It didn't start auspiciously. One hour before game time, thunderstorms rolled through the area dumping two inches of rain in some parts of Warminster. Amazingly the NADC softball fields remained dry. So one by one, the All-Stars arrived for the annual competition between the league's best pitchers and the league's best hitters.

As a lead-into the All-Star game, former Renegade, Steve Bazow, assembled a team of women all-stars to challenge the League Managers. These are the guys who work all year to try to field 10 competent players for each game. The managers were coached by Jack Eyth. In a game which featured 8 outs per inning and an occasional somersault on the base paths (courtesy of John Metzer), the women's team prevailed by two runs. (We're not quite sure of the actual final score.)

Between games, the 90-plus people in attendance were treated to hamburgers, hot-dogs, condiments, and liquid refreshments. Then the regular All-Star game began.

This year's game had significantly more action than last year's game, ending in an 11-4 victory for the PAX RIVER Division over the NADC Division. Joe Royles was the coach for PAX RIVER and Steve Spadafora was the coach for NADC. The game was close (5-4 after 6 innings) until Dave MacNeil and Joel Wexler went in to pitch for their respective teams. Wexler was hit around, uncharacteristically giving up 6 runs in three innings, while MacNeill threw 3 shutout innings, striking out seven batters. Offensive leaders for PAX RIVER were Joe Bebey and Doug Bancroft, each with a single and a triple. Mike Searles led the NADC team with two hits including a double off Dave MacNeil. The lineups for both games are shown below.

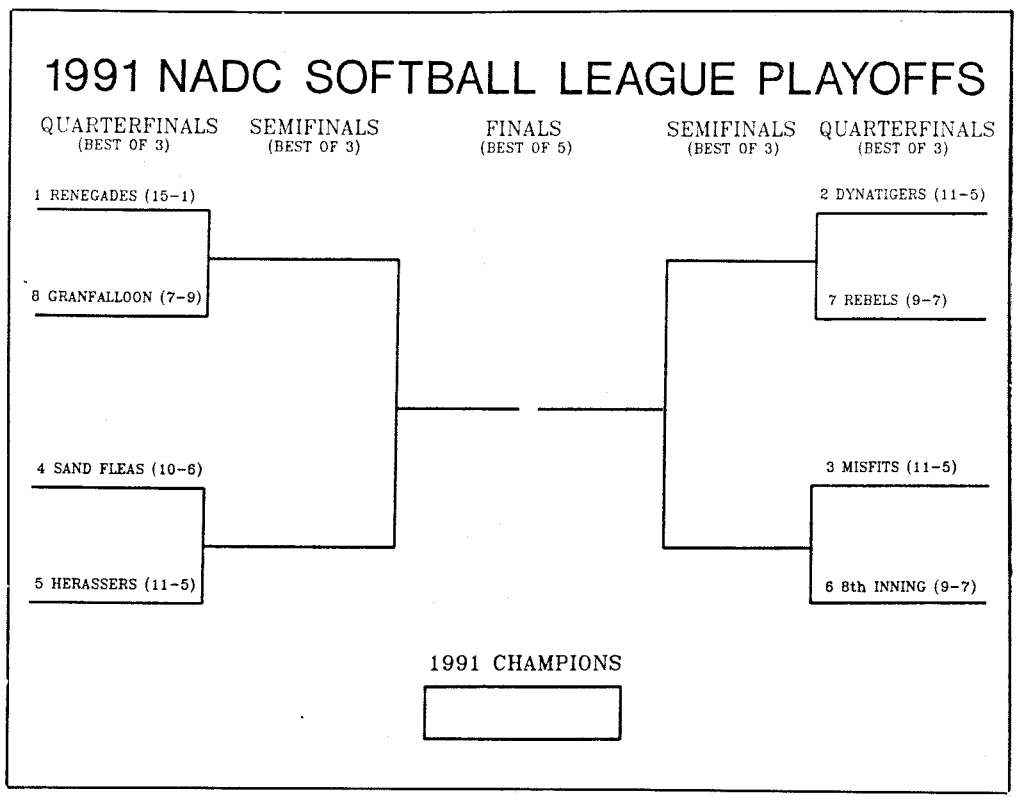
League Managers vs. Women All-Stars

Mark Lilly	Noreen Dugan
Jim Henderson	Karen Jenning
Pat Ford	Debbie Erney
Wayne Everett	Linda Petersen
Tom Kister	Cammi Key
Doug Bancroft	Shirley Swan
Mike Bubb	Denise Ott
John Markow	Missy Ott
Autilleo Gatto	Maureen Talley
Bill Schork	Patty Chern
Adrian Honer	Sidney Shrader
Bill Donovan	Lisa Johnson
Adrian Hribar	Pam Mulley
Dan Schmidt	Gina Decker
John Metzer	Coach: Steve Bazow
Coach: Jack Eyth	

All-Star Game

NADC Diviaion vs.	PAX RIVER Div.
Joel Wexler	Dave MacNeil
Mike Searles	Bill Schork
Bob Geyer	Clay Vind
Mike Garofalo	Dennis Shinn
Scott Holloway	Russ Miller
Jeff Lytle	Randy Krasnansky
Bill Donovan	Nick Runowitch
Rich Sanfillippo	Mike Guiher
Ed Howard	Ed Zawatski
Jim Hartley	Joe Bebey
Mike Janinek	Bob Seltzer
Wayne Everett	Doug Bancroft
Jim Toll	Mike Bubb
Adrian Hribar	Gary Marinelli
Mike Diberadino	Craig Elicker
Joe Bulvin	John Zeiger
Jeff Thornton	Al Washco
Dan Schmidt	Joe Corsello
Coach:	Randy Yeager
Steve Spadafora	Coach: Joe Royles

League Managers and Women All-Stars team up for group picture as part of the day's festivities. There is not a sad face to be seen.



Dynatigers and renegades take top spots as season ends

By Jack Eyth

Riding the magical arm of Dave MacNeil, the Dynatigers won the PAX RIVER Division of the softball league with an 11-5 record. They had to win five out of their last six games to stay ahead of the second-place Sand Fleas who also had their best season ever at 10-6. In the NADC Division, the Renegades finally lost a game to the Rebels, but were perfect in all the rest, finishing 15-1. Wes Gleason pitched an outstanding game for the Rebels and held the high-scoring Renegades to only five runs in a 6-5 victory. The final season standings are shown below.

The new playoff format has led to an unusual set of matches as the league begins its "Second Season." (See Playoff Format) Since the Misfits and the Eighth Inning finished third and sixth respectively, they are once again placed in a position to knock each other out of the playoffs. To make matters worse, they are both seeded in the same half of the "ladder" that contains the Dynatigers. As a result, only one out of three of these championship-caliber teams will make it to the finals.

My summary of the Regular Season? I originally picked the Misfits and Renegades to finish 1-2 in the NADC Division and the Granfalloon and Eighth Inning to finish 1-2 in their division. Instead, the up-and-coming "hungry" teams rose to the top. Let us not forget the Herassers who deserve special recognition for going 11-5. My predictions for the playoffs: I like the Renegades-Dynatigers in the finals as long as Wexler's and MacNeil's arms hold out.

Notes from around the League — Jeff Price, Misfits, led the league in homers with 9; Mike Wilson, Sand Fleas, hit four home runs in two games. The league had its first double forfeit day when the Phantoms forfeited to the Renegades and the 'Falloon forfeited to the Herassers. The Phantoms got their forfeit back from the Crush a couple of days later. (Maybe we should take a $200 deposit up-front to prevent forfeits). Expect to see a few teams consolidating next year (or should I say "re-aligning") which should make for an even more competitive league.

Team	Wins	Losses	Runs/ Game For	Runs/ Game Against
NADC Division				
Renegades	15	1	11.1	4.6
Misfits	11	5	13.2	6.6
Herassers	11	5	8.9	7.3
Rebels	9	7	9.1	8.9
Bearcats	4	12	6.3	10.7
Life Supporters	3	13	7.6	11.6
PAX RIVER Division				
Dynatigers	11	5	6.0	3.8
Sand Fleas	10	6	10.3	9.4
8th Inning	9	7	10.9	8.4
Granfalloon	7	9	7.6	9.3
Crush	4	12	6.8	11.2
Phantoms	2	14	4.9	8.3

NADC Reflector

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— Firefighters always there
— McCracken's command philosophy
— Federal Women's Program
— Snyder on realignment
— Sports successes

Center/Scotese get patent on portable moire apparatus

By Lawrence L. Lyford

Arthur Scotese and Dr. Shih L. Huang have been awarded a U.S. patent using light and irregular, wavy interference moire shadows to detect unnoticed damage to aircraft components long before catastrophic failure occurs. The device detects very small surface deformations either protruding or receding from the initial surface plane.

Typically, surface distortion of an aircraft wing or engine shaft occurs when the structure begins to fail under stress in specific ways. Tensile stress causes the surface to recede. Impact stress causes surface indentations and compressive stress causes buckling.

Unfortunately, homogenous material such as metal and even laminated composites such as graphite/epoxy equipment is cumbersome and unreliable in field environments with varying temperatures, humidity levels and vibrations.

Scotese's work provides a compact, portable field instrument to be placed on a surface to detect these out-of-plane distortions. The device grid is aligned parallel and close to the test surface using several device features.

The device works because a wavy shadow is produced if grid lines of the device and projected shadow-image don't line up exactly. When the specimen fails, the test surface becomes irregular and the grid line-to-line distance (300 to 3,000 lines per inch) is altered.

Collimated (passing through a 1/50,000 inch slit) light from the device reveals lines of the projected grid only lining up with the spaces of the instrument grid. Since light is obstructed wavy moire fringe shadows are produced.

But there is another benefit. The very close grid lines provide a means to detect significantly smaller distortions than previously possible.

Yet Scotese and associate investigator, Howard Krumboltz, have developed more. They have another portable device using laser light and a 100,000 lines per inch grid to measure 16 millionths of an inch in-plane displacements to detect beginning strain failure.

They also are taking measurements from a replication of a rapidly made specimen grating. This has the potential to allow Center testing on aircraft at sea. Publication of details must await award of appropriate patents.

Arthur Scotese presents the results of his work to Center committee monitoring Independent Research and Independent Exploratory Development projects.

McCracken brings personal philosophy to command of NADC

By JO2 Michael Delledonne

Taking the reigns of NADC was an exciting moment for Captain William L. McCracken, not because it was a new command, but was a goal for which he had worked for his entire Naval career.

"I worked here as a Project Officer and as a student," said McCracken. "I really believed in what the Center was doing. I decided at some point in my career I wanted to come back as Center Commander."

Although his enthusiasm was evident, McCracken did admit the pending realignment will diminish his enjoyment. "I look at it as another challenge," he said. "It will take a lot of my time and dedication to do the realignment in a smart way that's in the best interest of the Navy and the Center. There are a lot of people, both military and civilian, who will be affected by this and we want to make their transitions as easy as possible." McCracken continued saying, "I will be active in the projects in which the Center is involved. I want to concentrate on communicating to the people on Center about what is happening, as well as the local community so they realize what a vital resource this is to the Navy. The best thing that sells NADC is the high quality of our products and we will continue to do that."

The Center Commander does not want the military to have a false sense of security. "The perception is that it's going to be easier for the military because we are used to getting orders and moving from place to place," he said. "The military have families too who are dealing with an uncertain future and I have an obligation to keep them as informed as anyone else on Center."

According to McCracken, a transition plan is currently being formulated in which people will be able to identify themselves and have a pretty good idea of when or if they will be moving.

McCracken acknowledged his previous experience here will help him in his role as commander, and added, "I came already

(Continued on page 3)

Broadhurst takes over as Chief Staff Officer for Center

Captain Tom Broadhurst

By JO2 Michael Delledonne

"I was offered several different jobs, but none were as impressive as NADC. I knew it had a very good reputation. I asked to be here." Those words were expressed by Captain Tom Broadhurst as he assumed his duties as Chief Staff Officer (CSO).

Broadhurst said coming to a research and development center is not completely new to him. "I've been involved in the test and evaluation end of things for the past five years," he said. "The biggest part of my career, other than operational type work, has been aircraft, development and testing. There are people here who are touching the very tip of the sword. It's neat to be a part of it."

The Base and Realignment Commission's hearings were followed very closely by the CSO. "I sat in on several of the consolidation talks to organize the new Warfare Center. I kept up with the newspapers like everybody else," he said. "The situation was no big surprise. I was aware of what was happening and I knew what the Center was facing."

The proposed realignment, according to Broadhurst, should have no effect on the mission of the Center. "The need for the job that NADC does will continue. The possible physical move will just present a challenge for all of us to keep the same high-level of professional performance. If it happens, I would like to think we can work around the move."

Broadhurst said his 24 years of service, mostly around airplanes, will be his biggest contribution to the Center. "I was director of an organization which had about 1,000 people working in test and evaluation over the past five years. We worked on 20-25 aircraft of all different types doing hands-on evaluation. It's just the next step down the pike from what we do here." Broadhurst continued, "Here the ideas and systems are developed, and at Pax River we did the actual testing of the equipment. "I also hope that my Fleet operational experience as an E-2 pilot, my tours as a developmental test pilot, and my former tour as commanding officer of an aircraft squadron will help me contribute to the overall operation of the Center."

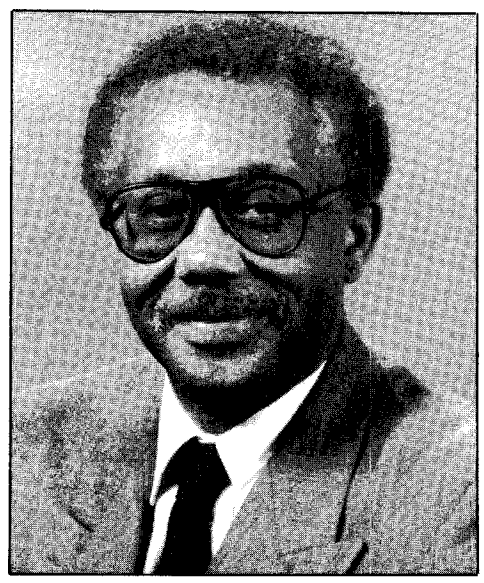
Speaking about the personnel at NADC, Broadhurst is extremely impressed with what he has seen. "Both military and civilians alike are top-notch people. They have to be in order to do the jobs that are required of them."

What might be the most interesting fact of all is the CSO is reunited with an old classmate at the Naval Academy — Center Commander, Captain William McCracken. "We had gone through post-graduate school together in the mid '70s."

Broadhurst concluded, "I'm eager to be a part of what's going on. I very much admire the efforts of the people. There's a lot of enthusiastic, dedicated work going on and I'm proud to be a part of it."

Command Corner

Captain William L. McCracken
Center Commander



Guy C. Dilworth, Jr.
Technical Director

Snyder comments on NADC

By Captain William L. McCracken

Recently we were visited by Rear Admiral John W. Snyder, who is Commander, Aircraft Division, Navl Air Warfare Center (NAWC).

Admiral Snyder discussed several things during his visit to both the military and civilian personnel on Center. I feel that he made several points which address what's going on with the Center as well as the Navy in general.

On base closures . . .

"I don't know how base closure is going to affect anybody because I don't have any control over it. Democracy is not a streamlined form of government, but it is better than anything else. Democracy is making something happen. It's taking its second or third swipe at base closure.

My job however, is taking the east coast centers of excellence and getting the very best out of them. Reorganizing and putting them all together so we can do a better job for naval aviation. Naval aviation is in a major period of turmoil right now. Naval aviation needs NADC more than ever."

On the change . . .

"In January, you're not going to be NADC. You'll be part of the aircraft division of the Naval Air Warfare Center. We'll have to come up with a new plaque. Big deal. We have to get better and that means changes.

We have to show the Secretary of the Navy what our organization is going to look like. We formulated an organization to be better for naval aviation and would be capable of getting better at a more rapid rate.

My issue is hnow do I get this organization up and running and in order to do that I need you."

You probably are not worth a hill of beans if you haven't thought of doing something else with your life at some point. There are two categories of people who think about leaving the Navy. The first group is so worried they can't make it on the outside and they have to stay in the Navy to survive. Those are not my type of people. I like people who know they are talented and aggressive enough to know they can make it.

The second group bleed navy blue and gold. They think the Navy is the best and there is nothing wrong at all with the organization. They are unrealistic. You have to be able to recognize there are things wrong with the Navy.

Don't overreact when it comes time to make your decision. Take time to think it out.

Commander Salutes

Norm Warner, Donna Aragon and Alan Hellman (Code 60B); Larry Lehman, Carmen Mazza, Thomas Hess and John Reeves (Code 60C); Fred Kuster and Shawn Donely (Code 601); Estrella Forster and Annette Drew (Code 602); Thomas Zenobi, Peter Ayoub, Thomas Milhous, Thomas Wardle, Martin Rapaport and LCDR David Johanson (Code 603); Hemen Ray and Lee Gause (Code 604); Seth Moyer and Dr. Kenneth Green (Code 605); Irving Shaffer, Paul Kennedy, Ignacio Perez, Dr. William Frazier, Edward Tankins and Dr. Vinod Agarwala (Code 606): For your participation in the Naval Air Development Center's 1991 Science and Engineering Fair.

Evelyn Goldstein (Code 021); Jonn D. Scott (Code 094); Jeffrey Davidson (Code 1011); Signmund Rafalik (Code 6012), Janetrose Greene (Code 6022), Robert Moore (Code 8141); Hazel Andrews (Code 8423); Carl Ruzicka (Code 8454): For your work as an Equal Employment Opportunity (EEO) Complaints Counselors.

Charles Falchetti (Code 40): For your outstanding assistance as a member and a Team Chief of the Source Selection Evaluation Panel for the Miniaturized Airborne GPS Receiver of the NAVSTAR Global Positioning System.

Carl Reitz and Joseph Colombo (Code 201): For the outstanding support you provided to the Department of Defense Independent Research and Development On-Site Review.

Jerome McGlynn (Code 201): For the outstanding support you provided to the Advanced Air-to-Air Missile Program.

Joseph Cameron III (Code 102): For the outstanding support you provided to the Unmanned Aerial Vehicle-Medium Range Program from April 1990 to April 1991.

Stuart Farber (Code 30D): For your performance as the Center's Fleet Assistant at COMPATWINGSLANT.

Terry Miller (Code 2021), Lewis Lippel Jr. (Code 6022) and Michael Caddy (Code 6051): For the outstanding service you provided the joint U.S. Air Force Advanced Tactical Fighter and the Navy Advanced Tactical Fighter Source Selection.

Christopher Kirk (Code 024): For your outstanding performance and support as a panel member during the Navy's Fourth Annual Workshop on Scientific and Technical Information (STI).

Jerome Bortman (Code 01B): For your outstanding presentation and informative demonstration at the Fourth Annual Workshop on Scientific and Technical Information held in San Diego, Calif., May 14 through 16, 1991.

CDR Wendell Gift (Code 84): For the distinction of being designated Honor Graduate for the Advanced Contract Administration class.

John A. Metzer (Code 201): For the outstanding service you provided to the Naval Air Systems Command with the Unmanned Aerial Vehicle-Medium Range Program from August 1990 to June 1991.

Michael Kuszewski (Code 202): For your outstanding support as the Navy Advanced Tactical Fighter Program Manager during the Demonstration/Validation Phase II.

Albert Ortiz (Code 201): For the support you have provided as Operations Manager of our joint program with the Naval Weapons Center.

Paul Benner (Code 201): For your contributions as Project Manager of our joint program with the Naval Weapons Center.

Brian Brady (Code 201): For the support you have provided as the Project Engineer of our joint program with the Naval Weapons Center.

Ronald Trabocco (Code 606), Lewis Lippel Jr. (Code 602): For your outstanding performance in supporting the Navy Advanced Tactical Fighter Demonstration/Validation Phase II.

Joseph Laska (Code 502): For the outstanding support you provided to the Expendable Countermeasures Program during Full Scale Engineering Development.

William Hudson (Code 402): For your contributions to develop the new Military Standard for the preparation of specification for electronic equipment for shipboard applications, including submarines.

John Eney (Code 605): For your outstanding contributions as a valuable member of the Joint Primary Aircraft Training System team.

James Bethke, Dr. John DeLuccia, Dr. Vinod Agarwala, Dr. Gilbert London and Dr. Jeffrey Waldman (Code 606): For your contributions during the recent Advanced Aerospace Materials Processes Conference.

Robert Skalamera (Code 202): For your outstanding support from March 10, 1991 to June 1991 to the AX Program Office.

Nils Anderson (Code 201), Robert Goodyear and Andrew Schmith (Code 8132): For the outstanding assistance and contribution you made in support of the recent V-22 aircraft mishap investigation.

Donald Meadows, Vincent Crusco, Herbert Schoell, Leland Pond, Paul Neumayer, Wesley Maughans Jr., Adam Ferrante, Michael Evanick, Glen Watson, Michael Goldberg, Kurt Braeunle, Mark Shoemaker, Claude Mobley, Robert Hewins, Joseph Perkins, James Myers, William Adams, William Ratzke, David Bumm, Michael Bean, Paul Imhof, Charles Steinbach, Eugene Byers Jr., Thomas Young, Calvin Harvey Jr., Stephen Fisher, Kinzel Edwards, Paul Cronin Jr., Alfred Keiss and John M. Scott (Code 90122): For your participation in the alleviation of the Center fresh-water supply loss requiring protracted after-hours effort.

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Center holds Anti-Submarine Warfare sensor symposium

Jack Savage, Code 5043, addresses the Anti-Submarine Warfare (ASW) Sensor Training symposium held at NADC this Summer.

By Lawrence L. Lyford

This Summer, the Center hosted an Anti-Submarine Warfare (ASW) Sensor training symposium sponsored by PMA-264. Jack Savage, Code 5043, ensured everything went smoothly for 40 Fleet attendees from all major training commands. The meeting identified improved methods to transition new ASW sonobuoys to the Fleet.

A relatively simple transition process was faltering with increasing sonobuoy complexity. Acceptance problems with the AN/SSQ-77 VLAD sonobuoy underscored a problem in this area. "The symposium began to improve initial training in support of the more complex sensors to enter the Fleet during the next decade," according to Savage.

One of Savage's goals was to establish a network at all user activities to pass support material to the Fleet. Support would be provided prior to sensor I.O.C., and then during introduction and early stages of utilization.

According to Savage this was necessary because new ASW sonobuoys have major training and logistical support requirements previously nonexistent or far less complex.

The formal Navy school commands with squadron representation, other key commands and activities such as NAVAIR, and NAVOCEANO attended as part of the new networking system.

Captain Waterman from COMSUBLANT was the keynote speaker and spoke of third world submarine diesel operations. He provided new appreciation for the diesel submarine with both its capabilities and restrictions.

Center engineers provided attendees an overview of all the sonobuoy research and development programs including the new non-acoustic air ASW programs.

Center firefighters respond more often than many think

By Lawrence L. Lyford

When the Structural/Crash Rescue Fire Division responded to the early morning alarm on July 18, they began their 424th emergency response this year. Last year, they responded to 1,000 emergencies.

The previous week, they responded to: five hazardous materials calls; three housing unit calls for gas odor or sparking wall sockets; several medical emergencies; and, one airfield call.

In fact, the day before, they assisted Warminster Fire Company in putting out a roof fire at William Tennent High School. The next night, they covered all Southampton for three hours when its company fought a major fire.

These community responses are made under mutual aid agreements with Warminster, Warwick, Northampton, Upper and Lower Southampton, Hatboro, Upper Moreland and Horsham townships.

Our firefighters make responses in Northampton, Bensalem and Philadelphia because of our specialized equipment and professionalism, according to Fire Chief Donald Meadows.

According to Meadows, half his responses are to the Center and half to the community.

In addition, Center firefighters provide respiratory protection training (use of self-contained breathing apparatus for employees), Department of Transportation Emergency Vehicle Operator Training, EPA/OSHA Hazardous Material Training (Hazardous material technician training) on and off Center.

They train in the overall management structure for each type of Center emergency such as Hazardous waste, medical, fire or terrorist calls requiring different site chains of commands.

Our firefighters regularly teach cardiopulmonary resuscitation (CPR), first aid, fire extinguisher use and sponsor the Learn Not to Burn Carnival each October.

Our firefighters are well known in the firefighting community but almost unknown on Center. Even on a call for an employee with a heart attack, for example, few people see them. But each employee is safer because they are trained and ready to respond quickly.

McCracken's personal command philosophy

(Continued from page 1)

sold on the capability of the Center and how valuable that capability is to the nation. When people in Washington need support for a program, I can sell them on NADC because of what we do. Then I can come back and push our people a little harder so they give the product they're capable of."

"Decisions should be made at the lowest level. When you have people this talented, they will rise to the occasion if you give them a challenge."

McCracken said he will bring a communication ability to all levels to the Center. "My style is people-oriented. I feel I will be a facilitator and communicate to the people here as well as their sponsors in Washington and the activities in the Fleet."

"I guess if there was one thing that I want people to know about me is I have a strong military background, having graduated from the Naval Academy and served in an operational squadron and on aircraft carrier," he said. "I also have a very strong technical background with a master's degree in aeronautical engineering and an engineering degree in aero computer science. I have chaired an academic department at the academy and served with sponsors at NAVAIR. The experience I bring is from all angles of the research and development community, the operational Navy, technical Navy and the program management side of the Navy."

A self-described "coach" is how the Center Commander sees his management style. "Decisions should be made at the lowest level. When you have people this talented, they will rise to the occasion if you give them a challenge," said McCracken. "I would rather coach them or be on the sidelines giving my support when they need it. The actual playing of the game is done by the players on the field and they should be given the authority and responsibility to do that. If they run into trouble, they can always turn to the front office for support."

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Learn Spanish while you eat

Looking for something fun and different to do during lunch? Can you eat and learn a new langauge at the same time?

In honor of Hispanic Heritage Month, the Center's Hispanic Interest Group will be hosting four lunch and learn sessions. Spanish will be taught in a lighthearted, friendly atmosphere, with emphasis on easily remembered phrases and common sayings. Bring your own lunch and your sense of humor to the Walnut Room on Sept. 26, Oct. 10 and 16, from 11:30 p.m. to 12:30. Attend one or all four sessions; no registration required.

Buen provechol!!!

NADC in 1951 and

NADC in 1991 . . .

NADC's Federal Women's program nominees

Award for Excellence

NADC NEWS March 1951

"MISS NADC" SEMI-FINALISTS

Miss Charlotte W. Rounds, Supply & Fiscal, Typist.
Height: 5' 2", Weight: 111 lbs.
Eyes: Hazel, Hair: Brunette.
Hobbies: Collects Glenn Miller Records.
Talent: Still-life oil painting, sewing.

Miss Mary Gibson, EDSD, Engineering Draftsman.
Height: 5' 7", Weight: 130 lbs.
Eyes: Blue, Hair: Auburn.
Hobbies: Dancing, Oil coloring of photographs.
Talent: Piano.

Miss Rita Carnevale, AEEL, Typist.
Height, 5' 4", Weight: 112 lbs.
Eyes: Brown, Hair: Brunette.
Hobby: Dancing.
Talent: Sewing, Cooking.

Miss Esther M. Ortolani, AAL, Stenographer.
Height: 5' 4", Weight: 122 lbs.
Eyes: Brown, Hair: Brunette.
Hobby: Dancing.
Talent: Cooking, Modeling.

A LETTER TO THE EDITOR

The following letter from Myron B. Deily, formerly of Supply and Fiscal, speaks for itself. We thought you'd like to listen.

Dear Sirs:

"This is to acknowledge your kind thoughtfulness in sending me the NADC NEWS for January. I have read, and re-read, every page, catching familiar names here and there, and marvelling at the progress the NEWS has made since its inception.

"I would also like to tender a personal 'thanks' to all of you who are contributing so very much towards the military effort in the Far East. You must be very well aware that you are the people through whose untiring efforts and sacrifices wars are won. We in the Military try to 'carry the ball' as best possible after it leaves your capable hands.

"You should be justifiably proud of the efforts and gains of the U. S. Navy in Korea; as proud as we, in the '5th' are of our 'Comet and Stars Air Force.' It should be borne well in mind, never-

MAIN GATE

Security said goodby to Rose A'Brial on March 2. Rose will remain at home for a while to await the arrival of the stork. Good luck, Rose, to both you and the Corporal

NADC NEWS March 1951

"MRS. NADC" SEMI-FINALISTS

Mrs. Elinore A. Kocman, AAL, Clerk-Stenographer.
Children: Lynn Barrie, age 6 and Carl C., III, age 4.
Height: 5' 4", Weight: 123 lbs.
Eyes: Brown, Hair: Brown.
Hobbies: Dancing, Making Home Movies.
Talent: Sewing, Cooking.

Mrs. Betty E. Stubbs, AEEL, Timekeeper.
Height: 5' 1", Weight: 115 lbs.
Eyes: Blue, Hair: Brown.
Hobby: Knitting.
Talent: Knitting, Crocheting.

Mrs. Bonnie F. Dodson, Technical Records, Stenographer.
Height: 5' 5", Weight: 118 lbs.
Eyes: Brown, Hair: Brunette.
Hobbies: Bridge, Dancing.
Talent: Sewing, Cooking.

Mrs. Anna M. Brooks, EDSD, Eng'g. Draftsman.
Height: 5' 6", Weight: 125 lbs.
Eyes: Blue, Hair: Auburn.
Hobbies: Fishing, Photography, Skiing.
Talent: Architectural Design—de-

BRITISH TECHNICAL MISSION VISITS NADC

On March 12, 1951, a group of leading British technical representatives visited the NADC in order to discuss and exchange information with EDSD personnel regarding pilotless aircraft control systems.

The visiting group was composed of Messrs. J. W. Truran and C. A. Jarman, Principal Scientific Officers of the British Ministry of Supply; Messers. E. D. Whitehead and W. O. Broughton, Principal Scientific Officers of the Royal Aircraft Establishment; and Mr. S. J. Miller and Squadron Leader J. L. Tempest, permanent resident members in the U. S. for the British Joint Services Mission (Technical Services).

A group of EDSD engineers, headed by T. C. Bennett, Technical Superintendent, and M. J. Kaplan, Project Engineer, participated in the discussions. The visitors were then conducted through the Department and viewed an especially prepared display relevant to pertinent EDSD accomplishments and activities.

Mrs. Margaret Wiren, EDSD., Clerk-Typist.
Height: 5' 4½", Weight: 130 lbs.
Eyes: Blue, Hair: Auburn.
Hobby: Skiing.
Talent: Athletics—Won prize field shooting, Aldebaran Archers, 1948, and trophy for horseshoe pitching, Kamp Karamac, 1948.

Photographs facing page by James Moore

We've all come a long way! And can go further.

Jocelyn Alston

Alston, a Mechanical Engineer in the Air Vehicle and Crew Systems Technology Department, is responsible for providing technical leadership and organization as the Air Team Leader/Program Manager for all in-service engineering Search and Rescue equipment in the Navy.

Alston served as the Center's loaned executive to the Bucks County United Way (1987-88) campaign and as a volunteer from the Association of Federal Employees for the Channel 12 fund-raising drive.

She is on the steering committee of their divisions Sunshine Club and is a member of the Career Readiness Group which provides guidance to help female professionals attain career goals. She has done on-campus recruiting for the Federal Junior Fellowship Program. In the community, she is a Philadelphia Big Sister, a member of the Philadelphia Urban league, and a member of the National Association of Female Executives.

Ms. Alston has a BS degree in Mechanical Engineering from Widener University and is pursuing an MS degree in Biomedical Engineering at Drexel. She recently completed a three-year Navy Civilian Logistics Intern Program requiring resident training at NAVAIR, NAVAVNLOGCEN, COMNAVAIR-PAC, and here.

In 1990, Alston received the DOD Executivbe Leadership Development Program award.

Alston

DeCicco

Marianne DeCicco

DeCicco, an Employee Development Assistant in the Civilian Personnel Department, is responsible for implementing, operating, maintaining and improving the Navy Civilian Personnel Data System Employee Development Module. She is responsible for administering all Center non-supervisory EEO training programs and the Center-wide automation training program. She frequently counsels clerical employees regarding evening school courses and degree programs as well as Center career opportunities.

DeCicco has been an active member of the Federal Women's Program committee since 1987, chairing numerous committees. In addition, she has coordinated three career enhancement programs, mentored and is a member of a Code 03 Total Quality Management/ Leadership team.

DeCicco recently earned an AA degree in Business Administration at Bucks County Community College. She was a member of Phi Theta Kappa National Honorary, there, and active supporter of the American Cancer Society and the Lower Bucks County Homeless Shelter.

This Fall, she began a Human Resources Management degree at Temple University.

Margaretann Carroll

Carroll, an Electrical Engineer in the Mission Avionics and Technology Department, is responsible for contributing to a wide range of assignments in the field of signal processing. In the two years that Carroll has been with the Center, she has developed a simulation of Synthetic Aperture Radar on the UYS-2 and is in the process of mastering the difficult task of programming the Navy's next generation signal processor.

Carroll has served as her division representative to the Center EEO Committee, is a member of the local Chapter of Women in Science and Engineering, and is on the Process Action Team for the enhancement of data collection. She helped assess perception of promotional opportunities for female scientists and engineers.

Carroll recently completed a Scientists at Sea assignment. She has also volunteered to encourage other female scientists and engineers to participate.

Carroll is currently taking graduate courses in Electrical Engineering at Penn State University.

Carroll

Aragon

Donna Aragon

Aragon, a Mechanical Engineer in the Air Vehicle and Crew Systems Technology Department, is responsible for providing leadership to several milti-disciplined programs in the crew systems area, including the Aviation Crew systems In-Service ECP Program, the NADC BOSS Program, and an original effort to forecast OPTAR funding requirements for Aviation Crew Systems to all Fleet units.

Aragon is involved in numerous Center and community volunteer efforts. She served on the W&R Board of Directors, helps with the CFC, participates in TQM activities and teaches CPR to hospital personnel and civic groups. She lectures at the Deborah Foundation on diabetes, blood pressure screening, diet and hypertension.

She provided engineering guidance to two co-op students and three junior professionals who are all now full-time Center employees. She has served as a science fair judge and briefs Crew Systems tours such as those for the Philadelphia Region Introduction of Minorities to Engineering and the Research Apprenticeship Program.

Aragon began her career in Nursing becoming a hospital supervisor while attending college for engineering. In 1982, she received her BS in Mechanical Engineering with a President's Scholar Award. She is pursuing a Drexel University MS degree in engineering.

Rosanne Petro

Petro, a Program Analyst in the Tactical Air Systems Department, is responsible for the financial and business management of several highly visible programs, including F-14, NATF, and A-12. She has worked directly for the NAVAIR F-14 Class Desk to design and develop a computerized Airtask and Work Unit Assignment that is currently being implemented across various projects in the NAVAIR-511 organization.

As vice chairperson of the TASD EEO Committee, Petro organized the TASD Getting-to-know-you briefings. She personally trained and mentored four management assistants and has held lunch-time study sessions for prospective program analysts. She served as alternate chairperson of the Center EEO Committee and is the Code 20 CFC representative, Navy Relief Department Coordinator, and W&R Department Representative. In the community she has worked as a volunteer for the Special Olympics and the Philadelphia Convention Bureau.

Petro began here as a GS-2 Clerk Typist in 1976. In 1984, she became the lead Program Analyst in the Systems Directorate, Plans and Programs office. In 1986, she became a budget analyst in the Comptroller Department. She has received numerous Special Achievement Awards.

Petro is pursuing a BS degree in Business Administration from Penn State University.

Joret

Petro

Lea Joret

Joret is a Computer assistant in the computer department. She began her career, here, as a secretary in 1966. In 1972, she left and became a Congressional Inquiries Clerk in Colorado but returned in 1981 as a purchasing agent. In 1984, she joined the Financial Management and Planning Department through an upward mobility assignment as a computer assistant. In 1988, she did volunteer work for Mercy Hospital in Nampa, Idaho whlie on a leave of absence.

Joret has made several major contributions to the community through her commitment to volunteer organizations and personal service to people in need.

In Idaho, she worked with the Meals on Wheels program for the elderly. As a hospital volunteer she cared for the terminally ill. She helped a shelter for abused women and children. She also has volunteered for the Idaho correctional facility and St. Paul's Church camp in Challis, Idaho.

Joret has achieved recognition for her work at the Center through several Sustained Superior Performance Awards.

Nancy Ballew

Bellew is a Program Analyst in the Plans and Programs Office of the Warfare Systems Analysis Department. As the Small Business Technical Advisor for Code 30, she is responsible for maintaining the financial and business operations of her department.

Ballew has been actively involved in the Stay-in School and TAPER (worker trainee) Programs. She provided guidance to women pursuing career development. She provided worker trainees with diversified, challenging experiences and arranged career development assignments for them.

She provided guidance to minority females by formulating Individual Development Plans which included job related courses at a local evneing college and on-Center training courses.

Ballew has continued her own development through completing the Management Institute Training Course. She has participated in Center training seminars and in the Employee Assistance Program Seminar. Ballew's effectiveness has contributed to the successful record of the Small Business program which twice won the Secretary of the Navy Small Business Omnibus Award.

Ballew

Oberndorf

Patricia Oberndorf

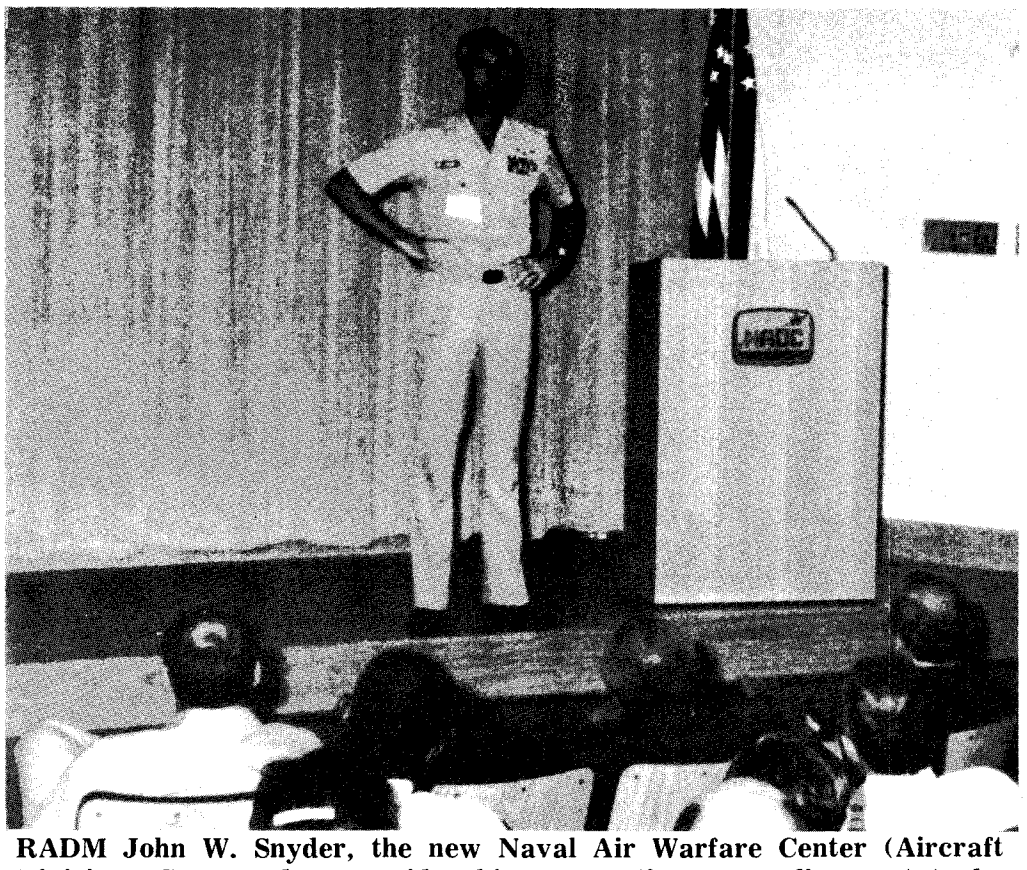
Oberndorf is a Computer Scientist in the Systems and Software Technology Department. She has earned the respect of software experts in government, academia, and industry through her leadership of long-term joint technical working groups on Next Generation Computer resources, a SPAWAR program; the Common APSE Interface Set, an ADA Joint Program office program; and the Portable Common Interface Set, and international NATO-sponsored joint program. She has served as interim acting Branch Manager.

Oberndorf has served on program committees for the International Conference on Software Engineering, Tri-ADA, and was asked to chair a panel on Software Environment Issues by the ACM and IEEE. She holds a Third Degree Black Belt in Tae Kwon Do karate and conducts self-defense workshops here and in the community.

Oberndorf is an internationally recognized technical expert in software engineering environments and interface standardization. She has authored a large number of technical publications, including 13 Navy technical documents and reports, two Ada Joint Project Office reports, and an invited paper for the IEEE Transactions on Software Engineering.

Oberndorf holds a BS degree in Computer Science from the University of California, San Diego. She teaches computer science, mathematics, piano and karate.

RADM John Snyder tells us like it is on realignment



RADM John W. Snyder, the new Naval Air Warfare Center (Aircraft Division) Commander, provides his prospective on realignment to be effective on Jan, 1, 1992.

By Lawrence L. Lyford

Recently RADM John W. Snyder, charged with running the new Naval Air Warfare Center (Aircraft Division), visited the Center to learn and also express his views. Previously, the project manager for the F-14D program, he says he is not used to being called Admiral but plans to use his title and all his efforts to help the Navy by helping us and *to tell us like it is.* The following are excerpts from what he said.

"I don't know how base closure is going to affect anybody because I don't control it and it is very political. Democracy is not a streamlined form of government. But it is better than anything else.

Democracy is making something happen. It's taking its second or third swipe at base closure. We [the military] can't control the politics of it all and we shouldn't."

However, Snyder made a clear distinction between what the military can do and what employees can. "If you can control it [the political system] you should control it by being either a voting member of the United States, or member of the community or by writing to your Congressmen or by getting your two cents in because that's all part of being an American."

He said, "My job, however, is taking the East Coast Centers of Excellence and getting the very best out of them, putting them all together, reorganizing them so we can do a better job for Naval aviation."

Naval aviation needs you [at NADC] more now than ever in the past.

On Jan. 1, 1992, your skipper gets a new boss [me]. As far as any change [for you] is concerned, let's get real. Do you think I'm going to change an organization like this — that works, that has smiling customers, people in the Fleet glad they have your products, that turned to doing the things for Desert Storm you did. I may be dumb, but I'm not that dumb."

Snyder called on everyone at NADC to sit down and analyze how the reorganization would affect them. "You will have to make your own personal, professional judgement on what happens to you in the future."

"Just relax; look at the [two] possibilities."

"[Possibility one], you're not going to move, you are going to stay here and get better. In January, you'll be part of NAWC and we'll have to come up with a new plaque. Big deal."

"However, we do have to get better. The infrastructure that supports Naval aviation and DOD is going to get smaller. Instead of a 3 percent improvement, be more aggressive, innovative and take a few more chances and achieve a 15-20 percent improvement."

"[Possibility two], you will move. Still nothing will happen on January. We will only do constructive planning. My job will be to inform DOD and Congress that if they want to move us and our capability to another area then they have to commit funds to build facilities. "You are not going to work out of an outhouse or tents or live in trailer parks. If they want a full scope center they will have to create an atmosphere where scientists and engineers will want to work."

"We need something so public works people can come in and say, I can take care of this facility and make it as good or better than the one I had in Warminster. He said PAX River will need a bigger fire staiton and he clearly eyed most of NADC's [firefighters] with envy.

Snyder said, "The present [organization] construct gives plenty of elbow room. We don't know if Warminster is really going to close or start closing in '93 or '95 or is it going to be '97."

Chellanging the earlier dates he asked, "Has anyone here ever dealt with military construction before? Any[one] want to take a bet on '95?

He frankly admitted, "There is change and politics in the wind. Whether we move or not is not the issue for me. I know it is for you. My issue is how do I get this new organization up and running? To do that I need you."

Snyder reported only NADC does everything in R&D, from "the out-there-in-the-future-thing to delivering a product. NADC is the one organization, of the five I'll be responsible for, that does it all."

"We are going to improve the new organization constructs. It will get better. We have the capability to build and change the new organization to [make it] work. The best time to make changes is during the next year."

"We need good testing and we need interaction. We can't afford to widely separate Science/Engineering and Test and Evaluation. One of the best things I did as F-14D project manager was to have a joint test team throughout the cycle of development.

He explained the urgency to produce an organization structure had two purposes. The first was to project construction costs. "It takes a while to plan a build laboratories. We [now] have time to work on all this. We have time for me to make you an offer you can't refuse."

He revealed a second reason. There were some field activities in DOD that were "looking on NADC as a bird of prey would look on a little mouse with a broken leg. They wanted this capability to move out here and another there, etc., and if you didn't like it, tough. They'd hire someone else. They [just] wanted your business."

"I've come from [being] the F-14D program manager and I've seen politics in action for the last five years. I was not about to let you be taken advantage of. We had to get our dukes up. We [now] can back up our organization and it gives us elbow room [to complete it].

If you think I'm not going to protect the national asset we've got at NADC you're mistaken. I need to defend, protect and be a cheerleader for you."

As the Commander of the PAX River center his number one worry is the facilities there. "If we had your public works department down there three years ago it wouldn't be my number one worry. We need more people. We have not done as good a job taking care of the structures and facilities there as you have here."

He said like Nancy Reagan, he is not afraid to just say no. "We're not moving. We can't move down here unless we get the military construction funds. That will continue to be our story."

"We have been consistent in saying you don't get a free lunch, if you want to move things."

In conclusion, Snyder promised, "For anybody who wants to continue doing the work they are doing, I am going to make you an offer you can't refuse in terms of laboratory facilities. If I can't, the Navy and DOD deserve what is coming to them. You can go to industry and get rich.

Morale Welfare and Recreation offers after school program

By Heather O'Rourke

Beginning on Sept. 9, Morale, Welfare and Recreation will offer a Before and After School Care program at the Shenandoah Woods Youth Center.

Program hours will be Monday through Friday 7 a.m. until 9 a.m. and 3 p.m. until 6 p.m. Additional hours for holidays, snow days and teachers' in-service days will be included and posted at the youth center.

You have the option of selecting either or both sessions. Fees are paid for two weeks at a time and paid no later than Friday before the Monday start and are payable at the youth center.

There will be no refunds. Youth center staff will be present at the bus stop for assistance in arrivals and send-offs. Activities and games will be provided during the program.

The following fees are based on a minimum of 20 children participating in the program. Should interest and enrollment drop, MWR reserves the right to notify parents of program cancellation with a two-week notice.

Morning Session Only - $60; Afternoon Session Only - $80; Both - $100 (for two weeks). Fees paid monthly will receive a $10 discount. For more information, call Heather at Ext. 2510.

To register your child, call the youth center at Ext. 7233 or Ext. 1279.

Eagles Tickets given away

By Heather O'Rourke

Two pairs of Eagles Football tickets for home games and other prizes are being given away every Monday night at the Lady Luck Club and Conference Center.

Here's the game plan: You enter to win with every food and/or beverage purchase made on Monday night. You must be present to win.

The ticket drawing is held at the end of the third quarter of the Monday Night NFL game show.

In addition to the tickets, other prizes will be given away. All tickets and prizes are posted at the bar and are available on a flyer from MWR Marketing.

For details, call the Club at Ext. 7651 or Marketing at Ext. 2510.

If the SOC fits

Many may have procurement functions requiring response

By Robert G. Janes

In last month's column, I wrote about three recently revived Standards of Conduct (SOC) laws that restrict the actions of federal employees **after** they leave the government. There is one other SOC law that came back into effect on June 1, 1991, which affects **current** government employees. That statute, 10 U.S.C. 2397a, applies to officers of the rank of Lieutenant Commander and above, and civilian employees whose salaries are at or above the minimum for a GS-11, who have participated in a procurement function relating to a contract. If there later is a contact between the Navy employee and that contractor regarding a prospective job (regardless of who initiates the contact), the employee must:

a. Report the contact to his or her supervisor and the cognizant ethics counselor (here at NADC, the Office of Counsel), and

b. Disqualify himself or herself from further on-the-job dealings involving the contractor, unless and until the future employment opportunity is rejected.

The one exception to this is where the first contact is made by a contractor and the employee involved immediately terminates the contract. In that case, the employee need not report that contact; he or she must, however, report any later contacts.

What is particularly significant about this statute is the broad definition which it provides for a "procurement function." One need not be in the Contracts Division to perform a procurement function, which the statute defines as **any function relating to —**

(A) the negotiation, award, administration, or approval of the contract;

(B) the selection of the contractor;

(C) the approval of changes in the contract;

(D) quality assurance, operation and developmental testing, the approval of payment, or auditing under the contract; or

(E) the management of the procurement program.

If you want more information about this law, please call us in the Office of Counsel on extension 3000.

John Santini, Code 1032, holds the ball he used to score his hole-in-one. Earlier he had said to Center friends, "This feels like a special day."

Santini joins hole-in-one club

By Graeme Ogilvie

Even before the first golf ball was struck in anger, the afternoon began with a hint of expectation in the air. Monday, Aug. 5, first tee, Bucks County Country Club golf course, and John Santini, Code 1032 was asking the date because "this feels like a special day." Jim Clody and I were along to keep him company.

Just over an hour later, preparations were taking place at the sixth hole, a par 3, 170 yards long with a small pond in the font left, large bunker on the right. I saw John take careful note of the slight breeze quartering from the west. He announced confidently this definitely required a 3 iron, and cooly addressed his ball.

I have never seen a more magnificent shot. The ball arced gracefully toward the green with a slight fade, low out of the wind. It hit the green inches from the cup and disappeared.

With the sun settling in our eyes, there was no doubt where the ball had gone. After all, this was the one and only, the ever indomitable John Santini. It had to have bounced over the green, eh? But wait — Jim thinks it may have gone right into the cup! Yeah, right.

Arriving at the green, John started the long trudge around to the back to look for his ball and just to humor him, I decided to take a peek into the hole. Well, who would have guessed? There sitting at the bottom of the cup on the sixth hole was John Santini's tee shot!!

A hole in one!!! Needless to say, John was a little ecstatic. No club toss on this hole.

There was no containing him after that shot. Even a little water on the 18th couldn't dampen the final score of 87 that he posted (yes, 87!!). A once in a lifetime round from one of the true stalwart Stiff Shafts.

For the record, John's Maxfli DDH III and scorecard have now been carefully preserved and will be presented to him on a suitable occasion.

Well done, John!!!

Crabfest planned at Lady Luck

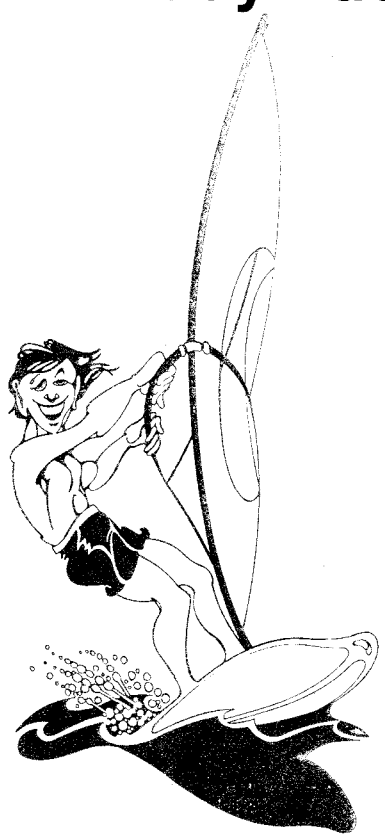
By Heather O'Rourke

The crabs are running and so are hungry people to the Lady Luck Club and Conference Center for All-U-Can-Eat Crabs on Sept. 26.

These hardshell crabs are delivered live and kickin' to our back door, where we cook them up hot, spicy and delicious! Corn on the cob and baked potatoes are available free along with rolls and butter.

Tickets purchased in advance are only $11.95 per person. Tickets purchased at the door or on the day of the event are $14 each. However, since minimum participation is required please purchase advanced tickets. Purchase your tickets at the club or the fitness center.

For more information, call the Club at Ext. 7651. If you do not buy an advanced ticket call the day of the event to be sure it is still scheduled.



Live band coming to club

By Heather O'Rourke

Shaken' Not Stirred, a popular rock band that plays the Philly circuit, performed in the Lady Luck Club and Conference Center on Friday, Sept. 20 from mid-evening to an hour after midnight. The group played everything from the Beatles to Bruce Springsteen.

There was no cover charge! However, those who arrived early got the best spots.

Special guests that evening were college students from Immaculata College and Gwynned Mercy College. This brought together club patrons with local students. For some, the evening began with a free nacho bar from 4:30 p.m. until 6:30 p.m.

Beginning at 8 p.m., the Club offered Jello Shots.

For information on upcoming events, call the Lady Luck Club at Ext. 7651 or MWR Marketing Ext. 2510.

SPORTS WORLD SPORTS WORLD SPORTS WORLD

Misfits repeat as Champs in Center softball league

By Jack Eyth

The road to the top is not easy. Just ask the Renegades who dominated the regular season, waltzed into the Championship Series, then came back to reality against the power-hitting Misfits. Or ask the Misfits who languished during the season, wound up beating the Eighth Inning in the playoffs and who almost got eliminated by the "Dave-a-Tigers."

The playoffs are a special event. It's a time when skill takes precedence over emotion. When "who's on vacation" means more than "who's MVP?" The team that wins the big one is the team that can put the most talented batch of players on the field during the month of May. This year's honors go to the Misfits.

First let's recap the road to the championship. At the end of the regular season, eight teams entered the playoffs. To make a long story short, the Dynatigers eliminated the Rebels, 7-3 and 1-0; the Misfits dominated the Eighth Inning 9-2 and 7-2; the Sand Fleas snuck past the Herassers 19-18 and 19-11; and the Renegades swept the Granfalloon 18-0 and 7-1.

The semi-final round was a little more competitive. The Renegades beat the Sand Fleas in the first game 3-0, shook off a second game rainout (in the bottom of the fifth inning when they were leading 6-0), and eventually went on to win the series with a 13-2 victory. The Misfits got an education against a fired-up Dave MacNeill losing 1-0 to the Dynatigers in the first game. The second game was a different story. Scoreless into the fourth inning, a couple of dropped pop-ups by the Dynatigers opened the floodgates and allowed the Misfits to win the second game going-away, 10-0. Speaking of going away, Dave MacNeill was literally on vacation when the Misfits took the third game 26-1.

The final series began like it was going to be a rout. The Misfits, pumped up after scoring ten runs against Dave MacNeill, had no problem with Joel Wexler, scoring eight runs in an 8-2 victory. The second game was even more impressive. The Misfits blasted four home runs, two by Jeff Price, and managed to hold off a Renegades comeback rally, to go up two games to none with a 10-6 victory. The third game was close, 5-4 Renegades after five innings, when the Renegades, sensing elimination, finally solved Matty Brown and went ahead to stay, winning 9-4. The Renegades had won their first game in six post-season appearances against the Misfits. Would this be the spark that would lead them to the Championship?

The fourth game was a classic. Batting in the top of the first inning, the Renegades found a lot of holes in the Misfits defense and scored seven runs. But the Renegades gave back a lot of runs through unexpectedly shaky fielding and after seven innings the game was tied at 10-10. In the top of the ninth, the Renegades went up 11-10 and looked like they would win and force the series into a deciding fifth game. But the Misfits regrouped and scored two runs on four straight singles to win the game and the Championship. The Misfits thus became the second most winningest team behind the legendary Granfalloon. Coach Jeff Price named Matty Brown as the team MVP, going 11-2 as a pitcher and .480 as a hitter with a .582 on-base percentage.

The 1991 Misfits are the softball league champs.
Front row: (l-r) Steve Hynes, Mike Stevens, Jeff Price, Matt Brown, Ed wiski, Ron Schaub.
Middle row: Scott Kee, Ed Howard, Ed Delgado, Hugh Morgan.
Back row: Gary Morelock, Jim Hartley, Dave Detweiler, Mark Dungan.

Jack 'n Jill Tournament fun for masters and beginners alike

By Jack Eyth

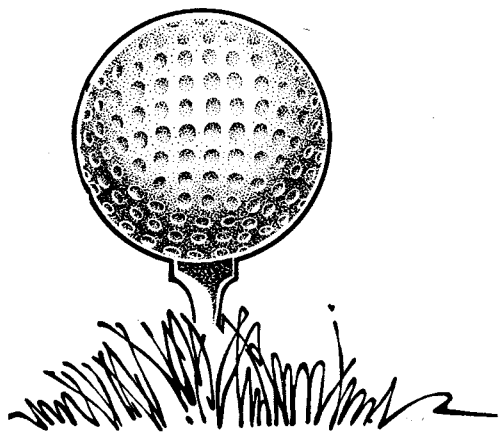
The field was bigger and more competitive than ever, but the participants had their priorities straight: Take a couple of friends out to lunch, grab a few hours of fresh air, sunshine and exercise, and while you're at it, play a round of golf.

The annual Jack 'n Jill tournament sponsored by the Naval Civilian Managers Association attracted a crowd of 52 men and women to the Horsham Valley Golf Club on July 12, 1991. The tournament's scramble format, with liberal handicaps and no minimum shots per player, was designed to encourage novice golfers to play with established golfers at a relaxing pace, free of pressure and frustration.

The attraction worked since at least 25 percent of the attendees admitted to being rank beginners. It didn't show in the scoring, however, since the net scores averaged six strokes better than last year.

The team of Sue Casagrand, Tom Karr, Bob Reichert and Mike Mirabella took top honors by shooting a blistering gross score of 57 on the par 66 course, with a net score of 42.75.

A few of the NCMA Jack 'n Jill participants relax after the award ceremony.

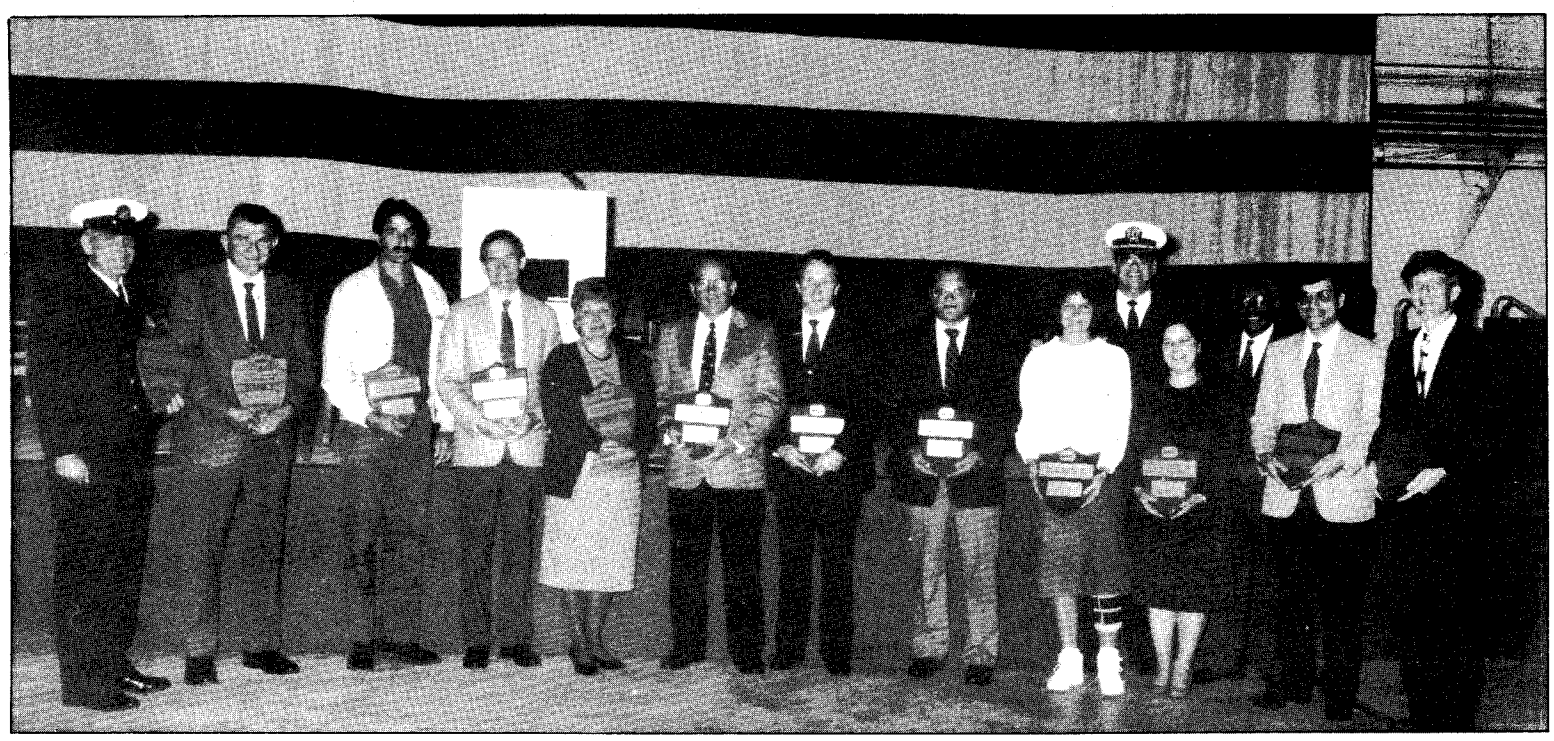


NADC Reflector

Volume 36 Number 10 NAVAL AIR DEVELOPMENT CENTER, WARMINSTER, PA. October 1991

In This Issue
— COTD Awards
— Industry Briefed
— First Tomcat Detachment
— SOC Review
— VTC Coming
— Perez Selected

Most Ever receive Commander and Technical Director Awards



Winners of the 14th Annual Commander and Technical Director Awards are (l. to r.): ATC William J. Pachak, USN; Harry F. Koper; Dr. Bruce P. Boczar; Glenn C. Carter; Carol A. Neiley; Dr. Thomas M. Donnellan; Joseph N. Sammer; Elaine A. Picard; (Capt. McCracken, presentor); Margaret T. Russo; (Mr. Guy Dilworth, presentor); Michael Vardaro and Thomas Weaver.

By Lawrence L. Lyford

Twelve outstanding center employees were honored October 17, as Captain William L. McCracken, NADC Commander, and Guy C. Dilworth, Technical Director, presented them with the 1991 Naval Air Development Center Commander and TEchnical Director Awards. In addition to the professional recognition, each winner received a check for $3,000.

Following Center tradition, the awards were presented in a random order to underscore their equal importance. The awards provide personal recognition for major technical achievements or support for the Center. They also represent the contribution of many others who are part of the NADC team.

The families of the winners had confidential notification so they could make arrangements to be present. To maintain surprise, they met at an undisclosed location and were transported to the ceremony just before it began.

Capt. McCracken told the large audience, "Today, we take time to recognize a few of the great people who work here. These people symbolize what NADC is all about. Today is a time to say thank you and to recognize our success in our diversity." Dilworth added, "We stop every year to say how we are doing. We are doing outstandingly, not just the scientists and engineers, but all of us."

The winners were:

Carol A. Neiley and Michael Vardaro for Administrative Support

A. Thomas Weaver for Project Leadership

Elaine A. Picard and Dr. Bruce P. Boczar for Junior Professional Achievement

Glenn C. Carter for Analysis/ Analytical Achievement.

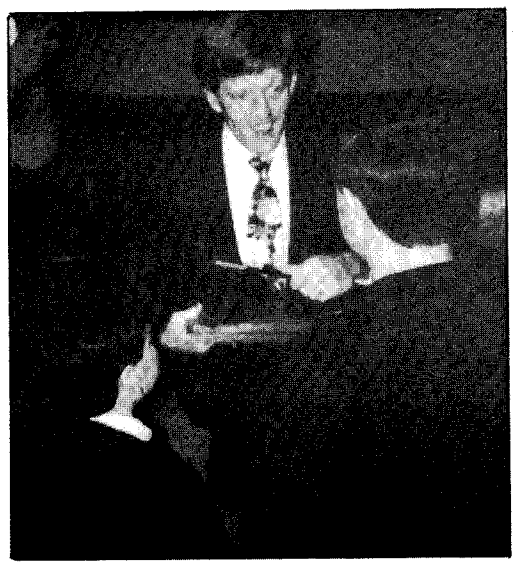
Donald J. Hirst and Joseph N. Sammer for Technical Support

A1C William J. Pachak, USN for Aviation Support

Margaret T. Russo for EEO Program Support

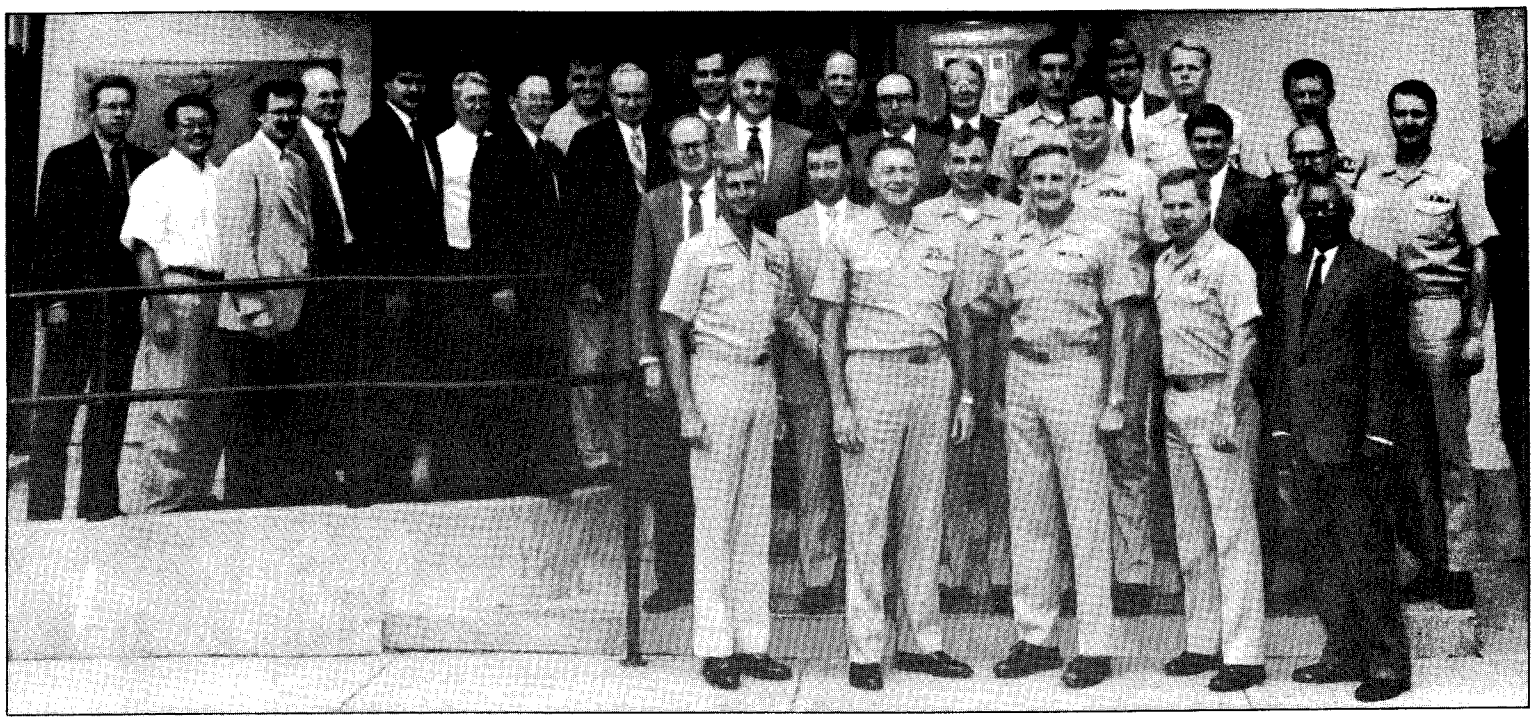
Dr. Thomas M. Donnellan for Scientific Support and

Harry F. Koper for Engineering Achievement.



Thomas Weaver congratulated by family.

NAWC realignment Board of Directors hosted at Center



Naval Air Warfare Board of Directors met at the Naval Air Development Center to receive reports and to make recommendations on the future of the Navy's Aviation Research and Development for years to come.

By William L. McCracken

On September 17-19, NADC hosted the Naval Air Warfare Center Board of Directors Meeting. The purpose of the conference was to get a communication line going and start a working relationship between the various activities. Attending the conference was RADM G.H. Strohsahl, head of the new Naval Air Warfare Center, RADM William E. Newman, head of the Weapons Division and RADM J.W. Snyder, head of the Aircraft Division. We also had the pleasure of having RADM R. Harrison and RADM G. Meinig as guest speakers during the three-day affair.

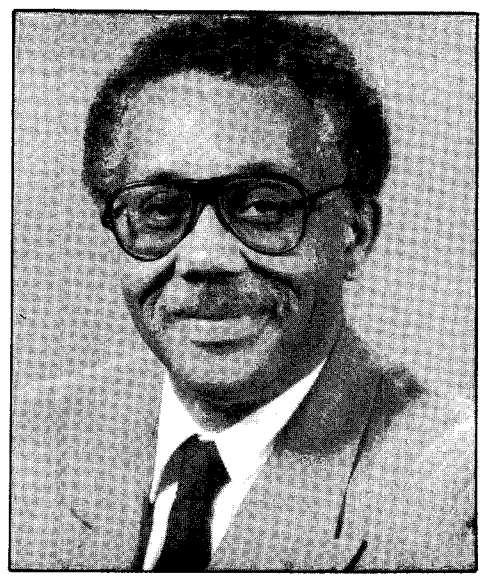
If that wasn't enough, we also had nine commanding officers and nine technical directors from the various labs around the country affected by the realignment.

One of my biggest areas of concern to come out of the meeting was the move from Warminster to Pax River. Right now, the move is scheduled for fiscal year 1995. But, a move will not take place until

Continued on page 3

Command Corner

Captain William L. McCracken
Center Commander



Guy C. Dilworth, Jr.
Technical Director

Gold

Blue

White

NAVAL AIR WARFARE CENTER

At the Board of Directors meeting, the computer generated Naval Air Warfare Center logo, above, was recommended, in principle, for adoption for NAWC Headquarters. Ours will be similar but have one star. Subsequent modifications have added aircraft division and changed the style of the lettering.

Commander Salutes

Richard S. Chern (Code 032): For your staff's assistance in arranging training space for a recent Naval Air Propulsion Center's training seminar. Such responsive and willing assistance reflects very favorably on nurturing Tri-Center cooperation.

Alfred W. Gramp (Code 202): For your outstanding efforts in support of the Tactical Training Range Program Office.

Davie H. Panetta (Code 301): For the outstanding support you provided the Office of the Chief of Naval Operations Antisubmarine Warfare division in the development of a Regional Anti-submarine Warfare plan.

Michael Mocenter (Code 5013): For your support of the Marin Corps during Operation Desert Shield/Storm. You have made a significant contribution to the United States Navy.

Mun-Won Fenton (Code 5022): For the outstanding contributions you made to the Navy Microwave/Millimeter-wave Monolithic Integrated Circuit Program during your assignment at NAVAIR is indeed noteworthy.

Philip Kaufman (Code 90E): For your participation at the P-3 NATOPS Conference. Your contributions to the discussions conducted during this conference reflect very favorably on yourself and this Center.

Michael Masington (Code 092): For your technical assistance and expert advice on the various contingency plans available when the pump motor on the Center's main water supply well failed. Your calm, professional demeanor helped keep things in perspective and contributed greatly to the success of the operation.

Lawrence Strittmater (Code 8332); Francis Kurdziel (Code 8333); Harry Davis (Code 834); Charles Jacobs (Code 8341); William Hogarth (Code 8342); George Sterling (Code 8345): For your help in securing non-critical water use, assisting in the pump replacement, and coordinating of the emergency purchase of over 100,000 gallons of potable water from Warminster Township, when the pump motor on the Center's main water supply well failed. Your efforts are to be commended.

CDR Michael Mentas (Code 10); Elaine Picard (Code 101K); Sheila Elser (Code 1012); John McFadden (Code 1012); Linda Fomalant (Code 5044); LT John Schmidt (Code 6022): For your outstanding efforts while conducting testing on short notice in Lajes. Your expertise and dedication to fleet support are invaluable.

Joseph Colombo (Code 201); Patricia Tease (Code 2001); Carl Reitz (Code 2011); Thomas Castaldi (Code 50): For the outstanding hospitality and technical presentations you provided to the Strike, Surface and Anti-Air Warfare Committee. Your professional expertise contributed to the successful outcome of this meeting and has reflected the highest credit upon yoiu and the Center.

Ralph Lachenmaier (Code 505B); Joseph Morton, Julian Olynasky, Daniel R. Tarrant (Code 5051); Patricia Oberndorf (Code 7031); Frank Prindle (Code 7032); Dr. Carl Schmiedekamp (Code 7033): For your outstanding contribution in support of the Next Generation Computer Resources Program. Your technical and managerial support of this program will benefit Navy acquisition managers, the Fleet, and DoD.

Letters to the Editor

Dear Editor:

As you can see from the Letter of Appreciation I received after the 1991 Navy Relief fund drive, $11,000 is not a new record for the Command. Our net total of $5,600 was after we bought a brand new car which was raffled off. While the $11,000 is very commendable, calling it a new record for the command ignores the job we did ten years ago.

Sincerely,

Linda Rose

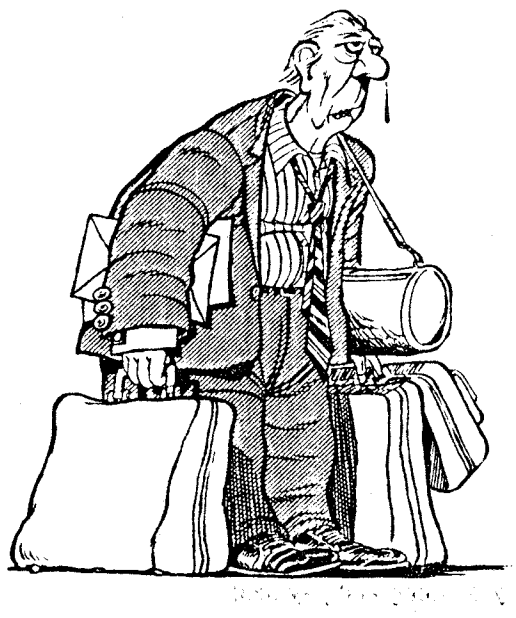
Security Reminder
Center had courier authorization

Hand-carrying classified material on commercial passenger aircraft may only be approved by the Center Commander, the Chief Staff Officer, department heads or in their absence, deputies acting on their behalf, or the Security Officer when both incumbents are not available. The aircraft must be traveling within and between the U.S., its territories and Canada. When authorized to hand-carry classified material aboard commercial aircraft, the traveler must have, in addition to travel orders and Special Orders, Courier Authorization, NADC 5511/10:

(1) A photo identification

(2) A special letter of authorization to handcarry classified material.

(OPNAVINST 5510.1H and NAVAIR-DEVCENINST 5510.13D)



NADC Reflector

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NAVAL AIR DEVELOPMENT CENTER WARMINSTER, PA.

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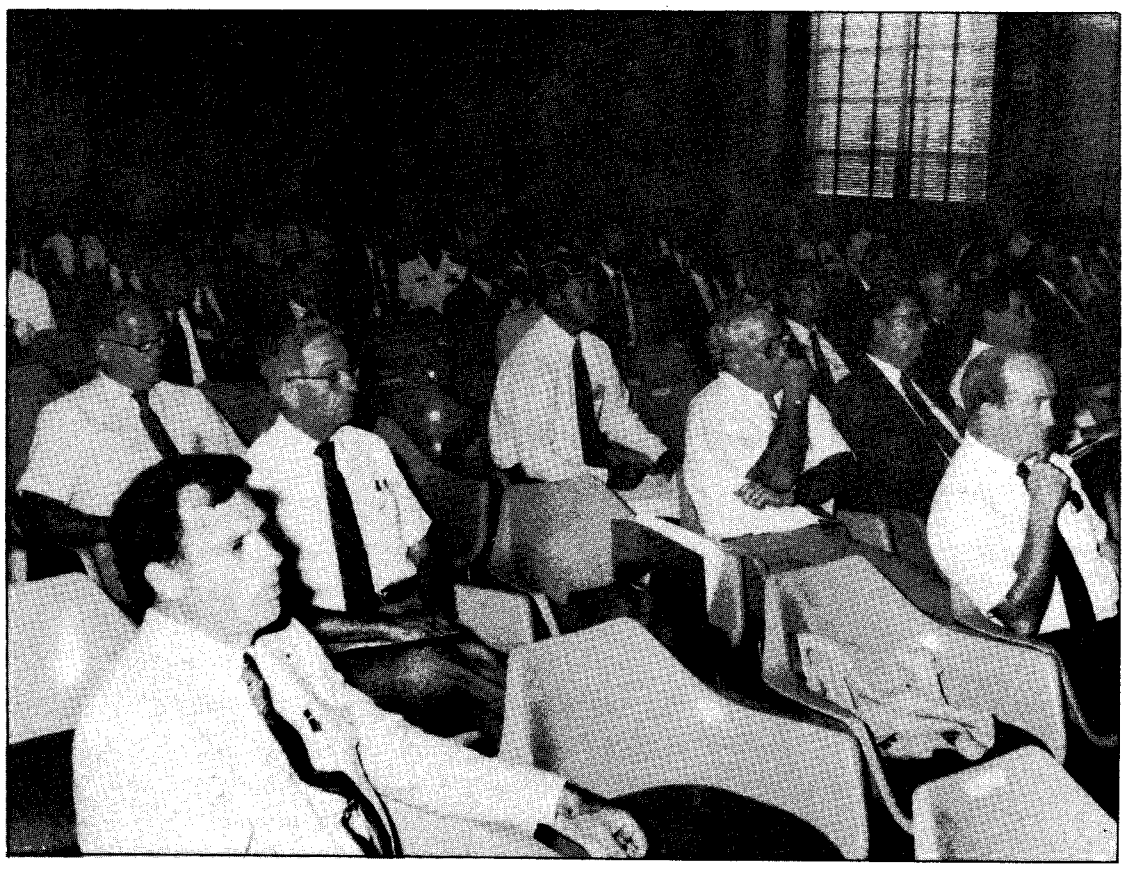
Technical Director ..... Guy C. Dilworth, Jr.
Public Affairs Officer ..... James S. Kingston
Editor ..... Lawrence L. Lyford
Assistant Editor ..... JO2 Michael Delledonne
Assistant Editor ..... Margaret Vigelis

Center hosts first avionics requirements briefing of its kind



Audience of industry representatives listen intently to each speaker to learn Navy's direction in critical areas.

"This will help industry tailor their research programs."

One of many visiting officials stresses a point.

By Lawrence L. Lyford

The Center, under the sponsorship of OP-05, Office Chief of Naval Operations, through Code 505, hosted a two-day Avionice Requirements Briefing in September at Willow Grove Naval Air Station. The purpose was to inform industry of the Navy's future avionics requirements and technologies under development to meet these requirements.

The briefing, held off-center to accommodate the large number of expected attenders, had 250 attendees with 50 more turned away. "This was the first briefing like this the Navy has done," said Larry Ott, Jr., head of Code 505. "With this information, industry will be in a better position to tailor their independent research and development to complement the Navy's needs."

RADM Riley D. Mixson, Office of Chief of Naval Operations, made the keynote address, *Avionice Lessons Learned in Desert Shield/Storm*. CDR George Root, from the same organization, presented operational requirements for Naval avionics. Capt. Dave Bennett, NAVAIR, addressed Anti-Submarine Warfare mission avionics developments and acquisition plans. Capt. Roger Burnett, NAVAIR, did the same for TACAIR and CDR Tom Barnes, NAVAIR, presented unmanned vehicle plans.

Industry representatives heard others address issues such as, platform avionics integration, common avionics, acquisition overview, exploratory and advanced development technology programs as well as the avionics programs at the Center.

Ott says this will help industry better direct their own research and development efforts so a better Navy/industry partnership can develop.

Larry Ott, manager of Code 505, makes a point about avionics requirements during recent meeting his department nosted.

NAWC realignment Board of Directors hosted at Center

Continued from page 1

a first rate facility is actually built. The plans for that facility were presented and consisted of two large research and development campuses being built. The funding for that will be in the fiscal year budgets of 1993 and 1994. RADM Snyder reiterated that it's his intent no relocation will take place without the proper facilities in place.

It was also noted the technical capability of the Center is critical to Naval Aviation, especially now. Everything needs to be done to ensure we hold on to the technical talent we have. The realignment has to be done in a smart way and in a way that's in the best interest of the Navy.

The other big news is on January 1, 1992 our name officially becomes the Naval Air Warfare Center, Aircraft Division, Warminster. With that, there comes a new patch which was agreed upon in principal to be displayed.

The last item I would like to touch on is the tremendous effort put forth to pull a conference of this magnitude off. My sincere appreciation goes out to the following people: Stu Simon and Joe Cody for administrative support and CDR Peter Kallin for military co-ordination; Jim Kingston, Margaret Vigelis, Mary Ann Brett and Larry Lyford from Public Affairs; Jeff Wright, John Flowers and Bill Hunt from Public Works; Ken Clegg for technical support; Ray Satterfield and Ross Barklow for audio visual support; Neil Abramson for computer support; Mary Borkowski recorder and Fran Taglang of Service America which provided all the food and beverages.

All the attendees spoke very highly of the Center and how well the conference was run. Thank you once again.

Warminster Township tax has limited amnesty

Employees who received a Notice of Failure to File Quarterly Returns after filing their annual Earned Income Tax Return for Warminster Township may have a $10 late fee and the 10 percent penalty pardoned if the tax is paid by October 31 and an amnesty request is made prior to January 31, 1992. Those who already paid the additional money will receive a credit toward next year's tax bill.

Written requests should be sent to CENTAX, 300 Mt. Lebanon Boulevard, Pittsburgh, Pa 15234 or hand-delivered to the township administrative building.

The amnesty applies to 1990 and 1991. Earned income not withheld by an employer (employer got a late start withholding) or income not subject to withholding (net profits) must be paid by October 31, or penalty and interest will be charged.

Amnesty does not apply to employers who are required to withhold and forward the money but did not.

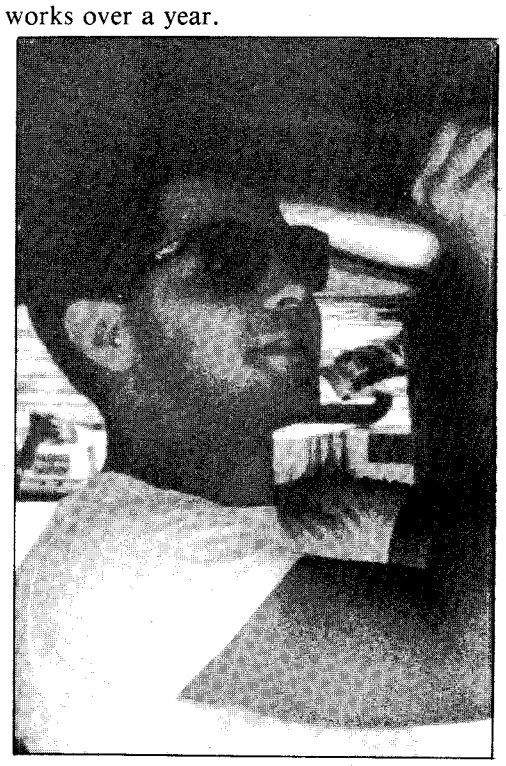
The township ordinance requires quarterly payments, not simply an end of year filing and payment.

Tomcat completes first detachment at El Centro

By JO2 Michael Delledonne

Detachments are a part of Navy life. In the sea-going Navy it's ships. For the Center aviation community it's P-3's and F-14's.

For the first time, the Center's F-14 "Tomcat," its maintenance crew and project engineers flew to El Centro, Calif. to complete testing of a project in the works over a year.



AO2 Craig Webster removes device for testing.

The eight-day detachment flew to the desert to determine maximum temperatures for expendable decoys used by F-14's and other tactical jet aircraft. "To get the high temperatures needed," said Len Roach, project engineer, "the plane flew at low altitude at high speed to create the highest possible tactical temperatures to determine what the high-end temperature is."

To CWO4 Ronald Mobley, it was a great feeling to be a part of the first deployment. "We had a chance to show what this aircraft can do and how important it is for it to be a part of NADC," he said. "The Center welcomed the chance to support a project like this. For the team, the project turned out to be a huge success. As a matter of fact, the detachment even assisted two other F-14's from Miramar."

Tomcat pilot CDR Winston Scott agreed. "The F-14 is an outstanding combat machine which is really quite supportable when teamwork and support procedures are in place. It's important for our jet aircraft to be able to detach to different locations in performance of the Center's mission."

That mission is to conduct research, development, test and evaluation on all aircraft systems. Traditionally NADC has been concerned largely with anti-submarine warfare, but now is expanding our efforts to cover test flight for the TACAIR community.

CDR Winston Scott and LT Kametz prepare to disembark aircraft after test.

Scott continued, "Everybody has pulled together so this F-14 detachment could come about. A perfect example of this teamwork was LT Marsolf and LT Aronson and the P-3 crew who flew the F-14 support personnel to and from the detachment location."

"We certainly hope this is the start of increased responsibilities for the Center for conducting test flights for TACAIR systems," said Scott. "Not only are we doing something very important, but it's fun! Nothing but good will come out of this for everybody involved."

If the SOC fits

Reviewing bedrock standards of conduct

SECNAVINST 5370.2J, entitled *Standards of Conduct and Government Ethics*, is the primary Navy instruction in the area of the Standards of Conduct (SOC). This instruction is available in General Files (extension 1275) and should be consulted for guidance on any SOC questions. The Office of Counsel (Code 095) is likewise available to provide advice and guidance on these matters, and I urge any of you with SOC questions to call our office on extension 3000.

In this column we periodically publish one of the enclosures to the SOC instruction, entitled the *Bedrock Standards of Conduct*, which provides a concise summary of the entire instruction. Those bedrock standards of conduct are:

1. Avoid any action, whether or not specifically prohibited, which might result in or reasonably be expected to create the appearance of:
   — Using public office for private gain,
   — Giving preferential treatment to any person or entity,
   — Impending Government efficiency or economy,
   — Losing complete independence or impartiality,
   — Making a Government decision outside official channels, or
   — Adversely affecting the confidence of the public in the integrity of the Government;
2. Do not engage in any activity or acquire or retain any financial or associational interest that conflicts or appears to conflict with the public interests of the United States related to your duties;
3. Do not accept gratuities from Department of Defense contractors unless specifically authorized by law or regulation;

4. Do not use your official position to improperly influence any person to provide any private benefit;
5. Do not use inside information to further a private gain;
6. Do not wrongfully use rank, title, or position for commercial purposes;
7. Avoid outside employment or activities incompatible with your duties or which may discredit the Navy;
8. Never take or use Government property or services for other than officially approved purposes;
9. Do not give gifts to your superiors or accept them from your subordinates when it is not appropriate to do so;
10. Do not conduct official business with persons whose participiation in the transaction would violate law or regulation;
11. Seek ways to promote efficiency and economy in Government operations;
12. Preserve the public's confidence in the Navy and its personnel by exercising public office as a public trust;
13. Put loyalty to the highest moral principles and to country above loyalty to persons, party, or Government department;
14. Uphold the Constitution, laws, and regulations of the United States and never be a party to their evasion;
15. Give a full day's labor for a full day's pay, providing earnest effort to the performance of duties;
16. Never discriminate unfairly by the dispensing of special favors or privileges to anyone, whether for remuneration or not, and never accept for yourself or for family members, favors or benefits under circumstances which might be construed by reasonable persons as influencing the performance of Government duties;
17. Make no private promises of any kind binding upon the duties of office;
18. Do not engage in business with the Government, either directly or indirectly, inconsistent with the conscientious performance of Governmental duties; and
19. Expose corruption wherever discovered.

EEO/WISE tape library takes off

The Equal Opportunity Employment (EEO) Office, in conjunction with the Women in Science and Engineering (WISE) group, established a library of audio and video tapes on a variety of career development issues.

Initially equipped with just a handful of tapes, the library now boasts over 25 different tapes, with nearly that many more on order. Personal development topics, such as memory development and confident public speaking, organizational issues such as how to supervise and first-time manager skills are available. Of particular note are two new University of Pennsylvania Wharton School tape-sets on supervision and business ethics.

Video tapes can be used at home, or some may be helpful for department use, especially the ones on team building, stress management and communication skills.

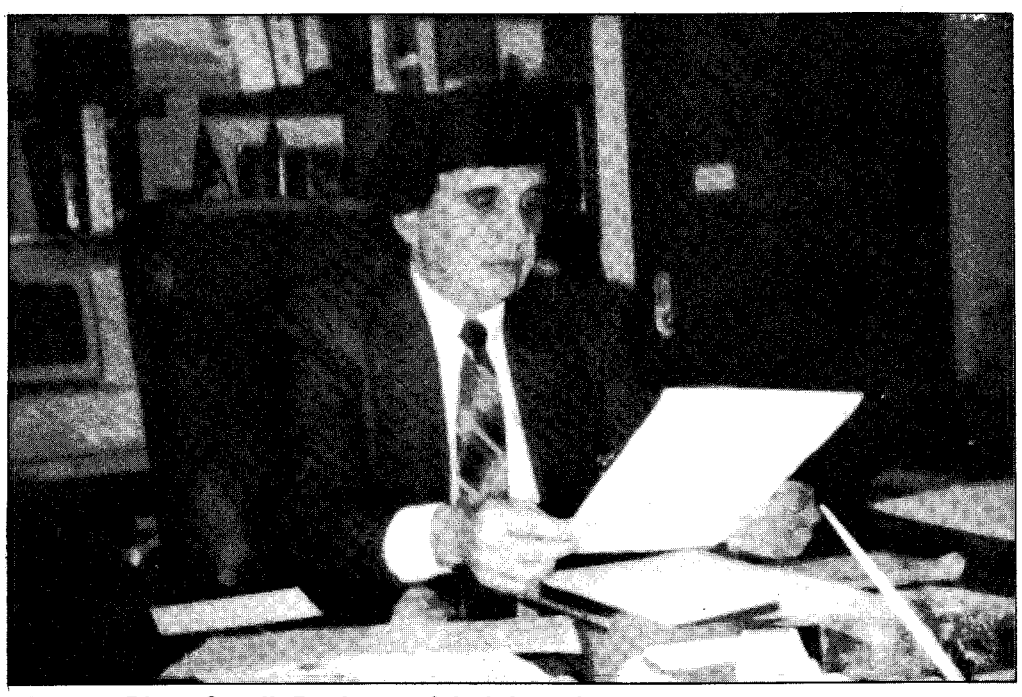
Word has circulated around the Center about the tape library, and many employees have started to borrow tapes. Some prefer audio tapes and report they are excellent to use while driving to the Center, jogging or walking.

Video tapes can be used at home, or some may be helpful for department use, especially the ones on team building, stress management and communication skills.

All employees are invited to use the library, and to take advantage of this excellent (and free!) educational opportunity.

For more information on the tape library, please contact the EEO Office, Ext. 1368.

Rice helps Center complete projects with local talent



Vincent Rice, Small Business Administration representative, reviews letter responding to an engineer's need for quick service.

By Lawrence L. Lyford

Vincent Rice, Code 069, Small Business Administration Breakout Procurement Specialist, views himself as a kind of marriage broker, "I match Center people with immediate needs to firms wanting to do business."

"Typically, people here need help to procure a few special items to complete a project or experiment. I'm one of several resources they call for help."

Rice said it's more challenging in many ways to arrange one small purchase at NADC than a large quantity one for the Defense Personnel Support Center, another activity he supports.

Rice has learned technical needs here tend to be one-time ones and local firms fill-the-bill perfectly. "Their shipping costs are negligible and they can drive over quickly when problems develop.

He said regional firms also approach him to do business with us. He helps arrange Center contacts for them. One way he does this is to invite them to place a display in a well-traveled location in the Center. Recently, he helped a computer training company and a strap manufacturer meet interested passers-by in Hangar Bay No. 1.

After these visits and every time a visit photograph appears in the Reflector. Rice said technical people called him for help. "Now, companies are calling me because they learned something of the Center's work from the Reflector. This helps everybody," he said.

Through his visits, Rice features local women-owned or minority-owned businesses. He said people will needs should stop by and help him make matches.

He said he will be glad to help callers and can suggest others on Center to contact, too. His phone number is 441-1433.

IR and IED investigators report progress to Committee

By Lawrence L. Lyford

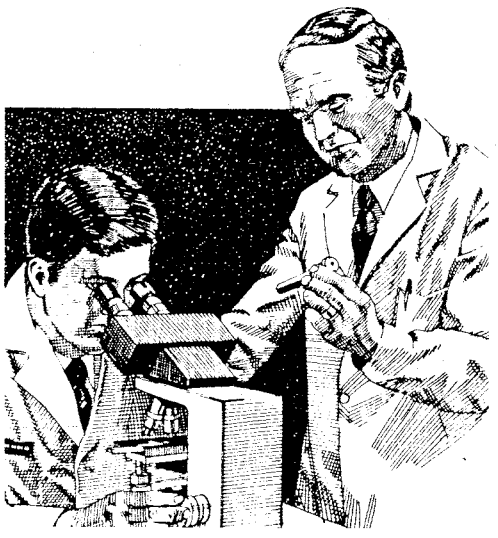
The following individuals reported progress on their Independent Research or Independent Exploratory Development projects. The progress was reported to a Center committee charged with monitoring their progress, determining future funding status and selecting the best projects (IR & IED) for 1992.

Committee membership varies but includes members from the Science and Technology Department, other departments, peers and academia.

The two winning projects represent the Center during further consideration outside NADC.

Those needing to familiarize themselves with the cited projects may contact the individuals to obtain appropriate information.

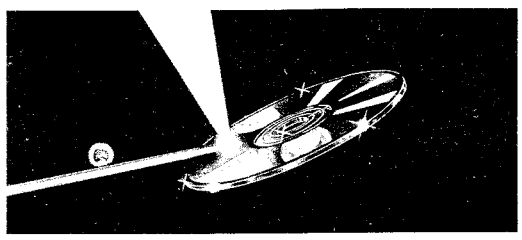
Researchers, here, may have precisely the information required for work in another area.



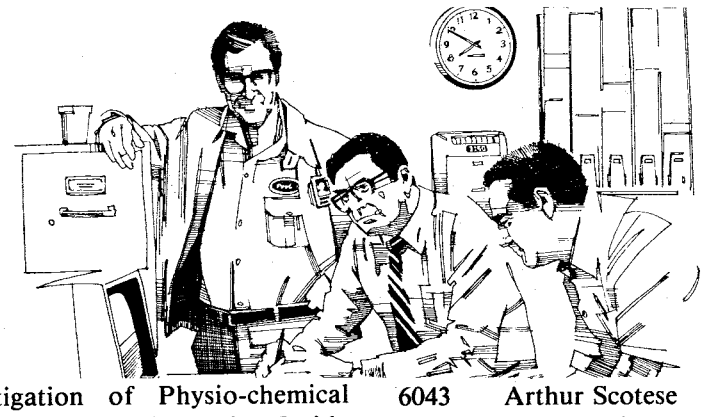
Department Code
Primary Investigator
Project/Paper Title

Independent Research

1034 Dr. Ramnanda Singh
Multisensor Multitarget Tracking in ASW
4022 Francis Karwacki
Superconducting Gyros
4042 Dr. Howard Dyckman
Spread Spectrum Modulation by means of Time-varying Linear Filtering
5011 Dr. William Scharpf
Excited-state Raman Frequency Conversion
5011 Robert Simms
Sensitized Rare-earth, mid-infrared Lasers for Room Temperature Operations
5012 Richared Billmers
Development of Novel Optical Filters
5012 Dr. Jon Davis
Optical Radar Target Recognition
5022 William Jemision
Optical Control of Phased Array Antennas
5022 S. Kim
Electrically Small Antennas
5032 Dr. Mary Farrell
Nonlinear Model Development and Detection Investigation for Passive ASW
5032 Dr. Richard Wayland
Active Sonar Classification Analysis using the Target Transfer Function and Singular Value Decomposition
5036 Nancy Harned
Bispectral Processing for Use as an Acoustic CCM
5044 James McEachern
Directional Sensor Noise Reduction Technology using non-linear Methods
5052 Dr. Warren Herman
Non-linear Polymers for Optical Device Applications
5053 Dr. Charles Drafft
Magnetic Field Sensor Based on Microwave Absorption Phenomena in High Temperature Superconductors
6023 Dr. Berry Shender
Investigation of the Contribution of Cerebrospinal Fluid to Cephalic Impedance Waveforms
6023 Joseph Cammarota
Avoid Mishaps due to Pilot Incapacitation
6043 Dr. Hemen Ray
Investigation of Advanced Light-Weight Sandwich Structural Concept
6043 Dr. Hsi Tsai
Effect of Fiber-Matrix Interphase on the Transverse Strength and Fracture Resistance of Organic Composite Laminates
6051 Samuel Greenhalgh
Lift Enhancement Due to Unsteady Aerodynamics
6062 Dr. Vinod Agarwala
Chamical Sensors for Structural Integrity of Material
6062 Charles Hegedus
Polymer/Particle Interactions in Organic Coatings
6063 Hydrogen Degradation of Next Generation Propulsion Materials—Titanium Aluminide Intermetallics
6063 Mary Donnellan
Interfacial Characteristics of Intermetallic Composites
6063 Dr. Eun Lee
Advanced Metal Matrix Composites
6063 Rabin Mahapatra
Solidification Parameters and Alloy Composition of Single Crystal Nickel Aluminides



6063 Dr. Ignacio Perez
Josephsen Break Junctions in Thin Film Superconductors
6063 Randy Sands
Reinforcement—Matrix Interface in Ceramic Composites
6063 Ajmal Khan
Micromechanical and Microstructural Study of Reaction Zones in Reinforced MoSi02 Composites
6064 Dr. Leonard Buckley
Non-linear Optical Polymers: Materials for In-situ Sensors
6064/
6062 Dr. Thomas Donnellan



An Investigation of Physio-chemical Degradation Mechanisms in Imide polymer
Based Composite Materials
7032 Dr. Mein Wann
Neural Network Investigation for ASW

Independent Exploratory Development

4041 Elliott Ressler
Microwave Communication/Radar/EW Subsystems
4042 Dr. Chul Oh
Application of AJ/LPI Waveform in Communications
5011 Christopher Schaeflein
Compact Blue-Green Solid State Laser for Non-acoustic ASW
5012 Dr. Martin Squicciarini
Optical Data Transfer from Sonobuoy to Remote Platform
5012 Dr. Bruce Boczar
Visible Optical Parametric Oscillators
5012 Dr. Jon Davis
Real-time Display of Laser Radar Returns
5012 Peter Raiti
Fiber Optic Configurations Applied to Sensor Technology
5512 Dr. Lloyd Bobb
Application of the Biconically Tapered Optical Fiber Sensor
5013 Harry Koper
Stealth Technique for Airborne Platforms to Reduce Observability by Visual Means
5024 Dr. Andrew Ochadlick
New SAR Concepts for ASW
5044 Dr. Thomas Gabrielson
Thermoacoustic Source for Air-expendable High-power Sonar
6012 Robert Digiralamo
Investigation of Flight Control Law Synthesis Using Neural Network Theory
6012 Dr. Bala Subrahmanyam
Robust Multivariable Flight Control System Design
6043 Dr. James Alper
Fiber Optic Structural Damage Detector
6043 Arthur Scotese
Micro-Moire Interferometry with Diode Laser and Fiberoptics
6051 Steven Kern
Localized Control of Leading Edge Vortex Shed
6053 Marshall Hynes
Development of Aircraft Stabilization and Control Schemes not Requiring Measured Air Data
6062 Alfeo Conte
Tribo-Materials Concepts for Advanced Composite Bearings
6063 Randy Sands
Glass Ceramic Matrix Composites

Video Teleconferencing will be available on Center

By Lawrence L. Lyford

Soon employees will be able to walk to a new portable Video Teleconferencing Center (VTC) behind our TV studio rather than drive to Naval Air Engineering Center in Lakehurst, NJ to use its facilities.

The only portable VTC in NAVAIR, seats six primary participants and 14 more in the gallery and is not as plush as the fixed site ones. It can communicate by satellite but will be part of a NAVAIR fiber optic cable system to save money. Links to other systems in Department of Defense can be arranged.

According to Bob Goodyear, the site facilitator, using it will be easy. "There will be no charge to projects, only to overhead. Users will contact Goodyear to arrange meetings providing primary and alternate dates and times. Then, he'll work with his counterparts at each site and NAVAIR to arrange VTC availability. "When everything is ready, I'll tell the originator to confirm the meeting with all parties."

Guy Dilworth, Ray Satterfield, Stu Simon, CAPT Tom Broadhurst, CAPT William McCracken and Andrew Atkinson tour the new Video teleconferencing Center shortly after modular containers arrive.

Drawing on the experience of others, Goodyear expects most conferences to be point to point but knows there will be multiple site ones as well. He feels this will become a vital tool in the realignment process and help key peole remain on Center.

He plans to make it available as another conference room when it is not otherwise scheduled.

Perez project one of three selected for ONR funding

Dr. Ignacio M. Perez prepares to use new resources.

By Lawrence L. Lyford

Dr. Ignacio M. Perez, Code 6063, has been selected by the Office of the Chief of Naval Research (ONR) to receive $300,000 under a new Young Navy Scientist Program and the Center will provide $75,000 for specialized laser equipment. The Center will show its support by providing facilities to include specialized laser equipment, supplementary funds and a mentor, Dr. William Scott.

According to Robert J. Hansen, Deputy Director for Applied Research and Technology at ONR, the program Perez was selected for was designed to recruit and retain the best young Ph.D. scientists and engineers. "The program is a mechanism for coupling emerging basic research to areas of critical Navy need," according to Hansen. "This is a particular honor for Dr. Perez."

Dr. Perez will work to fabricate High Temperature Superconducting SQUID's. SQUID's (Superconducting Quantum Interference Devices) are the most sensitive devices for measuring small magnetic fields.

Until recently, SQUID's required expensive cryogenic equipment. But since 1986, SQUID's were developed which operated above liquid nitrogen temperature. It has been difficult to produce them reliably or with optimal performance.

Perez will study the possibility of fabricating a SQUID using a high temperature superconducting thin film grown on a single crystal of LaA103 as a substrate.

A major problem with high temperature superconducting is fabricating the operating or electrical devices. The fundamental device is a junction consisting of two independent superconductors weakly coupled to each other so they are still able to superconduct, but at a much reduced critical current. This produces a superconductor-insulator-superconductor junction. Perez will study the feasibility of fabricating a SQUID using thin (YBa2Cu307) deposited by laser ablation (evaporation) onto a crystal of LaA103. In this technique, a small (10 nanometer) atomically smooth crack is introduced in the substrate that propagates across the superconducting film producing a superconductor-insulator-superconductor junction. If successful, this technique could be scaled up to produce in-plane micro circuit devices.

Such equipment could measure elastic and strength properties with extreme accuracy and precision on a submicron scale.

According to Perez, the approach he suggests has the potential to develop an extremely sensitive superconducting SQUID device that will contribute to NADC's Anti-Submarine Warfare mission.

He also believes a very sensitive magnetic sensor has medical, non-destructive testing or any other applications requiring high magnetic field sensitivity. He notes, "Researchers have been able to detect small currents produced in metals as a result of oxidation processes. Dr. Perez earned his Ph.D. (Condensed Matter Physics) at Rutgers University in 1987 and his B.S. (Physics) at the University of Barcelona, Barcelona, Spain and has 19 publications and numerous talks, conferences and invited presentations to his credit.

NADC dominated recent golf tourney on tough courses

By Graeme Ogilvie

The Navy Mid-Atlantic Golf Championships were held October 2-4, testing the skills and patience of seventy-two dedicated golfers. Play took place over the three excellent golf courses at MacGuire AFB, Fort Monmouth, and Lakehurst.

When the results were compiled, the NADC team had run away with the contest. LT Chip Caverly won the "A" Division by seven strokes over his nearest competitor, ACC Mark Wornkey won the "B" Division by nine strokes, and AWCS Dwight "Check His Handicap" Myllenbeck won the "D" Division by an astounding twenty-eight strokes.

Also rounding out the team were AW2 Dave Fridline who placed 2nd in "D" division, Maj. Graeme Ogilvie who placed 4th in "B" Division (two shots out of second), AW1 Bill Baldwin who placed 5th in "B" Division, and AME2 Dave McDermott who placed 6th in "C" Division.

Belying the margin of victory, the toughness of the courses made the games far closer than some of the results appeared. Chip Caverly, in particular, fought off a challenge that saw his lead shrink to only two strokes on the back nine of the final round. Great shot making over the last few holes saved the day and resulted in the low round for the four divisions, a remarkable three-day total of 250.

Mark Wornkey started off on fire, shooting two consecutive rounds of 84. But he then found out why you don't play "match play" against someone whom you are trying to beat. After watching a comfortable lead slowly slip away, Mark finally kicked his game up a notch over the final nine holes for a convincing win.

Dwight Myllenbeck just had three consecutive hot rounds of 93, 98 and 96. Tremendous golf. Not only did he beat Dave Fridline by 28 strokes for second place, but Dave himself had topped the third-place golfer by eleven strokes. The rest of the division were left in their dust.

Despite ominous forecasts, the weather turned out fine for the three days and the superb condition of each of the courses made the Championships especially enjoyable. The thrashing that the NADC team put on the rest of the field was an unexpected bonus. Hopefully the defense will be just as much fun.

Community outreach
NADC employees tutor at William Tennent High School

By Sheldon Weisman

"This must be serendipity," exclaimed Mary Kearns of NADC's Equal Employment Opportunity (EEO) office, in a recent telephone conversation. She knew that I wanted to tutor in a local high school. When she learned Margarita Marengo, a community worker from the Centennial School District, was seeking tutoring help for Hispanic students at William Tennent High School and was going to speak to the Hispanic Interest Group. Kearns told me, "Get yourself down to the meeting."

At the meeting, Marengo found there were many of us at NADC who wanted to volunteer our services to help in the turoting effort. She explained the prevailing minority at William Tennent is Hispanic and many were doing poorly in their studies. She said the goal of the tutoring was to help Hispanic students now failing in specific subjects to improve enough to pass those courses by the end of the school year.

Marengo had all the current grade information required to select a group of about sixteen students needing tutoring services. Each of the tutors would help one or two students one hour weekly. As the first step, all the tutors met with Kenneth Kastle, principal of William Tennent and then with the students themselves to establish a schedule.

The meeting with Kastle was particularly revealing, because he spoke of a general difficulty the high school has in getting the bicultural students onto a winning track. Even when the school makes some gains with these students, Kastle said, they are often lost to the prevailing attitudes of the community which usually is not supportive of academic achievement. Because of this apparent "cultural dissonance" our mission appeared to be more than a scholastic one.

Most students asked for help in math, science or English. All appeared to be a little nervous, as were the tutors, who, in addition to me, were: Ignacio Perez, Code 6063; Francisco Galletti, Code 6011; Rosa Cerankowski, Code 8454; Victor Colon, Code 5011; Lissette Fortuno, Code 4012; Luci Federici, Code 4013; Estrella Forster, Code 6023; and Manny Galagarza, SelectTech Services Corporation.

For my assignment, I received two students who were motivated and wanted to be tutored. We worked together on a weekly basis from mid-March until the end of May. One student, a freshman, needed tutoring in pre-algebra. My main contribution was not so much in explaining concepts or doing examples, but fostering a belief in himself and providing an occasional "attaboy." His marks showed improvement, hopefully reflecting the increased emphasis provided by the tutoring.

My other student, a senior, was supposed to be tutored in math and science, however, my efforts for the most part, did not involve his studies. Since he had been in this country only a few months he needed help in filling out the necessary forms for college including a complicated loan form.

Not all the tutors were as fortunate. Some students did not always show up for their sessions; or came unprepared; or did not seem to learn from their mistakes. But the overwhelming feeling we all had was that we were introducing some harmony where previously only dissonance was present.

We were rewarded for our efforts with a dinner held in our honor at the high school. Our real reward, though, was not the recognition but the good will that prevailed; an important link had been established between NADC and William Tennent High School.

If you are interested in creating your own serendipity, contact Manny Galagarza at 441-4015 or attend one of the Hispanic Interest Group meetings. The EEO office can supply you with dates and times.

Third symposia planned
Hopeful chapter begins well

By David Mutschler

A chapter of the Association for Computing Machinery (ACM) has been established locally. ACM is an international scientific and educational organization to advance the science, design, development, management, and application of modern computing. The local chapter is waiting recognition from the ACM national office.

Chapter activities include bimonthly symposia on research in computer science and engineering, and a proposed all-day professional seminar. Two symposia have already been held on-center. The first, *Maximizing Software Reusability*, was presented by Mr. David Mutschler, and was attended by 20 people. The second, *Object Oriented Programming with C, C++, and ADA*, was presented by Frank Prindle. Attendance literally overflowed the capacity of the meeting room.

Officers of the newly-formed chapter are David Mutschler (Chairman), Peter Youssef (Vice-Chairman), Thomas Matthews (Secretary/Treasurer), and Richard C. Zielinski (member-at-large), all members of the center's Advanced Systems Engineering Branch, Code 7051.

The next symposium will meet in the Center Conference Room at 4:15 p.m. on Nov. 12. The topic will be *Issues in the Implementation of the TCP/IP Network Protocol,* presented by Mr. Thomas Matthews. The presentation will last about an hour, followed by thirty minutes for questions and discussion. Refreshments will be served prior to the presentation. All meetings are free and open to the public.

For information about the ACM and its activities, contact David Mutschler ext. 7291, or Peter Youssef ext. 7210.

The next symposium will meet in the Center Conference Room at 4:15 p.m. on Nov. 12.

NADC Ski Club plans for '92

By Marguerite Hoefling

NADC ski club officers have planned an exciting 1992 season of western skiing trips to Colorado and Idaho, and are looking into trips to New England.

The NADC ski club invites both experienced and beginner skiers to join and participate in the club's activities. This invitation extends to all Center employees and their families, contractor personnel, and friends. Individual employee or family membership is $4, all others are $7.

Meetings are held on the third Monday of each month at the Lady Luck Club located on the Center's airfield side. We show videos of various skiing areas and what they have to offer, as well as those featuring tips and methods on how to improve your skiing techniques.

As a member of the eastern Pennsylvania Ski Council, the NADC ski club provides information on council ski races, race instructions, bargain sales of new and used equipment, and discount lift tickets for Pocono Mountain resorts.

By taking advantage of group discounts, early season planning and prepayments, the NADC ski club is able to offer the following affordable trips:

16-20 Jan. 1992 — Winter Park, Colorado — $535. (includes 3-day lift tickets). Leave Thursday night after work and ski Colorado for 3½ days. This is a chance to do some glorious Rocky Mountain skiing over a 3-day federal holiday.

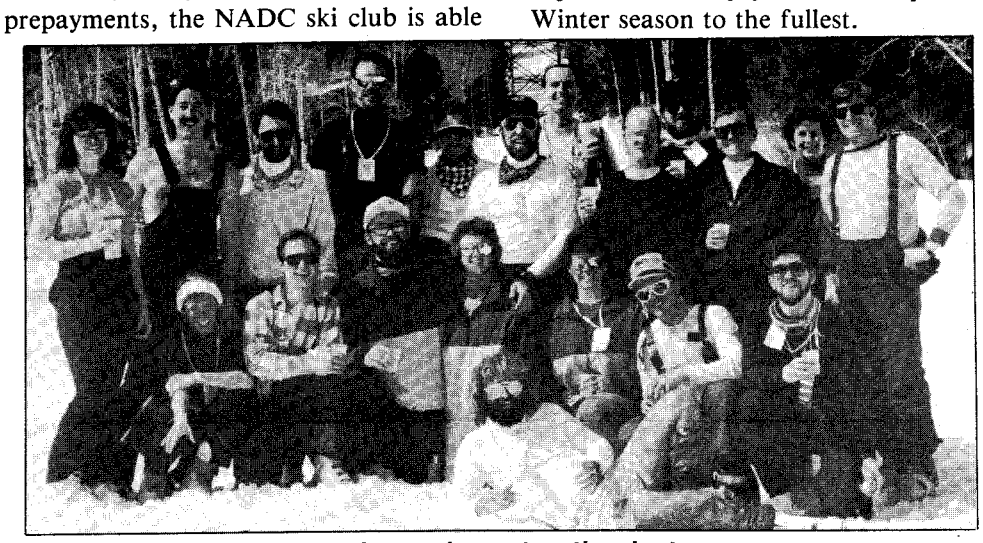
For information or to sign up, contact Tom Knott, 441-1592.

7-14 March 1992 — Sun Valley, Idaho — $847. (includes lift tickets). Spend a week skiing the bowls and trails of famous Sun Valley. Enjoy plenty of warm mountain sunshine, races, and parties (it's National Ski Club Week). Fabulous cross-country skiing is also available.

For information or to sign up, contact Sue Coar, 441-7293.

New England Trips to be announced at a later date.

We look forward to seeing you at our November 18 meeting — won't you please join us? Sign up for the trips and experience the joy of our upcoming Winter season to the fullest.



Ski club members enjoy themselves at outing last year.

Group holds picnic workshop

By Susan Casagrand

The Administrative, Secretarial, and Clerical (ASC) Group held a picnic workshop on September 12 entitled *It's the Way That You Say It* presented by Dr. Julia Cummings of Temple University. Cummings offered a dynamic approach to developing and using the speaking voice as a medium for confidence, self control, and of success. Participants said her speech laid to rest old fears about public speaking.

A new group, the ASC, was formally made an opertating committee under the Federal Women's Program in March 1991. ASC was created to provide specific job enhancement and enrichment programs for personnel pursuing careers in the Administrative, Secretarial and Clerical occupational paths.

ASC officers include: Sue Casagrand, Code 845, Chairperson; Cindy Yanoff, Code 845 and Jeanne Gasuk, Code 024, Co-chairpersons; Norma Strohmeier, Code 0223, Recording Secretary; Maureen Talley, Code 303, Assistant Recording Secretary; Carole Preston, Code 7001, Publicity Chairperson; and Fran Glanding, Code 4001P, Program Chairperson.

ASC kicked off their new existence with a Networking Breakfast entitled "The Federal Career Ladder — Working Your Way Up" last May in the Barnaby Room. The program provided four speakers from NADC who shared their experiences in moving up rungs on the Federal Career Ladder. The speakers were Rosa Cerankowski, Contract Specialist, Code 845, Roseanne Petro, Program Analyst, Code 20, Elaine Johnson, Logistics Management Specialist, Code 10, and Irene Zugel, Supervisory Program Analyst, Code 02.

ASC personally thanks all of the NADC personnel who shared a part of their personal career growth. Their experiences provided hearers with the information and motivation to strive for the next rung on their own career ladder.

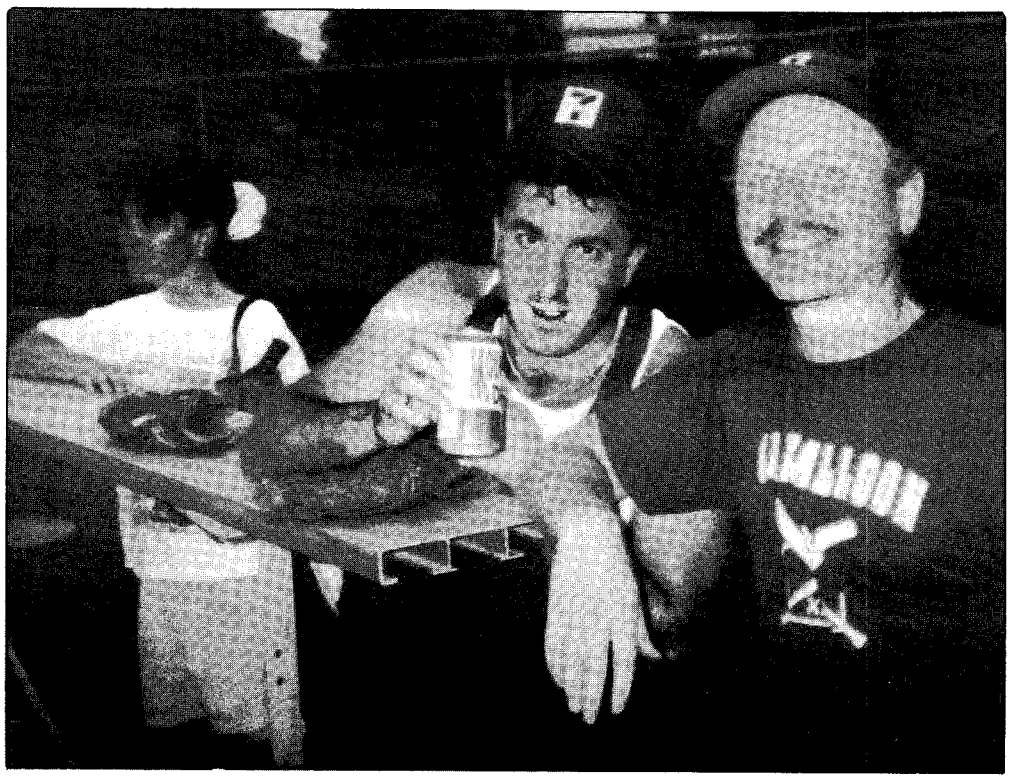
ASC will provide interesting programs to the Administrative, Secretarial, and Clerical personnel on Center to aid job enrichment and career growth.

Speaker, Dr. Julia Cummings.

NADC athletes enjoy 1991 Summer baseball season

Mike Searles waits for a pitch with catcher Dennis Shinn and umpre Steve Hynes ready.

Umpire Steve Hynes and fan Eileen Beans discuss the All-Star game.



Maureen Talley, Mike Garofolo and Doug Bancroft enjoy a break in a game.

Coronado expands Hispanic recognition to one month

Hispanics are the second largest and fastest growing minority group in the United States and have fought in every United States war starting with the Revolutionary War. A commemorative hallway in the Pentagon honors the 37 Hispanics who have earned the Medal of Honor.

Air Force Colonel Gil Coronado thought it was unfair to try to recognize nearly 500 years of Hispanic heritage and culture in one week and he did something about it. He lobbied Congress and prominent Hispanic figures and national organizations nonstop for nearly three years to begin a month-long observance.

Coronado got a chance to fight for his dream in 1985 when he was assigned to the Inter-American Defense Board (A group representing 20 Central and South American countries in Washington, D.C.). His job brought him in contact with congressmen and other influential leaders. In his free time, Coronado worked to establish his dream.

He submitted his recommendation and justification to Representative Estebon Torres, Chairman of the Congressional Hispanic Caucus. Torres liked the idea and Coronado spent his free time over the next 18 months working with caucus staff writing and strengthening the justification and lobbying major Hispanic organizations. Finally, Torres got the recommendation on the Congressional agenda.

Torres invited Coronado to the House for the vote and mentioned his name as the initiator. In 1989, Congress passed the measure and the President signed it into law, creating Hispanic Heritage Month, September 15 to October 15 to celebrate each year.

Lady Luck Club provides expanding services

By Heather O'Rourke

Morale, Welfare & Recreation has a full schedule planned in the Lady Luck Club. Each week in November kicks off with *free* Eagles tickets and prizes every Monday night! Third-quarter drawings are held during Monday Night Football. Patrons are automatically entered when they purchase any food or beverage items.

Each Tuesday this month, bring in a plastic 16-ounce Lady Luck cup and get a Bud Light draft refill for only 75 cents.

Social Hour prices resume this month with 10 percent off all regular beverage prices from 3:30 - 5:30 pm.

Every Thursday night is Lite Night! Beginning at 3 pm, all drafts are only 75 cents. A Bucket of Beer is only $2.25. Buy three 7-ounce pony bottles and keep the bucket! Drawings for prizes will be held from 7 pm until midnight.

For information on these events and others, call MWR Marketing at ext. 2510 and 3220 or the Lady Luck Club & Conference Center ext. 7651.

Disc Jockey services are one of many available at 'The Lady.'

MWR provides fitness flexibility

By Heather O'Rourke

In an effort to accommodate flexible work schedules, the MWR Fitness Center currently is opening at 6 am on weekdays and closing at 7 pm. Weekend hours remain 10 am - 6 pm. Memberships are open to all active duty military and their dependents, retired military and their dependents and all NADC DoD employees. Fitness evaluations are included with your initial enrollment. For further information, call the Fitness Center at ext. 2169.

J. BARTON 5021

NADC Reflector

Volume 36 Number 11 NAVAL AIR DEVELOPMENT CENTER, WARMINSTER, PA. November 1991

In This Issue
- ATLSS advances
- New Masters program
- Gas leak handled
- Attitude barriers

Flight simulations are now being developed at Center

Dennis Kiefer, systems engineer, Jeffrey Collert, flight dynamics engineer and Peggy Heffner, simulation engineer continue cooperative effort for flight simulation development.

By Lawrence L. Lyford

New things are happening at the Center's Dynamic Flight Simulator (DFS). Rather than testing human factors, investigators here are testing flight simulation, itself. Crew Systems, Code 6035, and Flight Dynamics branch, Code 6053, are helping to develop simulations to model aircraft, such as the F-18 HARV, during high angle pull-up maneuvers.

This should help NASA and the Navy develop more mission capable aircraft and bring new business to the Center.

Presently, NASA is helping the Navy evaluate the F-18 HARV during high angle of attack flight. This is important because pulling up in a steep climb or sharp turning provides a needed combat edge.

To execute high speed steep climbs or sharp turns thrust vectoring fins redirect engine exhaust (similar to a Harrier Jump-Jet in its hover mode), to increase angle of climb and turn rate.

According to Jeffrey Collert, flight dynamics project officer, normal aircraft control surfaces become ineffective during these maneuvers. In the F-18 HARV, paddles vector thrust to regain maneuverability but pilots report disorientation. Pilots perceive false yaw or side-to-side motion as they maneuver their aircraft under unfamiliar conditions.

Tests, here, are being conducted to verify how DFS works for motion based simulation for high angle of attack flight profiles. Collert hopes to use the DFS for flight qualities investigations but first fidelity must be assessed. Investigators must know how well the DFS simulation represents aircraft flying these maneuvers.

He knows our simulator is better than those without motion or others with only limited motion because their inherent limitations prevent a full account of mechanical and structural characteristics.

In our DFS, for example, pilots feel an acceleration before seeing the computer generated window view noticeably change. This is how it should be according to Collert. In high angle of attack maneuvers, pilots see sky and maybe an enemy aircraft but will get their first feedback response as they sink into their seats. This acceleration can't be simulated without DFS motion.

If a pilot pulls back on the control stick, computer generated window images must descend at the correct rate so the pilot perceives he is climbing. However, the ball at the end of the centrifuge arm must align the pilot's feet outward so the pilot feels the correct acceleration outward toward the bottom of his seat. Then acceleration must decrease and the seat must recline somewhat.

All this helps simulate one linear pull up maneuver according to Peggy Heffner, systems project officer from Code 6035. "With more complex computer algorithms the DFS simulator becomes the aerodynamic model of the F-18 HARV with its thrusts, unique motions and flight parameters."

"One set of algorithms convert linear flight motions into circular DFS approximations. Another, provides the limitations inherent in the specified aircraft. As far as we know, there is no simulation with motion for this type of flight profile anywhere else," explained Collert.

Good flight fidelity will give the Center a safe, inexpensive environment to investigate the qualities of high angles of attack flight.

"Not only this, but the Center is using personal computers to optimize the simulation which again will save money," said Heffner. "This is simulating the simulation to account for mechanical and structural characteristics."

Currently, engineers are flying the centrifuge ball in tests to optimize the filters and feedback loops to make the ball fly like the aircraft in the specific maneuvers to be tested. Once the algorithms controlling the DFS and providing aircraft profiles are close to standard, experienced pilots will fly the tests to provide final corrections. Only experienced pilots flying at higher accelerations know the correct "feel."

In time, a high angle of attack flying qualities simulation tool will be available here for our customers.

Center SAR system field tested for the first time in Scotland

As part of a recent international data collection effort, the Center P-2 Synthetic Aperture Radar (SAR) project traveled to Scotland to participate in a large-scale data collection evolution. The experiment was a joint United States/United Kingdom exercise using the SAR-equipped UP-3A Orion.

Operating in either a tri-band mode for standard SAR imagery or in the Displaced Phase Centered Array (DPCA) mode for collection of interferometric data, the experiment gathered SAR imagery of internal ship wakes of vessels crossing the test site to analyze ship wake interferometric signatures. Wakes from two research vessels acted as a radar target.

In the first phase, the P-3 SAR system got 70 hours of data in twelve flights. The tri-band mode collected standard SAR imagery while the DPCA mode collected data for radar interferometric imagery.

Two new program developments, the construction of a mobile processing station and the implementation of the DPCA mode were used. The P-3 SAR mobile processing station, integrated here, performed several essential functions.

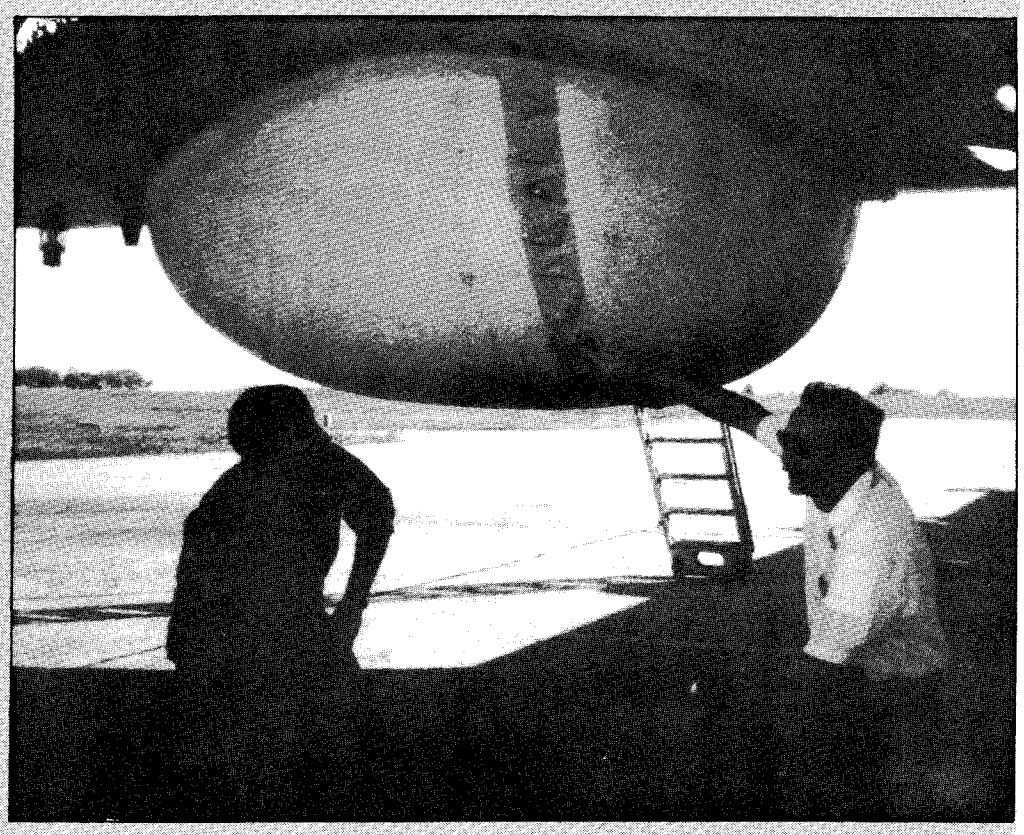
These functions included on-site transcription from high density Digital tape to a VAX compatible format, aiding unprocessed data assessment and generating focused SAR images.

The second development, implementation of the DPCA mode, required software modifications and daily antenna substitutions.

The newly developed DPCA mode expands P-3 SAR operations, providing the means to collect high precision surface current measurements and the required interferometric data.

Two military aircrews were led by the Test and Evaluation Officer, CDR Richard S. Cox and the Air Operations Officer, LCDR Robert Paskulovich, who shared flying duties. Project mission specialists led by James Verdi, Code 5024 were on the scene to gather and analyze the data.

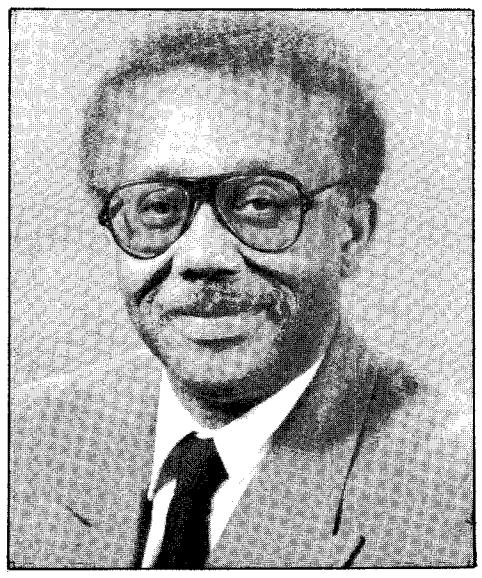
Initial conclusions are the system performed exceptionally well. This is a direct result of the collective effort of the hundreds of people that were and are involved in the project.



Larry Boden, engineering technician inspector, explains the configuration of the Radome housing the dual phase center antenna on NADC's SAR aircraft to LCDR Paskulovich.

Command Corner

Captain William L. McCracken
Center Commander



Guy C. Dilworth, Jr.
Technical Director

Captain's CO/TD awards perspective

The CO/TD Awards Ceremony is an opportunity to review accomplishments the Center has achieved for the year and to recognize some of the people who are responsible for them.

Too often we spend so much time working and solving problems, we don't thank the people who have made contributions to the Center. It's these kinds of contributions that make NADC what it is today . . . a first-rate lab. The ceremony is a chance to identify a few of these individuals.

Each department submits a list of names in each of nine categories. Their packages are brought before a board and winners are selected. We recognize that NADC is people. We know the success of the Center is the diversity of our people, the pulling together of many disciplines . . . technical and non-technical . . . military and civilian . . . engineer and support . . . who make the NADC team. This is why our individual awards are in nine different areas . . . a meager attempt to try and recognize our diversity. Let me explain each of the awards:

SCIENTIFIC ACHIEVEMENT. This award is given to the Center employee (military or civilian) who has made a significant scientific contribution to the improvement and expansion of Naval technological capabilities.

ENGINEERING ACHIEVEMENT. This award is given to the Center employee (military or civilian) who has made a significant engineering contribution to the development of new or improved Naval operations capabilities.

ANALYSIS/ANALYTICAL ACHIEVEMENT. This award is given to the Center employee (military or civilian) who has made a significant analysis/analytical improvement in support of Naval warfare, engineering or science.

PROJECT LEADERSHIP. This award is given to the Center employee (military or civilian) who has made a significant contribution to the Navy through exemplary project leadership/management of technical projects or special nontechnical projects.

TECHNICAL SUPPORT. This award is given to the Center employee (miltary or civilian) who has made a significant, identifiable technological support contribution to the smooth and efficient operation of his/her department or the Center at large.

ADMINISTRATIVE SUPPORT. This award is given to the Center civilian employee who has made a significant, identifiable administrative support contribution to the smooth and efficient operation of his/her department or the Center at large.

AVIATION SUPPORT. This award is given to the Center employee (military or civilian) who has made a significant, identifiable support contribution to the maintenance, operation or modification of Naval aircraft which sets a scientific or technological basis for later technical improvements of military significance.

EEO PROGRAM SUPPORT. This award is given to the Center civilian employee who has made a significant achievement in EEO programs through excellence in leadership and commitment to EEO goals.

JUNIOR PROFESSIONAL. This award is given to the Center civilian employee not more than 35 years of age with not more than five years of service who has made a significant scientific or engineering contribution which demonstrates outstanding capability and exceptional promise for significant future scientific or engineering achievement.

I am very proud to congratulate the winners of each of these awards:

For Scientific Achievement
— Dr. Thomas M. Donnelan
For Analysis/Analytical Achievement
— Glenn C. Carter
For Project Leadership
— A. Thomas Weaver
For Technical Support
— Donald J. Hirst and Joseph N. Sammer
For Administrative Support
— Michael Vardaro and Carol A. Neiley
For Aviation Support
— ATC William J. Pachak, USn
For EEO Program Support
— Margaret T. Russo
For Junior Professionalism
— Elaine A. Picard and
Dr. Bruce P. Boczar

My personal congratulations to all of you on a job well done.

Commander Salutes

Maureen Marron, (Code 031): For the inclusion of our "Working Well-Optiming Health and Productivity" Program in OPM's "Digest of Exemplary Personnel Practice."

Kathleen Gause, (Code 03E): For being a recipient of the Board of Governors Award for Excellence in Civilian Personnel/Equal Employment Opportunity Management.

Ronald Kabin, (Code 00R): For your professionalism and analytical expertise were key ingredients to the successful investigation of a Navy Hotline complaint.

Mary Zingarelli, (Code 045): For your time and effort in improving the Center's Morale, Welfare and Recreation Program. Through your efforts and expertise the consolidated club provides successful, well-received catering, lounge and club programs that benefit all personnel on Center.

CDR (Sel) S. Morrow, (Code 103K): For your professional and thorough presentation on the next generation Maritime Patrol Aircraft (Orion II) and the P-3 Update TV Program to the Naval Reserve Unit NADC 0193.

Kenneth Foulke, (Code 5022): For the outstanding support you provided to the joint U.S. Air Force Advance Tactical Fighter and Navy Advanced Tactical Fighter Source Selection.

John Oakley, (Code 5023): For the outstanding support you provided for the DARPA/Naval Research Laboratory study on the Utilization of Technology Miniaturization in achieving New Military Capability.

Alfred Piranian, (Code 6013): For your outstanding contributions during the recent 23rd International Meeting of the Air Standardization Coordinating Committee working Party20 held in London, England.

John Winiarczyk, (Code 6013): For your outstanding contributions while detailed to the Air Vehicle Subsystem Branch.

Neal Barnett, John Kowalski, Joseph Perkowski, William Pettus, Allen Rubin, Edward Zantek, (Code 4022); David Bartkus, (Code 4043); Ron Whitzel, (Code 4044): For your outstanding efforts on the successful OPEVAL of the NAVSTAR Global Positioning System aboard several ships. Your dedication to duty and your timely response to critical short notice requests reflect your total involvement and support of a system that has and will continue to be of invaluable benefit to our Armed Services.

John Handal, (Code 403); Charles Carik, Anthony Geneva, John Satriano, Lester Smith, (Code 4033): For the tremendous efforts you and your team put forth in resolving bathymetric system requirements for cable survivability. Your products in this effort typify Total Quality Management ideals by ensuring that high standards of excellence were maintained during all phases of the software and hardware development.

Francis Chamberlain, Walter Harriman, Andrea Hilbert, Norwood Metcalf, Carmen Pontelandolfo, Stephen Wichrowski, (Code 5013): For your support of VPU 1 during Operation Desert Storm is greatly appreciated. Your significant contribution in upgrading the Tactical Optical Surveillance System is indeed noteworthy.

Kenneth Bullard, (Code 6013); Michael Schultz, (Code 6034); Ramon Garcia, (Code 6042): For your outstanding performance in supporting the recent V-22 aircraft mishap investigation is greatly appreciated.

Dr. John DeLuccia, (Code 606); Dr. Vinod Agarwala, (Code 6062); Bart Boodey, (Code 6063): For your outstanding participation as a valued speaker for the "Mechanical Testing" course.

Paul Drexler (Code 4041); Dr. Lloyd Bobb, (Code 5012); Dr. Mary Eileen Farrell, (Code 5032); Dr. Warren Herman, Peter Raiti, Dr. Warren Rosen, (Code 5052); Dr. Robert DeChico, Dr. Thomas Gabrielson, (Code 5044); Jennie Harris, (Code 5052); Dr. James Sheehy, (Code 6023); Dr. James Alper (Code 6043); Dr. Samuel Greenhalgh, (Code 6051); Dr. Vinod Agarwals, (Code 6062); Randall Sands, (Code 6063): For your outstanding contribution to the recent Science and Technology demonstration. This event was organized to display NAVAIRDEVCEN's technology for RADM Snyder, Commander, Naval Air Test Center.

Ray Satterfield, (Code 813); Cathy Burian, Robert Goodyear, Richard Michi (Code 8132): For your support of RADM Eckelberger through the production of videotapes which will promote and support a key program at the Aviation Support Office. Your efforts in the setup, filming and editing of the videos superbly demonstrated your personal commitment to excellence.

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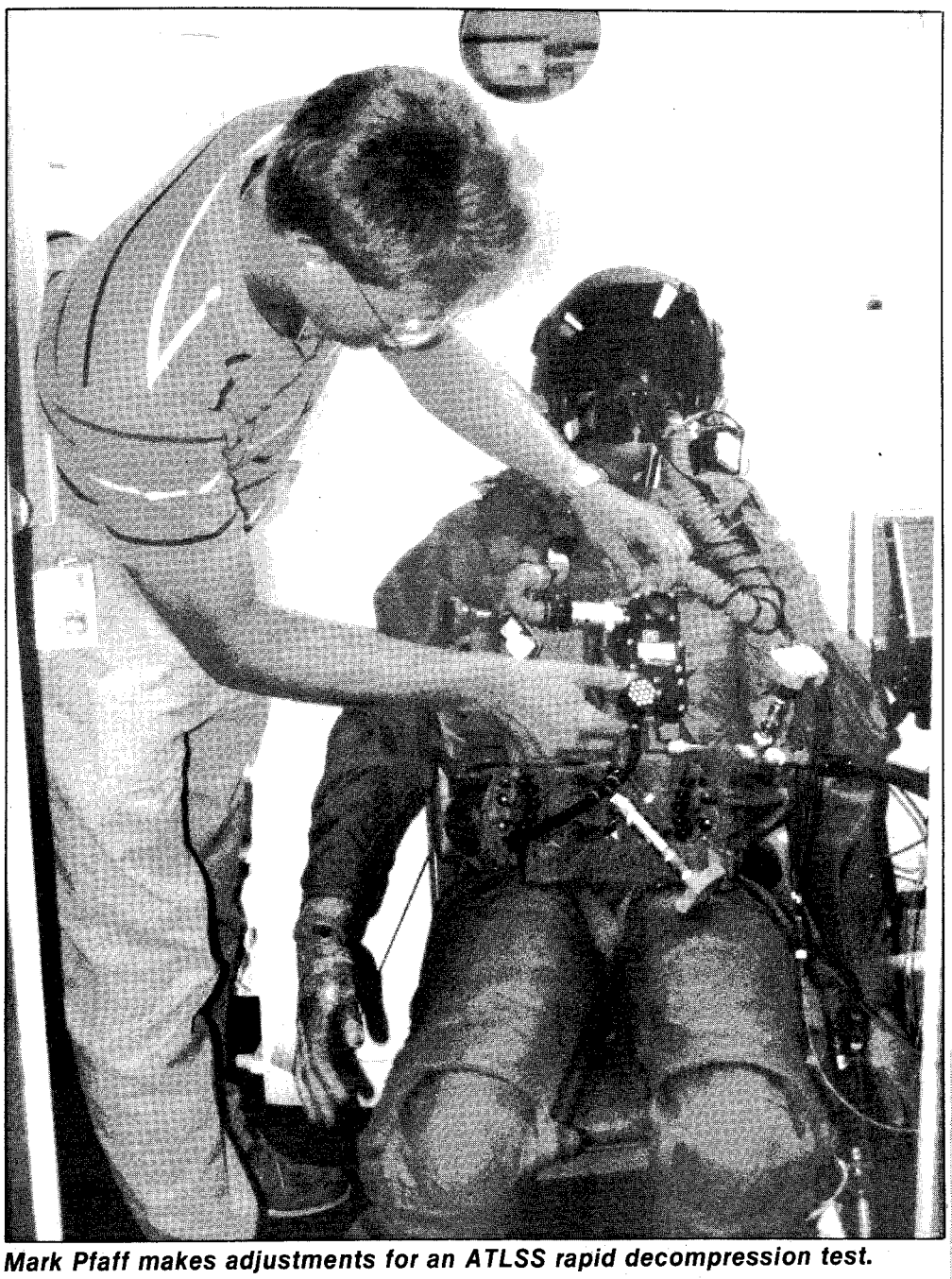
Public Affairs Officer ..... James S. Kingston
Editor ..... Lawrence L. Lyford
Assistant Editor ..... JO2 Michael Delledonne
Assistant Editor ..... Margaret Vigelis

Center supports improved combat pilot performance levels



Mark Pfaff makes adjustments for an ATLSS rapid decompression test.

By Lawrence L. Lyford

The U.S. Navy has undertaken an Advanced Tactical Life Support System (ATLSS), to integrate state-of-the-art proven technologies to provide TACAIR crews air-to-air engagement advantages.

NADC will be evaluating and demonstrating the feasibility and effectiveness of ATLSS through a series of tests to maintain our air superiority and support increased performance during aerial combat. The Center's F/A-18 and F-14 will be used to support this effort.

Currently, the Navy is evaluating the Air Force Combat Edge System for ATLSS and is integrating the Navy Standard Magnetic Tracker System into ATLSS.

Combat Edges provides positive pressure breathing (PPB) to aircrews to reduce G-induced loss of consciousness (G-LOC). Increased oxygen pressures is provided as acceleration increases from 4 to 9 G's, gravity acceleration forces.

The Navy's TACAIR Helmet will be modified with a bladder to maintain the mask seal during elevated breathing pressures. Navy/Marine aircrews will use a Navy man-mounted G-compensated regulator. This has been modified to accept a pressure signal from the G-suit and can inflate the counter pressure vest.

Overall, the Navy intends to use the Air Force combat edge equipment wherever possible to reduce costs through the advantages of joint development.

The integration of the Navy Standard Magnetic Tracker (NSMT), developed here is to minimize time required to acquire a target. Detecting and computing helmet position and orientation allows target acquisition systems to orient wherever the pilot looks (aims his helmet).

This is how this system works in simple terms. The system determines helmet position and orientation by flooding the cockpit with an alternating magnetic field. The field source is mounted on the inside side of the canopy. A helmet mounted sensor detects an induced voltage produced by movement within the magnetic field. A computer uses this data to calculate helmet orientation and position.

Thus, as a pilot looks back over his shoulder, for example, information is provided to the target acquisition system and from it back to the pilot through a visor projection. System and pilot share vital two-way communication.

In addition, anti-exposure protection currently provided by the Navy's latest cold weather ensemble will be made compatible with combat edge requirements.

German Armed Forces
Exchange scientist on board

Dr. Johanes Schneider works on aircraft corrosion protection.

By Lawrence L. Lyford

Under the United States/Federal Republic of Germany Scientist and Engineer Exchange Program, Dr. Johannes Schneider, a scientist heading a corrosion section of Wehrwissenschaftliches Institut fur Materialuntersuchung (WIM) or the Scientific Institute of Materials Testing, Erding, Germany, has joined Naval Air Development Center. WIM is a branch of the Federal Office for Military Technology and Procurement, German Armed Forces.

Dr. Schneider was assigned to NADC at the request of Dr. Schneider, the director of the Navy International Program Office and will work under Dr. Vinod Agarwala, Code 6062, for one year.

While here, Dr. Schneider will work on technologies of corrosion protection as applied to aircraft systems.

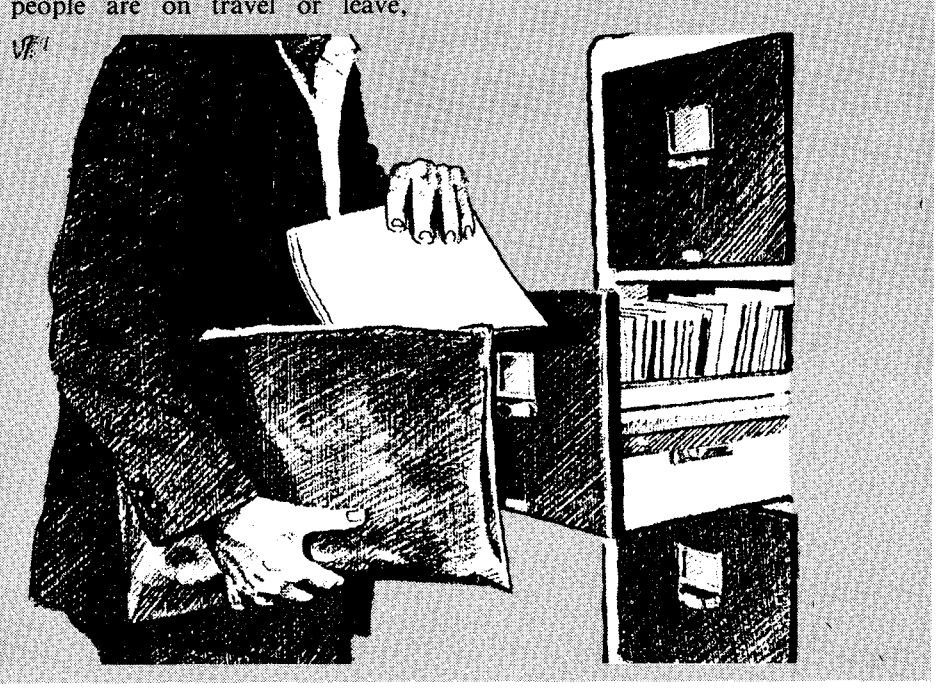
He is the second visiting scientist from German Armed Forces to join Dr. Agawala's surface Interaction Research group.

Earlier, Dr. Gerd Kohlhaas from the same overseas organization spent a year here. He was instrumental in developing a nondestructive testing device to measure hydrogen embrittlement susceptibility of high strength steels.

Security reminder
Report missing/stolen government property without delay

Any person at this Center who knows government-owend property is missing, lost, or stolen shall *immediately* telephone the IMPR (Internal Missing Property Coordinator), extension 1031. Make a report when the item is discovered not to be in its usual place. *Do not wait hours* while you query co-workers, *days* because some people are on travel or leave, *indefinitely* because "maybe it will show up." Any delay in reporting may be considered negligence. Further, if an item has been stolen, delay in reporting reduces the chances of successful investigation and recovery.

(NAVAIRDEVCENINSTS 5500.4A and 5530.1A)



Business cards as holiday gifts

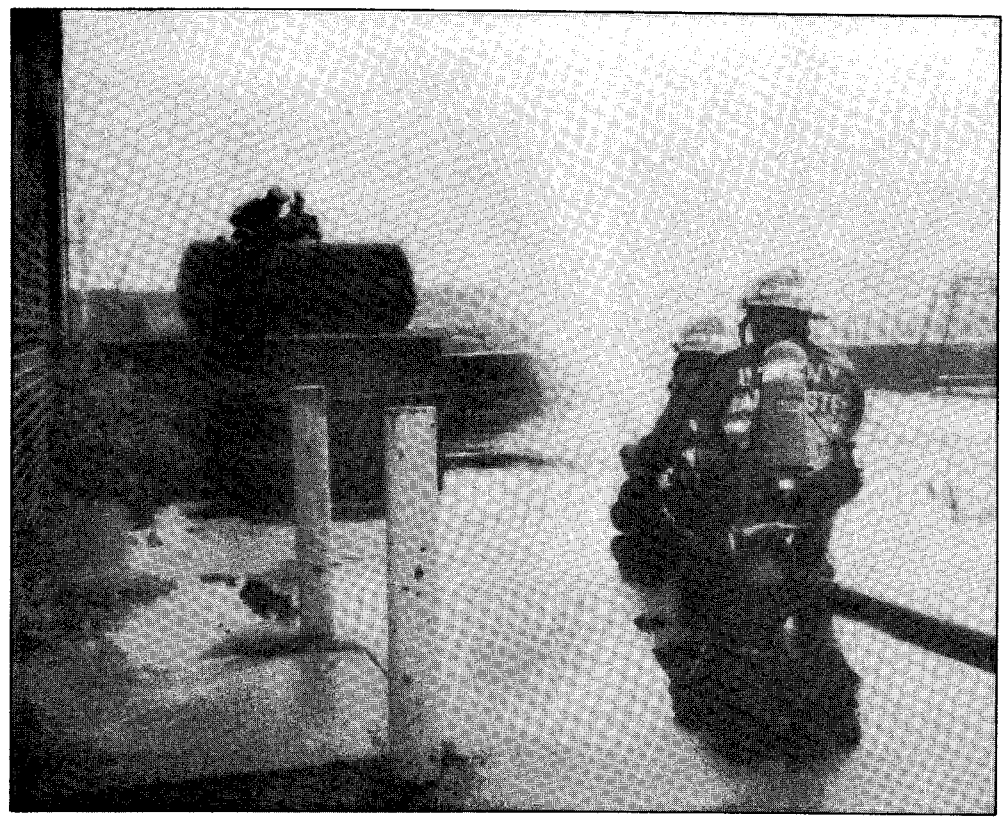
Employees should not take one of the draft logos on Center to a quick printer and get a new logo printed on a business. The logo has not yet been released. The new NAWC corporate identity expressed in the logo should not be used until January.

Once released, logos may be printed on business cards but the cards should not be used until the new year begins and present NADC ones become collector's items.

Since business cards are unofficial their design is an individual matter except for the use official logos such as the NAWC, DON, DOD. Cards simply may not be used fraudulently or have defaced official logos.

Department responds to dangerous Center gas leak.

Firefighter/ERMT Quinn operates a portable deluge gun diluting LP Gas vapors.



Fire Department personnel use water stream to protect the entry team at the leak.

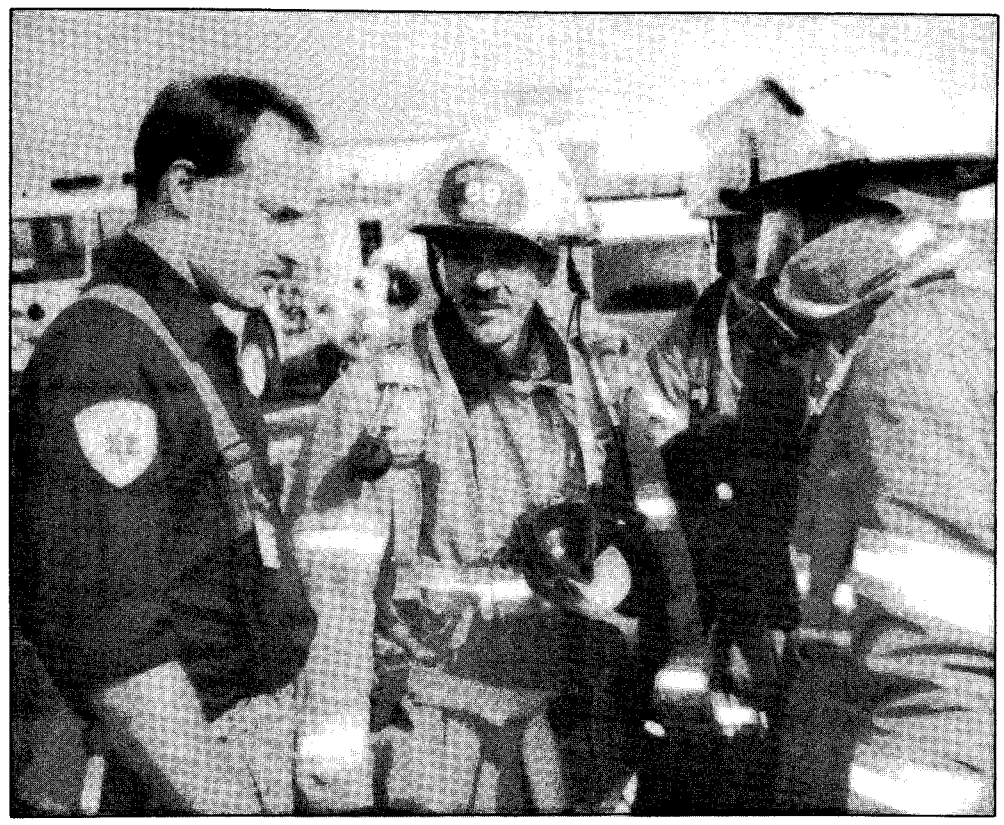
By David H. Meadows

Recently the Fire Department received a call about a suspected gas leak near building 90, the old crash house. Firefighters from NADC's Engine Company investigated, and found a leak in the 500-gallon LP gas tank located at the rear of the building.

The Fire Department's Hazardous Material (Haz Mat) Response Team and Public Works personnel agreed to evacuate the contents to reduce pressure until the contractor arrived to off-load the remaining fuel. The Public Works Department surveyed the situation and decided, since the building no longer required a large quantity of LP gas, the contractor would also remove the present tank and replace it with a much smaller one. During this time, the Security Department was instrumental in keeping the area cleared by redirecting traffic and personnel.

The entire incident was handled without injury or damage to property. There was no interruption of Center work or services, from the time the leak was reported, to the time the contractor off-loaded the fuel, more than three hours.

Haz Mat Team members are firefighters specially trained to respond to material spills and emergencies on Center. They can take defensive and offensive procedures to stop leaks, contain material, and cleanup (to 55 gallons). They are equipped to handle all hazardous environmental conditions up to protection level A — fully encapsulating chemical resistant suits. Team members are trained to be Haz Mat technicians under strict OSHA and EPA standards.



Firefighters from Code 90, Fire Division, review information they have about leak at the tank.

Engine Company Captain Al Keiss (Entry Team Leader) for the Haz Mat (Hazardous Materials) team gets ready to check the tank and make temporary repair to the failed gauge assembly.

Held in Philadelphia

Four speak at Liberty Bell Corrosion Course

Dr. Vinod Agarwala, Dr. John DeLuccia, J. Bart Boodey and Steve Spadafora taught recently at the 29th Annual Liberty Bell Corrosion Course held in Philadelphia.

Each course provided systematic and progressive coverage of developing technology as well as "State-of-the-Art" expertise. Fundamental and advanced information was presented from a practical orientation to be responsive to needs of corrosion control scientists and engineers.

Dr. Agarwala spoke on Thermodynamic Properties to include principles of thermodynamics as applied to corrosion. This included theoretical considerations to determine spontaneous direction of a chemical reaction, understanding corrosion in terms of electrochemical processes, reduction and oxidation reactions and the kinetics of electrochemical reactions.

Dr. John DeLuccia spoke on Metallurgical and Mechanical Aspects of Corrosion to include crystal structure, alloy composition and heat treatments, conjoint action (the combined effects of chemical and mechanical deterioration and corrosion processes).

J. Bart Boodey spoke on Mechanical Testing, particularly the theory and methodology of mechanical testing to evaluate susceptibility to environmental accelerated cracking. He presented experimental testing variables emphasizing environment, loading conditions and crack measurement.

Steve Spadafora spoke on Protective Coatings, discussing advanced topics for the formulation and testing of organic coatings, and addressed inorganic coating technology. He related environmental issues and coating technology with their impact on material formulation and painting operations. He covered formulation concepts and techniques like pigment dispersion and computer aided formulation with effects on coating performance. He discussed adhesion, flexibility, chemical and corrosion testing as well as accelerated testing.

A commentary

Breaking the Attitude Barrier

By Joanne Ferrara

QUESTION: Do people with disabilities live very different lives than non-disabled people?

ANSWER: Many life problems that disabled people face are the same as those faced by nondisabled people. But, architectural and attitudinal barriers present additional obstacles that must be considered before doing some very basic things such as going to a restaurant, riding public transportation, and being selected for employment.

The Americans With Disabilities Act ("ADA") will begin to dismantle many of these barriers beginning in January 1992, when the first provisions become effective. Employers and businesses, both private and public, will be compelled to comply with the ADA and revamp facilities and hiring procedures to accommodate individuals with disabilities. The ADA's goal is to streamline persons with disabilities into the work force and natural environment and ultimately attain a non-discriminatory society.

Through the joint efforts of the Employee Development and EEO offices, NADC supervisors had the opportunity to learn valuable skills in employing persons with disabilities. Richard Pimental, from Milt Wright & Associates, Inc., enlightened his audience in the Center auditorium on October 31.

"Enlighten" is an understatement in describing Mr. Pimental's approach to communicating the issue of employment of disabled individuals. Disability is not an entertaining subject, but Richard Pimental mixes humor, metaphor, analogy, and story-telling as a learning mechanism to captivate his audience.

Mr. Pimental is a proactive supporter of the ADA, and primary author and trainer for the highly acclaimed Windmills program, an attitudinal training program for employment of disabled persons. Mr. Pimental refers to disabled individuals as "wonderful resources." Unfortunately, the term "disabled" has fostered a negative connotation and consequently too many of these resources are being overlooked in employment opportunities.

As a result, the unemployment rate among persons with disabilities is 67 percent. The "disabled" label includes any affliction which adversely alters physical or mental capacity regardless of how slight this affliction may be.

Therefore, quite capable individuals are labeled as disabled. It's all a matter of perspective, and Mr. Pimental effectively communicates to employers that the glass is not half empty at all — it's half full.

Mr. Pimental's seminar was videotaped and shown in the Center auditorium on November 22 for those supervisors who missed the opportunity to attend. Fact sheets are available in the EEO Office for everyone who is interested in learning about the ADA.

Editor's note: Tapes of this program are in great demand. Several who were present want their whole family to see this three-hour presentation.

Sieglinde A. Shapiro, Coordinator of the Disabilities Studies Program at Temple University and Moss Rehabilitation Hospital board member, spoke to interested Center employees on the new Americans with Disabilities Act.

Speaker's eye view of employees taking time to learn about the Americans with Disabilities Act.

Getting on the NADC good health bandwagon

Wellness program serves every Center employee

By Margaret Vigelis

The Wellness Program was begun in the Spring of 1984 to serve all of the Center's employees. The Program's goals and objectives are to educate employees on the holistic approach to overall health and well-being with an ultimate goal of improving work quality, increasing productivity, reducing absenteeism, and improving morale.

As part of the Wellness Program, a Working Well Seminar was started to educate and motivate employees toward healthier lifestyles. The Seminars are purposely held off-Center to remove employees from their everyday routine so they can fully concentrate on making life-style changes. Participants are not only taught how to live well, but are shown ways to practice what they learned about stress reduction, diet, nutrition, and exercise when they return home.

The first Seminar was held for three days in May 1986 at Split Rock Lodge, Lake Harmony, PA, and the participants were managers and supervisors. Now, the seminars are for two days and all Center employees are encouraged to participate. Two Working Well Seminars are held annually, usually May and November, with thirty-five attendees at each session.

The cost is minimal weighed against the gains in improving an employee's well-being, both physically and mentally over the course of their career, a better investment return would be hard to find.

The Center's Wellness Program further encourages employees to stay healthy by offering: Fitness Fairs, Weight Watchers Programs, Smoking Cessation Classes, Cardio-Pulmonary Resuscitation Classes, Exercise Classes, and newsletters. These programs are offered in conjunction with BEACON, our Employee Assistance Program.

The Wellness Program is managed by Maureen Marron, Head, Employee/Labor Management Relations Division and is coordinated by Michael Markle, Employee Relations Specialist. It was cited as a model Wellness Program during an official Navy/Office of Personnel Management (OPM) Evaluation and was included in OPM's *Exemplary Practices Digest*.

Working Well Seminar attendees enjoy a nutritionally prepared buffet, proving healthful is tasteful.

Dr. S. Monismith instructs seminar participants on understanding and managing stress.

SPORTS WORLD SPORTS WORLD SPORTS WORLD

VS wins Turkey Bowl 30-14 in Fall Classic

By JO2 Michael Delledonne

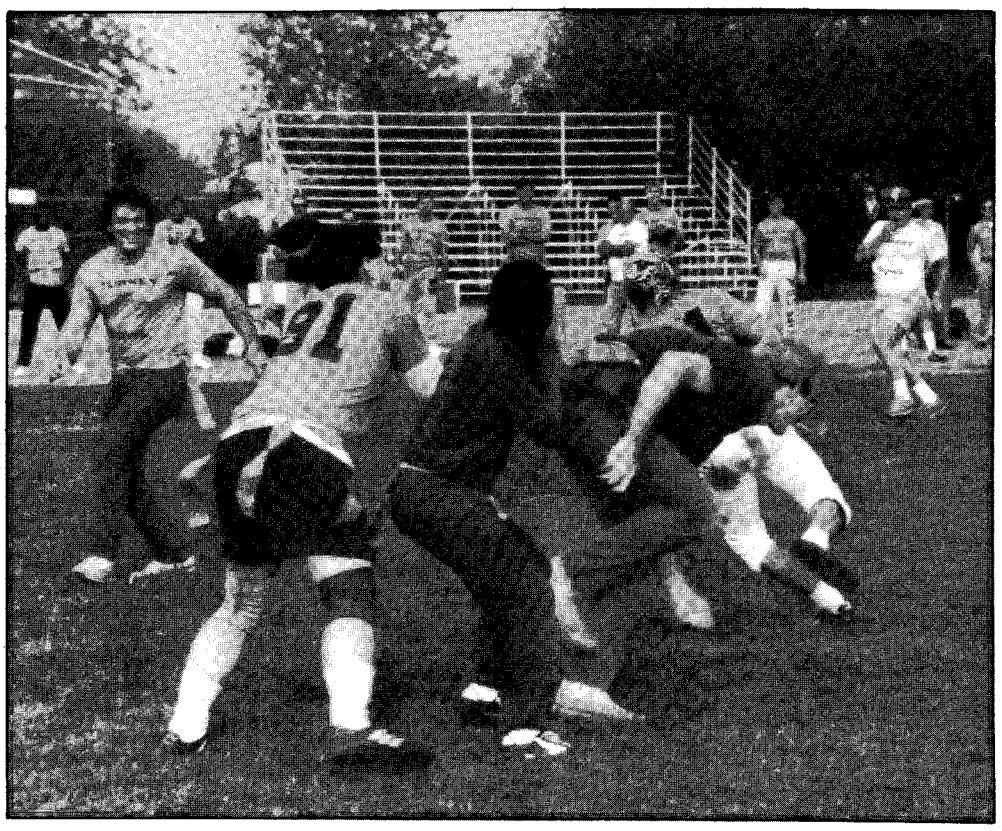
In a very closely contested first half of the 1991 Turkey Bowl turned into a second half rout as VS defeated VP 30-14 at Lady Luck Field.

VP took its second possession and ran the ball down the field against the VS defense. "We had a couple of long runs and then we caught them off guard and threw the touchdown pass to take the early lead," said VP coach Scott "Scotter" Prince. "At that point we were very excited and anticipated a close game, but the safety killed us."

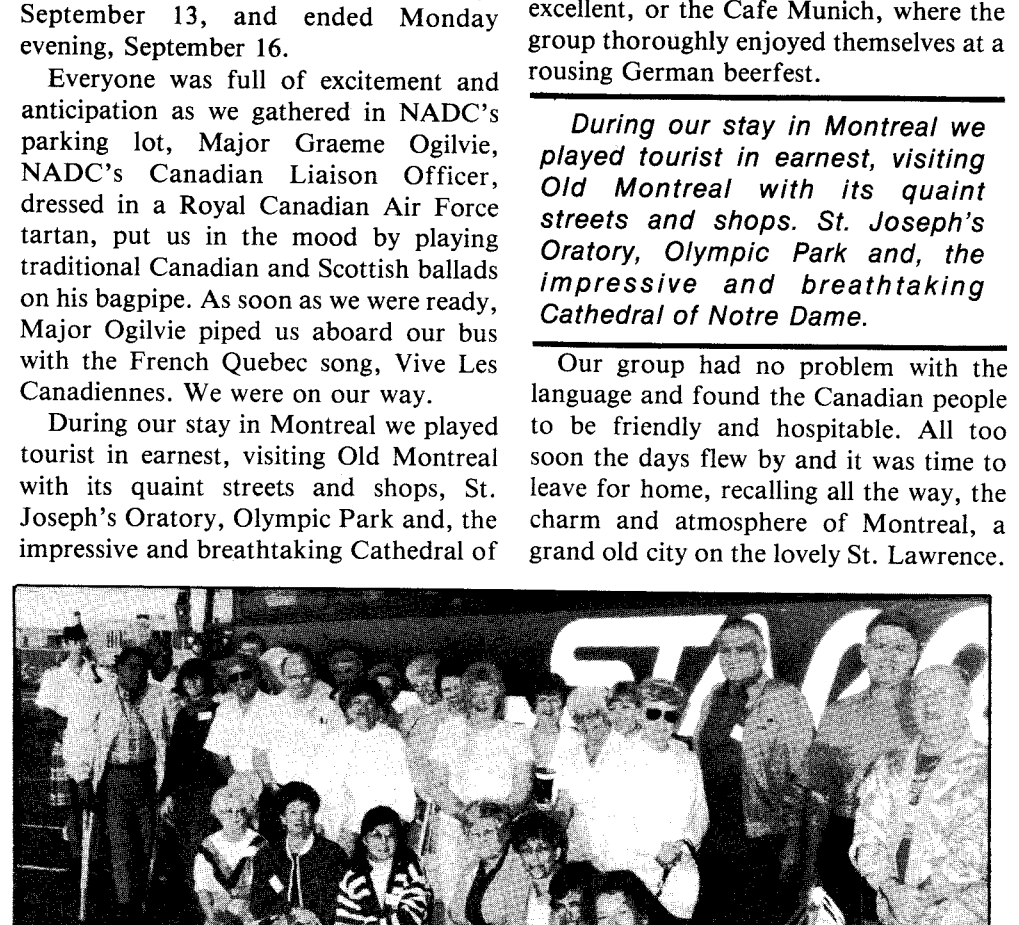
That safety Prince referred to happened late in the first quarter with VP on its own 1-yard line. "We tried a sweep, but the ball hit the ground on the pitch which blows the play dead," said Prince. "We just never recovered."

VS coach Joe Emperly agreed. "We were moving the ball, but we couldn't get it into the end zone. Those two points changed the momentum of the game," he said. "The second half everything just fell into place for us. It was a close, hard-fought game."

VP leads the series 3-2-2.



Everyone stretched skills to the limit in this evenly matched series. VS won 30-14.



The fast-paced game had plenty of aciton for both teams.

NADC Civilian W&R completed 4-day Montral trip

By Peter Youssef and Joe Cooke

We recently completed another terrific trip, this time to Montreal, Canada. Our four-day adventure started early Friday, September 13, and ended Monday evening, September 16.

Everyone was full of excitement and anticipation as we gathered in NADC's parking lot, Major Graeme Ogilvie, NADC's Canadian Liaison Officer, dressed in a Royal Canadian Air Force tartan, put us in the mood by playing traditional Canadian and Scottish ballads on his bagpipe. As soon as we were ready, Major Ogilvie piped us aboard our bus with the French Quebec song, Vive Les Canadiennes. We were on our way.

During our stay in Montreal we played tourist in earnest, visiting Old Montreal with its quaint streets and shops, St. Joseph's Oratory, Olympic Park and, the impressive and breathtaking Cathedral of Notre Dame. These were just a few of the wonderful sights we enjoyed. Of course, we can't forget Chez Le Mere Tucker, where the food was bountiful and excellent, or the Cafe Munich, where the group thoroughly enjoyed themselves at a rousing German beerfest.

During our stay in Montreal we played tourist in earnest, visiting Old Montreal with its quaint streets and shops. St. Joseph's Oratory, Olympic Park and, the impressive and breathtaking Cathedral of Notre Dame.

Our group had no problem with the language and found the Canadian people to be friendly and hospitable. All too soon the days flew by and it was time to leave for home, recalling all the way, the charm and atmosphere of Montreal, a grand old city on the lovely St. Lawrence.

Hail, Hail. The gang's all here, ready to go ——

—— as Maj. Graeme Ogilvie gives a proper bagpipe sendoff.

NADC Reflector

Happy New Year!

Volume 36 Number 12 NAVAL AIR DEVELOPMENT CENTER, WARMINSTER, PA. December 1991

Distler's main job: Bring the Aircraft Division into being

Photo by James Moore

Dennis Distler, Director of the Systems Engineering Test Directorate and prospective deputy commander of NAWC AD addresses managers in session videotaped in auditorium for Center broadcast.

(Editor's Note: As part of our Total Quality Leadership philosophy — to keep the workforce in the know — NAWC Talk will appear regularly in all Aircraft Division publications. This article addresses the NAWC AD transition team. Future columns will address issues surrounding creation and establishment of the prospective Naval Air Warfare Center, Aircraft Division scheduled to stand up on Jan. 2, 1992.)

By John Romer
Public Affairs Office

Bringing the Aircraft Division of the Naval Air Warfare Center into reality is the sole business of a 10-member transition team. This team operates under the leadership of Dennis Distler, currently director of the Systems Engineering Test Directorate and the prospective deputy commander of the NAWC AD.

Distler, during the last several months has concentrated his efforts on the consolidation of several Navy activities into the NAWC AD. Distler said that the main objective of the transition team is to "integrate all information and activities" of the various members of the prospective Naval Air Warfare Center, Aircraft Division which is scheduled to stand up on Jan. 2, 1991. In addition to the Naval Air Test Center, members of the prospective NAWC Aircraft Division include the Naval Avionics Center, the Naval Air Development Center, the Naval Air Engineering Center, and the Naval Air Propulsion Center. Transition team members represent all activities involved in the realignment and consolidation. The team has been chartered to operate since October 1991, and the special assignment is scheduled to terminate next October.

As Distler describes it: The transition team is organized into functional areas such as procurement, comptroller, civilian personnel (which will become human resources) and information systems management. For example, the Naval Air Development Center's aircraft operations will be transferred to Pax River under the realignment. Bob Swierczynski from NADC is responsible for the base keeping functions of the Aircraft Division. He is tasked to integrate the plan on how Pax River is going to handle the aircraft transfer from NADC to NATC. Other consolidation efforts are being coordinated by the rest of the transition team. Laura Carlin, from NAEC, is responsible for business information systems, integrating plans in areas such as financial, human resources, procurement, and information systems.

Support teams from the various areas provide information necessary to develop an integrated master plan for the new organization. As an example of Total Quality Leadership in action, these support teams are comprised of expert representatives throughout the NAWC AD activities. They provide the input to the transition team as to how processes work now, how they may be improved, and what resources (people/funds) may be needed.

Mission purification is one of the "very important aspects of the whole base closure and realignment process." The intent, Distler said, is to eliminate unwarranted duplication among internal NAWC AD and the Weapons Division (WD) elements as well as among the three other warfare centers. This responsibility in the transition process is handled by Robert Maas from NAC. Maas also is the lead on integration opportunities, or ways the NAWC AD can do things more efficiently. Some of these areas include flight operations, avionics and structures. Distler said Maas is taking the TQL approach to "see how we do it today," and looking at alternatives to improve to the process. Recommendations accepted by the Board of Directors will be incorporated into the baseline organization, Distler said.

Susan Keen, another transition team member from NATC, has the responsibility of developing operational procedures and general policy guidance which will tell "how the new organization (NAWC AD) is going to operate and how

Continued on page 3

NADC demonstrates fiber optics in tactical aircraft

By Lawrence L. Lyford

The Naval Air Development Center has established a new program to expedite and expand fiber optic data communication within Navy tactical aircraft by creating a data bus demonstration in its F/A-18. Initial static tests verified the optic fiber and electro-magnetic to fiber optic and back conversion worked as well as verified shock and vibration survivability. Flight tests demonstrated a working optical system transmitting optical data between the aircraft weapon computer and fuselage weapon stations.

Beginning with this demonstration, results should overcome widely held reluctance to view fiber optics as a practical medium for data communication within tactical aircraft, according to Sigmund Rafalik, the primary investigator. This will provide faster, lighter and narrower data lines without electromagnetic emission problems of electric lines.

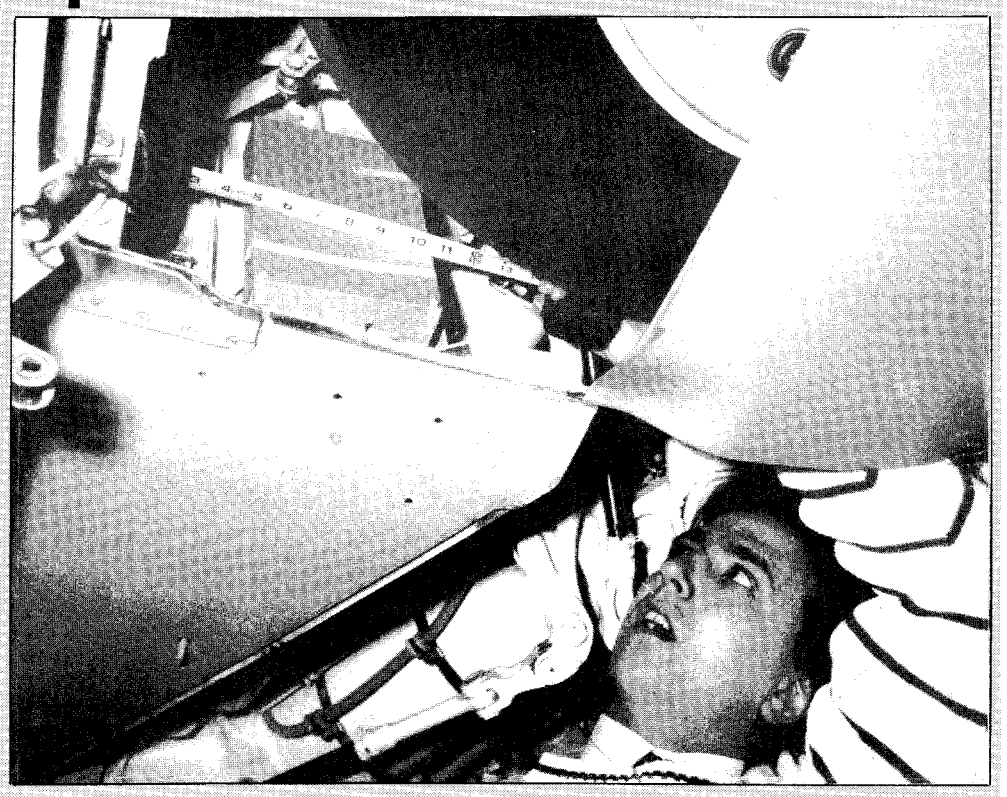
In this Optics Flight Demonstration Program, the Center elected to modify the weapons control system (also referred to as the Stores Management System) of an F/A-18 for the tests. "Using a weapons control system provided a worst-case scenario and the best environmental stress on a fiber optic system," according to Rafalik. Using commercial optical signal distribution equipment and optical encoder/decoder components developed in-house, staff replaced standard wiring with fiber optic wiring and provided a bi-directional conversion at both ends of the optic cable.

"A military standard 1773 fiber optics data bus replaced a standard metal-wired 1553B bus. Staff passed the cable through a wing fold to wing pylons and to various weapon systems following established wire paths. They also placed one electro-optical converter box in a wheel well," said Rafalik. This was done to facilitate retrofitting aircraft by avoiding airframe modifications.

Rafalik believes the environmental impact on the optical components, connectors and data bus will all provide a technology base to direct indepth survivability study.

Recent flight tests with the fiber optics

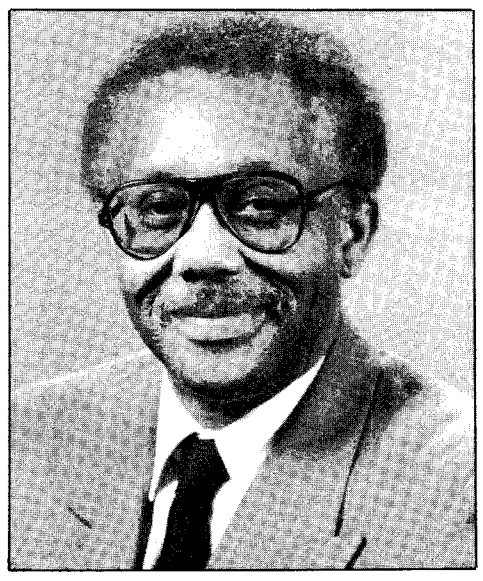
Continued on page 7



Matt Douglass, Code 6011, from the metal design group, inspects clearance of main landing gear and optical converter model.

Command Corner

Captain William L. McCracken
Center Commander



Guy C. Dilworth, Jr.
Technical Director

Bird's-eye view of Center

By Captain William L. McCracken

I would like to talk to you about the Naval Air Development Center, who we are and what we do. First of all, we are the principal Research, Development, Test and Evaluation Center for Naval Aircraft Systems, Air Antisubmarine Warfare and Navigation.

In order to implement this system, we have people on Center who represent the full range of disciplines in aeronautical engineering. They are: Warfare/Systems Analysis; Airframes; Susceptibility; Crew Station; Crew; Sensors; Avionics; Aircraft Subsystems and Propulsion.

We are probably best known for our unique facilities. The most popular is the Dynamic Flight Simulator or Centrifuge. The others include the Inertial Navigation Facility, which was specifically built here because this is one of the most seismologically quiet areas in the country, allows us to do very accurate work with gyros; the Ejection Tower where ejection seats are tested; and a large central computer system with seven cyber-type computers.

The facility itself used to be the Brewster Aircraft Factory before the Navy took it over in 1944 when it became known as the Naval Air Modification Station. Navy aircraft were brought here for major modifications, and it's that type of hands-on modification work that remains one of our major strengths.

The Center has nine aircraft; six P-3's (three of which are test-bed aircraft), two F-14's (one of which is grounded for cockpit work for the man-machine interface) and an F/A-18 to support our tactical air projects.

The Center is civilian oriented with more than 2,500 employees. We have approximately 1,600 scientists and engineers. The Center covers all the disciplines in aeronautical engineering from electrical and aerospace engineers to computer scientists and physicists.

There are currently 243 military personnel stationed here. Of those, 51 are officers who do key senior level type work as department heads, deputy department heads, program directors and project officers. In our Operations and Maintenance area are a lot of the flight crews who do our flying.

We also have 11 flight surgeons, physiologists and psychologists for the crew systems work we do. Our enlisted force is a senior one. We have 25 chiefs and 115 E-5 and E-6 personnel. The idea behind this is to bring experienced people from the Fleet to help influence the projects.

The Center is a very complex place of business and I hope this helps you understand what we do. In the following issues, I will talk about the five product areas of the Center.

Severe Weather Closing

In the event of inclement weather, NADC closing announcements will be aired by the following radio stations: KYW (1060 AM) and WBUX (1570 AM). Also a recorded message will be available to advise employees whether or not the Center will be closed due to severe weather conditions. Recorded information will be available by dialing 441-SNOW which is 441-7669. Employees are advised **not** to call the Center operator or Officer of the Day for information.

Commander Salutes

Food Service Board Members: For the special lunch hosted by you on behalf of the Commander/Technical Director Awards Celebration.

Barbara Ward, (Code 033): For your outstanding presentation to the Department of the Navy's Advisory Council on Hispanic Employment at their fourth annual workshop.

Remo Buono, (Code 0443): For the professionalism and dedication you exhibited in developing and implementing the automated document control and filing system.

Major Barry C. Hansen, USMC, (Code 09L2): For the expert support you provided during the recent V-22 aircraft mishap investigation.

ATC William Pachak, (Code 103M); ATC David Ader, AD1 Johnna Cummings, (Code 902): For your professional and personal commitment in assisting as members of the 1991 Military Ball Committee. Your "can do" spirit reflects positively on you, your department and the U.S. Navy.

Kenneth Foulke, (Code 502): For the fine technical and management support you provided in the avionic system development of the Navy Advanced Tactical Fighter.

Richard Dafrico, (Code 5041): For your outstanding work in managing the Center's efforts in the Navy Underwater Active Multiple Ping (NUAMP) Program, a vital Navy program in support of Project BEARTRAP.

Laurence Hart, (Code 5051): For your dedication and outstanding effort in support of the development of the AN/UYS-2 Navy Standard Digital Signal Processor.

Stephen Filarsky, (Code 6021) and Charles Halsted, (Code 6022): For the outstanding support you provided at the recent Department of Defense Independent Research and Development On-site Evaluation.

Joan Marano-Goyco, (Code 6023): For your outstanding performance in your one year NSTEP assignment on the staff of Gerald R. Schiefer at the Space and Naval Warfare Systems Command.

ETC David Dougherty, (Code 6025); ThoDo, Jack Eyth, Dennis Kiefer, John Swan, John Yannaccone, (Code 6035): For your outstanding and enthusiastic presentation and tour of the Dynamic Flight Simulator to students from Delaware Valley College.

John Tye, (Code 6031): For your outstanding performance and contribution to the relationship between Aviation Supply Office and NAVAIRDEVCEN.

James McElhenney and Michael Schultz, (Code 6034): For your outstanding performance and contribution to the Inflatable Body and Head Restraint System Source Selection Evaluation Board.

CDR Larry H. Frank, (Code 602), and CDR David G. McGowan, (Code 602C): For your outstanding and enthusiastic presentation and tour of our facilities to Residents in Aerospace Medicine from the Naval Aerospace Medical Institute.

Joseph Minecci, (Code 60431): For the many hours you devoted to ensure the successful execution of the T-2 Aircraft Arresting Gear Support Assembly Fatigue Test.

Edwin Rosenzweig, (Code 60432): For your outstanding efforts in supporting the V-22 Assistant Program Manager for Logistics for the past three years.

Thomas McCaffrey, (Code 8114); Ross Barcklow, (Code 8132); Robert Goodyear, Richard Michi, James Moore (Code 8132); William Roadfuss, (Code 8133); Francis Hanna, (Code 8443); John Flowers, William Hunt, Jeffrey Wright (Code 8445): For your outstanding contributions to the Fourteenth Annual Commander/Technical Director Awards. Thank you for a job well done.

AO2 Craig Webster, (Code 902): For your participation and performance during the Mining Readiness Certification Inspection conducted on board Patrol Squadron Eight.

ATCS Carl Newton, (Code 902): For your assistance to Sun Down 212. Your actions provided for the timely return of a valuable fleet asset to home base.

AME2 Mark Sedlock, AD3 Gary Thompson, (Code 9021); AE3 Kieth Medley, (Code 90201); AT3 Anthony Harris, (Code 90210); AT3 Brian Soteros, (Code 9022): For your outstanding performances as VIP drivers during the Naval Air Warfare Center Board of Directors meeting. Your exemplary military appearance and courteous professional service drew favorable comments from our distinguished visitors and contributed to a favorable impression of the Naval Air Development Center.

NADC Reflector

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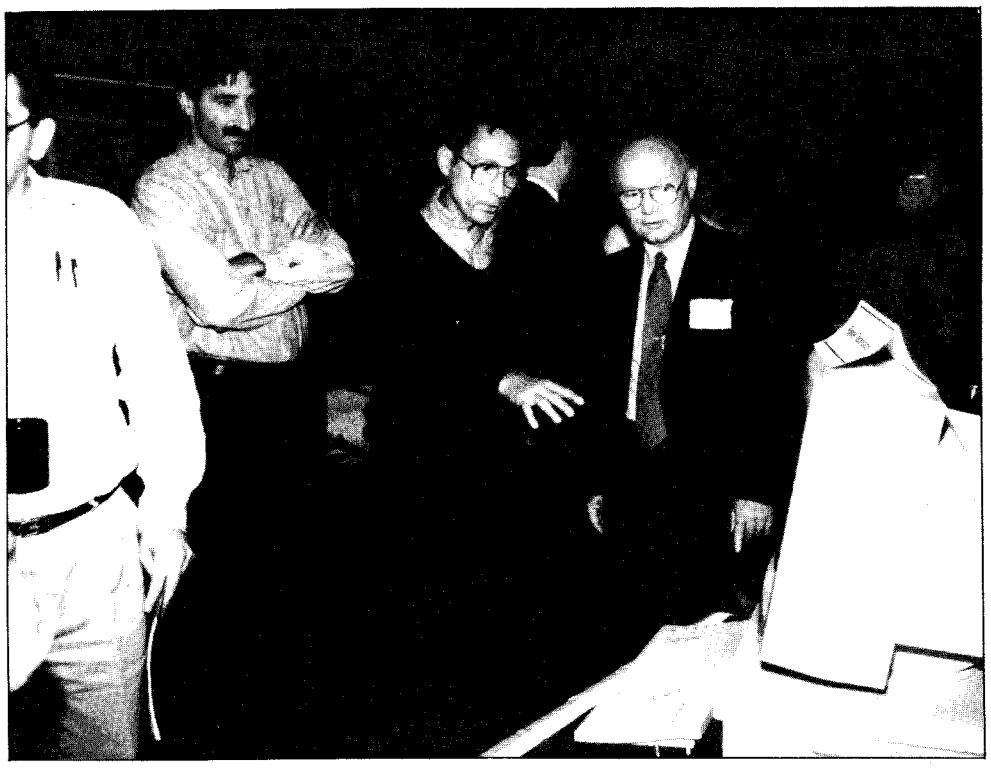
Commander, NADC ..... **CAPT William L. McCracken**
Technical Director ..... **Guy C. Dilworth, Jr.**
Editor ..... **Lawrence L. Lyford**
Assistant Editor ..... **JO2 Michael Delledonne**
Assistant Editor ..... **Margaret Vigelis**

Small business potential effectively demonstrated



Vendors and employees have lively exchanges during Small Business Fair.

By Lawrence L. Lyford

This Fall, Center scientists and engineers met representatives from 46 computing technology related small businesses at a Small Business Fair held in hangar bay No. 1. By design, most businesses were from the Baltimore and Washington, DC area and had no previous contracts with the Center.

"These small businesses had a chance to open new markets by demonstrating their new technology and technical capability," according to John Scott, deputy director for small business, Code 094. "One of the most important things we do is to identify small businesses with the potential to contract with the Center."

Scott sought new Washington/ Baltimore small businesses to expand the Center small business base for present and post-realignment contracting. Though he knows many local businesses are planning to relocate with the Center, he sought to identify others early to support varied Center requirements after we relocate. "Many of the companies at the fair came to the Center to begin a marketing campaign because of the pending move to Maryland," acknowledges small business specialist, Anne Gillotti.

Scott believes the best way to bring small business people and our scientists and engineers together effectively is through these in-house small business fairs. Here capabilities meet needs. Business people with complex technologies are able to gain contacts throughout our diverse Center. Months of efforts, in some instances, can be compressed for both sides.

"In an hour, engineers were able to obtain information on advanced capabilities of companies they never knew existed," said Scott. "As a result, one small business present may become a suggested procurement source."

Although this fair had twice the business representation the previous one had, Scott emphasized meeting needs, not size is what is important. He also is willing to talk to anyone about technologies for future demonstrations.

Scott plans to sponsor other fairs and would like to do two each year. The next may feature imaging or fiber optic technologies and may begin a biannual schedule.

"I'd like to thank security, Code 044, for all their help getting people and equipment on Center and Code 80 for site preparation. We even had Center electricians on standby in the event temporary circuits for each booth had problems," praised Scott.

The small business office has exceeded its goals for five years and has been judged the best in the Navy twice. The Center currently awards in excess of 40 percent of its $200 million annual business to small business.

Presently, Scott says, the PAX River Center doesn't require the diversity of contract support that NADC does. By proper planning the Small Business Program will continue to achieve excellent results during the years ahead.

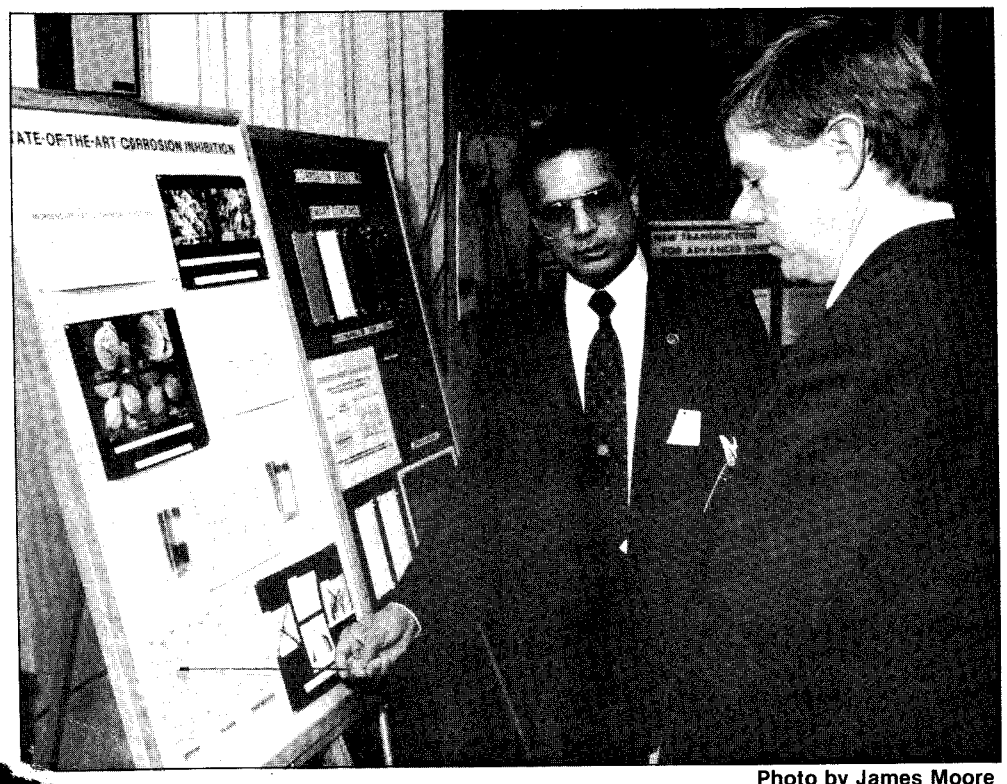
Dr. Donald P. McErlean, Code 60, gets question answered at fair.

Security reminder

Report foreign contacts even in changing world

Any form of contact, intentional or otherwise, with any citizen of a designated country must be reported to the Security Programs Division (044). Contacts with or association with citizens of such countries are not, in themselves, wrong, against regulations, or illegal. The reporting requirement affords the Naval Investigation Service (NIS) the opportunity to evaluate the contacts to protect the DoN from hostile intelligence activities. The Designated Countries are: Afghanistan, Albania, Angola, Bulgaria, Cambodia, People's Republic of China (Communist China, including Tibet), Cuba, Czechoslovakia, Ethiopia, Hungary, Iran, Iraq, Laos, Libyan Arab Republic, Mongolian Peoples Republic (Outer Mongolia), Nicaragua, North Korea, Poland, Rumania, People's Democratic Republic of Yemen, Syria, Union of Soviet Socialist Republics (including Estonia, Latvia, Lithuania, and all other constituted republics, Kurile Islands, and South Sakhalin (Karafuto), Vietnam and Yugoslavia.
(OPNAVINST 5510.1H and NAVAIR-DEVCENINST 5513.13D)

Distler's main job: Bring the Aircraft Division into being



1 Agarwala, Code 6062, briefs Dennis Distler.

Photo by James Moore

Continued from page 1

we will work with our customers."

Ted Elsasser, associate team leader from NAPC, is assigned to organization development: "where we are, where we're going, where everybody fits." His first priority is to establish a baseline organization with all the players in place.

Tim Smith, from NATC, is tasked with resource management, looking at such critical issues as workload, personnel and strength and management to payroll. Distler said that ". . . resource integration of the Aircraft Division plus the Command staff for the future organization (NAWC AD)" should be "solidified by the end of December so we'll be able to tell the troops who's going to work for the admiral and me early next year."

The transition team is rounded out by Terry Fazio, Jean Rupard and Tracy Long, all from NATC. Fazio and Rupard provide analysis support for the team as well as keeping track of the entire process. Long provides secretarial and administration support, product production and operational support.

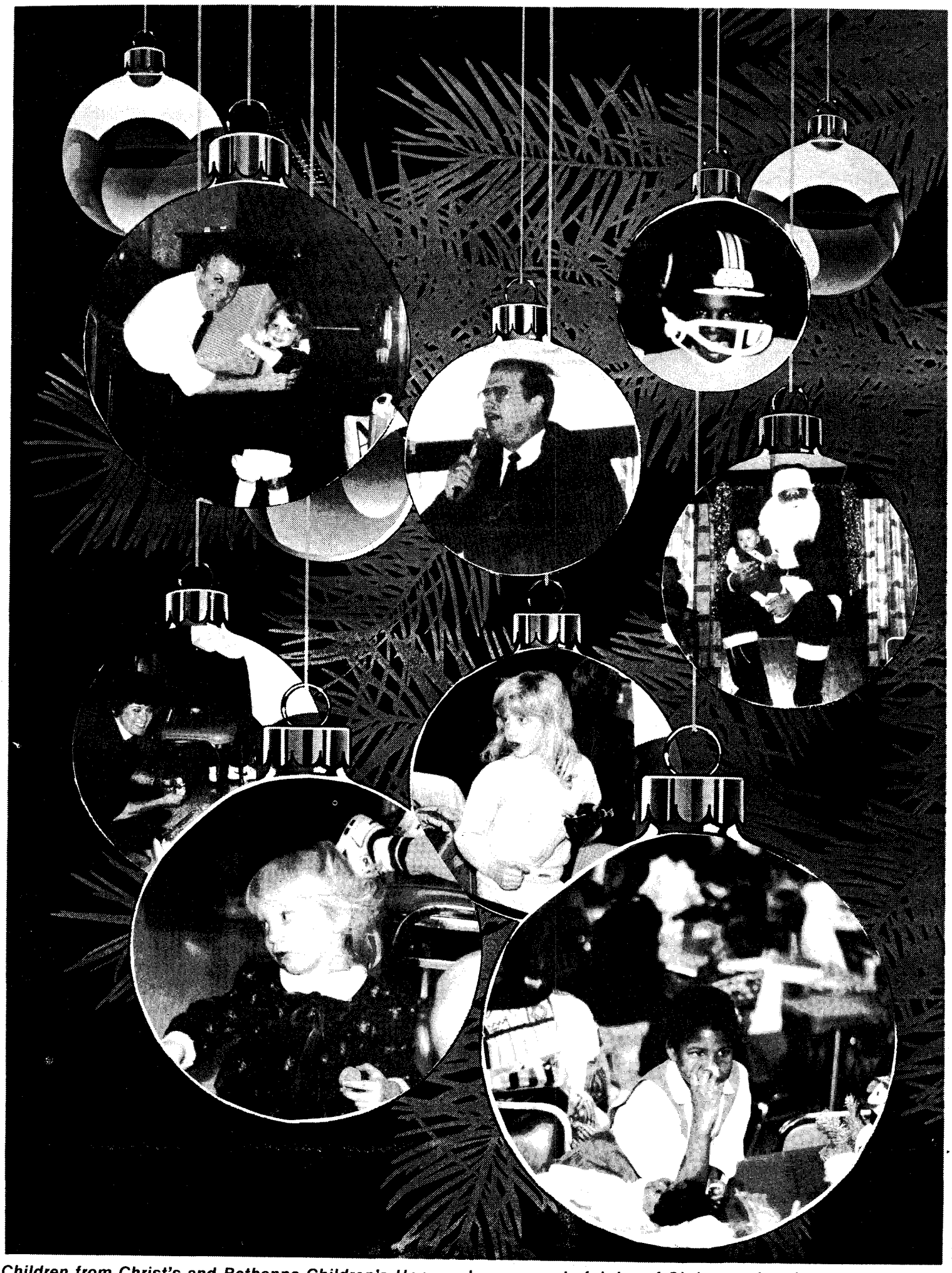
Distler stressed that the Total Quality Leadership philosophy which was adapted by the Test Center several years ago will become part of the NAWC. In that line, he suggested that anyone with questions, concerns or input may call the transition team at (301) 863-1118 or 1108.

The next NAWC talk will address military construction requests and dollars.

NAWC
Aircraft Division
NAVAL AIR WARFARE CENTER

— APPROVED NAWC AD LOGO

Visiting Center gave perspective on Pearl Harbor



Children from Christ's and Bethanna Children's Homes share a wonderful day of Christmas fun thanks to Civ. MWR. They were treated to music, a magic show, food, and a personal call from Santa to get individualized gifts.

By Lawrence L. Lyford

I wasn't born by December 7, 1941. Fifty years later, though, I personally planned to commemorate the day. Rather than attend a ceremony in Philadelphia, I decided to return to our Center to see what was happening this quiet weekend day, 50 years later.

A smattering of cars, confirmed what I knew. Employees were working. Other than ever present security officers, they proved too few and the Center too large to find. But, I witnessed the facilities in use. Military preparedness was quietly continuing 50 years after the nation entered a world war unprepared.

Thomas Castaldi, Code 50, briefed Naval Reservists from NADC 0193, NADC 0293 and NADC 0993 in the Center Conference Room while others worked on the first floor. Army Reservists from the 79th ARCOM were conducting computer training using Blue Room resources.

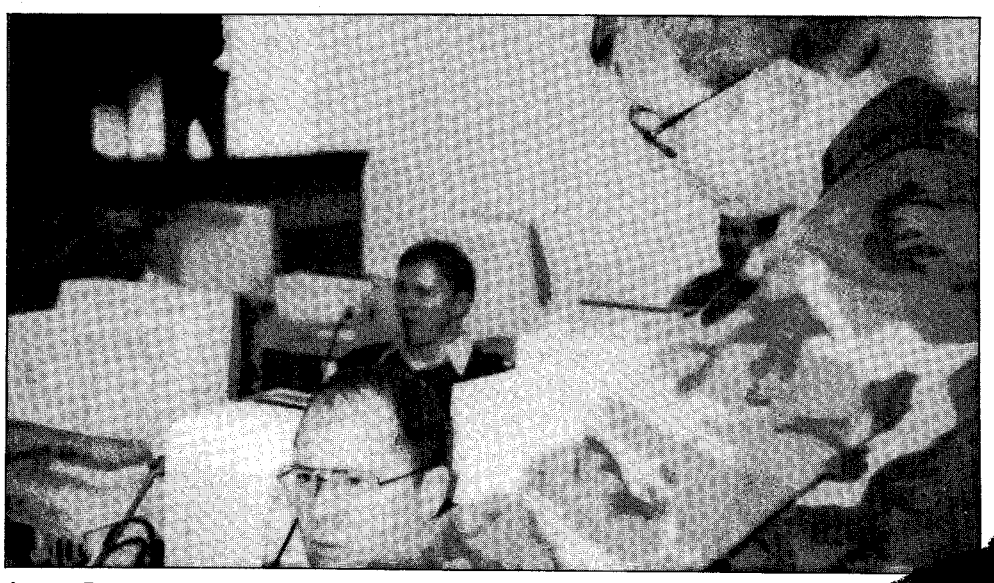
For the 36th year and the last as NADC, Civilian MWR volunteers provided a cafeteria full of needy children and families a Christmas party. Hearing her name, Mary leaped from her chair and ran to visit Santa as enthusiastically as Joey, Richard, Margaret and dozens had before her. Each got a personal package. This December 7, Center employees ensured unfortunate children were the center of attention and not life's onlookers.

Back home, I rooted for Navy in the football classic, played on the 50th Anniversary of the attack on Pearl Harbor. I used the game to teach my 5- and 7-year-old children lessons about leadership and motivation from the Cadets and Midshipmen. I also wanted to see some of those who will be responsible for their safety as they enter adulthood.

Later, on TV, we heard first-hand accounts of destruction and bravery from Pearl Harbor survivors. One described seeing 50 trash cans full of amputated body parts. Another reported doomed sailors trapped in one of the damaged ships who didn't stop tapping for rescue until December 23. Others related courageous acts. We listened to the President's televised speech.

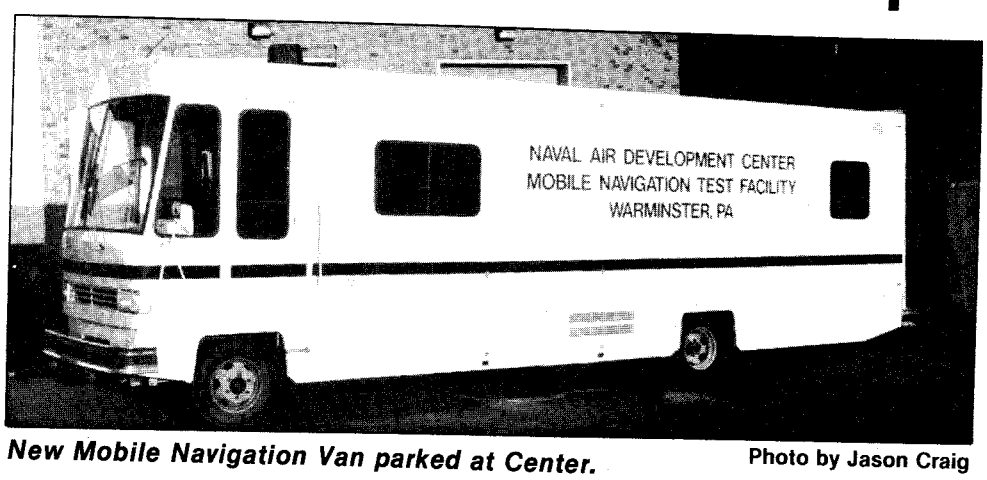
I tried to explain to my kids what Pearl Harbor stands for. I told them of my father, who served as a CPO on the carrier, USS Princeton, his commendation from Admiral William F. Halsey and how he survived his ship's sinking. I told them that each person where daddy works is doing his or her part to keep anything like Pearl Harbor from happening again in my life and theirs.

Thomas Castaldi, Code 50, briefs Naval Reservists.



Army Reserve instructor Dave Meyers uses blue room.

Mobile Navigation Van replaces expensive test platforms



New Mobile Navigation Van parked at Center. Photo by Jason Craig

By Jim Campanile

The Navigation and Communication Directorate (code 40) develops, tests and evaluates various communication and navigation systems for use on Naval aircraft and ships. Integral to this effort is the Mobile Navigation Van, which has been used to test and evaluate Global Positioning System (GPS) receivers, inertial navigation systems and communications systems. The Mobile Navigation Van provides a low cost alternative to expensive aircraft and ship installations for testing equipment under dynamic, controlled environments. Most tests have generally been performed at NADC, using pre-surveyed locations on the aircraft runway to establish dynamic test scenarios.

The original test van procured in the early 1970s, was old and outmoded. Breakdowns and malfunctions were frequent and difficult to rectify since most equipment on the van was old and spare parts were not readily available. Consequently, a Request for Proposals (RFP) was generated in 1989 for the procurement of a replacement vehicle. The new vehicle had to provide the same capabilities as the old van plus it had to be serviceable with standard, commercially available parts for low cost maintenance. The job was awarded to Vehicle Modification Inc. (VMI) of Petaluma, California at a fixed price of $117,000.

In July 1990, VMI delivered the new Mobile Navigation Test Facility to NADC. The new van, built to explicit specifications, provides the power and internal environmental conditions needed for testing. Among the van's characteristics are: 60Hz and 400Hz power (and distribution), all weather 36,000 Btu heat pump and six stations configurable for rack mounted or floor mounted equipment.

We than enhanced the van's capabilities by installing a unique velocity reference system, developed at NADC, and a position Truth Reference System (TRS).

The TRS utilizes a GPS receiver similar to that used in Desert Storm, and has the capability to be integrated with a Loran C receiver. The van has a standard vehicle chassis with a 450 cu. in. gas engine. The body is constructed of prefabricated materials and is 36 feet long, 9 feet wide and 11 feet high.

To date, the Mobile Nav Van has been used to test integrated GPS/Inertial Navigation Systems, GPS sea receiver software block upgrades and GPS 'engine' technology. Future efforts will include Miniature Airborne GPS Receiver (MAGR) dynamic tests and embedded GPS — Ring Laser Gyro (RLG) guidance packages.

IF THE SOC FITS

Long standing environmental violations can be crimes

By Robert G. Janes

One area of the Standards of Conduct (SOC) that has gotten a lot of attention in recent years involves environmental violations. There has been a good bit of publicity surrounding the federal criminal prosecutions of three senior civil servants from the Army's Aberdeen Proving Grounds in Maryland for various environmental crimes.

The case generated a great deal of sympathy for the defendants because the crimes were seen basically as those of omission and not commission, and derived in large part from the employees' not having acted to correct a long-standing problem, as opposed to having created the problem itself.

On the other hand, the Justice Department has stated that the defendants had both the **personal knowledge** of the environmental violations, and the **responsibility** for seeing that the hazardous waste involved was properly handled, and that a major factor in its decision to undertake the prosecution was the defendants' seeming indifference to numerous and continuing warnings about the situation.

In the Aberdeen case, each of the three employees was convicted, placed on three years probation and required to do 1,000 hours of community service. Although none had to pay any fines or penalties, each of them incurred more than $100,000 in personal legal fees.

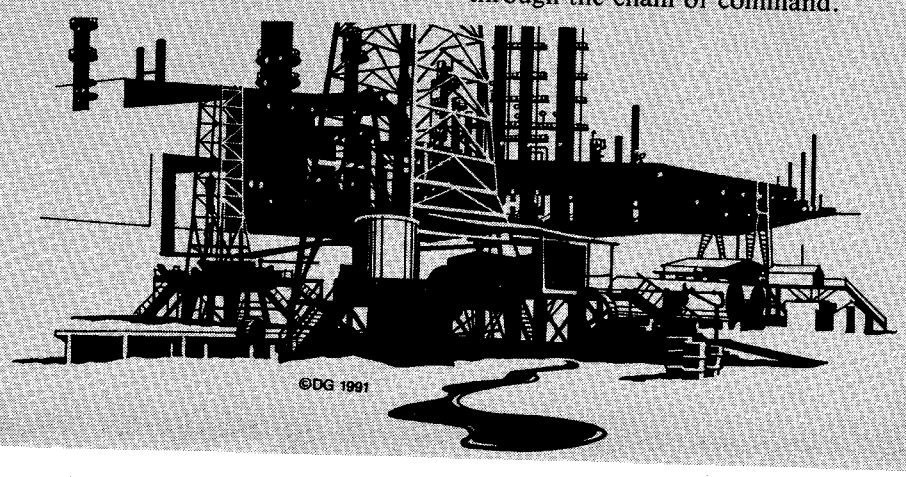
As a general rule, government employees are immune from any personal liability for actions they take on the job, and when they are sued, the Government provides free legal services.

The environmental area, however, is one of the few where the possibility of personal liability does exist. It is therefore especially important that all of us, and particularly managers and supervisors, remain aware of the need for a heightened consciousness concerning environmental problems.

Each of us has a responsibility to report any known or suspected violations and, where our position warrants, to seek to do whatever is reasonably necessary to ensure compliance with the environmental laws.

However, it is also necessary to keep a balanced perspective about this, and not become so concerned about personal liability that we become paralyzed and fail to do our jobs effectively.

Probably the most important things that each of us can do are simply to be alert to these situations, and to act promptly to report any problems up through the chain of command.



As part of National program

Center has promoted energy awareness

By Michael M. Blank, Ph.D.,P.E.

Energy is again a hot topic. "We want to build an energy future that opens the door to new and diverse energy sources, because our energy future should never be at the mercy of foreign exporters," President Bush told a White House meeting of energy industry executives and government officials as he addressed his National Energy Strategy.

The President wanted to draw upon the ingenuity of industry and government to increase domestic oil production by 3.8 billion barrels by the year 2010 to reduce import dependence. He called for natural gas consumption to increase by 3 percent by 2000 and nuclear power generation to increase 5-10 percent by 2030. He called for electricity generated from renewable resources to increase by 10 percent by 2010.

Clearly, nuclear energy has an important role in national energy stretegy planning. There are 110 existing nuclear energy plants in the United States producing approximately 20 percent of our electricity second only to coal based production. By the year 2030, nuclear energy will furnish 25-30 percent of the power in the United States.

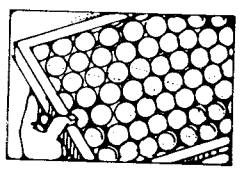
According to H.B. Finger, President and CEO of the U.S. Council for Energy Awareness in Washington, D.C., "Nuclear energy has already reduced our foreign oil payments by $115 billion. It has cut consumer electric bills by $50 billion since the oil embargo and reduced greenhouse gas emissions — by nine percent last year."

Renewable energy (Solar Energy; Fuels from Biomass; Thermal Energy Wind Energy; and Hydropower Energy) can be a large contribution in energy sources of America's future. Projections of solar energy used by the year 2000 range from 7 to 23 percent.

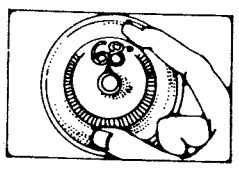
For its part, NADC actively promoted energy awareness. This year promoting the theme "Energy: Build a strategy for America's Future."

Videotapes, demonstrating energy savings on Center projects completed from 1985 to 1991, are available. Other VHS videos concerning home energy savings such as Stopping Home Air Leaks, Ingenuity at Work and Metering Your Money also can be obtained from Michael Blank, Public Works Department, ext. 3427. These were shown on Center TV to promote energy awareness. We must increase our awareness of energy use and cost to raise our commitment to reduce energy use. We need to work together, since saving energy is everyone's business at the Center and at home.

Be Sure You're Getting the Most for Your Energy Dollars



If you use a flame fuel, have your heating plant cleaned and serviced. If you have a ducted system, install clean air filters.



Reset your thermostat to 68 degrees Fahrenheit or lower for daytime operation. Remember to set it back 5 to 10 degrees at night.

Volunteers needed

NADC holds bone marrow drive to save lives

Photo by Catherine Burian

HM2 Richard Bolding shows Phil Kaufman how blood will be taken during the bone marrow drive on January 22, 1992.

By JO2 Michael Delledonne

The new year brings with it wishes of happiness and health for friends and family, but sometimes those wishes are just faint hopes. For people with Leukemia, Myelodysplasia, Hodgkin's Lymphoma, Non-Hodgkin's Lymphoma, Severe Aplastic Anemia, or other malignancies or non-malignant diseases, a healthy life is often a dream . . . but a dream with hope.

On January 22, 1992, between 8:30 a.m. and 3:30 p.m., NADC will be holding a one-time, one-day only Bone Marrow Blood Drive in the Public Works Cafeteria. Phil Kaufman, coordinator of the drive, said volunteer donors are needed to make the drive successful. "We would like to see 300 people come out and donate their blood for this worthy cause," he said. "Civilian and military personnel and their dependents are eligible to donate."

Kaufman explained the chances of being selected are small. "At best it's 1 in 20,000 and at worst 1 in 1,000,000 depending on the disease and its stage, race and ethnic background."

The bone marrow donor process is as follows:

1. Give four tubes of blood (equal to four tablespoons) and consent to be entered on the registry. (Must be 18-55 and in good health.)

2. Your blood is "HLA-Typed" (Human Leukocyte Antigen).

3. Your HLA-Type goes in the computer. The lab results are stored in a main computer which is searched internationally.

4. A preliminary match is determined.

5. Additional blood tests are requested. These blood samples will be used to determine if you are a precise match for a specific patient in need.

6. The "Miracle Match" is identified. Special counselors will give you detailed information.

7. You make the decision to donate.

"This program has very strong DoD support and the Center Commander and Chief Staff Officer are 100 percent behind us," said Kaufman. "Civilian Welfare and Recreation and the Food Services Board have volunteered their time and resources for the day. Everybody is pitching in. I just can't imagine a better gift to give than the gift of life.

For more information on the Center's bone marrow drive, contact Phil Kaufman at 441-1557 or call the Bill Young Marrow Donor Center toll free at 1-800-MARROW-3.

As part of Center program

Three associations sponsor Thursday happy hour

By Dolores M. Smith

More than 60 people turned out for the Holiday Happy Hour for Center employees and contractors held in the Barnaby Room on Thursday, December 5.

The event was sponsored by The Naval Civilian Managers' Association, the National Contract Management Association and the Delaware Valley Science and Technology Association. Center Commander, CAPT William McCracken, the guest of honor, said he was delighted to see such a terrific turnout.

CAPT McCracken encouraged everyone to come to the social time sponsored each Thursday from 3:30 to 6:00 p.m. by a different volunteer group. He felt the gatherings were a great way for people to meet informally and increase communication.

The Naval Civilian Managers' Association is a professional association dedicated to supporting common Navy concerns, such as employee recruitment and retention, morale, and changing missions.

The National Contract Management Association is a non-profit professional association devoted to training and promoting professionalism in government and industry in the acquisition process.

The Delaware Valley Science and Technology Association is a forum for area Department of Defense contractors to express views on local, regional and national issues.

Jack Eyth, Code 6035, Dolores M. Smith, Code 84536, and Elaine Rogner of Veda, Inc. coordianted this holiday happy hour. Members of the associations received complimentary hors d'oeuvres and a cocktail.

Photos by Drew Schmith

Thursday happy hour provides chance to discuss matters informally.

Capt. William L. McCracken encourages open communication.

Photos by Jason Craig

New video teleconferencing facilities (above) receive their first workout immediately following ribbon-cutting ceremony (right).

DoD authorizes civilian medal

By Master Sgt. Linda Lee, USA
American Forces Information Service

DoD civilian employees who worked in the Persian Gulf area during Operations Desert Shield and Desert Storm will receive a newly authorized medal.

The medal, said Christopher Jehn, "symbolizes the importance that the Department of Defense attaches to civilian service and recognizes the value of the civil service in helping to accomplish our nation's objectives." Jehn is assistant secretary of defense for force management and personnel.

About 4,000 appropriated- and non-appropriated-fund civilian employees are eligible for the award. Jehn said civilian employees contributed substantially to the military effort and endured the same hazards and conditions that faced the military. They engaged in a wide variety of jobs ranging from engineering, transportation and maintenance to operating exchange stores and morale, welfare and recreation activities, he remarked.

Civilians who served in support of the operation any time from Aug. 2, 1990, through April 11, 1991, and were physically located in an area designated a combat zone are eligible to receive the medal.

In addition, civilian employees stationed in Israel, Egypt, Turkey, Syria or Jordan at any time from Jan. 17 through April 11, 1991, will receive the medal. "Stationed in" includes airspace and territorial waters.

Use of Centrifuge may expand to new flight simulation

By Lawrence L. Lyford

The following article is reprinted with corrections and clarifications. Reprinting in entirety is rare but recognizes the importance of the reported efforts.

New things are happening at the Center's Dynamic Flight Simulator (DFS). To expand the use of the facility to other research areas, aerospace investigators are testing the DFS's ability to simulate high-angle-of-attack (HAOA) aircraft motion as perceived by the pilot. Crew Systems, Code 6035, and Flight Dynamics Branch, Code 6053, are teaming to develop this capability in the HAOA and post-stall flight regimes where enhanced maneuverability provides a needed combat edge.

According to Jeffrey Calvert, flight dynamics project officer, conventional aircraft have undesirable aerodynamic characteristics at HAOA. This precludes raising the aircraft nose beyond certain flight angles. He said, "The ability to control maneuvering at flight conditions up through 70 degrees angle of attack has only recently been provided through the use of thrust vectoring."

The X-31A and NASA's F-18 High-Angle-of-Attack Research Vehicle (HARV) use thrust vectoring paddles located at the engine exhaust nozzle to deflect the jet plume allowing the pilot to maintain control.

Presently, NADC is involved in X-31A HAOA enhanced maneuverability research and testing. Maneuvering at HAOA is expected to produce unusual combinations of rates and accelerations which likely will be disorienting to the pilot. Tests are being conducted, here, to verify the DFS simulates motion environments representative of a generic high performance, thrust vectoring aircraft.

Although a generic aircraft model is being used for this experiment, any simulation model can be hosted on the DFS. If successful, Calvert hopes the DFS will be used for HAOA flying qualities modeling and cockpit display research and development.

The DFS provides motion cues, including sustained accelerations, which fixed-base and limited motion base simulations cannot provide. When flying the DFS, motion perceived by the pilot is hoped to be very similar to that in an actual airplane, and not limited to the visual system only. Therefore, many of the anomalies resulting from fixed base simulation can be avoided.

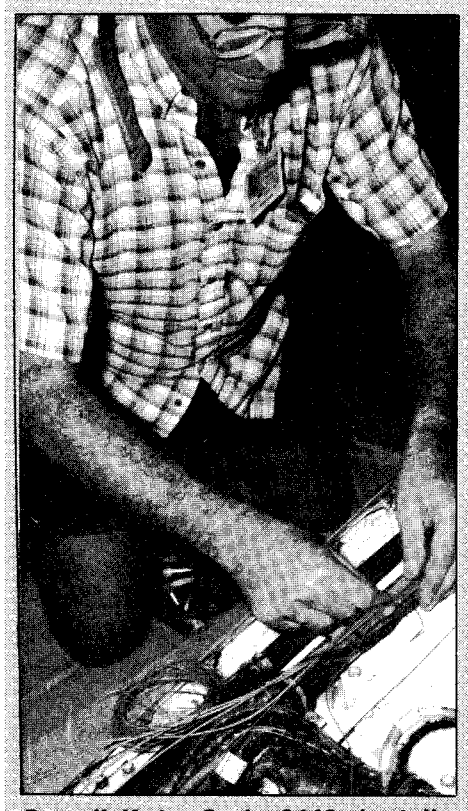
With adequate flight fidelity, the DFS will provide the Center with an excellent safe and inexpensive tool for HAOA flight R&D, as well as test pilot training.

Part of the on-going tests will be used for developing a personal computer-based simulation of the DFS itself. "We will be using data from these tests to build a computer model of the DFS in order to optimize the control algorithm without actually running the DFS," said Peggy Heffner, systems project officer from Code 6035. "This again saves development costs."

Currently, engineers with pilot background are flying the DFS in tests to optimize the control algorithm to make the DFS as representative as possible. Once the engineers are satisfied, military pilots will be called in to assess the DFS's capabilities. "Military pilots are considered the industry experts and will provide, along with engineering data, the final credibility of the DFS as a flight simulator," said Calvert. In time, an excellent high angle of attack flight simulation tool will be available here for researchers including projected programs involving NADC teaming with NASA.

NADC demonstrates fiber optics in tactical aircraft

Continued from page 1



Darrell Kutz, Code 8112, installs fiber optics.

revealed no protocol errors and matched the wire data bus performance.

The results of this demonstration also will establish the utility of using off-the-shelf fiber optic components in tactical airborne environment according to Rafalik. Both practical experience and data will validate existing standards and establish requirements for design, test, installation and maintenance procedures.

According to Rafalik this was an integrated effort by the Center involving Codes 20, 50, 60, 70, 80, 90, Navy Field Activities as well as contractors. Code 20 provided liaison with the NAVAIR community. Code 50 provided the optical design and development. Code 6011 provided the electrical and mechanical design, the "how best to run the wires and the electrical power distribution," Code 6012 provided program management and technical coordination. Code 505 designed the electronics converter, Code 70 provided electromagnetic interference evaluations. Code 80 provided the electrical and mechanical installation on the aircraft and fabricated the converters. Code 90 coordinated the aircraft scheduling.

Dave Nguyen, Code 6012, assembles optical conversion board.

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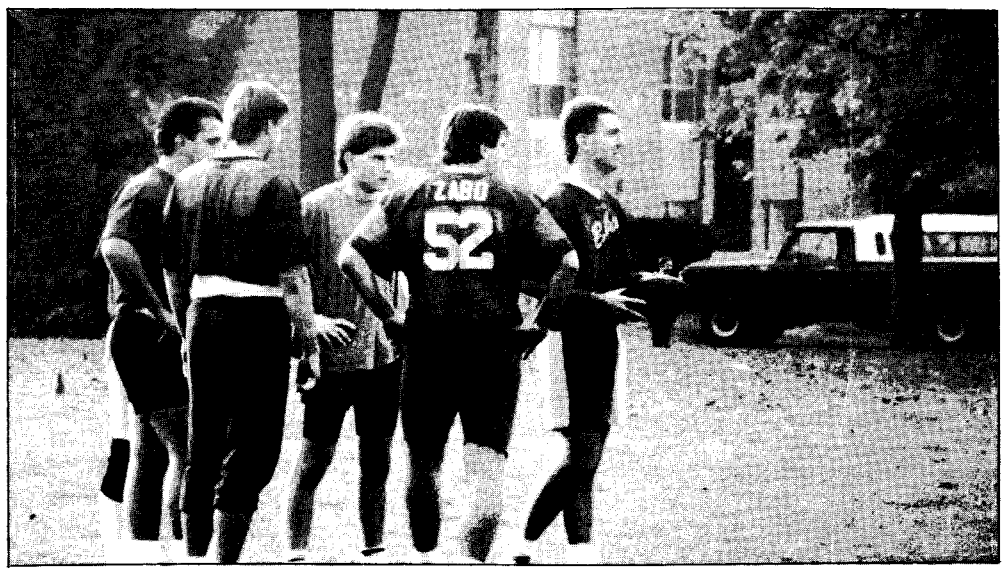


Bohica members plan kickoff strategy.

Football season wraps up

Teams finish turbulent year

By Dan Schmidt

The 1991 NADC football season began as expected with the Renegades, Granfalloon, Barking Spiders and Gangreen winning.

The second week, Bohica (winless in their 1990 first season) beat the veteran Dragons. An end zone interception by Lou Morelli ended the Dragons' drive and sealed the victory.

The Barking Spiders bruised the Bruisers 19-14, Gangreen infected the Warriors 37-0, and the Granfalloon beat the Renegades 12-6 in an overtime nail biter.

In the third week, Bohica defeated the tough Granfalloon. Bohica receiver Joe Bulvin caught two touchdown passes for the 12-6 victory. The Renegades, Gangreen, and Dragons won, the Dragons for the third time.

During the fourth week of competition, the Renegades shut down the Gangreen machine, 18-0. Granfalloon dominated the Spiders 24-0, and Bohica defeated the Warriors 31-0. The Dragons beat the Bruisers 13-6, who were the only losing team to score this week.

Two milestones came in week five. First, Granfalloon, in an offensive exhibition unequalled by any team throughout the season, scored 64 points against the Warriors and the Falloon defense did not give up a single point.

Bohica defeated the Bruisers 26-12. The Bohica defense pounded the Bruisers with 5 sacks, 6 interceptions, and 3 knocked down passes.

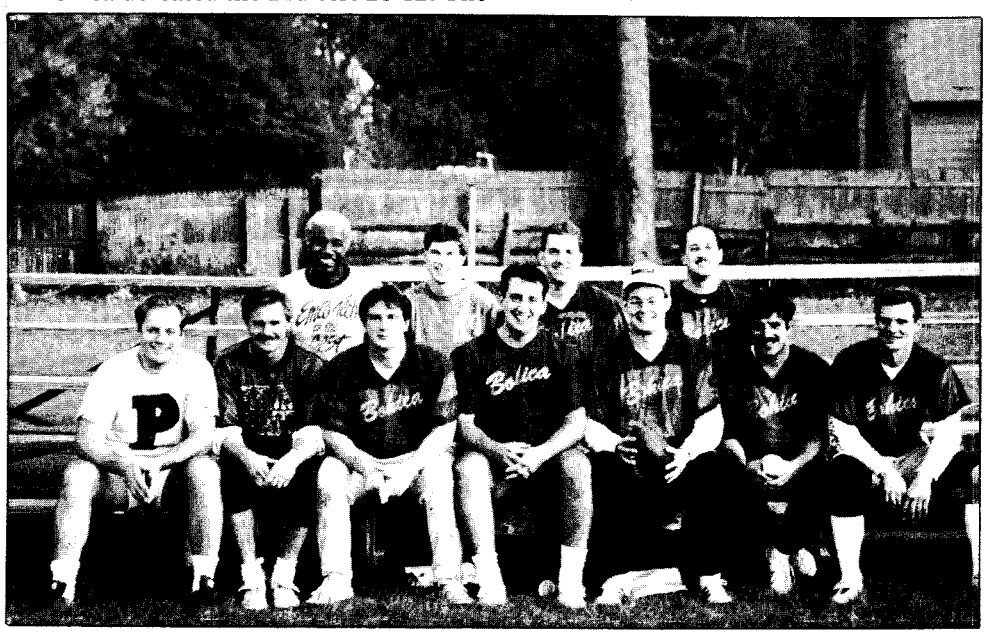
The Dragons took their third win in a row beating the Renegades 26-12 while Gangreen got back on the winning track to defeat the Barking Spiders 32-0.

Rain and wind proved to be too much in week six for the Bohica offense. Seven interceptions to the tough Renegade defense led to their shutout, 25-0. The Bruisers, Granfalloon and Dragons, the second team to win four straight games, won.

In the last week, both Gangreen and the Dragons needed a win for post season play. With less than ten seconds left in regulation, Gangreen quarterback Pat Ford lofted a Hail Mary pass which was snatched by Mike Grecco in the end zone.

In semifinals week, Granfalloon eliminated Bohica 31-6, and the Renegades shut out Gangreen 18-0. Though winless last season, Bohica finished 5-2 this season. The Bohica defense did a spectacular job, logging 47 blocked passes, 36 interceptions, 12 sacks, and one safety during the regular season. The offense averaged 18.3 points per game. Quarterback Mark Pfaff passed to five receivers establishing an extremely balanced offensive attack.

In the finale, the Renegades defeated Granfalloon 25-18 and lead the series 2-1. Congratulations to all for a tremendous 1991 season.



Bohica team continue their fun with team picture.

Mixed bowling news

Three new teams join league

By Tom Reiter

Three new teams joined our bowling league this season. The Pre Emptive Strike captained by **Brian Bohmueller**, the T.I.B.S.'s led by **Barbara Vajda**, and the Rolling Hallbangers, a combination of last year's Rolling Thunder and Warvey-hallangers, captained by **Jim Tidwell** have come aboard. We're having a contest to determine what T.I.B.S. means. Send all entries to Barbara, Code 301; only she knows the answer and the prize.

In November, we held our annual Turkey Shoot Bowl for Genuardi gift certificates. This year's winners were **Lorrie Wallace** with a 492 series and **Steve Jordan** with a 455.

Congratulations to **Al Knobloch's**, A Division, Goofers (40.0 - 12.0) and to **Randy Yeager's**, B Division, From The Gutter (35.5 - 16.5) whose teams are, at press time, leading the League. A farewell and good luck to Lorrie and Chuck Wallace who have transferred to New Orleans.

We wish to extend **sincere holiday greetings** to all our bowlers and readers. Have a safe and happy season.

With three nights to go in the first half, the standings and highest individual scores bowled by each team are:

A DIVISION

Goofers — Lorraine Reidinger, 208; Al Knobloch 216.

Alley Cats — Kathy Pletscher, 193; Jack Eyth, 210.

Eleventh Frame — **Kathy Sedlock, 241; Bob Sedlock, 224.**

Spare Us — Joann Coughlan, 182; Dick Coughlan, 212.

Dynamic Duos — Jane Gifford, 180; Scott Fowler, 218.

Screwballs — Elsie Appel, 179; **Jack Horning, 224.**

Nine Pins — Linda Stickney, 232; Bob Kittner, 204.

Rolling Hallbangers — Winona Pelo, 202; Sharon Robinson, 191; Mike D'Aulerio, 203.

Pre Emptive Strike — Jacque Emperly, 176; Joe Emperly, 211.

The Magic — Pat Thureson, 167; Jerry Guarini, 206.

Fire and Ice — Anissa Corredine, 158; Neal Polin, 213.

Gutter Dusters — Mary Vaughn, 223; Terry Lopes, 191; Bruce Vaughn, 198.

B DIVISION

From the Gutter — Char Pohle, 193; Randy Yeager, 224.

Les Champignon — Ann Harris, 197; Joe Lindinger, 214; Ed McGlynn, 214.

Oh Split — Julie McCarthy, 204; Randy Allen, 195.

Red Winos — Carla Dragon, 207; **Mike Dent, 259**; Ernie Wykes, 234.

Steve's Side Show — Jamie Jerdan, 193; Steve Jerdan, 245.

T.I.B.S. — **Barbara Vajda, 235**; Rob Simon, 245; Ron Vajda, 225.

Mavericks — Mila Brown, 193; Sharon Morsdorf, 190; Bob Morsdorf, 221.

Lucky Strikes — Carol Beckett, 178; Wayne Everett, 227.

Bullshooters — Carla Mackey, 183; Jay Kretzing, 248.

Destroyers — Lorrie Wallace, 218; Chip Chadwick, 195.

Magic Markers — Dianna Beach, 187; Larry Q. Sicher, 213.

Pinguins — Barbara Dilemmo, 207; Sol Fink, 190.

A special thanks to all those whose assistance makes our information, tours, events and visits successful — from the engineers, scientists and technicians who share their expertise to those who work behind the scenes before and after the events. Thank you. Those behind the scenes make everything come together. When visitors remember the Center they remember what they saw and who spoke to them. We remember you all.

Civilian and military, we wish your a happy holiday and a great new year.

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