

Greater Bucks String Band strut their stuff at NADC

NADC had, at least, a small hand in Philadelphia's famous New Year's Day Mummers' Parade.

In a community relations gesture, NADC, responding to an appeal from the Greater Bucks County String Band for a location to conduct a last minute full-dress rehearsal, made available Hangar Bay #1 of Building #4 on Sunday, December 29th.

It was the band's Head Marshal, George Rossi of NADC's sheet metal model shop who sought the Center's aid for the rehearsal. He later expressed

the 53-member unit's appreciation and gratitude for the fast response.

The Greater Bucks County String Band is headquartered in nearby Bristol, PA and represents Bucks County in the String Band Division of the annual New Year's Day event.

Although this year the Greater Bucks County String Band officially placed 23rd, it does represent a move up from prior years and keeps them improving as they strive for a top spot one day.



Photo by Jim Kingston



Reflector

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Volume 31 Number 1

NAVAL AIR DEVELOPMENT CENTER, WARMINSTER, PA.

January 1986

NADC's Flying Club

New Officers on the ground — new plane in the sky

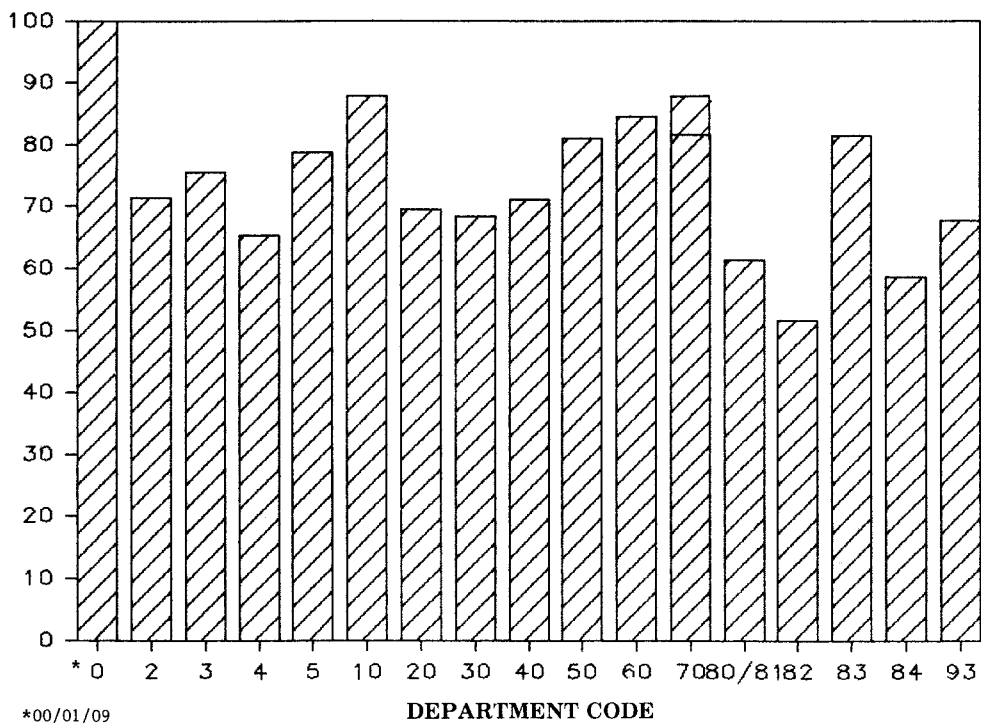


Photo by Regina Gasuk

(L to r): Carl Frey (Treasurer), Clarence West (Maintenance Officer), Walt Graff (Operations Officer), Jack Supp (Secretary), Willis Pellitter (member), Gordon Curran (President), David Keyser (Vice-president) stand with Flying Club's new 1975 Piper Warrior. Piper has full IFR with auto-pilot distance measuring equipment and electric trim.

Combined Federal Campaign collects record amount \$113,860.64 CFC 86

Percent of People Contributing



*00/01/09

DEPARTMENT CODE

This year's Combined Federal Campaign had some impressive results. A total of \$113,860.64 was collected from all federal agencies in Bucks County. Below are statistics gathered by the CFC Headquarters Staff which show this year's breakdown of contributions:

Designated Contributions

United Way Agencies	\$19,430.75
International Service Agencies	\$13,161.93
National Health Agencies	\$26,197.10
National Service Agencies	\$ 8,137.57
Other Agencies	\$ 143.00
Write-in Agencies	\$19,125.00
	<u>\$86,196.50</u>

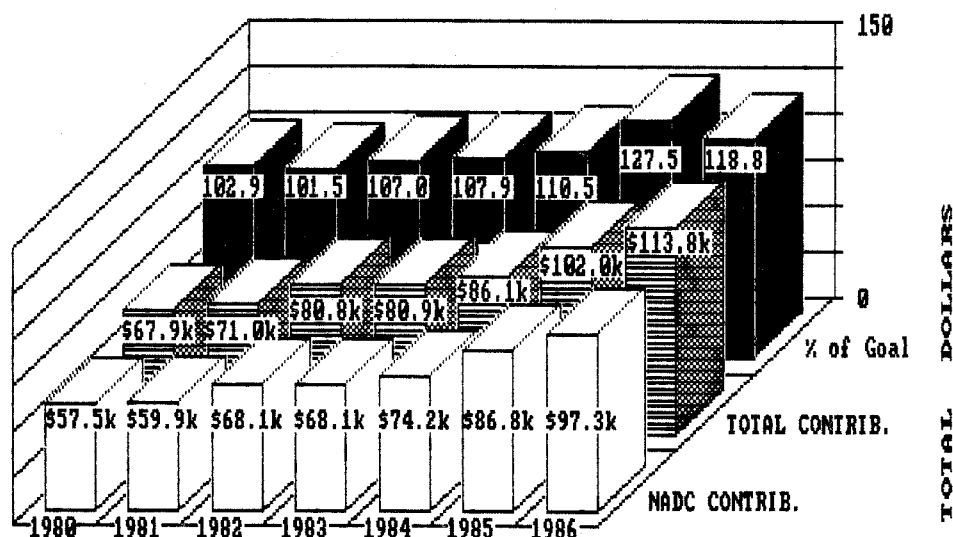
Undesignated contributions amount to \$27,525.14 which will be divided up using the following formula: United Way Agencies will receive 74.1% of designated funds, National Health Agencies receive 16.4%, and International Service Agencies complete the total with 9.5% of designated monies.

If you've been wondering just how well the Center fared in meeting their CFC goal, here are the results:

NADC Participation

Total NADC Contribution	\$97,309.64
Number of NADC Participants	2,181
Percent Overall NADC Participation	77.41%
Average NADC Contribution	\$ 44.62

Below is a Combined Federal Campaign History.



NOTE: Figures include Post Office, Social Security and USDA contributions.

REFLECTOR wins Honorable Mention in CHINFO Merit Awards Contest

by Regina Gasuk
Editor, REFLECTOR

This was an award-winning year for the REFLECTOR as it received an Honorable Mention in the 1985 Merit Award Contest conducted by the Chief of Information (CHINFO).

The CHINFO Merit Awards Program is an annual contest developed to recognize outstanding achievements in internal media products. They represent the Navy's best print and broadcast entries with more than 750 Navywide submissions.

I would like to thank Mary Ann Brett, Assistant Editor, for the tireless devotion and quality work

she gives to this newspaper. Also, I appreciate the articles contributed by JO2 Fred Dias and many of the Center's employees throughout the year. I hope that in the future you will continue to take an active interest in the REFLECTOR.

A special thanks to GMC, the contractor who prints the paper and to the Center Photography Branch for its services.

The REFLECTOR staff looks forward to another successful year in 1986 and wishes everyone a Happy New Year!

Military Recreation

"HOLIDAY WITH US!" Program Concludes

"Holiday with Us!" was the theme used to promote club and recreational programs offered from Thanksgiving to New Year's. The purpose of the promotion was to generate awareness of the Club and Recreational Services available at NADC.

Club activities focused on Super parties held each month as well as the New Year's Eve Party. Family activities such as bingo, children's parties, and specially priced dinner nights were also scheduled to provide a wide range of services for all age groups.


Recreation programs included door decorating and coloring contests, weight training, racquetball and walleyball tournaments and the annual Children's Christmas Party. A special feature for the active duty military was the Photo Christmas Card Program. Photos of active duty military were taken at various locations throughout the Center. The sailors filled out humorous Christmas cards which were provided free of charge, then mailed to a friend or loved one back home.

1986 will feature innovative

approaches to Club and Recreation Services, as we hope to accomplish several objectives, namely: create a sense of an NADC community; combat loneliness, depression, and provide an alternative to alcohol and drug use; offer new recreational and fitness skills development opportunities; attract new patrons to our facilities and programs; upgrade the current level of programming, customer service, and facility conditions.

January Club activities will feature a special first time ever Tropical Nite at the NADC Dining Room on the 17th. The Tropical Nite is designed to provide a convenient social activity for the many patrons leaving their work areas. The many other events scheduled at the Crews Rest are a Pool Tournament on Saturday, January 25th, Superbowl Sunday Party on January 26th, and Family Night Italian Dinner Special on Friday, January 31st.

Recreation activities scheduled for January include the newly formed Walleyball league, and competition racquetball ladder. Contact Ron Brewer on extension 3438 for additional information.



Reflector

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Quarters 'A' — A link to the past

"I wish the walls had voices so it could tell what has gone on in this house," said Annette Sturm, wife of Captain Edward J. Sturm, Center Commander.

What Mrs. Sturm is talking about is the quarters in which she and her husband live. Part of the NADC real estate, *Quarters A* is older than the modern Navy.

Newspaper reports included *Quarters A* in stories about the pre-Civil War's famed Underground Railroad. However, *Quarters A*'s history goes back even further than the Civil War. It carries a stamp on its exterior with the year 1817, the letter "H" for the owner's surname of Hart and the initials "J" and "M" for John and Mary.

English king owes debt

The land on which *Quarters A* sits goes back before the War for Independence. In 1681, Charles II, King of England, owed William Penn 15,000 pounds. To settle the debt, instead of paying Penn money, the King paid him in land from the new world. This act became known as the William Penn Grant of 1681. Penn and a friend, John Hart of Witney, Oxfordshire, England, agreed to book ship for the new world and examine Penn's new province. In July of that year, Hart, a preacher in the Society of Friends, purchased from Penn 1,000 acres for 20 pounds and one shilling a year rent for every 100 acres.

Hart settles in New World

A year later, Hart returned to the territory and took deed of the first 500 acres in Byberry (now a section of

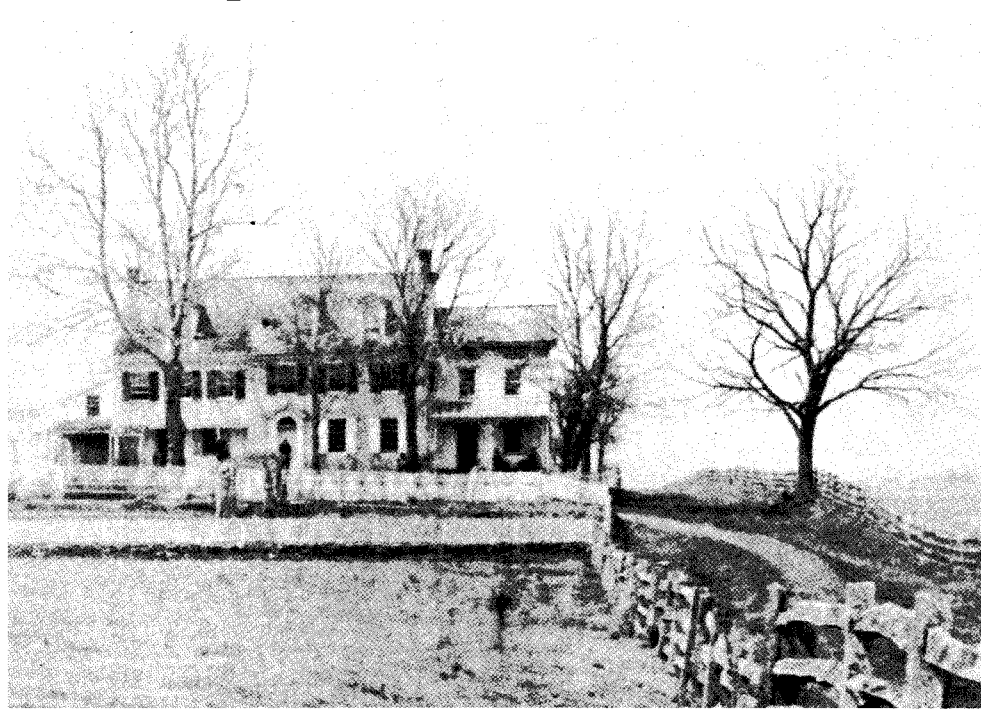
Philadelphia). Two years later, in 1684, he took control of the second 500 acres, which became part of Warminster township.

By 1688, Hart had become well settled in the area and married Susannah Rush, daughter of a distinguished territory family. His land holdings encompassed the area from Street Road to Bristol Road and included land on both sides of Newtown Road.

A Hart fights the Crown

The land passed to John Hart, Jr. (1684-1763), who established the first homestead on the land in 1750. He married Eleanor Crispia, granddaughter of Thomas Holme, William Penn's surveyor-general. After his death, the property passed to his eldest son COL Joseph Hart, Sr., who was Sheriff of Bucks County. COL Hart left his mark in America's young history. He was one of Bucks County's strong voices against the English Crown, and in 1775, was a member of the Committee of Safety. A year later, COL Hart was elected as vice president of the provincial convention at Carpenter's Hall, Philadelphia. He was active in raising militia for the Revolutionary War, serving under GEN Putnam, and was a signer of the Declaration of Independence.

During the Revolutionary War, Continental soldiers camped on the Hart Farm, which eventually led to the Battle of Crooked Billet, which crossed the Hart homestead. It's believed that a musket ball is imbedded in one of the black walnut floor sections in *Quarters A*'s kitchen. The tree that held the musket ball was used for flooring when



This old house — NADC's Quarters A as it stood in 1875. Quaker Charles Kirk, who bought the farm from John Hart, III, in 1841, stands on the front porch (center). The frame section at right, where Kirk's two sisters sit, is no longer standing. The second cellar under the house was used to house runaway slaves during the famed Underground Railroad era.

the house was built in 1817.

From 1777 to 1779, COL Hart served as commissioner of Bucks County to secure blankets for troops and was also a member of the Supreme Executive Council of Pennsylvania. In 1780, he was appointed Lieutenant of Bucks County and in 1784, was Judge of Common Pleas and Quarters Sessions.

Hart moves county seat

The homestead passed to son Joseph Hart, Jr. (1758-1811), who married Nancy Folwell in 1783. The younger Hart served as paymaster in COL Hanna's brigade during the Whiskey Rebellion, then served as Bucks County's Auditor. He later served several terms in the State Senate and was the dominating power in moving the county seat from Newtown to Doylestown. At his death, he divided this tract among his three sons: Thomas, who took over the original 1750 homestead, Lewis and John Hart, III.

"Quarters A" is born

The birth of *Quarters A* was at the hand of John, III, in 1817. The third John (1787-1841), also followed a military career. In 1810, he married Mary Horner. It is their initials that are still embossed on the Northeast exterior wall of the building. John, III, fought, briefly, in the War of 1812, and was a militia colonel after that war. Shortly before he died, he purchased his brother Thomas' farm, the original homestead. In 1841, the Hart farm was sold to Charles Kirk for \$10,529.28.

Tales of the Underground Railroad

Charles Kirk was a Quaker. In the 1800's until their freedom, black slaves knew that if they escaped across the Maryland/Pennsylvania border, the Mason-Dixon Line, they could find refuge and freedom in Bucks and Montgomery counties, PA, and the persons they could count on and trust were the Quakers. The slaves used York Road to get to Montgomery Co., while Easton Road was the main route into Bucks.

In the 1850's Kirk (the road passing the house, called Kirk Lane, is named for him) used *Quarters A* as a "safe house" on the Underground Railroad. Kirk had built a second cellar as well as an additional frame structure on the northeast side of the house to hide the slaves. It's also believed that the ground level to upper portions of the frame section were built for Kirk's two sisters. A number of connecting tunnels connected one of the barns with the cellar, and led under Kirk Lane. The slaves were then taken to the Ivyland Railroad and north. The cellar's northeast side is now a stone wall. Mrs. Sturm explained that when Captain Anderson (a previous Center commander) lived in the quarters, he removed two of the top stones to examine the tunnel and found it had collapsed. There is also a deep cistern in this cellar which still collects water. The second cellar and cistern are still in good condition. Kirk's family owned the farm until 1900.

From Brewster to the Navy

From 1900 to 1941, the property changed hands four times, until the Warminster Corporation, a subsidiary of Brewster Aircraft Corporation bought the farm. Brewster converted farm land into the age of aviation, building an aircraft manufacturing plant and runway for their Buffalo aircraft. In 1944, the U. S. Navy took over the Brewster plant including the famed *Quarters A*.

Some of the house's history is still shrouded in mystery. For example, the bedroom fireplaces have an unusual etching on them. There's also a spoon carved into the exterior wall next to the front door. Mrs. Sturm said that when the Navy took over the house in 1944, new wood floors, a modern wood staircase and steam radiators were installed. Other improvements were also made.

The captain's wife pointed out that the big frame section of the house, which housed Kirk's two sisters, is no longer there. Gone, too, are the barns.

Today, *Quarters A* still stands as a monument of America's past next to America's future. (FAD)



Photo by John Jones

It still holds water — Annette Sturm, wife of CAPT Edward J. Sturm, NADC Center Commander, shines a light into the second cellar's cistern, used by runaway slaves preceding and during the Civil War. Built by Charles Kirk around 1841, the cellar was a tunnel for the slaves to stopover while awaiting passage on the Ivyland Railroad and north. The cistern still collects water whenever it rains.

NADC holds its first Naval War Game

by Jan Gess

On December 9 through 11, NADC held its first Naval War Game. Sponsored by the Systems and Planning Assessment and Resources directorates, the experiment attempted to introduce the process of war gaming to the laboratory. The effort showed its benefits as a tool to understand the interaction between a multi-faceted battle force, and the influence on tactical posture from global socio-political factors as well as from technology changes.

A seminar gaming technique was used over a three-day period. Technical, analytical and military personnel were invited to participate in examining a maritime strategy scenario representing ASW and its supporting technologies. Players participated in a role-playing effort representing CINCLANTFLT planners developing concepts of operations within the scenario.

During this process, the game developed a geo-political situation of a land battle leading to the maritime scenario. Players were divided into four planning syndicates: MPA, Strike (CVBG), Surveillance and Submarines. The syndicate war plans were reported and reviewed by CINCLANT and National Security Advisor/National



Photo by Regina Gasuk

(Standing l to r): Bud Hay, Naval War College, Director of Global War Games, Technical Director Robert Buffum, Center Commander CAPT Edward Sturm, VADM Kenneth Carr, USN (Ret.), CAPT James Patton, USN (Ret.). CAPT Sturm and Mr. Buffum play the roles of National Security Advisors to the President.

Command Authority players. After several iterations to review status and update tasks to emphasize technological viewpoints, a final iteration was performed to review specific major ASW issues for CINCLANT's comments.

The game provided its facilitators the opportunity to learn some of the various aspects of gaming and new ideas for improving the process. It is the first step in the development of a process to offer opportunities for technologists to focus their efforts

relating to the maritime strategy. The process also provided a means of researching future warfare applications of technology.

The first year of this program development is a process of experimentation determining the best techniques to achieve specific objectives. The Naval War College has graciously offered its gaming expertise and personnel to support this effort.

Four to six games are planned for 1986. Each game will have slightly different focus, different expertise represented, and may use different gaming techniques. Off-line gaming among systems analyses personnel will also support this effort.

The next game is planned for March with an emphasis on TACAIR systems and associated technology. The Naval War College will help in this effort through the planning and execution process. The AAW working group will be contacted for insights. Lessons learned from the previous game will also be addressed. Gaming techniques are receiving considerable interest across the DON and DOD, and the Naval Air Development Center is pleased to be supporting these techniques in order that it may improve its posture in the development and material acquisition process of the Navy.

NADC's Composite Group develops new repair material

Engineers from NADC's Composite group travelled to Virginia and boarded the USS AMERICA. They were there to demonstrate for the ship's repair personnel new time- and cost-saving repair materials they had developed at the Center. They performed a repair of composite material, similar to that used on the F-18 and AV8B, simulating conditions of an actual damaged component.

Currently, composite structures are repaired using bolted-on metallic patches or through-bonding techniques. These bonded repairs depend on the use of precured inflexible composite patches which are adhesively bonded to the damaged component. The precured patches can't conform to curved surfaces and the adhesives used to restore structural integrity require refrigerated storage. "These considerations impose significant limitations on performing repairs on board carrier or in remote field scenarios, particularly with regard to logistic problems in shipping refrigerated materials long distances," said Ron Trabocca, Head of the Composites Group in the Aircraft and Crew Systems Technology Directorate.

Materials requiring refrigeration have limited shelf life and often arrive at their destination in an unusable condition. Limited freezer availability on board carriers imposes further constraint with regard to the use of conventional film adhesives. "What we've done is develop a patch material that can be stored at room temperature and when heated can conform to a curved surface," said Roland Cochran, a Composites group engineer who helped develop the new repair



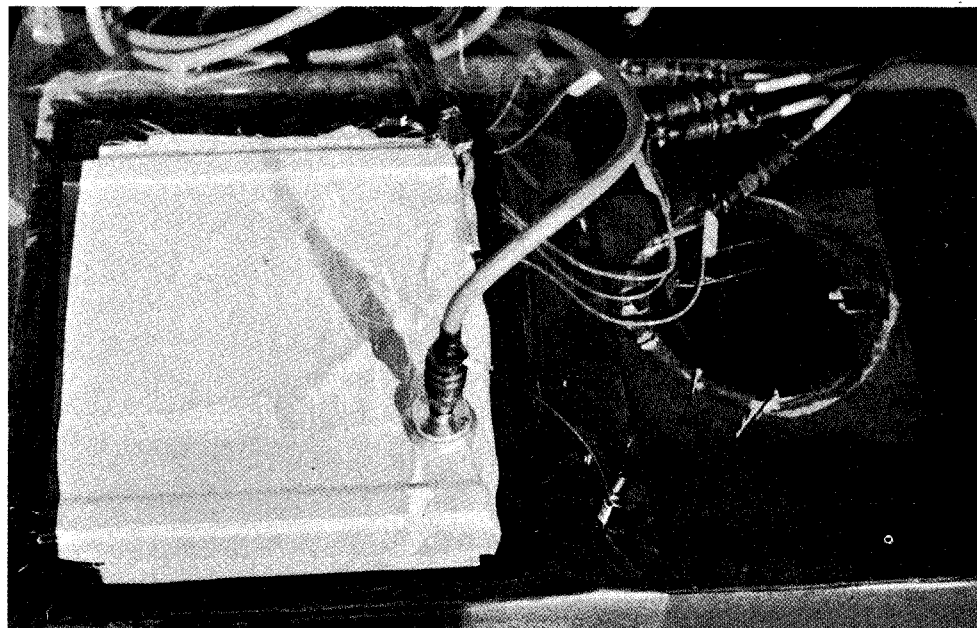
Tom Donnellan (left) and Roland Cochran (right), Code 6063, removing vacuum bag from composite repair.

materials. "We've also developed an adhesive that doesn't require refrigerated storage and possesses an unlimited shelf life. These are advancements which significantly impact maintainability of present and future Naval composite aircraft."

He also explained that until recently it was impractical to perform bonded repairs on moisturized composites. Present composite materials in service absorb moisture from the atmosphere particularly in high humidity areas such as the Indian Ocean. Basically, bonded structural repairs require heating which causes evolution of moisture into the liquid adhesive during cure. This results in low-strength, unacceptable structural composite repairs. "It is impractical to dry aircraft so we incorporated this

consideration into the adhesive development," said Trabocca.

The NADC adhesive can be used to repair moisturized components with no deleterious effects. A repair can be accomplished quicker and easier than with conventional materials. "Presently we are in the process of producing and supplying initial quantities of adhesive to the fleet," said Trabocca. "We recognized a serious problem for the fleet which wasn't being addressed; namely composite repair for Naval aircraft in a non-depot environment. Our repair system represents an advancement in the state-of-the-art and will provide a capability previously non-existent. It will enable Marines or Sailors to effect repairs quickly, more efficiently, and with minimal training."



Left side of photo shows curing process of new graphite epoxy patch which is shown completed to the right.

11th Ralph S. Barnaby Award for Jerry Guarini Associate Technical Director

Jerry Guarini, Associate Technical Director of the Naval Air Development Center received the 1985 Ralph S. Barnaby Award for distinguished service to the Center and the Department of the Navy.

Guarini who has more than 30 years service plays a critically important role in the management of the Center performing the tasks of Associate Technical Director and

Chairman of the Center Management Group. Guarini's position also places him in the forefront of the Center's relationship with sponsors, industry, the local community and national political forces.

The Award's namesake, CAPT Ralph S. Barnaby born in 1893, served as the first Commander of NADC from 1944 to 1947.

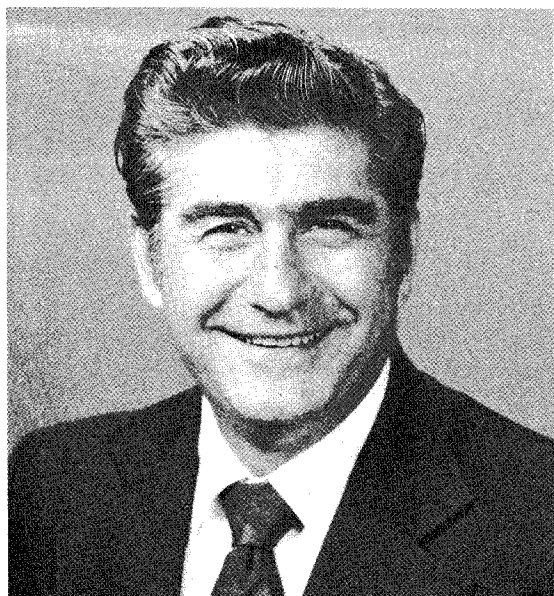


Photo by Drew Schmith

Jerry Guarini (l) receives Barnaby Award plaque from Center Commander CAPT Edward Sturm.

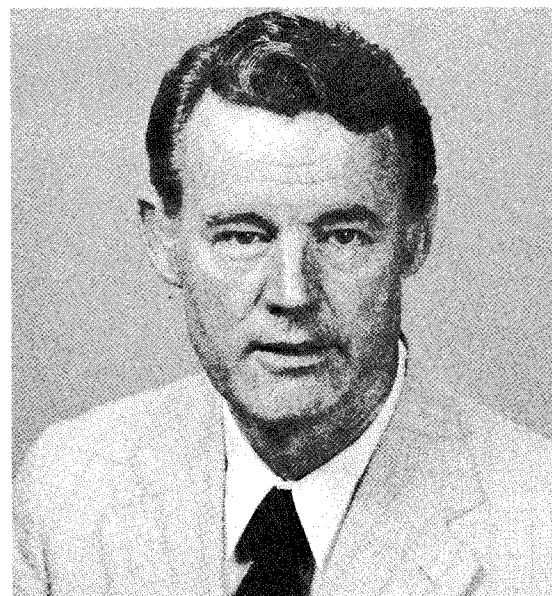


Navy Superior Civilian Service Awards



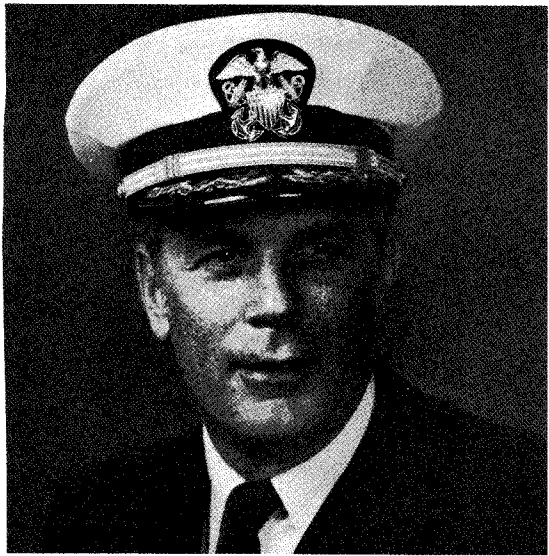
EDWARD YANNUZZI

"For exceptionally outstanding technical and managerial leadership while serving as the Director of the Sensors and Avionics Technology Directorate at the Naval Air Development Center. Since 1981 you have provided the professional example and technical leadership required to build and shape the direction of a Navy center of excellence in research and development in airborne sensors and avionics. Your stewardship and technical management have built a solid foundation in sensors and avionics technology for present and future generation airborne platforms. Your exceptional dedication and technical management abilities are hereby recognized as in keeping with the highest tradition of the Department of the Navy."



WILLIAM F. LYONS

"For exceptionally outstanding technical leadership contributions while serving as the Director of the Communication Navigation Technology Directorate at the Naval Air Development Center. From July 1979 to August 1985 you served with distinction as a leader responsible for RDT&E programs and project support in airborne communications and airborne, surface and subsurface navigation systems. You have helped to establish joint programs with the Air Force which have fused the technologies of advanced communications systems and navigation systems with resulting savings to the tech base programs of both services. Your exceptional dedication and your technical and leadership abilities are in keeping with the highest tradition of the Department of the Navy."



CAPT Edward Sturm Center Commander

State of

The past year has been an interesting, fruitful and rewarding one. We were severely tested during the year by the amount of work we were assigned in support of the Navy. Total funds received rose 14.3% to \$397.5M. This growth was considerably more than the inflationary increase of 4% for the same period. Two closely watched measures of Center efficiency have shown that we were up to the task of handling this growth. Productivity, a measure of direct hours to total hours, rose from 61.4% in FY-84 to 64.1% for FY-85. The overtime rate, a primary concern of our leadership in Washington when I assumed command, fell from 4.3% in FY-84 to 2.5% in FY-85. These two factors attest to the outstanding level of cooperation and the business-like manner in which we have approached our operations.

The past year has seen the Center continue many of the changes begun the year before as well as initiate some new undertakings that will be implemented in 1986. These will include a new organizational structure for the Center, the start of construction of the GPS/TACAMO facility, and a concerted effort to wrap up our first round of strategic planning. Along with these new undertakings, we are continuing to improve the overall quality of life at the Center and address some issues that affect each of us on a daily basis.

Strategic Planning Guidelines

As should be apparent to most people, a major effort is underway in the area of strategic planning. We have established a Strategic Planning Group and provided introductory training in this area down to Division Manager level. Our strategic planning effort will not be done only at the "upper management" level but will be a combination of top-down and bottom-up inputs. Directors and

Division Heads will keep their personnel aware of the progress in this area, and we will utilize them as contributing team members.

Reorganization of the Center

During the effort to formulate the strategic goals, it became evident that some sort of organizational restructuring would be necessary if we were to optimize our efforts toward accomplishing our strategic objectives. As we moved forward with our organizational planning, many factors influenced the decisions that were made. The Navy has completely restructured its approach toward managing its technology base work; NAVAIR has instituted a Program Director Air (PDA) organization; ONT has reorganized its divisions along warfare area lines; NAVELEX has been restructured and is now the Space and Naval Warfare Systems Command (SPAWARSSYSCOM); and OP-95 has restructured its organization. Most of these changes are in response to SECNAV's insistence on clear accountability and authority within organizations and better audit trails in the Research, Development, Test and Evaluation (RDT&E) world. These changes, combined with our own goals and objectives, have led us to the conclusion that we should organize ourselves along the same lines with: three Warfare Area Directorates (WFAD), ASW, TACAIR and Multi-Warfare/Battle Management; four Engineering and Technology Directorates (E&TD); and a top-level RDT&E manager and coordinator (Code 01T). We saw no need for any restructuring in the support codes currently in place on the Center.

The WFAD Directorates will have more authority and control than the current Code 10 operation since they will have resident projects, systems analysis, advanced concepts, systems engineering and strategic planning personnel. This approach accomplishes two things: It aligns our project

management with the organization of our primary sponsors and OPNAV, and it gives the project managers better authority over projects and their needed resources.

The E&TD's will have direct authority and responsibility for Technology Base projects. They will maintain their own programs, manage and operate all of the block programs, and provide engineering support to the WFAD's. In essence, they will operate as the technical directorates do today.

Code 01T will ensure that proper coordination of our Technology Base efforts is maintained between the WFAD's and the E&TD's as well as provide a single point of contact with our Technology Base sponsors.

Reorganization Schedule

While we have made significant strides toward initiating these changes, the entire structural change needs to be finalized, documented and presented to the Director of Naval

- More visibility and better support for Navy warfare areas
- Good congruence with the external organizations and sponsors that control our livelihood
- Single point accountability to the Center CO/TD for warfare and technology area decisions
- Better focus and responsiveness of technology base programs to Navy needs
- Better balance between project and technology areas of the Center

As with any restructuring, there will be some people on Center who will be impacted by the changes. I will assure you, however, that there will be no changes put in place that will negatively impact on the grades or job security of any of our current people.

General Concerns

We face a serious problem in providing adequate, quality laboratory and office space within the confines of our physical plant. Codes 00A/01A/

"I feel that there are a host of benefits the Center will attain under this new structure, not the least of which is an improved efficiency in the way we conduct our business."

Laboratories (DNL) and the Chief of Naval Research (CNR) for final approval prior to implementation. We expect to have this done so that the new organization can be in place and functioning by 1 October 1986. In the meantime, CAPT Jack Hood, Mr. Tom Brennan and Mr. Ed Yannuzzi will be doing additional duties as heads of the ASW, TACAIR and Multi-Warfare/Battle Management Directorates, respectively. I anticipate making their assignments permanent after we receive the necessary DNL and CNR approvals. Each of these Directors has already begun the strategic planning for their sectors and will be assembling small staffs to assist in the effort prior to final DNL and CNR approval.

Reorganization Benefits

I feel that there are a host of benefits the Center will attain under this new structure, not the least of which is an improved efficiency in the way we conduct our business. Additionally, the new structure should provide:

- Increased emphasis on Center strong points and thrust areas for the future

83/7013 have developed a plan that will create an additional 20,000 square feet of office space. In addition, a hard look is being taken at moving all non-essential contractor personnel off-Center to provide more space for government employees. The quality of our working spaces is being continually and significantly upgraded, as evidenced by the amount of current construction on Center. All efforts are being taken to assure that these upgrades are properly phased and completed at the earliest possible dates.

While we have met our hiring goals for FY-85, there still remains the problem of retaining quality scientific and engineering personnel in the numbers we would like. One of the best ways to combat this loss is to provide quality work for these people. I feel that increasing our technology base and system level efforts and the attendant challenge this work represents while (or "plus") reducing contracting out in these areas should go a long way toward alleviating this problem. Complementing these

Continued on page 9

"During the effort to formulate the strategic goals, it became evident that some sort of organizational restructuring would be necessary if we were to optimize our efforts toward accomplishing our strategic objective."

the Center

Robert F. Buffum Technical Director



I thank all of you for your support during the past year. It seems each year has its own peculiar problems to overcome and our working together is the only way to stay on top of a rapidly changing environment.

The Center is as strong technically as it has ever been and availability of funds is not a problem. In fact, we must be cautious in our acceptance of new work to ensure a correct match with our long term goals.

For the sake of brevity, I am listing here a series of statements which summarize the State of the Center with regard to Technology and Systems.

With respect to our technology base, this fiscal year has seen major changes in the outside management of our programs. Most of the SYSCOMS technology base management role has been taken over directly by the Office of the Chief of Naval Research (OCNR). This has placed NADC into a more direct line of responsibility for the management of our technology efforts. The significance of this lies in our meeting that responsibility and being responsive to the requirements of the three segments of OCNR; namely, the Office of Naval Research (ONR), the Office of Naval Technology (ONT) and the Office of Naval Laboratories (ONL). This year of transition to a new management chain may be a difficult one, but one in which we have an opportunity to affect the future of the Center's technology base.

Another important change in the Center's management of our technology base is the formation of an Associate Technical Director for Technology, a position which is currently being scoped. This should greatly ease the technology interfaces between our new Warfare Area and Engineering and Technology Directorates. Also those outside the Center will have a focal point for all technology matters.

Block programming continues to be the heart of our technology base. With the restructuring of our command headquarters and the reshaping of some of the Blocks, this Center has been assigned responsibility for the following Block Programs: **Air ASW Surveillance, Navigation and Aircraft C³, Aircraft Materials, Air Platforms and Systems, and Airborne Surveillance.**

Although reduced in number from

"This year of transition to a new management chain may be a difficult one, but one in which we have an opportunity to affect the future of the Center's technology base."

nine to five, these programs will make up close to 75% of our exploratory development funds.

Using our FY-86 projections, the technology base will comprise almost 18% of the total Center funding. A good portion of these funds goes to other Navy Laboratories, Universities, and Industry. The portion of monies used off-station amounts to approximately 52%.

The IR/IED Program will continue to be driven to support technology shortfalls of the Center. Although slightly less than 5% of tech base funds are IR/IED monies, these projects continue their high visibility on the Center. The following is a list of some of the major IR/IED activities:

Advanced Magnetic Storage Technology
Chemically Modified Surface for Corrosion Protection
Hybrid Composite Structures
Artificial Intelligence for Airborne Tactical Alerting
Optical Fiber Antenna/ Receiver for LF Communications
Repairability of Radar Absorbing Structures
Non-Destructive Evaluation of Metal and Ceramic and Matrix Composites
Optical Computing and Networking
Braided Composite Structures
High Altitude Loiter Aircraft Technology

In our systems world, the Center is emphasizing certain warfare and mission base areas. Included are AAW,

ASUW on ASW/TACAIR platforms, ASW, EW, ROTARY WING, TACTICAL C³, and UVS (Unmanned Vehicle Systems). The technology base planning reflects support of these emphasis areas. Many new initiative areas are being pursued which will also support these emphasized mission areas. These include:

Application of Artificial Intelligence
Advanced Tactical Aircraft Unmanned Air Vehicle Systems
VHSIC Technology Transition Applications
Mobile Tactical Surveillance Vehicle
Optical Sonobuoy
Fiber Optic Gyroscope
Navigation Based Gridlock
Non-Conventional Velocity Sensors
Optical Recording
Advanced Software Technology
High Altitude — Long Endurance Remotely Piloted Vehicles
Oblique Wing Research Aircraft
Advanced Lighter Than Air Vehicles

The following ten top system programs being supported by our technology are bringing in over \$70M to the Center this year:

NAVSTAR Global Positioning System
Target Systems Development
P-3C Update IV
Low Cost Sonobuoy System
P-3C ASP and Acoustic Integration
Aircraft Fuel Conservation RDT&E Program
P-3C Modernization C-MOD
Navy Aircrew Common Ejection Seat
Enhanced Modular Signal Processor Development
Airborne Common Acoustic Processing

Here are some significant technology accomplishments over the past few years:

- First Production P-3C Update III developed by NADC delivered to the fleet with greatly enhanced acoustic ASW capability.
- All optical fiber, zero frequency

magnetometer demonstrated for improved non-acoustic ASW capability.

- Chemical conversion coatings for aluminum have been developed which greatly enhance corrosion protection in the Naval environment.

- In-situ composite structures repair techniques developed for depot level application will significantly reduce costs.

- Light amplification by Xenon atoms in the presence of atmospheric gasses was discovered with a postulated far-reaching impact on Naval systems.

- Tactical Air Reconnaissance Pod (TARPS) designed, developed and produced by NADC is now the only organic photo reconnaissance capability in the fleet.

- Significant life cycle savings are projected following the design verification of an ejection seat for common application to Naval aircraft.

- AN/TAS-6 Infrared night vision sensor added to the H-2 and H-3 helicopters with the fleet in the East Mediterranean introducing a critically needed capability for tracking surface ship movements.

As mentioned by the Captain in his year end message, this year the Center will experience little or no personnel growth over FY-85 year end totals. This still leaves us with a projected S&E total of 1550 indicating that slightly more than 60% of the work force will be made up of Scientists and Engineers.

Again, your support over the past year is greatly appreciated. I know that I can count on that support continuing throughout this current year. My personal wish for each and every one of you is a happy, healthy and prosperous New Year.

"The ten top system programs being supported by our technology are bringing in over \$70M to the Center this year."

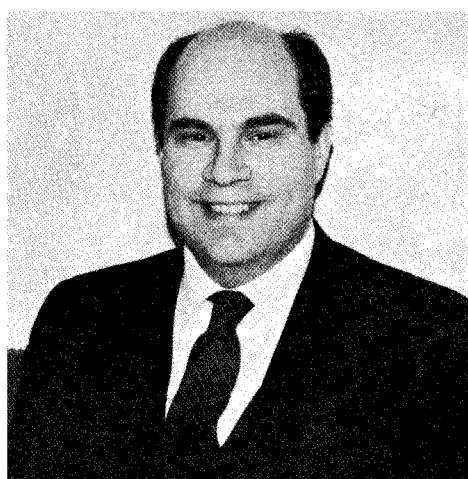
Moser and Campana named Meritorious Civilians



*Paul Moser,
Associate Director,
Sensors and Avionics
Technology Directorate*

Paul Moser, a thirty-year veteran of NADC, is an internationally recognized expert in research and development of new sensors. Moser plays a major role in the technical work needed to support the development of sensors for anti-submarine warfare. His superiors have described him as a valuable asset possessing keen technical scrutiny.

Moser's Meritorious Civilian Service Award cited him for professional example and technical leadership instrumental in shaping a Navy center of excellence in research and development of airborne passive infrared imaging devices and other naval sensor schemes applied to submarine detection. (MAB)



*Stephen Campana,
Head, Remote Sensing Branch,
Sensors and Avionics
Technology Directorate*

Meritorious Civilian Service Award winner Stephen Campana administers a major share of the Navy research, exploratory and advanced development program in laser, sensor, and image and signal processing technology and systems.

For twenty years he has contributed to the development of naval airborne electro-optical and infrared reconnaissance and surveillance. Campana was recognized for consistent diligence and technical excellence resulting in a solid foundation for the next generation of airborne surveillance and reconnaissance equipment. (MAB)

Reenlistments



AD3 Norman G. Watson (seated) signs his reenlistment papers for six more years in the presence of CAPT Edward Sturm. Watson received orders to VP-8, NAS Brunswick, Maine.



AKC Alfredo Mabini reenlisted in the Supply Office on December 5th. CDR Milton Weaver (right), Supply Officer, was the reenlisting officer and Mabini's wife, Judy, and daughter, Sherry were at his side. Mabini received orders to Sigonella, Italy.



Chief Hospital Corpsman Leyland Donnan reenlisted for two more years. Donnan hasn't received new orders yet since he'll be at the Center for another year.



Senior Chief Aviation Anti-Submarine Operator Chris T. Kaiser (right) reenlisted December 23rd. Center Commander CAPT Edward Sturm swore Kaiser in for two more years.

If the 'SOC' fits

by Robert Janes

Most employees are aware of the need to avoid any on-the-job involvement with companies in which they have stock or bonds. The Standards of Conduct (SOC) likewise require that employees avoid dealing with companies with whom they have made arrangements or are negotiating with for prospective employment. In fact, there is also a federal statute which prohibits this, and makes it a crime punishable by a fine of up to \$10,000 and/or imprisonment for up to two years for an employee to participate in matters involving companies with whom he is negotiating or has any arrangement concerning prospective employment. Each year people are tried and convicted under this statute, and the Justice Department has noted that the statute is a convenient vehicle for prosecution since it does not require a showing of any quid pro quo, or any favored treatment bestowed upon the future employer by the government employee. The mere participation in matters involving the company on the job will subject the employee to criminal penalties.

About a year ago, a company which had lost out on an NADC contract submitted a bid protest to the General Accounting Office (GAO). The company was particularly upset because right about the time of contract award, one of the cognizant NADC engineers had left the government and gone to work for the company that won the contract. We investigated the matter and found that the engineer had had no involvement whatsoever with the procurement once he began negotiating with his prospective employer for a job. GAO concurred and the matter was closed. One thing this engineer could have done to help protect himself was to advise his supervisor as soon as he began negotiations with the company. Many employees are understandably reluctant to do this for fear of jeopardizing their government careers should the negotiations fall through. Nevertheless, keeping the supervisor apprised of any arrangements or negotiations for future employment can prove to be helpful in case allegations of an impropriety later arise.

"We always admire the other fellow more after we have tried his job."
—William Feather, businessman

"At a round table, there is no dispute about place."
—Italian proverb

VIEWPOINT

Photos by Regina Gasuk

This month's question is:

Do you warm up to cold weather sports?

"When I go skiing I stay warm by trying to fall down. My wife stays warm by laughing at me."

Phillip Whitney, Code 60B1



"Although I'm very 'cool', I'm friendly, too, so I can warm up to almost everyone."

Glenn Carter, Code 201



"Absolutely, as long as it's indoors. Especially if he provides a fireplace and a bottle of wine."

Carole Preston, Code 6001



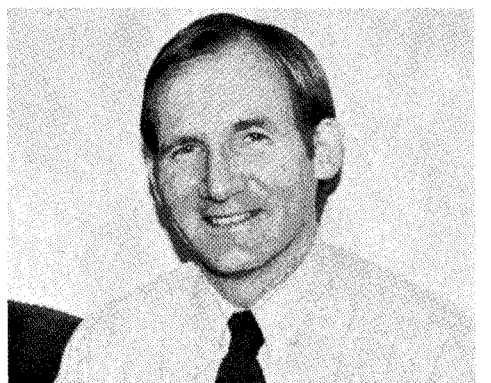
"My idea of cold weather sports is jogging from my car to my house, although I love to take long walks when it snows. There's a certain magic in the air and I like to be a part of it."

Rosemary Convery, Code 302



"First, I give the wife a big hug, down a tall glass of Canadian moose milk, then strap on the skis and go for it!"

Major Dale Tremblay, Code 09L1



"Sno', not really. But, I do like Polar Bars!"

Judy Scott, Code 034



Mixed bowling news

Congratulations to the **WARVEYHALLBANGERS** and the **BIG SPENDERS** for winning their Divisional Championships!

Bernie Weber's Warveys cruised to first place in the A Division, going into knockdown night with a 9 point lead over **Al Knobloch's** Goofers. In the B Division, things were a lot tighter. **Tom Reiter's** Red Wineos and **Sue Casagrande's** Big Spenders went head to head tied at

34.5, while **Helene Goldstein's** Eleventh Frame, at 34.0, had a shot, bowling **Ted Calkin's** Falcons. The Falcons stopped Eleventh Frames' bid by winning 3 games and revenge was truly sweet for the Big Spenders as their first year entry avenged an opening night, high handicapped, loss to the Wineos by crushing in the big one 3-1.

Good luck to all bowlers in the second half.

Naval Aviation — 75 years old

by Jim Kingston

This is going to be a banner year for Naval Aviation. NADC will be displaying banners and signs announcing the 75th Anniversary of Naval Aviation and an Open House at the Center.

The official Anniversary date of the establishment of Naval Aviation is May 8th, but the celebration will last all year long. For our part, we will be carrying the 75th Anniversary logo (design) in the nameplate of the *REFLECTOR*, on Public Affairs News Release stationery, and on our Center Video News programs.

We will be running a series of stories in the *REFLECTOR* on the history of Naval Aviation covering the 1911-1986

period. In addition, a special edition of Center Video News will be produced giving a capsule history of Naval Aviation. In each case, the contributions by NADC to Naval Aviation will be highlighted.

Our Open House celebration is scheduled for Saturday, May 10, 1986. Coincidentally, Warminster Township will be celebrating its 275th Anniversary and they will be supporting and complementing our Open House program much as they did during our 40th Anniversary in 1984. The open house will include our laboratories and the airfield. A static display of Naval Aircraft will include some vintage planes from private owners and collections.



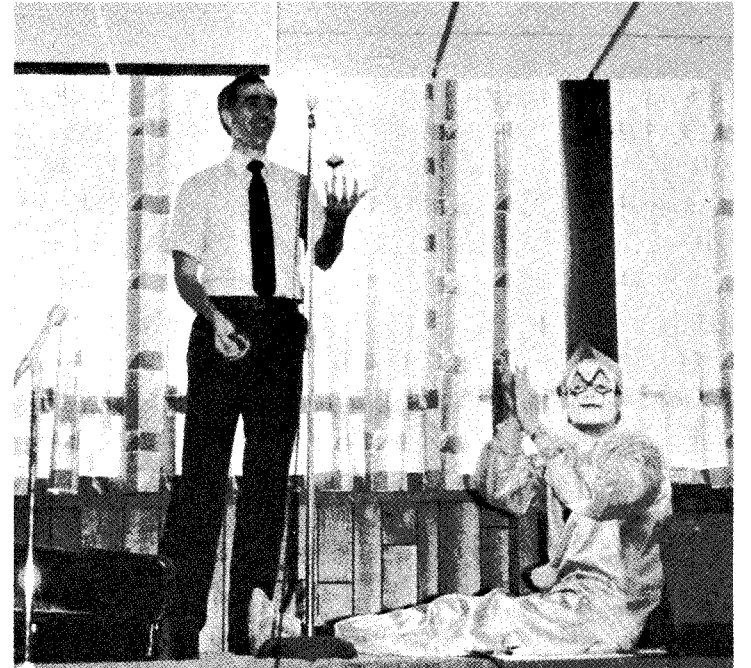
"By a good warm-up in Bldg. 3, 2nd deck, preferably in the Public Affairs Office."

CAPT Fred Wright, Code 00A

Welfare & Recreation entertains employees



The Choral Group, directed by Joel Lenko, performs favorite Christmas medley. Photo by Regina Gasuk



George Gillespie performs magic and juggling act. Photo by Regina Gasuk



Barbershop Quartet harmonizes Yuletide carols. Photo by Regina Gasuk



Lucy Dunbar (right) and her sister (Lydia Rodriquez) delight all with their rendition of "I'll be Home for Christmas." Photo by Regina Gasuk



Evelyn James tells Santa (Otto Engdahl) what she wants for Christmas. Photo by Regina Gasuk



Welfare & Recreation provide refreshments for after the show. Photo by Regina Gasuk

Technical Highlights

S-3B SOFTWARE DELIVERED FOR TECHEVAL

NADC delivered S-3B Fleet Issue software program B4.1 to NAVAIR-TESTCEN on 1 Nov 85 for TECH-EVAL. The B4.1 software provides the S-3B aircraft with improved capability in ASW acoustic processing including passive tracking automation and advanced active capability, 99-channel receiving, and greater processing flexibility. ESM enhancements include expanded frequency coverage and auto threat warning. ASUW capability is improved with ISAR imaging, radar multi-fix auto tracking, and addition of the Harpoon Anti-Surface Missile.

SYNTHETIC APERTURE RADAR (SAR)

Installation design of a Multi-frequency and Polarization SAR has commenced. The radar system developed by the Environmental Research Institute of Michigan will be installed and operated in an NADC P-3. A five year ocean measurements research program will be undertaken by NADC and ERIM on behalf of the Navy when the installation is completed in September of 1986. P-3 Aircraft BuNo 148883 is being

modified to accept the radar installation.

CRASHWORTHY RETROFIT AIRCREW SEATS, HELOS (CRASH)

H-53 Seat — Prototype hardware of the H-53 seat concept was successfully qualified to the requirements of MIL-S-81771A. Qualification testing included: static loads; ballistics; restraint subsystem/static loads; environmental; and dynamic crash loads. The dynamic crash loads test phase was conducted on the NADC Horizontal Accelerator Facility. This test series marks the initial use of this unique R&D mechanism in providing NAVAIR with an independent crash test facility for qualification.

TACAMO POWER AMPLIFIER ADM DELIVERED

NADC accepted delivery of a unique 36 kilowatt Advanced Development Model (ADM) solid state Very Low Frequency (VLF) power amplifier demonstration unit. This unit was developed by the Westinghouse Electric Corporation under contract to NADC and demonstrates the

feasibility of using solid state components to build state-of-the-art, high power replacement VLF amplifiers for the TACAMO communication system. These new technology amplifiers will eventually replace the tube type power amplifiers currently in the TACAMO aircraft and will be much more reliable and electrically efficient as well as substantially lighter in weight. The demonstration unit will be laboratory tested at NADC and the findings will be used in the preparation of a specification for Full Scale Development.

P-3C OPERATIONAL PROGRAM COMMENCES OPEVAL

The I4.6.1 Operational Program, which successfully completed Navy Technical Evaluation (NTE) in July 1985, has been released for OPEVAL beginning 12 November 1985. This program will provide the P-3C UPDATE fleet aircraft with the ability to operate SASP in the UPDATE III, PTA/Localization in the UPDATE II, and provide HARPOON Targeting Aids, new weapon inventories and mining capabilities in UPDATE II and III. The program is currently scheduled for fleet release in March 1986.

Children Suffering From Flu Should Not Take Aspirin

"Aspirin should not be given to children or teen-agers when they have flu-like symptoms," stressed Lt. Cmdr. (Dr.) Joel Rosenstock, assistant professor of preventive medicine and biometrics and assistant professor of medicine at the Uniformed Services University of the Health Sciences, the nation's only military medical school.

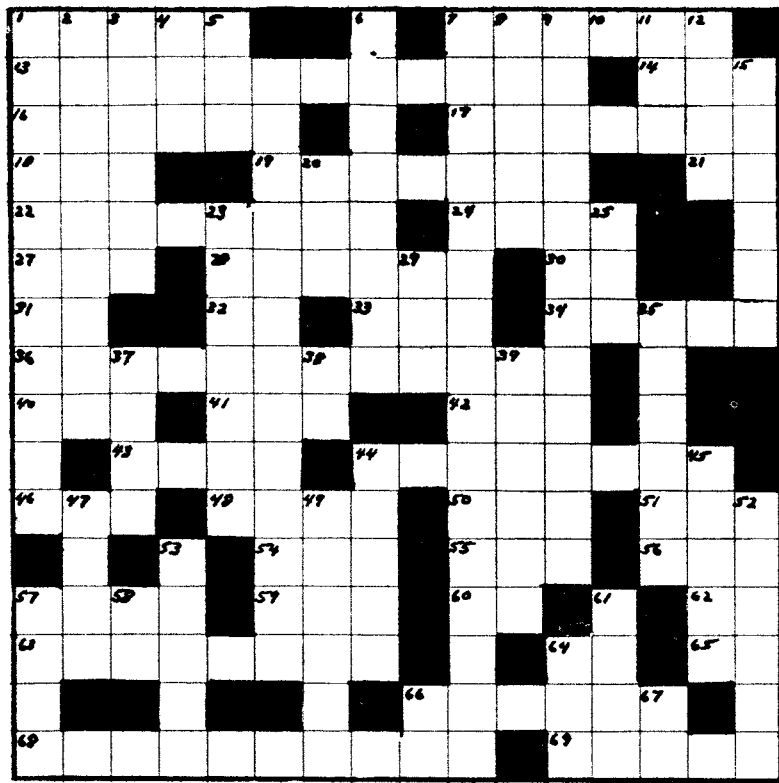
"There is a possible association between aspirin and Reye's syndrome—a potentially fatal illness that leads to a sudden deterioration of the brain and liver."

Reye's syndrome can affect people up to age 20, but Rosenstock pointed out it occurs mainly in children under 12. "Reye's syndrome brings about neurological changes," said Rosenstock. "The symptoms are dizziness and protracted vomiting." Mothers should be cautioned that an episode of intractable vomiting after the onset of flu is reason to seek a doctor's care, said Rosenstock. There is no real treatment for Reye's syndrome, and 10 to 15 percent of the victims die.

Acetaminophen (brand names: Tylenol, Liquiprin, Tempra and Datril) is generally considered safe for children as a fever control, advised Rosenstock. Acetaminophen has not been linked to Reye's syndrome.

Does safety puzzle you?

By Mike Masington



(Solution on page 9)

ACROSS

- 1 & 7 Former character in this paper
- 13. Poor type of safety lecturer
- 14. _____ relief
- 16. Common safety warning
- 17. Sugary candy
- 18. Partner of meini & mo
- 19. Most common form of auto accident
- 21. Ends a fight
- 22. Possible result of chemical over-exposure
- 24. High risk driver
- 27. British vessel
- 28. Everything _____ (OK)
- 30. Concerning (abbr.)
- 31. Girlfriend of Zeus
- 32. Army cop
- 33. Felon on the run
- 34. A good driver _____ his time before passing
- 36. May be effected by 40 across
- 40. Dangerous hallucinogen
- 41. Single
- 42. Actual percentage of good drivers in U.S.
- 43. Don't gamble with your safety, the _____ are against you
- 44. Common problem on ice
- 46. International distress signal
- 48. Source of highway information
- 50. Compete
- 51. Barrel
- 54. Male relative (abbr.)
- 55. Board convened to investigate aircraft accidents (abbr.)
- 56. Saves downed pilots (abbr.)
- 57. Demonstrate
- 59. Source of traffic regulations
- 60. Female star of Gilligan's island (initials)
- 62. Greek letter
- 63. Type of person who causes accidents
- 64. Short greeting
- 65. Compass point
- 66. Type of society the auto makes us
- 68. Happens to some behind the wheel
- 69. Instruct

DOWN

- 1. Attached to safety glasses for added protection
- 2. Support for safety should be _____
- 3. A fire victim often _____
- 4. Unit of energy
- 5. Route (abbr.)
- 6. Signal a lead singer (3 wds.)
- 7. Everyone should have it (2 wds.)
- 8. Make amends
- 9. Minor auto accident
- 11. Not yet scheduled (abbr.)
- 12. American in Britain
- 15. Bone breakers
- 20. Engineering service report (abbr.)
- 23. British ASW airplanes
- 25. Never in Berlin
- 29. British commando group
- 35. A good driver never _____ and drives
- 37. Officers on night watch
- 38. Pronoun
- 39. Safety barrier dividing traffic lanes
- 44. They cause traffic problems in winter
- 45. Require guards when exposed on machines
- 47. Safety regulatory agency
- 49. A good driver _____ the steering wheel firmly
- 52. Violating safety rules may permanently stunt your _____
- 53. Common reaction of a driver being cut out in traffic
- 57. Often a souvenir of an accident
- 58. Preposition
- 61. Stack
- 64. Driving shouldn't be a _____ or miss proposition
- 66. Missouri (abbr.)
- 67. Each (abbr.)

Heating Energy Savers

Don't turn the heat on until you have to. On cool evenings use your fireplace instead and add a blanket at night.

When the heat is on . . .

- Lower your thermostat to 65°F during the day and 55°F at night. You can save on your fuel costs for every degree you reduce the *average temperature* in your home.
- Clean or replace the filter in your forced-air heating system each month.
- Keep windows near your thermostat tightly closed, otherwise it will keep your furnace working after the rest of the room has reached a comfortable temperature.

Helpful Hints

The human body gives off heat, about 390 BTU's per hour for a man, 330 for a woman. Dressing wisely can help you retain natural heat.

Wear closely woven fabrics. They add at least a half degree in warmth.

For women. Slacks are at least a degree warmer than skirts.

For men and women. A light long-sleeved sweater equals almost 2 degrees in added warmth; a heavy long-sleeved sweater adds about 3.7 degrees; and two lightweight sweaters add about 5 degrees in warmth because the air between them serves as insulation to keep in more body heat.

February - Black History Month



On February 1st the nation will begin the 40th annual celebration of Black History. This celebration serves to increase our awareness of the contributions of Black Americans to our Country. In 1926, Carter G. Woodson, a Black scholar and historian, established Negro History Week to dramatize often omitted Black achievements in American History. This celebration, expanded to one full month, recalls the outstanding contributions of Blacks to the growth and betterment of this country. This period of recognition is used to educate and reeducate all Americans on the essential role of Blacks in American History.

Navy men and women, around the world, should take this opportunity to acknowledge the positive contributions of Black men and women; contributions which are a source of pride for all.

Admiral James D. Watkins



In this issue:

IRAD Program
Outreach Program
Sailor of the Year
Foreign Officers
Naval Aviation

Volume 31 Number 2

NAVAL AIR DEVELOPMENT CENTER, WARMINSTER, PA.

February 1986

Civilian career and reservist duties unite



Harry Koper sits at light table to read resolution of camera lens on test film.

Harry Koper of the Sensors and Avionics Technology Directorate performs for his country twice: first, as a project engineer on the manned and unmanned tactical reconnaissance program and again as a Commander in the Naval Reserve working as an Intelligence Officer.

Koper is one of many Naval Reservists whose work at NADC assists them in more effective execution of their Naval Reserve duties. "It benefits us in the Reserve to have a good foundation in engineering, and various technologies and to carry

that expertise into the Reserves. Likewise we are permitted to exercise the knowledge that we theoretically derive into operational experiences in the Reserves," said Koper. "This continuing evolution of effort permits us to put a uniform on, and demonstrate our NADC experience into actual hands-on experience."

Engineer at work

At NADC Koper is working with tactical reconnaissance systems, mostly imaging systems, responsible

for designing and developing various reconnaissance concepts and systems. Koper explained that some of the systems he helped design and develop here at NADC, such as photographic systems aboard the P-3, he has actually used in his Reserve activities. Koper is also able to observe some of the shortfalls in the performance of these systems and how they can be improved through further development. "At times I see that the fleet tolerates an anomaly they feel cannot be corrected when a small change can eliminate the problem and improve the performance of the system," said Koper.

Weekend Troubleshooter

In one instance, a new sensor was causing streaks to appear on the film platen causing cosmetic blemishes on the film. They were tolerable, so the crew attributed the problem to wear and tear on the equipment. Koper found that removing and cleaning the platen and film magazine and a small adjustment eliminated the problem.

Koper's first experience with Engineer/Reservist compatibility took place in the mid-70's when reconnaissance photography taken aboard the Reserve P-3A aircraft was through the curved plexiglass windscreen thereby causing distortions in the photography. Koper demonstrated the design of a flat piece of optical glass inserted in the escape hatch, would significantly increase the quality of the pictures taken. The system went into production and today reconnaissance photography is done in this manner.

New Project completed

Armed with his Center experience in the field of tactical reconnaissance, Koper undertook a Reserve project of

developing a comprehensive inflight airman's manual for photographer mates and aircrew photographers. "It is an 'A to Z' type manual that answers most of the questions that an aircrew photographer might have about photogrammetry and aerial reconnaissance," said Koper. "It took almost a year to prepare and has been accepted by RESPATWINGSLANT and has received wide dissemination within the Reserves. I consider myself very fortunate to do the type of work we do here at the Center and carrying that expertise into the reserve." Koper is a member of Patrol Squadron-66 and is very proud of the talent and professionalism that exists among this diversified group of officers and enlisted personnel.

Next month the *Reflector* will take a look at another Naval Reservist whose Navy civilian and Reserve careers complement each other.



CDR Harry Koper, USNR

NAVAIR's Vice Commander participates in safety reviews



Photo by Jim Kingston

Rear Admiral R. D. Friichtenicht, Vice Commander of the Naval Air Systems Command (far right) and Commander D. Newton (near right) participate in a command safety review at NADC on January 10th. PR1 Rob Elliot and CDR Tim Cudia conduct tour of the Aircraft Maintenance area during the visit.

"Outreach" reaches out



Photo by Drew Schmitt

About 25 students from Edison High School's Hispanic Outreach Program visited the Center late in January. The EEO Office sponsored this group which encourages Hispanic men and women to seek careers in engineering and computer science fields. Above, Nancy Topping (left) discusses NADC's Centrifuge.



Photo by Drew Schmitt

Students get up close to inspect a CH-53 Helicopter. Other tour stops included a P-3A and P-3C Aircraft.

IRAD provides alternative

To the program manager or engineer beset by recent budget cuts and decreasing resources, the IRAD Program is like an oasis in the desert.

The Independent Research and Development (IRAD) Program is a joint Government-industry effort that is designed to advance high-technology development projects. The program has become an integral part of the Government's overall strategy to enhance technological opportunities and resources. The USDR&E, OCNR, and ONT have all promoted the benefits of the IRAD Program and have emphasized its importance in achieving high-technology goals.

Under the IRAD Program, the Government partially reimburses contractors for funds spent on R&D projects. This funding is obtained through a G&A percentage that is applied to all Government contracts. The Government pays \$2 billion a year to those contractors developing state-of-the-art technology in areas such as microelectronics, computer-aided design and manufacturing, and command, control, and communications integration.

You can take advantage of the resources offered by the IRAD Program by actively participating in the annual evaluations of contractor R&D projects. Through your reviews, contractors can determine whether there is sufficient

interest to continue a project, whether a project should be rescoped to meet Government requirements, or whether a project should be terminated.

The NAVAIRDEVCCEN is one of the leading Navy agencies involved in the IRAD Program. Last year, 940 Center technical evaluations were submitted to DOD lead evaluators, and 84 Center personnel attended 28 on-site reviews of contractor R&D projects. Because of this participation, the Center has exerted considerable influence on many of the projects being performed under the IRAD Program.

To maintain this position, more Center personnel are encouraged to become involved. Center resources are available to help you. No contracts, sponsors, or work unit plans are required — just your time to evaluate industry projects related to your area of expertise. By participating, you can benefit from the yearly \$2 billion Government contribution to the IRAD Program. Your inputs to the program can help mold industry efforts to meet your task requirements and improve the Navy's capabilities. A good place to start is by obtaining a copy of NAVAIRDEVCCENINST 3920.2B, which describes the program in detail and the responsibilities of participants. For additional information, contact Mr. Mike Yuresko (Code 7012), x3099.

Military Recreation

Recreational Services — The recently completed NADC Invitational Racquetball Tournament ended with Chris Penny as champion, defeating B. Marsee 15-12, 10-15, and 15-13 in the final match. Both champion and runner-up received trophies, and Chris Penny went undefeated through the double elimination tourney. Unique to this tournament was the authorized participation by NADC civilian employees. PR1 Elliot, and PR2 Rundle were the military participants in the tournament and without the civilian employee entrants, the tourney would not have been held. The next Invitational Racquetball Tournament will be held the week commencing Monday March 24th, registration forms are available at the Fitness Facility Building #99.

Consolidated Mess — Due to the success of the Tropical Nite held at the NADC Dining Room, the club will be sponsoring another Super Party at the NADC Dining Room on Friday March 28th from 1600-1830. Featured at this

party will be DJ Skip Patterson (DJ at the New Year's Eve Party), dancing, free hors d'ouvres, social hour prices from 1600-1700. There is no cover charge and everyone is invited to attend. The club sponsors a social at the NADC Dining Room every Friday from 1600-1800, with free snacks, and social hour prices from 1600-1700 which is open to everyone on Center.



Reflector

Volume 31
Number 2
Feb. 1986

NAVAL AIR DEVELOPMENT CENTER, WARMINSTER, PA

The REFLECTOR is published monthly by the Public Affairs Office to inform Center Personnel about topics of interest, and to promote the morale and general welfare of all concerned.

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<p>Commander, NADC Technical Director Public Affairs Officer Editor Assistant Editor Military Editor</p>	<p>CAPT Edward J. Sturm Robert S. Buffum James S. Kingston Regina Ann Gasuk Mary Ann Brett JO2 Fred Dias</p>
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NADC Toastmasters elects new officers



Photo by Joe Bebey

The 1986 newly-elected officers of the NADC Chapter of Toastmasters International are l. to r.: Carl VanWyk (Educational Vice Pres.), Rockne Anderson (Administrative Vice Pres.), Regina Gasuk (Treasurer), Jack Supp (President), Chester Terry (Secretary), and Jim Thompson (Sgt-At-Arms). The Toastmasters' goal is to develop and improve their speaking ability. The group meets the 2nd and 4th Tuesday of each month at 1145-1300, generally in the Code 20 Conference Room. All visitors are welcome.

New Command Master Chief settles in at NADC

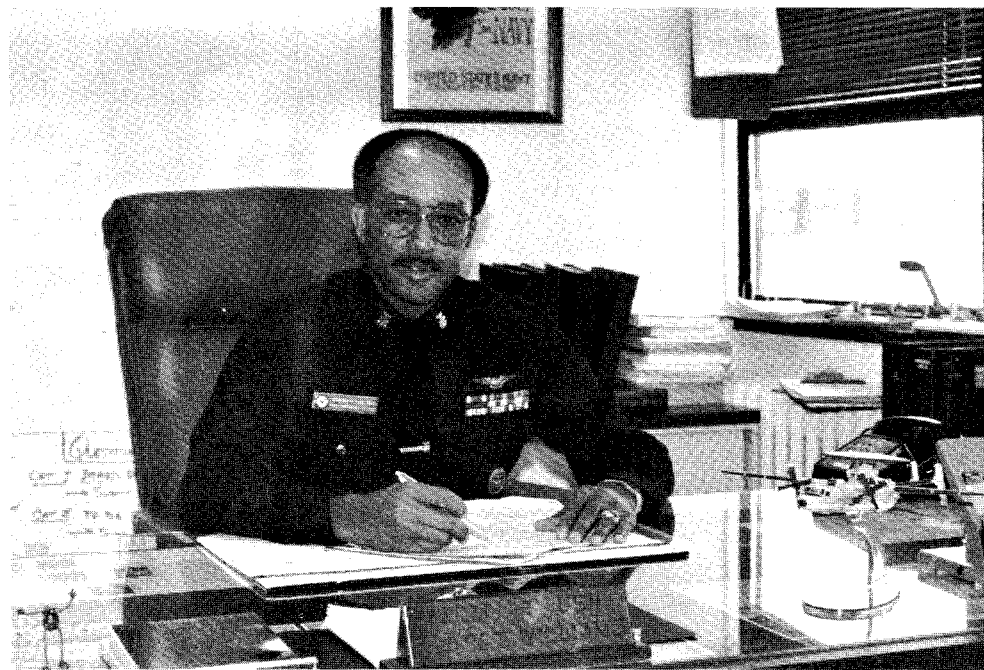


Photo by Regina Gasuk

AFM Nelson Williams

AFM Nelson Williams is NADC's new Command Master Chief replacing AFM Eldon Cain.

Williams, who arrived in January, sees himself as a senior enlisted advisor — somewhat of a right-hand man to the Center Commander keeping him advised of all matters pertaining to enlisted members. These matters include policy changes and enforcement, emphasis on chain of command, bridging the communications gap, morale and welfare involvement, training and career counseling.

A 17-year Navy man with considerable recruiting and career counseling background, Williams feels his key tool is availability. "I need to be close to my people," he said. "I want to know each and every individual and stress that the division officers do the same."

Although he realizes change must come slowly, Williams has already proposed increasing the number of enlisted awards. There are currently five — Sailor of the First through Fourth Quarters and Sailor of the Year. Historically, these awards have been granted to deserving senior enlisted personnel. Williams proposes the same type awards be granted to junior enlisted. "Recognition is vitally important," said Williams. "In fact, lack of it, is one of the top three reasons the Navy loses quality personnel." He continued, "You want to challenge these junior personnel to be recognized. Then, when they are, they'll really feel a part of the Center."

Temporarily in Navy quarters, Williams is unmarried and expected to be at NADC until January 1989. (MAB)

84 years of service

The Navy League of the United States is unique among the many military-oriented associations in the country in that it is a civilian organization which supports the maritime services — the Navy, Marine Corps, Coast Guard and Merchant Marine.

The primary goals of the League have changed little since the early 1900's when a handful of Navy veterans gathered in New York to form a patriotic organization to speak for the Navy's interests. They filed a certificate of incorporation in Albany on December 29, 1902. On January 15, 1903, the incorporators formally adopted the constitution and bylaws and appointed a board of directors.

As the League celebrates its 84th year of service to our sea service personnel, it boasts a membership of nearly 53,000 individuals and 225 corporations. Its members are organized into more than 325 councils throughout the United States and overseas.

The programs of the Navy League are educational in nature — directed toward making members and the public at large conscious of the need for sea power and strong, capable maritime forces.

The League seeks to provide assistance, on a local level, to families of sea service personnel on active duty and to enhance the quality of family life. It also actively supports the military recruiters by helping to provide access to schools and civic gatherings where the story of military service may be told.

By way of its seminar program, the League fulfills another of its responsibilities as an educational association by sponsoring seminars on sea power. These platforms bring together military, industry, and community leaders to provide analyses of the role of the seas in today's modern world.

The national awards program seeks to recognize outstanding accomplishments by members of all the maritime services in specific categories ranging from inspirational leadership to scientific achievement.

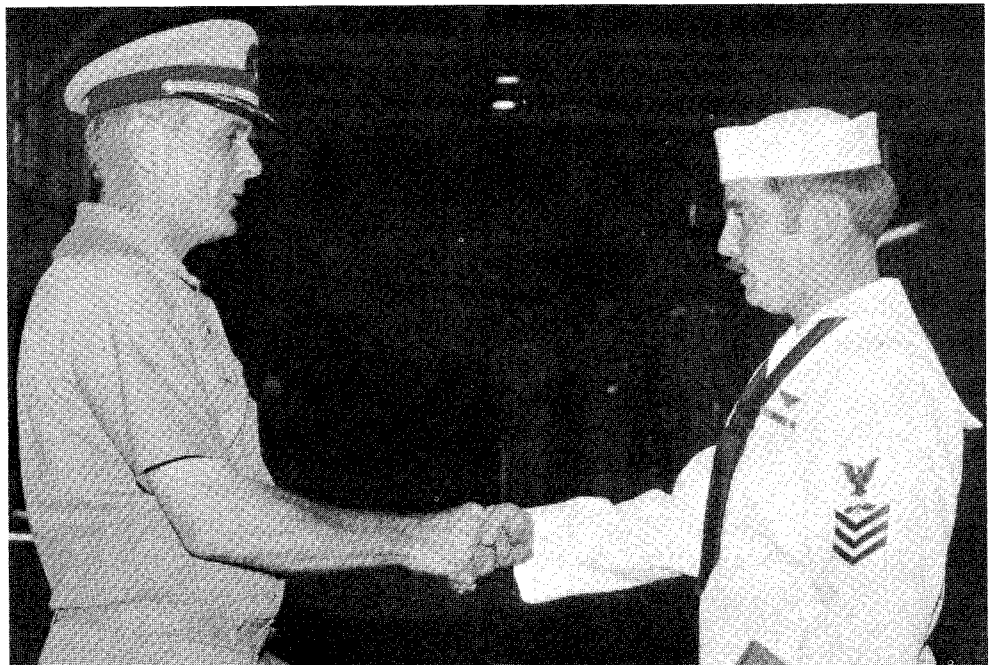
The Navy League places great emphasis on its youth program. It founded and supports the Naval Sea and Navy League Cadet Corps and through its NSCC units is providing training in and information about the customs and traditions of the maritime services.

The League's monthly publication SEA POWER is one of the foremost maritime publications. Through the members and councils its information is widely disseminated in schools and libraries. "The Almanac of Seapower" — the League's annual publication — serves as a "desk top" reference volume on naval, maritime and defense affairs.

A non-profit, civilian organization, the Navy League cannot take active duty military as members but encourages the spouses of these individuals to join.

Implicit in all the endeavors of the Navy League is the civilian concern it has for the maritime services and the members of those services.

Sailor of the Year



Pictured receiving the first quarter Sailor of the Quarter Award, AMS1 Kimberly Grard was recently selected as NADC's Sailor of the Year.

"I was brought up to do the best job I can," said Aviation Structural Mechanic First Class Kimberly Grard of NADC's Airframes Shop.

Grard was responding to his selection by the Chief Petty Officers here, as 1985's Sailor of the Year. For his achievement, Grard received a Letter of Commendation, 96 hours liberty, and 90 days off the watchbill from the command. The local Chapter of the Navy League honored his selection at a banquet on January 22nd presenting him with a plaque. Grard was 1985's first quarter Sailor of the Quarter.

A native of a small town near

Brunswick, Maine, Grard was inspired to join the Navy by his father-in-law, Laurel L. Dickinson, a 20-year veteran.

"I'm the type of guy that likes a change," Grard said of his drive to be the best. "I like a challenge," he said.

A nine-year veteran who plans on a 20-year career, Grard has seen many parts of the world through P-3 squadrons.

Although his hobbies include snowmobiling, hunting and fishing, Grard's first love is farming. Currently, in his free time, Grard is working with a local dairy farmer. When he retires, he plans on making farming a full time job. (FAD)

Professional Exchange and Liaison Officers

Foreign but fam



Photo by Regina Gasuk

Commander Yasumasa Otani, JMSDF

The NADC family stretches north into Canada, south to kangaroo country, east to Buckingham Palace and west to Japan. This happens through the seven foreign officers stationed at NADC who enrich the lives of Center personnel by sharing their culture through the work they perform as Liaison Officer or Personnel Exchange Program (PEP) participants.

Major Dale Tremblay, CF, is the Canadian Forces Liaison Officer providing coordination and technical representation for research and development projects of direct interest to the Canadian Forces. Squadron Leader Steve Gray, RAAF, and CDR Yasumasa Ottani, JMSDF, provide liaison service in connection with foreign military sales cases representing their countries.

Squadron Leader Stu Heppenstall, RAF, LCDR Grant Bristow, CF, Major Leif-Erik Wadelius, CF, and Major Dave Schultz, CF, are part of PEP, an exchange of officers with the objective of integrating those who participate as though they belong to the service that they are assigned (naturally remaining within classified information limits). PEP grew out of the wartime interchange of staff personnel and the need to exchange and standardize operational doctrine.

Major Dale Tremblay, CF

Major Dale Tremblay, CF, is NADC's Canadian Liaison Officer and provides the link between the Canadian Forces and the U.S. Navy. "Visits are a very important part of my job," said Tremblay. "Visits by Canadian military, Canadian Defence Research personnel and Canadian Industry representatives occur regularly."

Prior to his assignment here, Tremblay was stationed in Cold Lake, Alberta, a fighter base. In mid-July, Tremblay and his family will move back to Canada and he will attend a 10 month Military Professional Development course that involves travel to

Europe and to the United States. His next post will be challenging for his family because of the short time period. His wife Marion, and children Douglas (15), Trina (13) and Daniel (8) do not find life in the United States much different from Canada. "We have travelled throughout the States for years," said Tremblay. "I have a sister in Seattle and an uncle in Baltimore. Also I was stationed in Rochester, NY where I attended Postgraduate school." Tremblay feels the major differences exist in the political system and in the color of the paper money.

Tremblay goes cross-country skiing whenever there is enough snow here. He also enjoys ice hockey and skating. "The last two winters we've been raking leaves at Christmas time, whereas in Canada we'd be shovelling snow for sure," he said. Tremblay enjoys the work he does here and feels he has an opportunity to meet more people throughout the Center than most because there are many different parts to the Canadian military that interface with projects at NADC. If given the opportunity to return to NADC he would like to manage a project.

Major Leif-Erik Wadelius, CF

Major Leif-Erik (Leif) Wadelius, 22 years with the Canadian Forces is one of Canada's four representatives at NADC.

Since his arrival here in July 1985, Wadelius has been assigned as Project Officer in the P-3C Modernization Project Office. He is working toward increased commonality and interoperability between the P-3 and the Canadian Aurora aircraft which has a P-3 airframe.

From 1976 to 1981 Wadelius was assigned to the Canadian Forces Aurora Detachment Flight Test Team at Lockheed in California.

Wadelius is from The Pas, Manitoba and has been accompanied to this area by his wife, Charlene, and their three

daughters, twins, Lisa and Lara (17) and Lori (16).

"What struck me most is the tremendous level of activity at the Center," said Wadelius. "This is probably the most intense job I've ever been assigned, but also one of the most interesting." Even so, Wadelius finds time to volunteer instruct as a computer science enrichment teacher to fourth and fifth graders at Round Meadow Elementary School.

"The weather here so far has been excellent by Canadian standards — but nothing compares to California!" "I don't miss the snow in Canada," he said.

When Wadelius leaves NADC in July 1988, he hopes to be assigned to Ottawa's Directorate of Maritime Air.

Squadron Leader Steve Gray, RAAF

Squadron Leader Steve Gray has been in the Royal Australian Air Force (RAAF) for 17 years and thinks his position here at NADC is probably the best assignment he'll ever have. Gray is the RAAF Liaison Officer and prior to coming to the Center was stationed at RAAF Base Edinburgh in South Australia about 17 miles south of Adelaide.

Gray and his family reside in Warrington. He said that in Australia they do not have the definition of seasons that exist here; summers are extremely hot, in the 100's, and

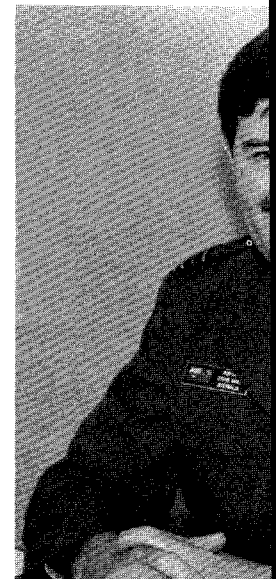
winters are wet but not cold. "The day-to-day living here is nice, and the countryside in Bucks County is beautiful," said Gray. "We've put 96,000 miles on our car in three years visiting Canada, the Eastern United States, Ohio and up through Michigan."

He finds his work varied and interesting. "Because NADC is involved in so many different things," he said, "I'm often used as an initial point of contact for whatever might interest the Navy at the time. I am given the opportunity to be exposed to a large variety of things."

Gray's wife Jeanette is also enjoying her stay here and is active in the Navy Officer's Wives Club. His children, John (9) and Kirsty (6), are little



(l. to r.): LCDR Grant Bristow, CF, Major Dale Leif-Erik Wadelius, CF.



Squadron Leader Steve Gray, RAAF

Familiar to NADC

By Regina Ann Gasuk and
Mary Ann Brett



Photo by Regina Gasuk

Blay, CF, Captain Dave Schultz, CF, and Major



Photo by Regina Gasuk

teve Gray, RAAF

Philadelphians now, avid Eagles and Flyers fans. They want to go home, but are not in any hurry. "We find mainly the people are very open and friendly," said Gray, "it doesn't seem to matter where you go, if they know you are not a local, they go out of their way to be very nice to you."

Squadron Leader Stu Heppenstall, RAF

Squadron Leader Stu G. Heppenstall is the Royal Air Force representative at NADC. Originally from York, England, Heppenstall arrived at the Center in November 1983 as part of the United States/United Kingdom Personnel Exchange Program.

Heppenstall explained he is here to gain an understanding of how allied forces operate.

He has worked here as Project Officer for Fleet Software Support on the P-3C aircraft and is scheduled to leave in August of this year.

It's literally 'up in the air' where he will go after his tour at NADC. "I miss flying," Heppenstall said. "An operational flying tour in Scotland would be nice."

He and his wife, Heather, and their three children — Paul (13), Charlotte (10) and Daniel (6), have made their home in Hatboro. Since arriving in the United States, they have traveled up and down the East Coast and are planning to visit California in the spring.

Heppenstall loves the climate here. Although American football is too slow for his liking, he does enjoy ice hockey which they don't play in England. He was quick to admit, though "I miss English (warm) beer and cricket."

CDR Yasumasa Otani, JMSDF

Commander Yasumasa (Yasu) Otani has been assigned as the Japanese Maritime Self-Defense Force Liaison Officer at the Center since April 1985.

Otani, an engineer in the Japanese military for 19 years, is scheduled to be at NADC until July 1987. Assigned to the P-3 Project Office, Otani said his prime responsibilities are to exchange information and maintain inter-



Photo by Regina Gasuk

Squadron Leader Stu Heppenstall, RAF

operability. He is also doing work on the MARK-46 Torpedo for the Naval Sea Systems Command.

Five years ago Otani was assigned to NADC for seven months as a trainee on the P-3 operational program. He also spent a year at Sperry in Indianapolis on a System Test Program.

Otani, his wife, Itsuko, and their baby boy, Satoshi (2), are currently living in Warminster. During their stay in the United States they've visited Disneyland, San Francisco, the Grand Canyon, and Niagara Falls.

Aside from the obvious cultural differences, Otani said, "The most noticeable difference is that Japan is very crowded and here it is very spacious and green." As one might expect, his greatest difficulty has been with the language (although this writer found him quite fluent). "Communicating over the telephone in English is a challenge," he said, but he does enjoy talking to his friends in Japan.

Otani said, "It's too early to know where I'll go next, but the Maritime Staff Office in Tokyo is a good guess." He was quick to note at the Maritime Staff Office it was quite normal to work from 8:30 a.m. to 10:00 p.m. Understandably, he and his wife are fully appreciating eight-hour workdays and are not in any great hurry to see them end.

CAPT Dave Schultz, CF

NADC's newest foreign officer is Captain Dave Schultz, CF who comes to us from the Maritime Proving and Evaluation Unit in Nova Scotia where he has been stationed for the past four years. "I am a computer analyst and was responsible for software testing and evaluation of new equipment for the Aurora," he said. Schultz will begin his new position as a member of the S-3 Project Office doing S-3 software evaluation. "From speaking with my predecessor I will be managing a few projects," said Schultz. "I hope to find the research and development work more interesting than the operational

type flying I was doing in Nova Scotia."

Other than a two week vacation in Connecticut and a couple of short trips to Patuxent River, Maryland and Jacksonville, Florida, Schultz and his family have spent very little time in the United States.

He is busy looking for a home for himself, his wife Virginia, and children, Christiane (13) and Jodi (7). When he gets settled, Schultz is looking forward to skiing in the Poconos and playing a little ice hockey.

LCDR Grant Bristow, CF

Lieutenant Commander Grant Bristow of the Canadian Forces was assigned to the Center in August 1984 to the Vertical Flight Office. There, Bristow is double hatted as the SH-60B LAMPS Mark III, Software Life Cycle Support Project Officer and the CV-Helo Project Officer. His duties include managing efforts to provide software life cycle support to the SH-60B. Both are challenging and difficult assignments, he said.

Born in British Columbia, Bristow is an H-3 pilot. Canada's H-3 is similar to the U.S. Seaking.

Bristow's wife, Pamela, and their children, Laura (5) and Jillian (3), have made their home in New Hope. Frequenting Big Boulder and Jack Frost ski slopes, he said, "Skiing is still one of my favorite pastimes. My other favorite is watching the Edmonton Oilers beat the Philadelphia Flyers at hockey."

A highlight of his stay here was in October 1984 when he visited NASA to watch the Canadian astronaut (a schoolmate of Bristow's) take part in the U.S. space shuttle program. They've also visited Florida, California, Ohio, and Washington, DC since their arrival.

When Bristow leaves the Center in 1987, he will attend the Staff College in Toronto for a one-year professional development course. From there he'll probably be assigned to the Directorate of Maritime Air in Ottawa.

*Twice a good citizen***Bystander doesn't stand by**

Photo by Regina Gasuk

George Lazzeri

Most of us never find ourselves in the position where we must stop and render assistance at the scene of an accident. For the few to which this has happened, it generally involves little more than providing information as an eye witness. However, for George Lazzeri of the Systems Directorate rendering assistance meant physically attempting rescuing someone, not once, but on two separate occasions.

In February 1983, Lazzeri was on his way to work in very inclement weather. A woman approximately five cars ahead of him misjudged the distance available to her while pulling out into traffic and was hit broadside by a pick-up truck. Lazzeri and another man pulled over and tried to get the woman out of the car. Unfortunately, their efforts were not successful, but Lazzeri was commended by the local police for his good citizenship.

Lazzeri never thought he'd get another chance to repeat this good deed, but he did on January 14th of this year. He was coming to work, travelling southbound on route 309 near Perkasio. A man following directly behind an 18-wheel tractor-trailer was unaware that the trailer had unhitched and had started to slow down. He did not have enough time to pull clear and his car was crushed and overturned as the vehicles collided. This time Lazzeri was close behind and immediately pulled over to give help. The man was alert, but in shock and asking to go to the hospital because he was bleeding. The major problem was

he was pinned in the overturned car by the steering wheel. Meanwhile, the truck driver returned to recover his rig and helped Lazzeri. They had to break the rear window and take the back seat out in order to free the man. It took 28 minutes for the ambulance to arrive and 30-35 minutes for the police to get there. Lazzeri followed up with a visit to the hospital that evening. The man had multiple fractures, a dislocated shoulder, internal injuries, and lacerations. "If you can experience in life what I have on two occasions, it can change the way you feel and handle certain things. Perhaps it was an omen for me to see these two accidents. I'm sure there are occasions when I might drive too fast and now since the two occurrences I have changed my manner of driving, especially in inclement weather conditions," said Lazzeri.

Lazzeri's first reaction was to get the person trapped in the car out before it was too late. He did not think about the inconvenience or the hour and a half of his time that was given, nor was he concerned about the possibility of legal involvement. He did not even become annoyed when more than 100 cars drove past him and no one bothered to stop and help.

"I felt good about it; I would do it again," he said. "If you see someone in obvious distress, it doesn't hurt to help. I've been in that position and I thought to myself that it was so nice that someone cared enough to stop and help me."

Security Reminders**BADGES**

NAVAIRDEV-CENINST 5510.13B Chapter 15, requires that badges be worn on the upper part of the body in full view, to facilitate identification. All employees and contractors are reminded that wearing the Center Badge is mandatory while on Center.

WATCHSTANDER

A security check should be made at the end of each work day to ensure:

- Classified material is properly stored.
- All burn bags are stored or destroyed.
- Security containers are properly locked.

BRINGING CAMERAS ABOARD THE CENTER IS PROHIBITED

In accordance with NAVAIRDEV-CENINST 5510.13B the taking of unofficial photographs on Center is forbidden. In the event a personal camera must be used by employees or contractors, a memo must be submitted to the Security Officer requesting use of a camera. Contractors will be escorted while photographing any areas. If photographs are instant print type, each photo will be cleared by the Security Department prior to release for off-Center use. Negative type film will be processed by Code 81 and cleared by Security prior to release.

Mixed Bowling update

by Tom Reiter

Congratulations to the following high scorers for games bowled to date.

A DIVISION

LUCKY STRIKES	
Art Duhaime	202
Mary Feeley	180
ALLEY OOPS	
Rick Yeager	225
Mary Williamson	175
JERRY'S KIDS	
Jerry Miller	201
Lorraine Kittner	170
NEINERS	
Joe Catto	234
Jean Canton	174
THE STRANGE BREW	
Scott Kee	233
Barb DiLemmo	205
DYNAMIC DUOS	
Nick Doto	216
Olga Haug	000
WHITE WINOES	
Jerry Guarini	199
Mary Lentz	226
RAIDERS	
Cliff Tierney	214
Jan DeLarso	199
WARVEY HALLBANGERS	
Glenn McKee	217
Caroline Tierney	000
SCREWBALLS	
John Ryan	210
Eileen Dobrowsky	211
RENEGADES	
Bob Parsons	210
Lisa Johnson	167
GOOFERS	
Ed Fields	256
Lorraine Reidinger	195
SUBS	
Joe Leonard	247
Iris Hayslip	197

B DIVISION

RED WINOES	
Ernie Wykes	221
Miriam Lentz	200
THE BIG SPENDERS	
Mark Drager	220
Sue Casagrand	169
ELEVENTH FRAME	
Al Goldstein	225
Jean Bollard	190
FALCONS	
Steve Jerdan	223
June Olson	187
BLIPS	
Mike Daulerio	225
Deana Hudson	153
RATED X	
Tom Gould	231
Lorrie Dunn	200
ALLEY CATS	
Gene Toner	228
Marguerite Hoefling	204
LES CHAMPIGNONS	
Ed White	213
Carol Hartman	169
MAGIC MARKERS	
Larry Sicher	223
Di Beach	208
BULLSHOOTERS	
Tom Leahy	241
Carla Mackey	188
LANE BRAINS	
Hank Lystad	223
Ro Lystad	183
WHO CARES	
Mike Bubb	227
Barb Fleischut	168

Psycho at disaster drill

As Jack Nicholson proved in "One Flew Over the Cuckoo's Nest," one can play a part too convincingly and wind up on the inside looking out.

That's just what happened to Hospital Corpsman Second Class Charles Spears of the Aircraft and Crew Systems Technology Directorate.

As part of a nation-wide disaster drill, Spears was to play the part of a victim turned psychotic following the death of a friend in a tornado.

Although the drill was a serious test of medical emergency plans, facilities and personnel, Spears said he liked playing the part. Apparently he's so convincing that he nearly wound up in a real "Cuckoo's Nest."

To demonstrate how disruptive a psychotic person can be, while he was in the Air Force hangar at NAS Willow Grove, Spears began to wander about and yell at physically injured patients. A walking wounded patient was assigned to watch Spears, who began escape attempts. Two patients were then assigned to watch him.

Transferred to a C-130 cargo plane for a mock flight to NAS Willow Grove, Spears began directing patients to depart the plane because, "I told them the plane was going to crash," he said. He then attempted another escape.

"After the last ambulance arrived, I snuck into it and hid," Spears explained. "I almost made it back to the hangar when the attendants found me." He was returned to the plane and

strapped in.

Spears next became a problem aboard the C-130 as it taxied up and down the runway, simulating its flight to NAS Willow Grove. As he departed the plane, he was met by four security guards who made sure he arrived at Hangar 20, where the triage station was set up. While there, Spears created more havoc, switching direction signs for arriving wounded, switching identification tags on patients and not answering to his name. At one time Spears had to be handcuffed.

The triage team loaded patients into a van, which Spears tried unsuccessfully to commandeer. The van was driven to a civilian hospital in Bala Cynwyd for extensive treatment of patients. There, Spears spent the next two hours riding a stolen wheelchair up and down the elevators. He would stop on various floors, directing patients to rooms; any rooms.

Finally, Spears got hungry and turned himself in to the desk where he had entered the hospital. "I had a hard time convincing the doctor that I was only play acting," he said. So convinced of his mental condition, the civilian doctor seriously considered admitting Spears. However, he decided to turn him over the military unit at the hospital.

Spears, who has played the role before, said he enjoys his role so much that, "Last year on Center, this guy sat on me and wouldn't let me up. (FAD)

History of Naval Aviation

On 8 May 1911, CAPT W. I. Chambers prepared requisitions for two Curtiss biplanes. One, the *Triad*, was to be equipped for arising from or alighting on land or water; with a metal tipped propeller designed for a speed of at least 45 miles per hour; with provision for carrying a passenger alongside the pilot; and with controls that could be operated by either the pilot or the passenger. The machine thus described, later became the Navy's first airplane, the A-1. Although these requisitions lacked the signature of the Chief of the Bureau of Navigation, necessary to direct the General Storekeeper to enter into a contract with the Curtiss Company, they did indicate Captain Chambers' decision as to which airplanes the Navy should purchase. From this May 8 has come to be considered the date upon which the Navy ordered its first airplane and has been officially proclaimed to be the birthday of naval aviation.

and at the public demonstrations staged by the Wright Brothers in 1908 and 1909. All were enthusiastic about the potential of the airplane as a fleet scout. By 1909, naval officers, including a Bureau Chief, were urging the purchase of aircraft.

It was in 1910 that a place was made for aviation in the organizational structure of the Navy. That was the year CAPT Washington I. Chambers was designated as the officer to whom all aviation matters were to be referred. Although holding no special title, he pulled together existing threads of aviation interest within the Navy and gave official recognition to the proposals of inventors and builders. Before the Navy had either planes or pilots he arranged a series of tests in which Glenn Curtiss and Eugene Ely dramatized the airplane's capability for shipboard operations and showed the world and a skeptical Navy that aviation could go to sea.

Early in 1911 the first naval officer reported for flight training. By mid-year, the first money had been appropriated, the first aircraft had been purchased, the first pilot had qualified, and the site of the first aviation camp had been selected. The idea of a seagoing aviation force was beginning to take form as plans and enthusiasms were transformed into realities. By the end of the year a humble beginning had been made.

The need for more science and less rule of thumb was apparent to CAPT Chambers. He collected the writings and scientific papers of leaders in the new field, pushed for a national aerodynamics laboratory, and encouraged naval constructors to work on aerodynamic and hydrodynamic problems. A wind tunnel was built by the Navy, and the National Advisory Committee for Aeronautics was established. The first real study of what was needed in aviation was conducted by a board under Chambers' leadership and included in its recommendations the establishment of a ground and flight training center at Pensacola, the expansion of research, and the assignment of an airplane to every major combatant ship of the Navy.

Progress in these early years was marked by an endurance record of 6 hours in the air, the first successful catapult launch of an airplane from a ship, exercises with the Fleet during winter maneuvers at Guantanamo, and combat sorties at Veracruz. These were but some of the accomplishments by pioneer pilots. Their activity furthered the importance of aviation in the Navy. In 1914, Secretary of the Navy Josephus Daniels announced that the point had been reached "where aircraft must form a large part of our naval forces for offensive and defensive operations."

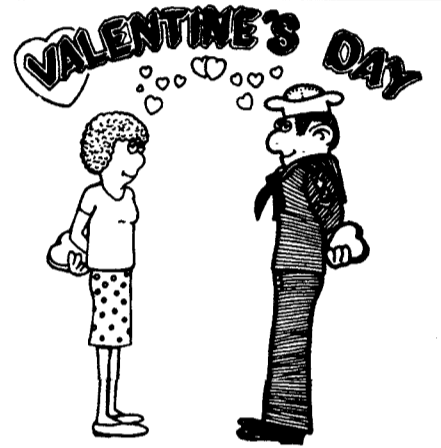
The United States Navy's official interest in airplanes emerged as early as 1898. That year the Navy assigned officers to sit on an inter-service board investigating the military possibilities of Samuel P. Langley's flying machine. In subsequent years there were naval observers at air meets here and abroad

Energy Tips

Hot Water Energy Savers

- **Replace leaky faucets promptly.**
- **Do as much household cleaning as possible with cold water.**
- **Insulate your hot water storage tank and piping.**
- **Check the temperature on your water heater.** Most water heaters are set for 140°F or higher, but you may not need water that hot unless you have a dishwasher. A setting of 120°F can provide adequate hot water for most families. If you reduce the temperature from 140°F to 120°F, you could save over 18 percent of the energy used at the higher setting. Even reducing the setting 10 degrees will save more than 6 percent in water heating energy.

To determine water temperature, draw water from the heater through the bottom faucet and test it with a thermometer.



VIEWPOINT

Photos by Regina Gasuk

On Valentine's Day, do you display your heartfelt affections, with sweet confections?

This month's viewpoint feature was prepared and edited by Rosemary Dominic of the Public Affairs Office.

"Poetry is nice and hearts are fine but
I wine and dine my valentine."

Aris Pasles, 7011



"I display my affection to loved ones everyday. On Valentine's Day I prefer to receive."

Marge Steenhoff, 4002



"Chocolate, lollipops and conversation hearts are a nice surprise when they come from Cupid's darts."

Gloria Hearn, 033



"Yes, to my wife and the sweetest thing she gets is me."

John Monastra, 5041

"No, there are no calories in rose petals and they last longer."

Fred Kuster, 601A



"A candlelight dinner at a table for two, whispering in his ear I love you!"

Peggy Tomlinson, 2041



Local Cub Scouts visit



Photo by Regina Gasuk

LT Warren Harner donated his time as part of the community service the Center provides to federally chartered youth organizations such as the Scouts. Here he briefs Cub Scouts from Pack 45 in Bucks County on the P-3 aircraft. LT Scott Wood also participated by showing the boys a CH-53 helicopter and PR1 Rob Elliott demonstrated survival equipment.

Technical Highlights

CV-ASWM LAB TRANSITIONS

The NADC CV-ASWM program completed the design phase and started the coding and testing of the new Model 4.1/Q-21 mission software. This development has been synchronized with the recent delivery of the CV-ASWM AN/UYQ-21 Navy Standard Display System. Full transition of testing from the Model 4.1 baseline to the 4.1/Q-21 software was also accomplished in January 1986. The initial 4.1/Q-21 integrated product will be delivered to the USS Roosevelt (CVN-71) in Jul 1986. This equipment provides the added compatibility of mapping, message management, improved interface with the Combat Direction System and growth capacity for future significant features.

S-3 COMMUNICATIONS CONTROL GROUP COMPLETES TECHEVAL

A Communication Control Group (CCG), developed by NADC, successfully completed TECHEVAL (DTIIB) flight testing in an S-3

aircraft. OPEVAL completion is expected in February 1986 with an Approval for Production (AFP) decision during the second quarter FY-86. The CCG will provide enhanced Reliability and Maintainability, independent Built-in-test features, future growth potential and will be available as a direct replacement of the existing system without the need for software or other major changes.

OCEANOGRAPHIC SYSTEM PROGRAM

The dockside and at-sea TECH-EVAL/OPEVAL of the FY-85 OSP system configuration update was successfully accomplished aboard the USNS DUTTON. The major new capabilities to meet expanded OSP survey mission requirements, provided with this system update included:

- enhanced auto ship track keeping system,
- south velocity data acquisition and recording system,
- enhanced software to plot depth profiles vs smooth position on standard NAVOCEANO plot sheets.

Awareness abates absent-minded accidents

by Mike Masington

Mike Mastadon, the marvelously malicious and malevolent manager of safety at NADC (Neolithic Architectural Design Corporation) was in a quandary. (A quandary was a prehistoric economy wheel very similar to the present day Yugo.) The accident statistics for the previous calendar year (CY 2,000,085 B.C.) were terrible. Lost time accidents were up 33%, while lost workdays were up 55%. Worst of all, Tempesta, the Tribe Chief, was not happy about this, and had asked him how he would like permanent fire watch duty in Mt. Etna. Mike pored over his accident reports, and quickly noticed an alarming similarity. A majority of the injuries had been caused or at least contributed to by people either not paying attention to what they were doing or being oblivious to hazards around them. Now he was aware of the problem, but how could he get the message across to the rest of the employees? Of course there was always the lash and the thumb screw, but while that would be fun and certainly would get their attention, that may not be the right approach in this case. Instead he decided to

distribute the following notice to all personnel:

Dear Fellow Employees:

Our efforts to reduce work related injuries have suffered a serious setback in the past year, and we need your help and cooperation to correct this situation. Please pay heed to the following friendly reminders:

a. Please exercise caution when walking. Our walkways, corridors, and tar lots, especially during the winter months, may have slippery spots on them. Taking your time, being observant of your surroundings, and wearing appropriate footwear, will reduce falls dramatically. If you should slip, please come and see me, and I will make sure you never have another accident again.

b. Another problem we've noted is people who walk while talking with a friend or reading a report, etc. Be advised that I've trained my pet saber-toothed tiger, Rollo, to take a special interest in these folks, and give them a gentle reminder of their error. (N.B. I

would be especially careful to avoid such violations prior to Rollo's feeding time.)

c. A number of us have suffered back injuries while trying to lift something that was too heavy for us, or failing to use proper lifting techniques. If you happen to suffer a back injury, there is good news. The safety office has recently acquired a new piece of first-aid equipment called the rack, which will not only take the kinks out of your back, but will also make you several inches taller.

d. Of course we have also had a rash of injuries occur to our athletically inclined co-workers during informal workouts and sporting events. While we certainly encourage good health and fitness among our employees, we would ask you to practice caution and restrain your competitive enthusiasm. If not you will be strongly encouraged to participate in a new sport being developed by our office. We think you will find intramural javelin catching both interesting and exciting.

e. Last but certainly not least, we have those who improperly use tools and equipment. You know, the type that lacerates themselves while opening a shipping carton with a scissors or gets punctured prying things up with a screwdriver. Please realize that tools are designed to perform a specific task, and should not be used for other jobs. Frump Korudnik was our latest victim of such an accident. His drawing and quartering is scheduled for Thursday at 1100 in the Auditorium. All are invited (supervisory permission is required).

So you see friends, just by observing a few simple safety practices, together we can make NADC a safer and happier place to work. We greatly appreciate your willing cooperation in this endeavor. (Without it of course, we will be forced to resort to random executions again.)

Your friend,

MIKE MASTADON
Safety Manager

Promotions

Nora Beck, Jeanne Birrane, Ronald Boyer, Julia Buckland, Denise Byrnes, Angel Carreres, Peter Cho, Alexis De Leon, Arthur Duhaime, Gary Dunn, John Dworsky, Cron Eckman, Craig Elicker, Michael Elser, Anthony Eng, Robert Fay, David Findlay, Holly Hake, Martha Harazim, Christine Healy, Gloria Hearn, William Jemison, Russell Johnson, Helen Kellersurman, Dennis Kiefer, George Klima, John Kolb, Rhea Koncz, Michael Lanier, Martin Leonardo, James Lezoche, George Logue, Carla Mackey, Lindsay

Markus, Madeline McGrory, Joseph Minnucci, Stephen Natishin, Trong Nguyen, Sandra Oehmke, Richard Paciej, Robert Parsons, Colleen Perkins, Kathleen Quinn, Peter Raiti, Gregory Reh, Selina Ridpath, Mark Salamon, Richard Sames, Randall Sands, Matthew Schrier, John Scott, David Stasen, Carole Sykes, Adelaide Thompson, Tania Trautman, John Van Fraassen, Anthony Vendetti, Maryann Vernet, Michael Wagner, Michael Walker, William Williams, Marcus Wolf, Robert Zwissler.



14 FEBRUARY
VALENTINE'S DAY

Still Going Strong at NADC

The Minorities in Engineering Program is in its second year at the Center. Eighteen students from Centennial, Bristol and Bensalem District High Schools are participating this year. Students meet here twice a month and are given the opportunity to gain hands-on experience by completing an engineering project. Classes consist primarily of 11th

graders and each session is 2-1/2 hours long.

The program is designed to select minority candidates from local high schools for an "Introduction to Engineering." Students are selected on the basis of academic excellence, interest in pursuing a technical career, and ability to communicate and work well with others.



Bill Bailey, Systems Directorate, instructs local high school students on digital circuits.



Reflector

- In this issue:**
- Army reenlistment
 - Appalachian trail
 - New laboratory
 - Safety Awards

Volume 31 Number 3

NAVAL AIR DEVELOPMENT CENTER, WARMINSTER, PA.

March 1986

A home away from home

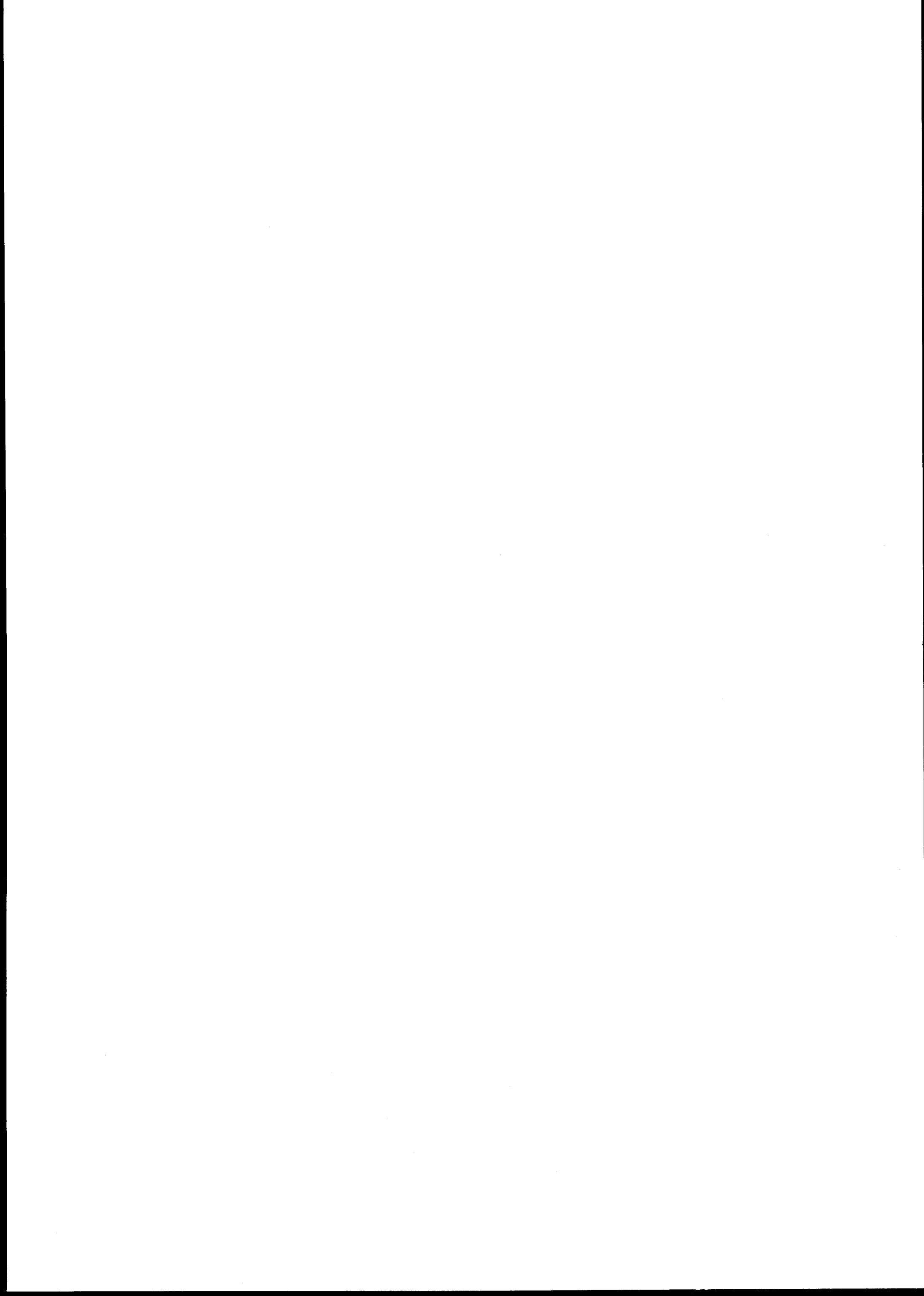
Morelyn Plaza offers more space for Center employees



Photo by Regina Gasuk

"MOREPLAZDEVZEN" — Early in January, the Advanced Software Technology Division of the Software and Computer Directorate (SCD) moved to Morelyn Plaza in Southampton, 3.5 miles east of the Center. Forty of the seventy-three people in the division moved to the Plaza while the others are located in five small areas throughout the Center and

the IVB Building. They will return to NADC as soon as the renovations to their old spaces are completed (hopefully this year). Also moving into the Plaza this month for an indefinite stay is SCD's Fleet Software Engineering/Analysis Division.



Lipski sees finale of 13 year — 14 state trek



Walt Lipski climbing Wildcat Mountain at Pineham Notch, New Hampshire on the 4th of July, 1985 with Mount Washington (left) and the Presidential range in the background.

by Regina Gasuk

When you consider taking a hike, the athletically inclined consider covering 10 to 20 miles of rough terrain. Those of us not as physically fit may walk a mile or two on paved roads. For Walt Lipski, hiking is a 13 year commitment to the Appalachian Trail covering over 2100 miles of difficult terrain and unpredictable weather conditions. The Appalachian Trail runs from Springer Mountain, Georgia to Katahdin, Maine; passes through 14 states, eight national forests and six national parks.

Lipski started hiking in 1974 when his two sons, David and Ken belonged to the Explorer Post of which he was

the Advisor. His older son, David, then 15, not being able to find willing companions, was going to do the Appalachian Trail alone. So Lipski and his two sons went for one week together, beginning at Rockfish Gap near Waynesboro, Virginia walking northward through Shenandoah National Park. "Since then I have been averaging about 14 hiking days a year," said Lipski. "Last year I covered 154 miles in 17-1/2 days."

In 1978 Lipski did 246 miles in Tennessee and North Carolina. He doesn't always begin where he left off the year before. It depends if he is hiking with a group, if so he adjusts his schedule, but keeps meticulous records.

The most memorable moments on the Appalachian Trail are those spent in the pleasurable company of his son David, just the two of them, walking and doing something great together.

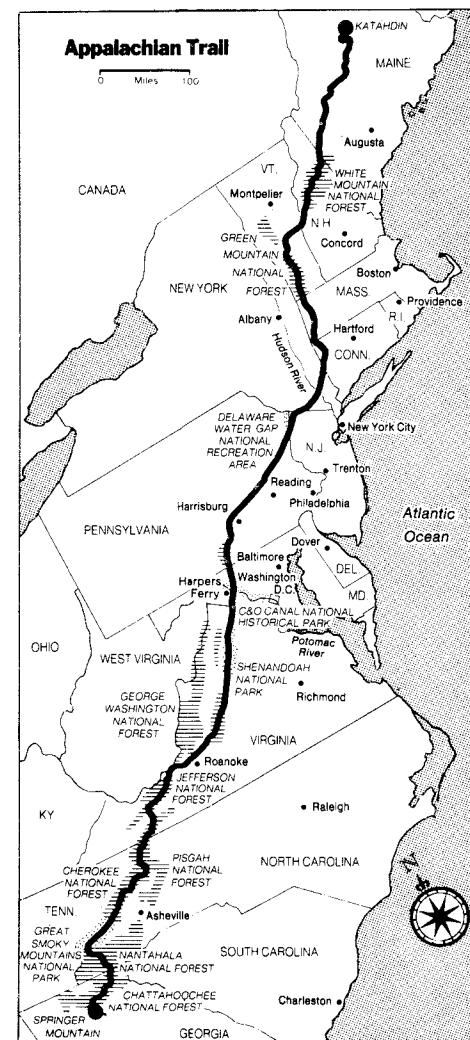
One of Lipski's favorite places is the Great Smoky National Park in Tennessee/North Carolina. "A very pristine national park," he said, "it is very hard to get into, very remote, and has an extremely rugged terrain. It is about 65 miles long in the highest part of the Appalachian Mountains."

Lipski carries a lightweight tent or tarpaulin (a piece of nylon material used as an overhang), a one burner trailstove, and one pot. He carries all his food with him which comes from the grocery store. He prefers dehydrated foods, especially soups. There is water and shelter along the trail. "Shelters are great places to meet other hikers," said Lipski. "Some are going in the opposite direction and we can swap stories and trail information."

His adventure is almost over as he will complete the trail over the Memorial and Labor Day periods this year. He has planned three weeks of backpacking up through northern Maine to Mount Katahdin in Baxter State Park where the trip will conclude. Lipski's wife Wanda is tolerant of his hiking hobby and according to him if she ever wants to go along he has equipment for her.

If you are wondering about dangers along the way — bears, wild boars, snakes, mice and porcupines (whose favorite treats are boots and packharnesses) — all inhabit the trail.

The five million steps of the Appalachian Trail are part of Lipski's life now. Although he looks forward to completing the trail he will never forget the things he's seen and the people he's met. He is eager to do more hiking in other parts of the country.



Raiders win championship



JUMP SHOT — AO2 Henri Taylor, of NADC Raiders' Basketball team, scores in the championship games against NAS Willow Grove's Public Works team. The Raiders lost the first game, but picked up the trophy in the second with a 60-43 win.

by JO2 Fred Dias

The NADC Raiders Basketball team won the NAS Willow Grove Intermural Basketball Championship Friday, February 21st, with a 60-43 win over Public Works, Willow Grove.

The Raiders finished the regular season with a 17-2 record. They increased their record by two in the double elimination tournament by beating the Marines and Willow Grove.

After their loss, Willow Grove climbed up through the loser's bracket to face NADC in the championship game or games. Since Willow Grove had lost one, they had to defeat NADC twice to win the trophy.

In the first game, it looked as if Willow Grove would do just that. In a

hard fought game, that found the Raiders tight, they took the lead in the first half and never relinquished it. However, they had to keep looking over their shoulders at a hard charging and angry Raiders team, before winning 55-52.

In game two, a must win for both teams, the Raiders unleashed their power, as AO1 Barry Evitts, LT Tom Klepper and AC3 Greg Woods attacked from the outside, opening up the inside for AO2 Henry Taylor and LT Jerome Cleveland.

Klepper sank 17 baskets, Evitts dumped in 14 while Woods scored 10 baskets. Meanwhile, Taylor scored nine times on layups and short inside shots while Cleveland scored eight times.

Technical Highlights

P-3C OPERATIONAL SOFTWARE J4.6 RELEASED TO FLEET

The NADC VP program released operational program J4.6 for P-3C Non-Update Aircraft to the Fleet. This release follows successful completion of interoperability testing with the ASWOC 4.2.6 program at NAS Jacksonville during December 1985. The J4.6 software will provide Passive Track Algorithm/Localization, accelerated overlay swapping, improved active acoustics, and new weapon inventories and mining capabilities.

HARPSS (High Altitude Remote Platform Surveillance System)

The HARPSS program is aimed at developing an early warning sensor system suitable for RPV use. The primary sensor is a very large, very lightweight radar system. Hardware and software to build a demo radar is being developed in-house and under contract with RCA. In mid-February, the Center accepted and took delivery of processing and control units from RCA and began system integration in the Radar Development Facility. System testing will begin in June when the antenna and transmit-receiver module subsystem is delivered.

F/A-18(R) ETB FLIGHT TESTING COMPLETED

The TACAIR program successfully completed flight testing of the F/A-18(R) Engineering Test Bed at NATC. A total of 172 flights (182.5 hours) were flown during the extensive ETB testing which confirmed the following:

- No impact on aircraft performance or stability/structural integrity due to nose mods.
- No sensor bay vibration problems.
- Control/Display integration and software interface verified.
- Demonstrated fighter-to-Recce reconversion times (6.5 hours) less than predicted (8 hours).
- Low, medium and high altitude camera performance verified.
- Carrier suitability requirements met.
- Infrared sensor operation ascertained with IR window and also ramp/cavity.
- Demonstrated that single-seat pilot can handle Recce workload.
- FLIR pod integration.

Additionally, 16 flights were conducted with an Electro-Optical sensor installed.

The champion Raiders are: Head Coach AO2 Santos Perez; Assistant Coach AFCM Nelson Williams; Captain and guard AO1 Barry Evitts; Co-captain and guard LT Tom Klepper; guards AMH2 Charles Wade, AW1

Ken Newton, AC3 Greg Woods and AMH2 Kirk Lakin; forwards AMS3 Joh Hester, AE2 Tyrone Shamwell, AD2 Earl Taft, LT Jerome Cleveland, ATAN Skip Patterson and AO2 Henry Taylor.

Civilian career and Reservist duties unite

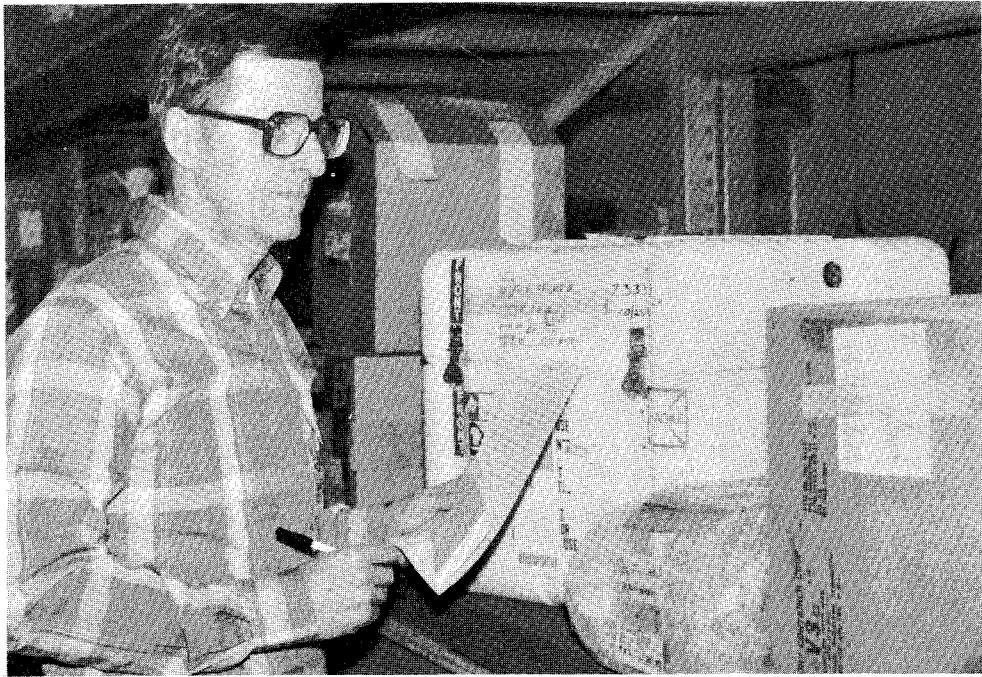


Photo by Regina Gasuk

Dennis Stadler inventories accountable property at NADC.

by Regina Gasuk

For Dennis Stadler of the Supply Department serving his country twice means working as an Inventory Research Analyst during the week and as an Aviation Storekeeper Chief (AKC) on the weekends.

At NADC, Stadler prepares the annual inventory schedule which requires coordination with Stock Control, Storage and the Comptroller Department. He is in charge of the investigation of inventoriable items and analysis to determine gain or loss.

AKC Stadler works at Willow Grove as part of the Carrier USS AMERICA (CV-66) where he performs his weekend reserve duty. There he supervises 25 enlisted personnel in Supply and Warehousing who supply avionics/aircraft gear to the squadrons stationed there.

On his job at NADC Stadler keeps current on all the Navy's latest Supply Department directives and messages. Thus, when his weekend reserve duty comes around, he's already up to speed on all new procedures and methods. He then can devote all his time to getting the job done.

In one instance an aircraft at Willow Grove needed an indicator switch before it could take off to perform its ASW exercises. Since NADC and NAS,

Willow Grove are part of an aircraft parts pool, Stadler knew NADC had the part. He was familiar with the station to station procedures necessary to get the indicator. Turn around time was less than three hours because of Stadler's initiative and know-how.

One of the largest problems that confronts Stadler, who is filling the position of Division Officer at Willow Grove, is the lack of available training for the personnel he supervises. He has to read manuals and prepare lectures to keep his men informed. Being a supervisor at NADC assists him in carrying out these duties.

In April, Stadler will have 30 years in the service, eight of which are active duty. He enjoys his reserve duty and wants to stay in as long as he can.

Now that he is in CV-66, he spends two weeks active duty aboard ship and works with his regular Navy counterpart, affording him a broader perspective on the inner workings of the Navy. "There are four or five squadrons on a ship, and Navy personnel have to work constantly around the clock," said Stadler. "Two years ago I reported aboard ship and all the Supply Chiefs were on emergency leave, so I had to step in and take over," he said. "Without my experience at NADC, working in every aspect of the Supply system, I would have been lost."



Photo by Al Shanks

During reserve duty at NAS Willow Grove, Dennis Stadler inventories aviation-related equipment tightly controlled under the Closed Loop Aeronautical Management Program.

Officers' Wives Club thanks Center employees

Dear NADC Employees,

A grateful thank you to all the employees who supported NADC's Officers' Wives Club bake sale in November, and our Valentine's Day flower sale in February. All the monies raised in these fund raising drives are donated to charity. The following is a list of the various recipients for the past two years:

Bucks County Community College
—Ginger Tuttle Memorial
Scholarship Awards, Women

Organized Against Rape, VITA (Volunteers In Teaching Alternatives), National Military Family Association, A Women's Place (help for battered women), Warminster Free Library (rocking horse), Probationary Volunteer Service, Bucks County Vietnam Memorial, Christmas and Easter food baskets, Bucks County Opportunity Council.

ANNETTE STURM
President, OWC

Guarini briefs female S&E's on Center reorganization

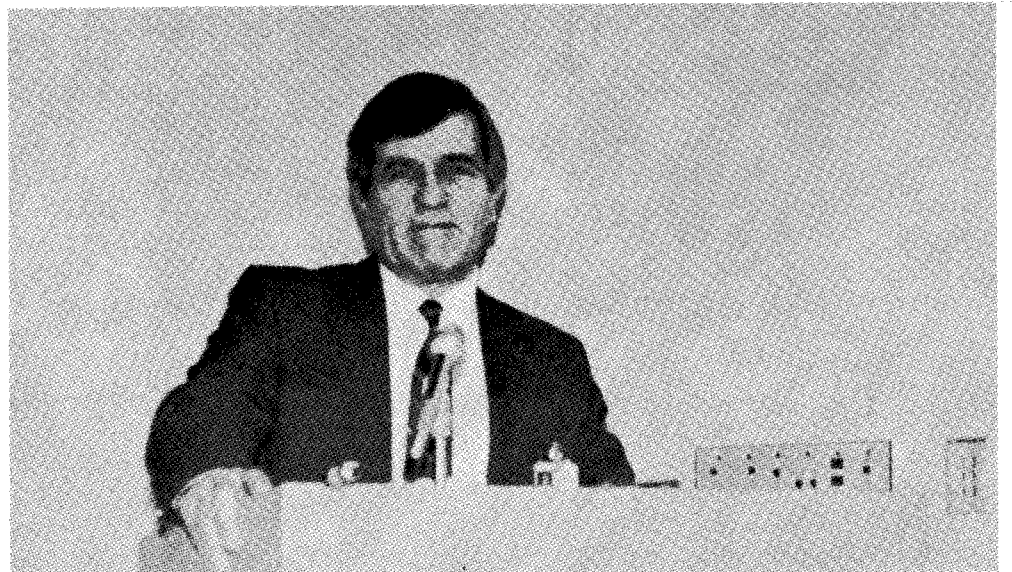


Photo by Regina Gasuk

Jerry Guarini, Associate Technical Director, addressed a group predominantly of female scientists and engineers in the Auditorium. The proposed NADC reorganization to be effective in FY-87 was the primary topic of discussion.

The Career Readiness Program for Female Scientists and Engineers is planning the following schedule. For additional information contact Kathleen Gause, Deputy Equal Employment Opportunity Officer on extension 3061.

March 27	IR/IED/Patents	1000	Center Conference Room
April 24	Systems Engineering at NADC	1000	Auditorium
May 21	Dr. Ann Berman, Deputy Assistant Secretary of the Navy, for C3 Information Systems	0830 Breakfast	Dining Room
June 11	Communications & Image Skills (Professional Speaker)	All day	On Center
July 16	Chat with Gloria Chisum (Career Choices from a Technical Expert's Perspective)	1000	Auditorium
Sept. 18	Center Tour	Morning	Centrifuge Inertial Facility P-3 Aircraft

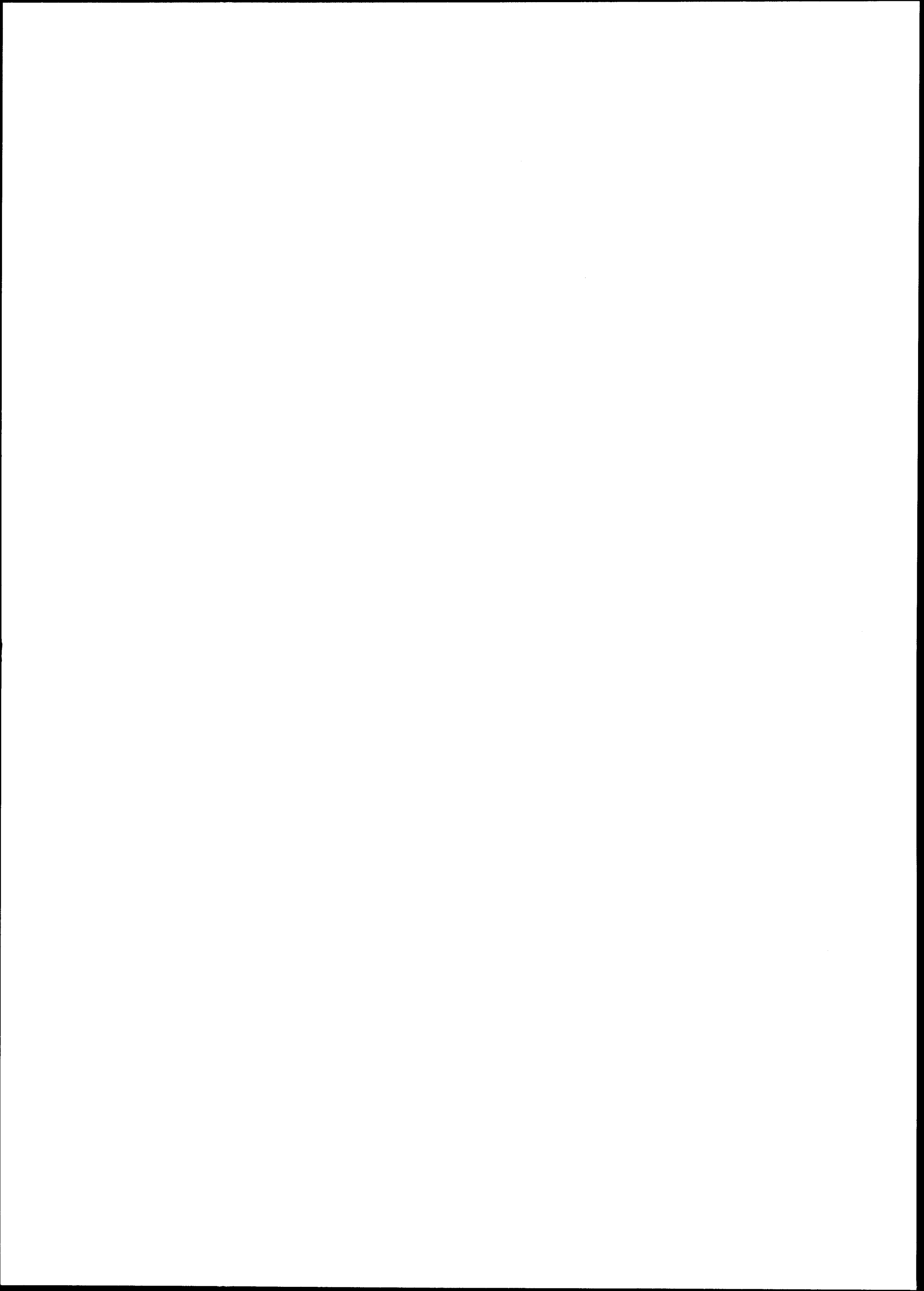
Mixed Bowling Update

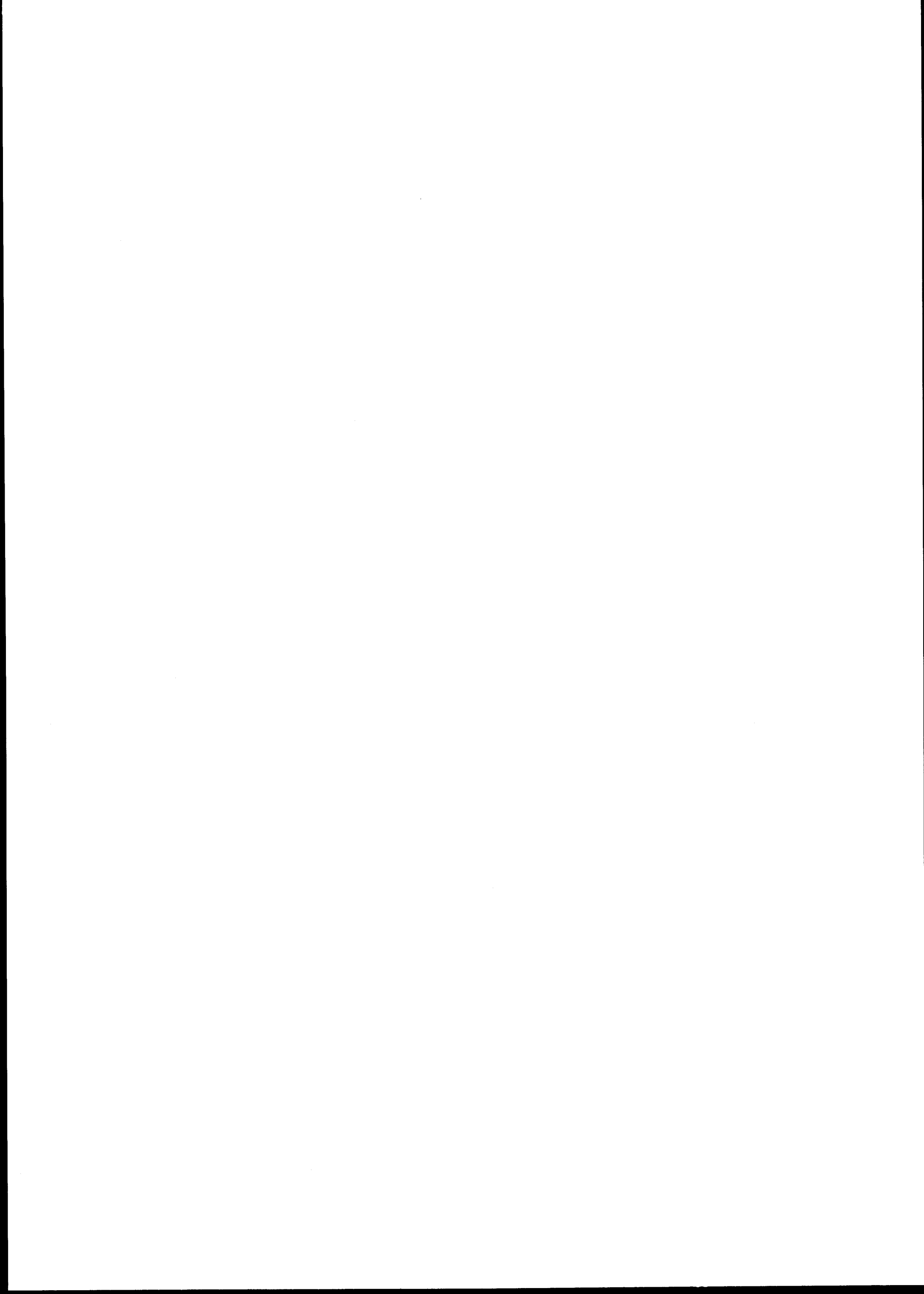
by Tom Reiter

The Kee's got pumped for Valentines' with Scott rolling a three game 641 series (203, 218, 220) while his wife, Karen's 147 average is steadily sneaking up on our high average keglettes, Mary Lentz (153) and Lorraine Reidinger (151). Other members of our 600 Club are Hank Lystad (628), Jim Michell (620), Glen McKee (617), Al Knobloch (610), Larry Sicher (605), and Mike Bubb (600).

Ed Gifford's Dynamic Duos and Neil Weinman's Magic Markers are clinging to slim leads in their divisions with eight weeks to go. Jack Eyth wants to organize a Puttin On The Hits, Lip Sync, contest for our banquet — should be fun.

The proofreader apologizes to Olga Haug (165 — Dynamic Duos high female score) and Caroline Tierney (176 — Warvey Hallbangers high female score). Last month's news listed their scores as 000 and we all know they can bowl better than that.





"No lost time" gets safety awards

The 1985 Safety Awards program administered by Mike Masington, Safety Manager, presented the following awards for no lost-time due to accidents this year.

Commander's Awards—Comptroller 1 yr., Command Administration 2 yr., Aircraft Department 3 yr., Computer Department 4 yr., Directorate Command Projects 4 yr.

Group Awards—TSD Instrumentation/Structural Test Branch, TSD Electrical Branch, TSD Sheet Metal Shop, TSD Machine Shop #1, TSD Machine Shop #2, Airframes Branch, Power Plants Branch, Aviation Life Support Systems Branch, Electronics Branch, Electrical Branch, Armament Branch, Plane Handlers Branch, Ground Support Equipment Branch,

PW Service Branch, PW Utilities Branch, PW Transportation Division, Security Division, Fuel and Liquid Gas Branch, Storage Branch, Packing and Preservation Section.

Supervisors' Award — Svend A. Berntsen 6 yr., Vincent A. Morrelli 4 yr., Richard P. Butkus 1 yr., Edward T. Engle 5 yr., Robert D. Reed 1 yr., Earle L. Largent 6 yr., George Sterling 4 yr., Edward W. Linke 5 yr., John M. Kupetz 12 yr., Edward J. Long 6 yr., Thomas D. Hicks 3 yr., Alfred W. Keiss 2 yr., Carlos A. Sanchez 1 yr., AMSC John Williams 2 yr., PR1 Robert Elliott 1 yr., AKC Kenneth Pratt 2 yr., AEC Jack McCuller 1 yr., AOC Ronald Jerasa 2 yr., ADC Bruce Hopper 1 yr.

Material Handling and Construction Equipment Operator's Awards — Edward C. Scott 26 yr., Dale R.

Jackson 18 yr., Lister Ramson 15 yr., William J. Walto, Jr. 12 yr., Joseph F. McHugh 12 yr., John M. Boney 10 yr., Junious Newman 9 yr., Charlie F. Belcher 1 yr., Nick Markwald 1 yr., Thomas J. Poleri 1 yr., Casper A. Pepe 1 yr., John J. McGee, Jr. 12 yr., Andrew J. Hall 12 yr., Kenneth R. Danser, Sr. 12 yr., T. William Singleton 10 yr., Lloyd Pinkett, Jr. 7 yr., Edward J. Hill 4 yr., James W. Bryant 1 yr., Paul Newborn 1 yr., Eladio Colon 11 yr.

Safe Driving Awards — Thomas R. Ryan 14 yr., William R. DeBoer 12 yr., William A. Zar 10 yr., Michael J. Bessler 1 yr., Calvin Harvey, Jr. 7 yr., Eugene E. Byers, Jr. 1 yr., Arnold Gibson 3 yr., Russell W. Miller, Jr. 1 yr., Thomas E. Munyan 1 yr., Kinzel R. Edwards 2 yr., Paul E. Cronin, Jr. 4 yr.

Commander Salutes

Code 10: **George Lange**; Code 20: **Edward Rebmann**, **David Woodcock**; Code 30: **Peter Santi**; Code 50: **Ralph Collins**: for outstanding support provided as an observer during a BGAREM 86-1 exercise.

Code 10: **LCDR A. Raitel**; Code 50: **Stephen Elchenko**; **James Abel**; **Steven McComas**: for assisting the Naval Air Systems Command with a successful solution of an ACAP software problem.

Code 60: **Robert Stouffer**: for significant contribution in support of the Defense Mapping Agency's Gravity Gradiometer Survey System is appreciated.

Code 50: **Franklin Prindle** and **William Pohle**: for assistance to the Naval Sea Systems Command with the Ada Language System/Naval Acquisition Program Source Selection process.

Code 40: **Sidney Mittman**, **Arthur Stevens**, **John Handal**: for significant effort in support of the T-AGS 39 Class proposals at the Naval Sea Systems Command

Code 60: **Samuel Delserro**: for successful completion of the Navy Scientist Technical Exchange Program assignment.

Code 80: **Philip Kaufman**: for outstanding coordination of the T&E Flight Clearance Forum with the Naval Air Systems Command.

Code 091: **Regina Gasuk**: for winning Honorable Mention in the CHINFO Merit Award Competition.

Code 20: **Thomas Castaldi**: for outstanding support to DNL Systems Analysis Review Panel.

Code 042: **LTJG Cheryl Valdivieso** and **ETCS James Waterman**: for voluntarily participating in the Military Financial Counselor Training Course.

Code 10: **Thomas Jadico** and **Eugene Haley**: for outstanding support to the Naval Air Systems Command in establishing a joint U.S. Navy/Canadian engineering development program.

Code 091: **Mary Ann Brett**; Code 10: **LCDR James Burd**, **LT Jerome Cleveland**, **William Wentz**; Code 20: **David Panetta**, **Robert Minder**; Code 50: **A. W. Capece**: for excellent briefings to the NADC Naval Reserve Unit.

Code 03: **Ronald Young** and **Marlene Grubb**: for outstanding contribution to the Naval Civilian Personnel Command in support of the Demo Project.

Code 50: **Glenn Jadney**: for significant support to a Chief of Naval Operations high priority project on the CH-53A helicopter.

Code 50: **Borys Umyrn**: for outstanding support to the ASW Tape Recorder Steering Group.

Code 10: **LT James Seveney**: for professional and dedicated effort as P-3C Update III SASP Acoustic Trainer Project Officer in the VP Program Office.

Code 09: **Janet Koch**; Code 70: **Jerome Bortman**: for outstanding assistance provided during the Business Opportunity Fair at Tobyhanna Army Depot.

Code 70: **John Scott**: for dedicated service in assisting 8(a) small business firms.

Code 60: **Alan Hillman**: for dedicated service to the Boy Scouts.

Code 83: **Tina Polichetti**: for outstanding assistance provided to the Facility Special Projects Workshop for the Director of Navy Labs.

Code 70: **Thomas Willey**: for outstanding effort in support of the Director of Navy Labs Planning Group.

Code 60: **George Kydd**: for outstanding assistance to the Naval Surface Weapons Center in support of their FY86 Subproject Program Plans.

Code 30: **W. William Heffner**: for an excellent briefing to the Navy Indoor RCS Range Conference.

Code 40: **Stephen Kalatucka**: for valuable support during the Standard Central Air Data Computer Production Source Selection at Wright-Patterson Air Force Base.

Code 60: **William Mulley**: for outstanding support to the NATO Military Agency for Standardization in the Avionics Systems Working Party.

Code 50: **Carl Frey**: for excellent assistance during the Tactical Software Support Center's visit to NADC.

Code 30: **LT Joseph Romano**: for commendable efforts during the medical evacuation of HMI Dillon due to decompression sickness.

Code 03: **Joan Miller**: for outstanding support to the American Red Cross Blood Drives.

New titles at the Library

Where are we defensively? Where are the Soviets defensively? Where do the Soviets *think* we are defensively?

Check out some of the new arrivals in the technical library and see:

"*The Button: The Pentagon's Command and Control System — Does it Work?*" (UB212 .F67)

"*Directed Energy Missile Defense In Space. Background Paper*" 1984 (UG743 .C37)

"*The History of U.S. Electronic Warfare*" Vol. 1 (UG485 .P75)

"*The Presidency and National Security Policy*" (JK501 .C43)

"*Soviet Chemical Weapons Threat*" 1985 (UG447 .U51)

"*Soviet Military Power*" 1985 (UA770 .S6)

"*The Soviet View of U.S. Strategic Doctrine*" (U161 .L63)

"*Strategic Command and Control: Redefining the Nuclear Threat*" (UB212 .B5)

"*The Strategic Defense Initiative (Defense Technologies Study)*" (UG740 .U54)

Code 20: **Carl Reitz**: for outstanding performance as the 1st class desk engineer for the Unmanned Air Vehicles Program at the Naval Air Systems Command.

Code 60: **Daniel McCauley**: for outstanding support to the Joint Services Vertical Lift (V-22) developmental program.

Code 50: **Dominick Siano**: for outstanding contributions to the successful introduction of LAMPS MK III software to the fleet.

Code 01: **William Wisemann**: for an outstanding presentation on short notice to the Southeastern Pa. Council Navy League General Membership meeting.

Code 81: **Jon Jones**: for photographic assistance to the Naval Air Propulsion Center.

Code 10: **LCDR Michael W. Dent**: for an excellent TACAMO Program brief to the NADC Naval Reserve Unit.

Code 30: **Otto Kessler**: for an excellent briefing on the Mission Avionics Sensor Synergism (MASS) development program presented to the NADC Naval Reserve Unit.

Code 70: **Herbert Schoenfeld**: for valuable assistance to the Office of Naval Technology on the 6.2 Block Program.

Code 81: **Michael Goldberg**, **Mark Showmaker**, **Charles Steinbach**: for excellent assistance in judging the Firefighters' Olympics for the Bucks County Fire Chiefs Association.

Code 09: **Janet Koch**; Code 84: **Frank Drummond**: for outstanding support to the Clinton County's federal procurement conference.

Code 30: **David Davis**, **Robert Melby**: for valuable assistance to the Combat Identification System Program Office at the Naval Air Systems Command.

Code 20: **Carl Reitz**; Code 60: **Ronald DiGirolamo**: for outstanding contribution to the timely release of the Invitation to Bid for the Baseline Short Range RPV System for the Naval Air Systems Command.

Code 60: **Kenneth Bullard** and **Vinh Nuyen**: for excellent assistance to the Air Vehicle Subsystems Branch Naval Air Systems Command on the V-22 Aircraft Program.

Promotions

Robert Adamoyurka, Ronald Averell, Neil Axler, Brendan Beary, John Boodey, Julieta Booz, Michael Bosak, Rita Breitenbach, George Brickner, Laurie Bryner, Maureen Bullene, Dolores Castro, Kathleen Cornell, Eduardo Danganan, Michael Daum, Theresa Dedominicis, Glenn Fala, Dorothy Farmer, David Fenton, Anthony Filanowski, Brian Fillette, Ricky Fillhart, James Fingerle, Patricia Foley, Linda Giblin, Dianne Granata, Cathy Herbets, Adam Harry, Barbara Hutchinson, Gerald Iannelli, John Johns, Dawn Keiser, Dong Kim, Judith Koper, Paul Kozel, Arthur Krol, Noreen Lapira, Jeffrey Lewis, Linda Lips, Joseph McFadden, Sheila McGuire, John Metzger, Thomas Morrison, Robert Mullins, Jeff Pilant, Betty Price, Mark Silbert, Mary Sutter, Joyce Sweeney, Chester Terry, Susan Tiley, Marybeth Tobin, Michael Troyanosky, John Whalon, Kenneth Williamson, Dolores Wilson, John Winiarczyk, Joseph Zaroff.

Security Reminders

Public Release

All presentations, papers, etc. that have not previously been authorized for "Public Release — Distribution Unlimited" that will be published or presented at conferences, meetings, symposiums in CONUS or abroad must be reviewed by the Security Dept. prior to release. This process can take up to 45 days for release. The time period involved allows for CNO and other sponsors approval. Papers must be submitted with the above time frame in mind.

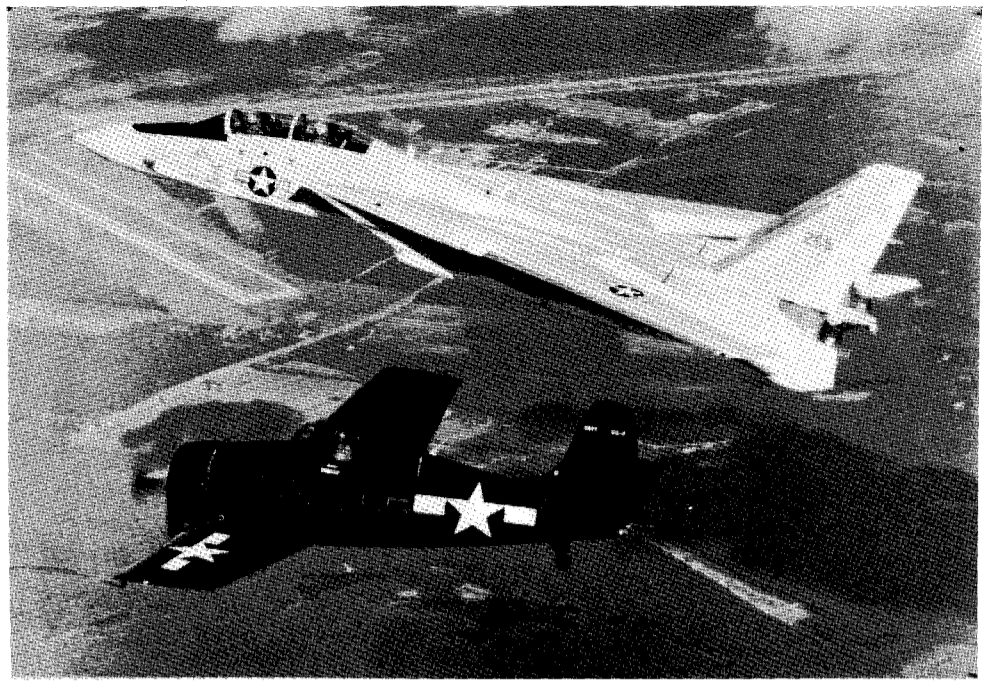
NADC opens doors May 10th

On Saturday, May 10, 1986, the Naval Air Development Center will open its doors to the public from 10 a.m. to 4 p.m. to celebrate the 75th Anniversary of Naval Aviation. The official birthdate of naval aviation was May 8, 1911. On that date, Captain Washington Irving Chambers, USN, officer in charge of aviation, prepared the requisition for the Navy's first aircraft.


The Chief of Naval Operations has directed the Navy-wide/world wide celebration of the Diamond Anniversary and has deemed it appropriate that Navy personnel, the

American public, and friends and allies overseas be given the opportunity to experience the special world of naval aviation. NADC plays an important role through its research and development of naval aircraft systems.

Static displays of laboratory work, old and new aircraft and hot air balloons highlight the day's festivities. Children laughing, music playing, and balloons flying — hamburgers, hot dogs, french fries and ice cream will complement this display of state-of-the-art technology. See pages 10 and 11 for a full display of the day's events.



Front line fighters, generations apart, the Grumman "Wildcat" of World War II on the left is overtaken by the Grumman "Tomcat" of today. Both will be part of a 20-plane display of old and new Navy planes at NADC on May 10th.



Reflector

Volume 31 Number 4

NAVAL AIR DEVELOPMENT CENTER, WARMINSTER, PA.

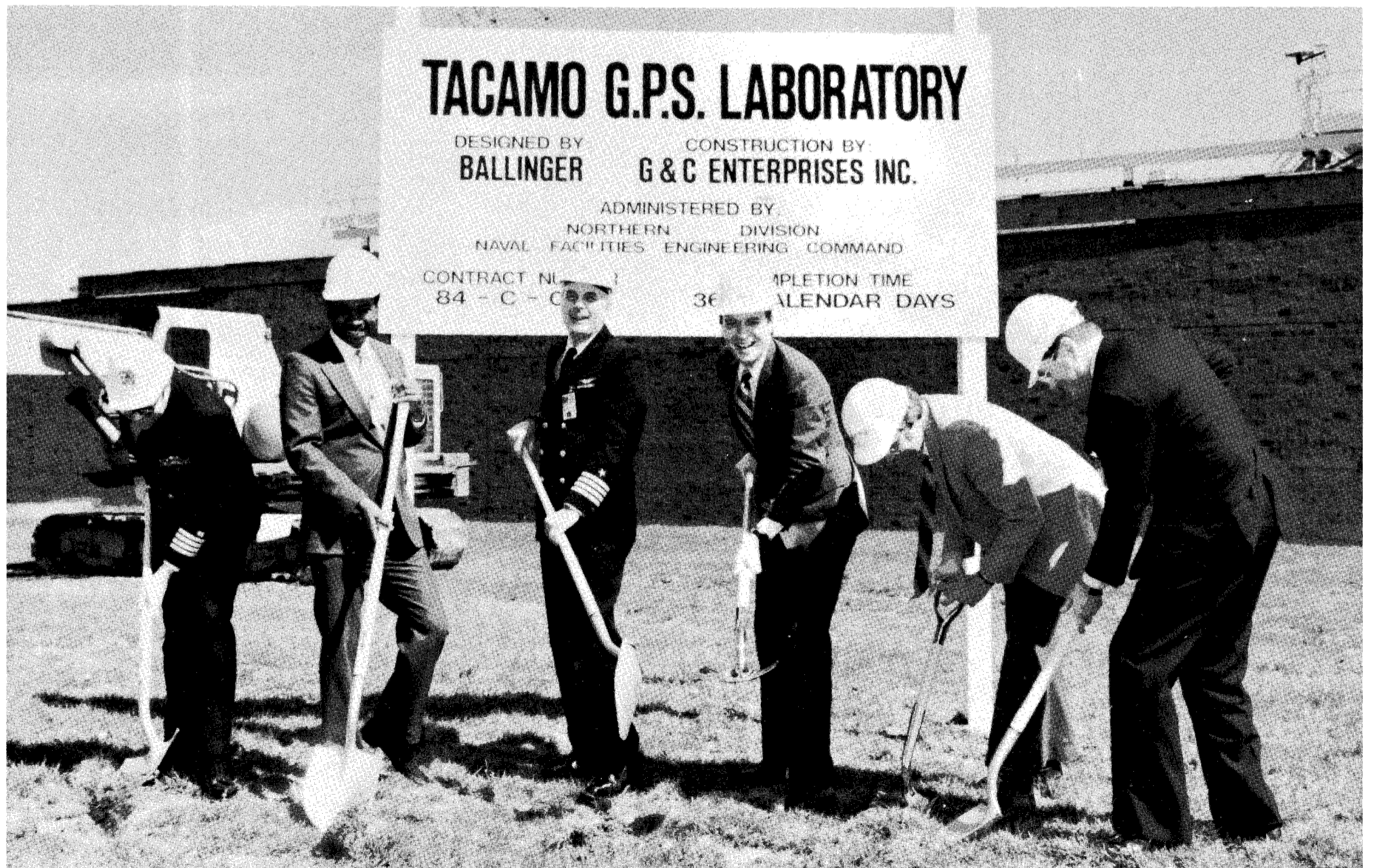
April 1986

In this issue:

- New director for CNTD
- New Avionics Integration Lab.
- Foreign scientist
- NADC volunteers
- W&R skiing
- Model airplane collection

VIP's dig in

Ground breaking held for new TACAMO/GPS laboratory



(L to r) CAPT Robert Edmiston, Executive Officer of the Northern Division Naval Facilities Engineering Command, Richard Mitchell, newly selected Director of the Communications, Navigation Technology Directorate, Center Commander CAPT Edward Sturm, Congressman Peter Kostmayer,

Bill Gray, President, G&C Enterprises, Inc., and Robert Buffum, Technical Director dig in at the ceremonial ground breaking on April 14th for the new \$3.1 Million TACAMO/GPS Laboratory at the Center.

Photo by Drew Schmith

Admiral Wilkinson speaks

Admiral J. Wilkinson, Commander of the Naval Air Systems Command, for whom the Center does a major portion of its work has expounded on current Naval aviation issues and perspectives.

Due in large part to the infamous Gramm Rudman Hollings Act initiatives, now more than ever, he said, attention is being focused on the Department of Defense because of the increasing concern over the national debt. A concern, which in part contributed to the reorganization of Navy labs placing them under SPAWARS responsibility. As high as the Secretary of Defense, have argued for a strong national defense, the need for supporting our allies, and our dependence on foreign nations for scarce resources and critical materials.

He explains that to limit defense spending and still maintain a strong defense will require radical change in the government's m.o. and that the key element is in applying competition.

Competition, he said, makes sense as a way of controlling costs but will require that we make major adjustments in our approach to planning. It imposes a higher initial

workload and greater up front expenditures but will pay high dividends in lower cost weapon systems. Since evidence is overwhelming that competition is in the Navy's best interests, we should ensure its application.

Another key factor he addressed is the quality of employees whose efforts contribute to program success. The Admiral said the job well done has too often been overshadowed by and lost in the wake of media attention focusing primarily on our isolated shortcomings and not on our own initiatives.

Initial accountability is being stressed laying blame for deficiencies with those responsible. At the same time we should applaud those who continue to toil in earnest.

Admiral Wilkinson concluded these are difficult times demanding superior management, innovation, and strong leadership. We must strive to be more effective and efficient remembering to reward performers who successfully meet challenges. Quote: "The end result is obvious: a strong national defense at an affordable cost to the taxpayer." (MAB)

EEO shows appreciation Feder receives recognition



Photo by Jim Kingston

Harriet Feder receives special plaque from CAPT Edward Sturm for her work as Recording Secretary of the Equal Employment Opportunity Committee. She served in this capacity from March 1984 — March 1986. Her outstanding service in assisting the EEO Committee Chairman and taking the meeting minutes earned her an "Atta Girl" from CAPT Edward Sturm, the Center's EEO Officer.

Letter to the Editor

Dear Editor:

I'm asking that you clarify a point for me, as well as for many other Center employees. It has to do with a government employee being involved in an auto accident while on official government travel. If the accident involves the employee's rented auto, does the employee's personal auto insurance cover the auto repairs, medical bills, lost time, and any liability claims? If not, then does some form of government insurance protect the employee against such costs? If not, then the additional insurance coverage that is offered when we rent an auto on travel would appear to be essential. When we sign for the auto at the rental desk, we have the option of buying this insurance protection; we are asked either to accept or to decline. However, since this insurance cost is not allowed as a reimbursable charge on the travel voucher, one is led to believe that the additional insurance is in no way necessary. Would it be prudent and advisable for the government traveler to buy the optional insurance, even though he does so at his own cost?

Similar questions regarding the employee's personal risk arise for the case when one uses his personally owned vehicle (POV) for government travel.

I have heard horror-stories about accident claims being held in suspense for years, while the employee's sick days are depleted, his medical bills go unpaid, and his personal credit is in jeopardy. I think all of us would appreciate a clarification of this ambiguous issue of employee risk while on government travel.

Regards, E.J. Emery

Dear Mr. Emery,

The following response has been prepared by Bob Janes, Office of Legal Counsel.

Some of what Mr. Emery has asked involves employees' personal auto insurance coverage. Individual policies vary dramatically, and I suggest that those employees with questions about their own insurance should review their policies and consult with their individual agents. Insofar as what the Government will take care of, I hope the following summary will be of help.

In any accident involving an employee on government travel, the first question that must be asked is whether or not that employee was acting within the scope of his employment when the accident occurred. Just what constitutes acting within the scope of one's employment can vary from state to state, but in general it includes travel to and from the TDY site, as well as travel a reasonable distance from the TDY worksite for meals or other necessities. If an employee is not within the scope of his employment when the accident occurs, but is off on some personal business (for example, visiting relatives in San Diego over the weekend after TDY in Los Angeles), his liabilities and his entitlements will arise as if he had no connection with the government whatsoever. He will be in the same position he would be in if he were to have a weekend accident in Warminster; his government position is irrelevant.

If, however, the employee is acting within the scope of his employment when the accident occurs, he is immune from any personal liability for injuries he causes, and will be covered for his own losses as follows:


(1) Personal liability — Pursuant to a statute called the Federal Drivers Act, the employee will not be liable for any injuries he may cause to other individuals or their property, including damage to

a rental vehicle. Since the federal government will pay for all such injuries, it is unnecessary to obtain additional liability insurance from a rental car company in those cases where an employee will be acting within the scope of his employment during the entire time of his travel. If the employee plans to use the rental car outside the scope of his employment, he may want to purchase the additional insurance to protect him from any personal liability, but this will be treated as a personal expense and will not be reimbursed as part of his travel claim.

(2) Personal medical injuries — Civilian employees are entitled to various benefits under the Federal Employees Compensation Act, or FECA, and these benefits are the same whether the injuries occur in an auto accident or in an office setting. They include what is known as continuation of pay, which is available for the first 45 calendar days after the accident; the choice of taking annual or sick leave, or

leave without pay and collecting Workmen's Compensation; payment of medical bills, as well as personal injury compensation according to a schedule of benefits for total or partial disability. The Civilian Personnel Office (Code 031) can provide more detailed information about employee entitlements under the FECA. Military personnel are entitled to a separate series of benefits, and the Military Admin Division (Code 042) can provide further information on these.

(3) Damage to privately owned vehicle — This is one area where the law is not altogether clear, but it is current Navy policy to compensate the employee for any damage to his own car. The employee may, however, first be required to pursue recovery against another driver in cases where that driver has caused the accident, and, depending on the circumstances, the employee could be asked to pursue a claim against his own insurance company for collision damage.



Reflector

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CNTD gets new direction

Mitchell plans to take an active role

by Mary Ann Brett

Richard Mitchell, currently the Deputy Director of the Systems Directorate, has been selected as the new Director of the Communications, Navigation Technology Directorate (CNTD) replacing William Lyons who retired recently.

When the Center Commander CAPT Edward Sturm notified Mitchell of his selection, Mitchell was momentarily speechless. Then, realizing the competition had been strong, he said, "In a year, I hope you can look back and say you made a very wise decision."

Mitchell already has plans for CNTD. He wants to ensure they support the warfare areas from a technology standpoint. He said, "Technology in our field must support air platforms for the Navy and we must maintain our technical base — that's

our people!" He wants to make sure CNTD is actively involved in the latest technology.

From a Center standpoint, he'd like to influence the Center's direction through the Center Management Group of which he is now a part. "I have some ideas I'd like to try out on them" said Mitchell.

A 1961 graduate of Tuskegee University with a Masters degree in Electrical Engineering from the University of Pennsylvania, Mitchell joined the Command Projects Directorate in 1975. From 1977 thru 1982, he was a division superintendent in the Software and Computer Directorate. He subsequently advanced to the Head of the Center Design Team where he provided the Center a focal point for conceptual designs. In 1984, Mitchell was appointed Deputy Director of the Systems Directorate.



Photo by Regina Gasuk

Richard O. Mitchell takes new position effective 7 April 1986.

Navy Relief Drive kicks off May 4th

by CDR Milton F. Henke
1986 Navy Relief Chairman

Ice cream booths, hamburger stands, lobster sales, and vacation trip tickets are all signs of the annual Navy Relief Society's Fund Raising Drive. Navy Relief means fun, festivities, hard work and a feeling of pride and accomplishment when the goal is met and an oversized check is presented to the area coordinator.

Navy Relief also means over

\$400,000 in assistance to Philadelphia area service families in the form of loans, grants, emergency food subsidies, counseling, child care for medical patients and other forms of emergency relief.

This year's annual drive will begin on May 4th. During this time all Navy and Marine personnel, and their civilian friends and supporters are asked to contribute to the Society so it can continue to provide assistance

when needs arise.

The Naval Air Development Center has traditionally provided strong support. Center Commander, Captain Edward Sturm, has expressed his full support of the drive and encourages all Directorates to be enthusiastic and active participants in the Campaign.

Watch for announcements of prizes and events in the Plan of the Day and The Log.



New laboratory for Vertical Flight Program

On March 4th the Vertical Flight Program Office demonstrated the capabilities and problem solution techniques of the new LAMPS MK-III Avionics Integration Laboratory (AIL). Following the demonstration for the NAVAIR sponsors, the AIL began extensive validation that will certify it for operational use in October of 1986 when NADC assumes life cycle support responsibilities for major portions of the air software for LAMPS MK-III.

LAMPS MK-III is an integrated ship-air system capable of performing its primary anti-submarine warfare (ASW) mission and its major secondary mission of anti-ship surveillance and targeting (ASST) through direct ship control.

The LAMPS helicopter contains sensors to assist in the performance of the LAMPS missions. The LAMPS helicopter and ship are in constant communication via data link. This continual flow of information allows each unit to take advantage of the other's tactical capability. To conduct missions effectively the crews must skillfully interpret and analyze information from several sensors and provide corresponding tactical options.

In support of these efforts the AIL provides a facility to modify and extensively test the LAMPS operational and maintenance software. The AIL contains a complete set of the LAMPS major avionics control elements, computers and data bus; which are driven by the AIL computers to simulate real world conditions. This

facility is capable of identifying software problems, fixing them and verifying that system changes do not degrade overall system performance.

The basic AIL configuration contains a problem control computer, data recording and analysis computer, problem control station, representative ship station, ten simulation/stimulation units, major avionics control elements, and a local area network.

The basic AIL philosophy is to recreate the environment in which the problem occurred and reproduce the problem. This is accomplished through the integration of data processing and simulation/stimulation of the major LAMPS avionics. The simulation/stimulation units, known as SSU's comprise advanced digital technology that digitally stimulates the avionics or allows error insertion, provides for redundancy and high repetitive testing, or conceptual modification via simulation. The AIL architecture provides enough flexibility to adapt to changes whether they be upgrades to existing systems or new systems.

In the example of a software problem, engineers take the information they receive from the fleet, reproduce the environment and force the problem to reoccur, monitor the data and isolate the problem.

Another use of the AIL is to determine if a problem does exist and whether it is software or hardware. If it is a software problem, it may be a result of inadequate requirements/specifications, poor implementation, or



Front row, far left: CDR James Bauman and Evelyn Kent, NAVAIR (AIR-546) along with LCDR Bill Mugg, Vertical Flight Program Director, CAPT John Hood, Director Command Projects and a group of others listen intently to briefings held in the AIL to demonstrate the lab's capabilities.

it could be an operational error. For instance, if the radar waveguide pressure is too low, the pilot is supposed to get radar alert indications on his display. Pilot's found they were not getting the proper signal. Using the AIL it was demonstrated that the pilot will only see an alert if he pushes one of his radar buttons. According to specifications, the signal was operating, therefore the problem is not with the software, but it is operational in nature. A specification change

would be required to alter the function to operate as implemented by the pilot.

This laboratory provides the necessary environment to upgrade the software used aboard the LAMPS helicopter as a result of software deficiencies, operating problems, changes in hardware, or changes in operational requirements, doctrine and tactics. Extensive use of AIL will minimize the need for flight testing and will result in quick response to the fleet.

History of Naval Aviation

When the United States entered WW I in April 1917, the small group of Navy and Marine Corps Aviators who had promoted the growth of Naval Aviation was not equipped for combat. The Naval Air establishment had only one air station, a training base at Pensacola, Florida, 54 aircraft (mostly training planes), 48 aviators and students, and 239 enlisted men.

During the 19 months of U.S. involvement in the war, however, 39 new naval air stations were established, 27 of them overseas. Thousands of young men became pilots, ground officers, mechanics and technical specialists in the Naval Reserve Flying Corps. From a force of 43 pilots, 193 enlisted men and 54 aircraft, Naval Aviation's resources expanded by war's end to 3,049 pilots, 43,452 enlisted troops, over 2,000 aircraft and 15 lighter-than-air craft.

Early in June 1917, the first U.S. military detachment to reach France was an aviation unit led by Lieutenant Kenneth Whiting, a submariner turned aviator who contributed much to early aviation development. This small contingent was followed by others, including the First Yale Unit, a group of students who organized a flying unit in 1916 that later became part of the Naval Reserve. One member of this group was David S. Ingalls, who later became the first ace in Navy history and the only Navy ace in WW I.

U.S. naval aircraft were used primarily for convoy duty, for antisubmarine warfare and to bomb enemy submarine installations. Until American airplanes could be built and shipped to Europe, the aviators used foreign aircraft. Some of these planes were too light to carry machine guns or bombs and the pilots flew with pistols, rifles or shotguns for protection. Hand grenades and even bricks were thrown when nothing else was available.

Development of the long-distance flying boat was an important by-product of the war. Numerous types appeared, from the F-boat for training to the HS, H-12 and H-16 patrol bomber flying boats. All were designs of the American inventor Glenn Curtiss. The British operating these aircraft in the harsh North Sea environment improved on these models out of necessity. The end result was

the F5L which saw considerable operational use in the U.S. Navy for a number of years after the war.

Although the Navy-Curtiss (NC) planes were finished too late to take part in the war, one of them, the NC-4, made a trailblazing transatlantic crossing in May 1919. It was the first time any aircraft had flown across the Atlantic Ocean.

On May 8 of that year, three NC aircraft, dubbed "Nancy Boats" by the press, with Commander John H. Towers in command, took off from NAS Rockaway Beach, N.Y., for Trepassey Bay, Newfoundland. Here, they waited for good weather until May 16 to continue their journey. Of the three, only the NC-4, commanded by Lieutenant Commander Albert C. Read, with pilot Lieutenant Junior Grade Walter Hinton and copilot Lieutenant Elmer F. Stone, USCG, reached its destination in the Azores. The NC-1 and NC-3, hampered by unfavorable weather and navigation difficulties, landed at sea. Cdr. Towers sailed NC-3 into the Azores, but the aircraft was so greatly damaged that it could not continue. NC-1 capsized and sank when taken in tow.

NC-4 continued to Lisbon, achieving the first aerial crossing of the Atlantic on May 27. Read and his crew flew on to Plymouth, England, arriving on May 31 to complete the record flight.

Many aviators were satisfied with the capabilities of the flying boat as the primary means of sea-air power; while others thought aircraft should be able to operate from combatant ships. Still another group promoted the development of lighter-than-air craft.

The Navy's LTA program actually began on June 1, 1915, with an order for one nonrigid airship, later designated DN. In 1919, the Navy Department authorized the acquisition of its first rigid airships, ZR-1 and ZR-2, as well as the establishment of a supporting air station, NAS Lakehurst, N.J.

The years that followed also brought advancements in the flying boat but, as WW I ended, interest was already beginning to swing toward a specially constructed flush-deck carrier. In 1919, Congress authorized the conversion of the collier *Jupiter* to the carrier *Langley*, the first of such ships in the U.S. Navy.

All work and no play

One of the benefits of being assigned to NADC is the detachment flights to the Caribbean, to places like St. Croix in the Virgin Islands.

What is done on these flights depends on what project one of the Directorates is working on.

One project that finds its way down to St. Croix is low cost sonobuoy testing. But all work and no play isn't the standard for the crew.

From February 27th to March 7th, the military crew of pilots LTs Bill Prestwood, Carl Hendershot and Richard Ryan, Master Chief Aviation Avionics Technician Tom Mazzone and Aviation Structural Mechanic First Richard Evans, flight engineers; radar operators Aviation Anti-submarine Warfare Specialist Seconds Ken Carrigan and Ken Newton and Aviation Structural Mechanic First

Paul Walski, mechanic, took three members from the Sensor and Avionics Technology Directorate to test sonobuoys in P-3 883, the Navy's oldest P-3 Orion.

Although most of the time was spent testing, the crew found time to explore Bucks Island National Underwater Seashore. To get to Bucks Island, the crew rented a boat. While there, they snorkeled on underwater trails as the Seashore Park is 20 feet below the surface. The crew also held a barbecue. On the way back, the crew could not resist conducting something very Navy. So, most of the crew "fell" into the water for a Man-overboard-drill.

Sailors have traditionally found ways to enjoy themselves while taking advantage of unique places in the world. And what the heck, the Caribbean is a fun place. (FAD)

Mixed Bowling Update

by Tom Reiter

Congratulations to the following high scorers for games bowled to date;

A DIVISION

LUCKY STRIKES	THE STRANGE BREW	WARVEY HALLBANGERS
Art Duhaime 202	Scott Kee/Jim Mitchell 233/233	Glenn McKee 217
Mary Feeley 184	Karen Kee 224	Caroline Tierney 180
ALLEY OOPS	DYNAMIC DUOS	SCREWBALLS
Rick Yeager 225	Mike Stauffer 243	Dave Rose 212
Mary Williamson 175	Olga Haug 165	Eileen Dobrowolsky 211
JERRY'S KIDS	WHITE WINOES	RENEGADES
Jerry Miller 223	Jerry Guarini 199	Bob Parsons 210
Lorraine Kittner 187	Mary Lentz 226	Lisa Johnson 168
NEINERS	RAIDERS	GOOFERS
John Vincent 223	Cliff Tierney 214	Ed Fields 256
Jean Canton 174	Jan DeLarso 225	Lorraine Reidinger 199

B DIVISION

RED WINOES	BLIPS	MAGIC MARKERS
Ernie Wykes 223	Mike Daulerio 225	Larry Sicher 223
Miriam Lentz 200	Sharon Robinson 173	Di Beach 208
THE BIG SPENDERS	RATED X	BULLSHOOTERS
Mark Drager 220	Tom Gould 231	Tom Leahy 241
Margie Ruzicka 176	Lorrie Dunn 200	Audrey Dinkins 204
ELEVENTH FRAME	ALLEY CATS	LANE BRAINS
Al Goldstein 225	Gene Toner 228	Hank Lystad 223
Jean Bollard 201	Marguerite Hoefling 204	Ro Lystad 190
FALCONS	LES CHAMPIGNONS	WHO CARES
Steve Jerden 223	Ed White 219	Mike Bubbs 227
June Olson 187	Ann Harris 185	Barb Fleischut 170

Technical Highlights

RING LASER GYRO NAVIGATOR FOR SURFACE SHIPS

NADC successfully completed evaluation of a Rockwell Ring Laser Gyro (RLGN) aboard the USNS VANGUARD in Feb. 1986. This completed the at-sea test phase of an Exploratory Development program to investigate the feasibility of Ring Laser Gyro based navigation systems to meet the current U.S. Navy operational requirement for a surface ship navigator. Two other RLGN systems, provided by Litton Industries and Honeywell, Inc. had previously undergone successful testing under this program.

The Rockwell RLGN was installed aboard the USNS VANGUARD in November 1985 and tested dockside during four at-sea test periods. The RLGN performed reliably during these periods. In mid-February, enough data had been collected to characterize the system. The RLGN was then removed from the VANGUARD and returned to Rockwell.

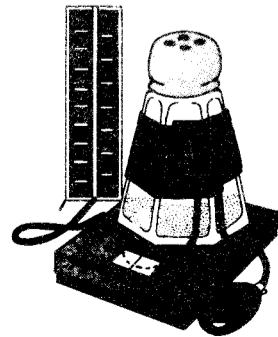
Based on these results, the Navy is proceeding with a Full Scale Engineering Development Phase to provide an RLGN for surface ships. A development contract should be

awarded by the end of FY86.

RECORD CV-ASWM FTAS UPGRADE PRODUCTION CONTRACT AWARDED

The CV-ASWM Program announced the modification in late February 1986 of a Phase I Letter Contract contract to Rockwell (Autonetics Division) for the Fast Time Analyzer System (FTAS) Upgrade ECP to include Phase II requirements. The modification authorizes production of six CV-ASWM and six VP-ASWOC FTAS Systems for \$43M. The combined letter contract with a total ceiling price of \$76M represents a record single NADC award. The new FTAS Upgrade equipment will add: expanded Vernier capability (from 1 to 16/channel); a three-fold increase in the number of channels available; improved display capability and better supportability (via commonality between VP and CV Systems); and Reliability and Maintainability improvements (by use of MIL-STD components). The contract will be definitized by June 1986 and includes delivery of a drawing package for competition of anticipated future requirements for 23 additional FTAS Systems.

SALT CONTRIBUTES TO HIGH BLOOD PRESSURE



Foreign scientist pleasantly surprised in U.S.

by Mary Ann Brett

Gunter Hombach is a scientist from West Germany on a one-year exchange assignment here at the Center. An inhabitant of Koblenz, Germany (located at the junction of the Rhine and Mosel Rivers), Hombach is assigned to the Material Application Branch in the Aircraft and Crew Station Technology Directorate until November.

Hombach works as a civil servant for Germany's Federal office for Armament and Procurement (known as BWB) which is responsible for developing and providing weapons, clothing, food and a wide assortment of services to all West German forces — much different from the United States where each service has its own procurement activity. His job there is to develop requirements and write specifications for weapon lubricants.

Having heard of such exchange assignments from colleagues, Hombach initiated his own request for assignment to NADC. In it he described his job in Germany and what he'd like to do here. He proposed to select lubricants based on the design and technical condition of the weapon lubricating parts. Eventually this lubricant will be tested by the Naval Surface Weapons Center. Currently, he is investigating the appropriate laboratory test methods to be used.

On arrival in Philadelphia,

Hombach's first impression was, "People here are so accommodating," much more so than he expected. "Neal (Rebuck, his supervisor) picked me up at the airport and even offered me the use of his car; this is unheard of in Germany!" he said.

Hombach attended engineering school in Koblenz and a technical university in West Berlin, graduating in 1978 with the equivalent of a Master's degree in Industrial Engineering.

Accustomed to action as a former soccer player, he now considers himself too old to play in league competition. He would like to play tennis but hasn't had a chance to learn. Unfamiliar with American-style football in Germany, and surprising to him, he found, "This football is very exciting," he said, "I would not have imagined it so. It has lots of action." Hombach already knows his favorite football team is the Philadelphia Eagles.

Hombach was accompanied here by his wife Inge, son Stefan (6) and daughter Andrea (5). They have settled in Bensalem for their stay.

They thought language would be a greater barrier than it is. In fact, Hombach is quite fluent as a result of a three month crash course in English. His wife is learning the language from him and his children are picking it up quite naturally. He said, "My wife has learned quickly that not so many words are needed to go shopping."

Hombach finds the USA so interesting that he would enjoy another longer term assignment in this

country. "I like the way Americans live," he said, "They know how to relax and enjoy themselves."

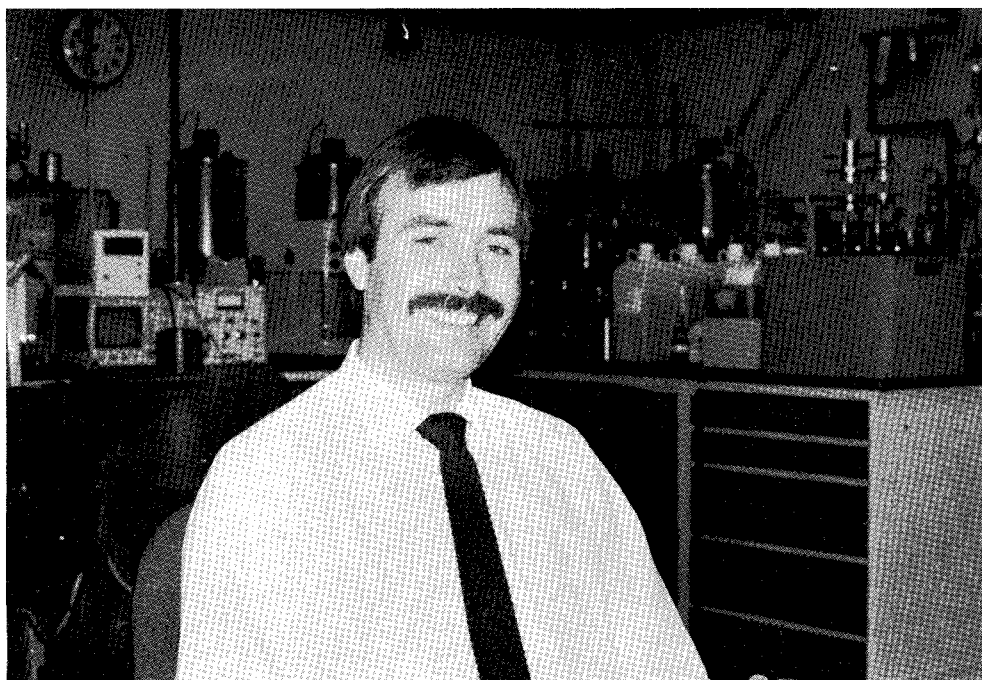


Photo by Regina Gasuk

Gunter Hombach

Security Reminders

All supervisors are reminded that security requirements and procedures are an integral part of the on-the-job training for employees. Training should include levels of classification, handling, accounting and safeguarding procedures, dissemination on a strict need-to-know basis not merely adequate level of security clearance on

the part of the proposed recipient, responsibility to report known or suspected violations of security regulations, prohibition against the use of local copying machines for the reproduction of classified material, and the need for individuals to report contacts with persons from communist countries or countries hostile to the United States.

VIEWPOINT

Photos by Regina Gasuk

How far can you go on your IRS refund?

This month's viewpoint feature was prepared and edited by Rosemary Dominic of the Public Affairs Office.

"With owing as much money as I do, I'm going into bankruptcy."

Larry Lehman, Code 6051



"I was planning on spending it on beer, women, and party hats but after I bought the Meister Brau, I had to eliminate the party hats."

John Markow, Code 033

"Not too far. Its gone before I get it. Someone very close to me sees that it happens that way."

Jim White, Code 02A



"A vacation on the front lawn."

Dottie Hunter, Code 6001

"I have no choice! A down payment on my son's law school tuition."

Arnold Molotsky, Code 0212



"My wife and I are going backwards. We have to pay them."

LCDR Nick Connors, Code 04A

"What refund — If I had to rely on my refund I wouldn't go any further than my front door."

Dottie Kirkpatrick, Code 0313



NADC employees – Volu

by Regina Gasuk

In Doylestown, Chuck Moore coaches softball while Jerry Seidel coaches soccer in Warminster. For the past four years Clyde Colbeth has served as an Emergency Medical Technician for the Erwina volunteer ambulance corps.

Lisa Cowles reads to blind people in her community and AOC Ron Jerasa makes new community feel at home through Warminster's Welcome Wagon.

These are just a few of hundreds of NADC employees who give of themselves by doing volunteer work in the community. They willingly become involved in worthy causes, adding volunteer work, in most cases, to an already busy schedule. Why do they do it? For a lot of good reasons.

Debbie Sztubinsky, a Brownie leader said, "Mostly I think my contribution is teaching a sense of caring, and I think that each girl has something special that she can give."

"It's just helping somebody else," said Dolores Mitchell who bakes casseroles for St. John's Hospice in Philadelphia. "I've been blessed with so much, I want to give some of it back."

Sztubinski leads Brownie Troop 581 in the Plymouth Whitmarsh-Conshohocken area. She currently has in her troop 18 girls who are between 7 and 9 years old. She started doing this when her daughter was a Brownie, but because they did not have enough leaders she stayed on and has been doing it for six years now. Sztubinski is busy preparing her troop for outdoor camping, teaching them basic first aid, how to build a campfire and dressing appropriately for the weather.

Mitchell has been baking her famous hot dog stew and tuna casseroles for the homeless at St. John's Hospice for three years. Good Shepherd brothers run the hospice which provides food, shelter, and clothing.

They give of themselves

NADC employees have a lot to offer. "I try to teach them good sportsmanship," said Joe Cody, basketball coach for the Warrington Athletic Association. "They are going to have to learn to play sports all through their school years and they are going to get better coaches than I, but I think I can teach them sportsmanship."

Cody has coached 17 teams over 8 years in three sports, basketball, softball and soccer. He's coached children from ages 7 through 15. "When I started, the children were 7 and 8 years old and it was the first organized sport program they were in," said Cody. "You get to start with boys and girls who know very little about the sport and coach them every year. You can really see growth," he said, "and by the time they are 14 and 15 years old, there are some good athletes on the team."

Cody emphasizes finding something good in every season, to put winning and losing in perspective. "I've had seasons run 0-15, to winning with a 13-2 record."



Top (l to r): Debbie Sztubinski works with Brownie troop; Nancy Harned leads her group in song; Hank Lysta activities. Bottom (l to r): Dolores Mitchell with a crowd-pleasing casserole; Joe Cody coaches his basketball softball.

"Many of the same athletes were on both teams and you can really teach them something, especially after the second season, about how to put it all in perspective."

Cody is also Vice-Chairman of the Warrington Township Municipal Authority where he and other board members are responsible for overseeing the financial and managerial aspects as well as the long range planning of the water authority.

"What I can give them working here with advanced topics in computer research," said Ron Kushnier, computer teacher for the 4H club in Richboro, "is an appreciation for state-of-the-art computer technology."

He explains that 4H is not just animal husbandry anymore. In order to be more active they offer courses in computers, rocketry, ham radio, and crafts of all kinds. He teaches eight children and one adult in his home on his Commodore PET and VIC 20 computers. He is a past member of the Philadelphia Computer Society and lectured as president of the Commodore group. Through 4H his students will learn the different functions of the computer and will be computer literate by becoming acquainted with the terminology.

"Besides the basic stuff," said Kushnier, "I want to give them the flavor of what is up and coming such as Artificial Intelligence and Robotics." He finds working with the children fun. It gives him an opportunity to crystalize his thinking about certain subjects by teaching them aloud.

Helping man's best friend

The Morway's, Don and Phyllis, have a passionate love of animals and are disheartened by the monthly statistics on how many animals are the victims of cruelty. Their work in support of the SPCA (Society for the Prevention of Cruelty to Animals) is a dedicated effort to prevent such mistreatment.

Don Morway is serving his third term as a member of the Board of Directors. After five years he has learned the management ropes of operating Lahaska's SPCA. It covers a broad spectrum Morway explained, and can deal with anything from the financial aspects of the operation, to fund raisers, to distributing funds from grants and wills. Monies can be used for legal costs in cruelty cases, improving plant facilities, such as the new cages and runs for the animals, and fire alarm, burglar alarm, and phone systems.

"It becomes obvious when you look at the numbers that there is a very essential need to help the animal population," said Morway. Being members of the board allows him and others to effect animal protection legislation in the state. "So we feel at the legislative level, in addition to the judicial and practical day-to-day operations, we can have a broad effect and hopefully a positive impact," he said.

Phyllis Morway helps her husband plan, organize, and execute all the SPCA fund-raisers such as the special SPCA day in Peddler's Village at Christmastime, and the beautiful garden festival and tour of the Perrier home at Seven Pines Estate. In addition to that she serves as a member of the Board of Directors and Secretary for the Hughesian Trust and also a Member of the Grant and Aid Committee which distributes to township college students in need, money left by Amos Hughes, a wealthy Buckingham township resident from his estate.

No time lost

The impression may be that NADC's volunteers must have lots of free time and perform these services just to fill

Volunteers in the community



George Gillespie coaches soccer; Don and Phyllis Morway share their time with pets; (Center) Rockne Anderson discusses troop program; Ann Kaercher answers crisis hotline; Ron Kushnier teaches computer skills; George Gillespie coaches

empty hours. Not so! George Gillespie is the father of six, (5 boys and 1 girl) and finds time to coach baseball and basketball, teach CCD (Confraternity of Christian Doctrine) classes, and serves on the Executive Board of the Leary Elementary School Family and Faculty Association.

Hank Lystad has two teenage sons and manages to coach basketball, baseball and soccer, provides financial services to his church and is the Chairman of the Awards and Advancement Committee of Boy Scout Troop 172.

Gillespie started out helping with some of the teams, then he started coaching his son Shawn's baseball team. He helps with soccer and is Assistant Coach for basketball. "When the boys get into the team and have a good time, even if they are not real good at a particular sport, they are more apt to try other sports and other activities," said Gillespie.

"I do it to be with them and to reinforce that you don't have to win to have a good time, just work as a team," he said. Gillespie was president of the PTA last year and they were able to secure a half court basketball court, soccer field complete with goal posts, and an adequate supply of rainy day games, all things the school needed; an

accomplishment of which Gillespie is proud.

Teaching CCD to 8th grade boys and girls every week, Gillespie focuses on adult themes, and tries to teach them how to deal with making important decisions. As a hobby, Gillespie is a talented magician and juggler. He can be found entertaining school children whenever there is a demand including the Christ's Home and Bethana Home orphans during the Center's Welfare & Recreation Christmas Party.

Lystad has been coaching the youth in his community for seven years. Currently, he is coaching 12-year-old boys' baseball and 14-year-old boys' basketball. He has played sports himself from childhood through college and feels he has a lot to offer. "Some boys really don't know the technical points of the game, especially when they get older and the teams travel," said Lystad. "What I really try to do is get all the players to a certain level, so they all learn the basics about the game and if they choose to be better they know what things they need to work on."

Lystad has been involved with the Boy Scouts for six years, was Assistant Scoutmaster last year and has been the Awards & Committee Chairman for three years. "I don't mind the time I

have to give," he said. "Once you get into it on a regular basis it becomes easy. Children grow up fast and if you don't spend time with them now, then the time is lost and you'll never get it back."

Assistance by phone

Ann Kaercher reaches out by answering the phone for CONTACT, a 24 hour crisis intervention hotline. "People who have nowhere else to turn, call CONTACT," she said. "People who need information or referrals; people who are lonely or depressed, any kind of problem at all."

Telephone workers must remain anonymous and non-judgemental. They are trained, active listeners who can keep a confidence. Kaercher explains that most problems seem to revolve around interpersonal relationships — family, friends, and work. "Some people it just helps to be able to get it off their chest; they need someone to talk to," she said, "either because they have no one to turn to or they feel they cannot discuss their problem with the people they know."

In a given month CONTACT receives as many as a thousand calls. They even have a teletype line for the deaf. Phone workers must have a

minimum of 50 hours training to become active and 10 hours ongoing training per year.

"Sometimes people call very upset and the phone call can last anywhere from a couple of minutes to over an hour," said Kaercher. "A lot of the time somebody just says, thanks, I really just needed to talk about that, I feel better now."

Shaping our future

Much of NADC employees' volunteer work is directed toward the future — our children. It seems that the proper training of youth in the community is important enough for many people to devote much of their time and energy to the various programs designed to accomplish this goal.

Rockne Anderson has been the leader of Boy Scout Troop 204 in Ivyland for two years and involved with the troop for two years prior to that. He was a Cubmaster for five years. He teaches 18 boys about scouting and has three candidates for Eagle Scout this summer. They plan a camping activity monthly and were involved in the Bucks County clean-up. Anderson works on discipline, something he feels the boys really like. "They don't like the lack of discipline, that keeps coming through to me," he said. "They like to march in a group and stand at attention."

"I guess my motivation is that these boys have a good self-image," he explained, "because I think this is the main problem with today's teenagers. My goal is that no boy in our troop ever suffers some of the serious problems connected with a poor self-image."

Nancy Harned is a high school youth group leader for the Oreland Presbyterian Church. Fifty boys and girls ranging in age from 13 to 18 years old gather weekly to sing songs, perform skits, play games and just talk and get to know one another. Harned plays the guitar and encourages camaraderie among youth through song. She and seven other leaders teach lessons usually relating to relationships children have with parents, friends and teachers. "A lot of the time they just need somebody older," she said. "They feel a barrier between themselves and their parents. It's neat to see how they really look up to us as leaders and value our advice." The group goes to concerts, Phillies games, and roller skating parties. Harned really enjoys the youth group and finds building relationships and getting to know them fun and rewarding.

The list of people and activities goes on and on. Volunteers accomplish much that would otherwise go undone. Civic associations, finance committees, church groups, town watches, ways and means, planning commissions, fire departments, and ambulance corps to name just a few, work better and achieve more because of volunteers.

It's nice to know that many of those volunteers that are responsible for making the community a better place to live are our fellow employees of the Naval Air Development Center.

Men's softball league predictions for 1986

by Charlie Destra

The 1986 Men's Softball League begins play at the end of this month and the burning question is: *who will be the team to beat this season?* With the disbanding of the Misfits one would think that the crown would be up for grabs, but there is a clear-cut favorite in my opinion — the rejuvenated Granfalloon.

The Granfalloon, a team with a rich history, didn't figure to be out of the running for long. And this year they not only will be the team to catch, but may even be stronger than the Misfits of last year.

In a "rebuilding" year last season, they finished a strong 10-6. And now they've added ex-Misfit hurler Greg Heydet to their stable to make them that much stronger. Heydet has the league's best arm and also wields the most dangerous stick. Suddenly, the 'Falloon is a team without a weakness — they have outstanding hitting, pitching and defense. Barring serious

injuries or late personnel changes, the 'Falloon will be hard to stop.

After the Granfalloon, the next echelon figures to be occupied by the 8th Inning and Guzzlers.

The 8th Inning, as usual, will be in the hunt. Sometimes criticized for their lackadaisical approach, they nevertheless are a veteran team with a lot of experience and confidence. And with fireballer Bob Larr on the mound, they can beat anybody, and will beat most.

The Guzzlers, always a bridesmaid and never a bride, should be right up there and challenging for that elusive championship, despite the recent and untimely death of ace Ron Lang. They are another veteran squad that knows how to win and they boast one of the league's more explosive hitting attacks. And backup pitcher Jay Ward, while he's no Lang, is an effective hurler. What may hurt them in the long run is their lack of depth, what with the additional loss of all-star third baseman Dave Gleisner. The Guzzlers' character will be tested this year.

Looking at the rest of the league, the picture gets a little murkier. There are many fine teams and there should be a lot of parity.

The Druids could be a strong contender. They get better every year and are a fine-tuned offensive and defensive machine. And pitcher Glenn Savage has a way of keeping them in games.

The Devils, Bearcats, Renegades, Nightriders and Pacers all have quality players and will spend the year knocking each other off and upsetting the top teams on occasion.

The Devils were an impressive first-year team last season and are dangerous. The Renegades have added a lot of new bodies, most of whom are good athletes. The Nightriders have subtracted a few and added a few and "chemistry" will be a factor in their fate. The Pacer, another first-year team last season, played well enough to knock off their share of tough opponents. A couple of these teams could emerge as serious contenders.

As for the Phantoms, Agent Orange, and Rebels, it may be a long season. Or, by the time the playoffs begin, a short season.



Welfare & Recreation skis the Rockies



Photo by Janett Brett

(l to r) John Brett, Bill Singleton, Gordon Heal, Diane Heal and Carolyn Riemer 'slow' down to read the sign.



Photo by John Brett

(l to r) Ken Stingel, Charles Falchetti, Larry Coar, and Bill Singleton relax those aching muscles in a hot tub.



Photo by John Brett

Charles Falchetti trying to 'get some air' in his technique.

Larry Coar skiing the bumps and kicking up powder.



Photo by John Brett



Photo by John Brett

(l to r) Gordon Heal, Janett Brett, and Carolyn Riemer looking for a way down.

Chesnut tells history of 10 year collection

by JO2 Fred Dias

If one looked around a Naval R & D center, it wouldn't be uncommon to see model airplanes, especially those of aircraft the Center works with.

What's unique here at NADC, however, is a showcase, in the Computer Conference Room, of over 300 small scale airplane models ranging from 1906 to the present.

Located in the Sensors and Avionics Technology Directorate, these aircraft are the handy work of Bob Chesnut, Paul Carroll (now retired), Ken Foulke, and Walt Beamer.

"Paul Carroll brought the first one in in early 1965," said Bob Chesnut, who is an electromagnetic specialist. "It was a German Focke Wulf 190, a single engine, propeller driven fighter of World War II."

Why so many models?

"Well, it was just something that grew," he explained. He said Carroll also brought in the second plane, a British Spitfire and a German Messerschmitt. "Walt and Ken just picked up on it and every once in a while they'd bring in a new model," Chesnut said. From there the collection grew and soon space became a problem.

All nations represented

The models represent aircraft from the United States, England, France, Germany, Italy, Japan, one aircraft from Australia, Poland, a Yugoslav trainer, the Soviet Union, the Netherlands and a plane built by the Dutch that flew in the Finnish Air Force. The models are encased according to era, for example, 1906, World War I and so on. One French plane, a Bleriot monoplane, in the 1906 era, was the first to fly across the English Channel.

Chesnut, who has worked at NADC for more than 22 years, built seven of the models which was no easy task for this wheelchair-bound employee. While playing high school football, Chesnut's fifth vertebra was broken and he's been confined to a wheelchair ever since. Ironically, three months



Photo by Regina Gasuk

Bob Chesnut, one of the four engineers who built over 300 model airplanes, is an electromagnetic specialist with the Sensors and Avionics Technology Directorate. Chesnut has worked at NADC for over 22 years.

after Chesnut's injury, famed skier Jill Kinmont also broke her fifth vertebra in a skiing accident. Her story was made into the movie, "The Other Side of the Mountain." Chesnut continued his education after high school and now holds a B.S. in Engineering from Swarthmore College and a Master's from the University of Pennsylvania.

Proud of their work

Pride in building developed a desire to bring in better models. The group members would inspect the new entry for details and flaws.

"The way the models are made depends on what you have to work with," Chesnut said. "Some of the kits produced were excellent . . . and some of the kits weren't quite so good. We had to do a lot of work on them to bring them up to good quality models."

Production of the models tailed off after Carroll retired eight years ago. Strangely enough, one airplane the group has not built so far, is the P-3 Orion. "When we were building them (the models), they didn't make a P-3 in

that scale (1/72)," Chesnut explained. He noted that a small model of the P-3 is now available and, in fact, the Center has one.

Like most buffs, Chesnut has read books and magazines to learn more about the aircraft. He even owns two old copies of Janes "All the World Aircraft." One of his first planes was a Japanese Raiden, a late World War II interceptor made by Mitsubishi.

His favorite is the B version of the P-51 Mustang. "Finding a model of that airplane that's right was difficult because everybody that makes it made it early, before they really cared about whether it looked exactly right," Chesnut said. "There were four different models of the Mustang. The first one had an Allison engine, built in the United States, to U.S. designs. Because of the supercharge development on it, it was restricted to low altitudes. The next version of the Mustang, the 'B' model, used a Merlin, which was a Rolls Royce engine built in this country under contract. That vastly improved on altitude performance because of the

supercharge development," Chesnut explained. "The P-38 had an Allison engine also, but they used a turbo-supercharger and they got the high altitude performance which was excellent. One of the best performing high altitude aircraft during the war (WWII) was the P-38, and they designed that in 1937."

Chesnut has favorites

Although Chesnut likes all the models displayed, he favors the World War II aircraft. "The World War II aircraft were interesting because of the aerodynamics. They were streamlined and they hadn't yet got the jet engines that could push anything through the air, like some of the airplanes now. I have always considered the F-4 a beast. It's just two big engines pushing up. It's an ugly airplane in my way of thinking, whereas the Spitfire, Mustang, Focke Wulf and Italian airplanes were beautifully proportioned."

"In the early jets, the Saber, T-33 and B-8, aerodynamics was everything because they had to get drag down. Their jet engines did not have the power they have today," Chesnut said. However, he was quick to point out that the aerodynamic designs of yesterday are still being used and improved on today."

Ten years gone by

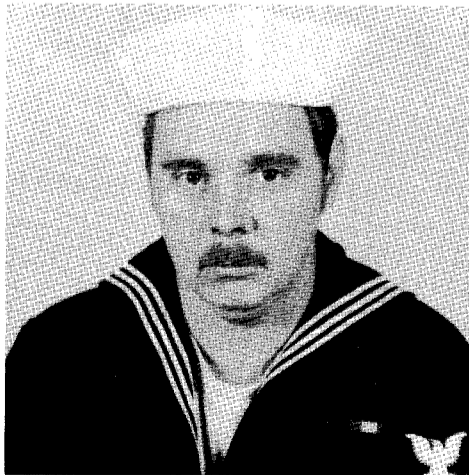
The collection took 10 years to build. Although a majority were built by the four original members, outside contributions were accepted. There are no current plans to display the aircraft in any other special Center location. Chesnut says he loves looking at them where they are.

There is a side benefit to these models that wasn't thought of when they were collected. Often a model is used to set up locations of antenna testing on the real aircraft. This is done on the P-3, A-7, A-6 and the F-4.

Chesnut says he misses the group's participation in making these models and wouldn't mind seeing it start up again. But for now, he'll just enjoy looking at them.

Goheen — president of the Jaycees

by JO2 Fred Dias



Petty Officer Larry Goheen

One of the best ways a Navy establishment can promote understanding and goodwill in the community surrounding its location, is having their military members participate in local community organizations.

One NADC Navy man not only is a member of a community organization here, he runs it. Aviation Structural Mechanic Second Class Larry Goheen, of the Airframes Shop, is the president of the Suburban Bucks Jaycees, which covers the Warminster/Hatboro area.

"The chapter was in a lot of trouble when I first joined (June 1984)," Goheen explained. "It used to be a real strong chapter of more than 75 people."

No stranger to the Jaycees, Goheen first joined the Hornell Chapter in New York five years ago.

Jaycees (J.C.), which used to mean Junior Chamber of Commerce, was changed to just Jaycees around 1959. "The Jaycees is a young person's organization that trains in leadership," Goheen said. "Their secondary purpose is community work. They train their people in leadership abilities in all aspects of life. They use this training in community projects," Goheen explained.

Goheen has found that his Navy leadership training and the leadership training from the Jaycees has made him a better leader. "Any type of leadership training that you receive through the military, which is a lot, combined with that from the Jaycees, makes your job a whole lot easier," Goheen pointed out. An organization for 18-36 year olds, the Jaycees are not only a state organization (over 300 chapters in 14 regions in Pennsylvania), but is national and international as well.

One project the Jaycees sponsor is the Hugh O'Brien Youth Program (HOBY). "Actor Hugh O'Brien founded this project," Goheen explained. "Its purpose is to go into a high school class at the sophomore level to find leaders." Through the aid of the teachers and counselors, a student that shows great leadership potential is selected from each class. The students are sent to a four-day seminar of training and

discuss subjects covering teenage pregnancy, drug and alcohol abuse and peer pressure. Some of the decisions arrived at by these students have become law.

Goheen's plans for the future in the Jaycees are uncertain because of sea duty. He says if he were to remain in the area, he would run for district director.



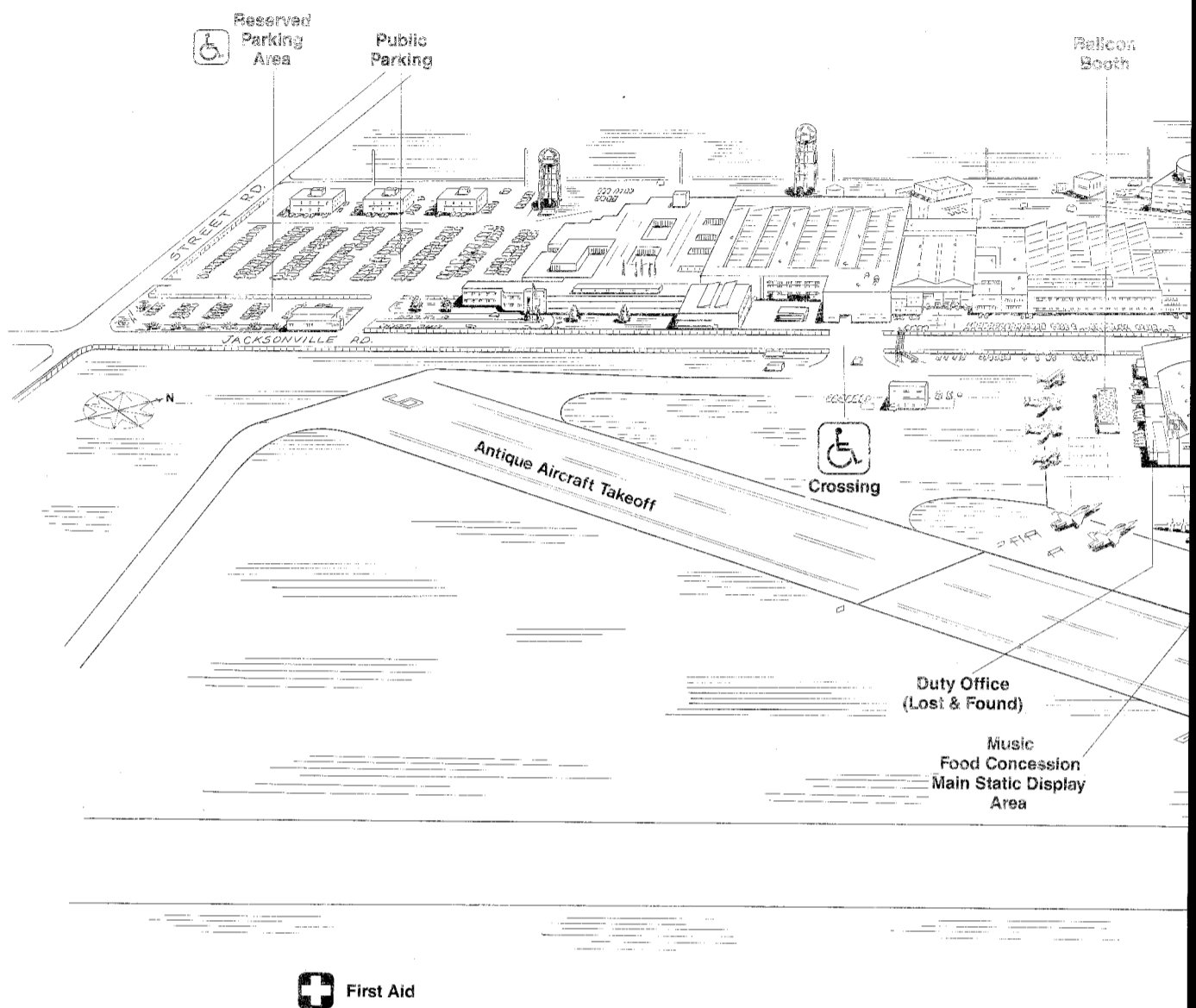
NADC opens for Naval

Schedule of Events

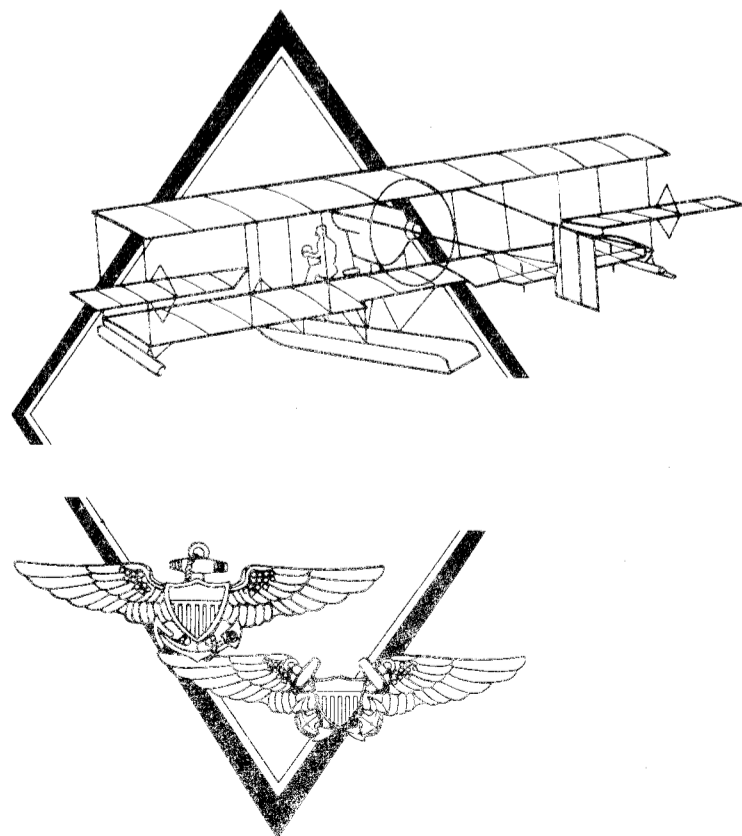
- 9:00 - 10:00 — Vintage aircraft arrive
- 10:00 — Gates open
- 13:00 — BEACON Drunk Driving Demonstration
- 14:00 — Vintage aircraft depart
- 14:30 — Music
- 16:00 — Gates close

Other activities

- Laboratory technology displays
- Computer displays
- Aircraft static display
- Model airplanes
- Hot air balloons
- Blood pressure check
- Food/soft drinks



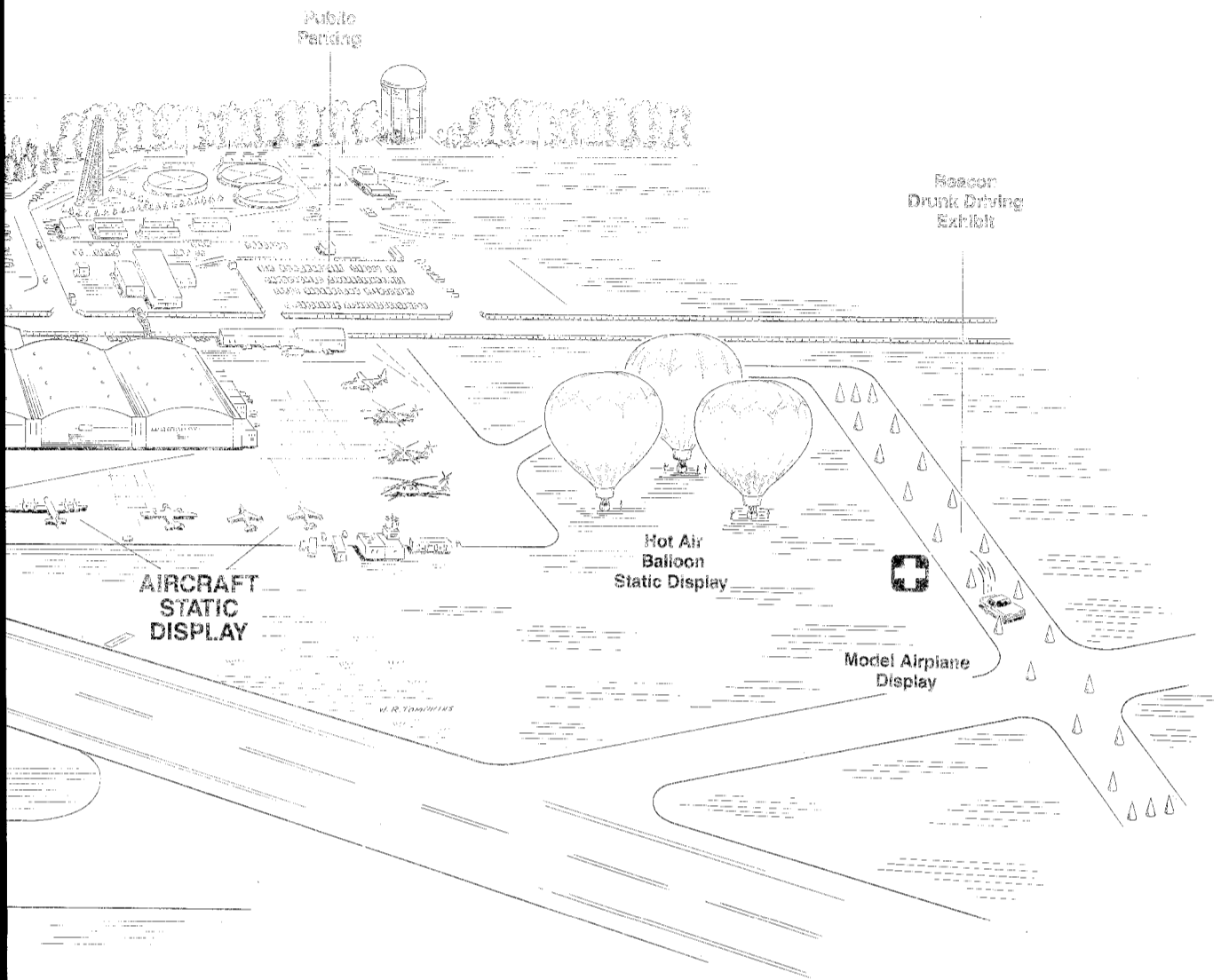
Naval Air Power...



The official logo commemorating the 75th Anniversary of Naval Aviation was designed by Charles C. Cooney, Art Director, Naval Aviation News. The blue and gold emblem is symbolic of the Navy's history, achievements and leadership in the area of airborne defense. Pictured on the logo is the A-1, the Navy's first aircraft, along with the traditional symbol of Naval Aviation — the 68-year-old Wings of Gold of the Naval Aviator and Naval Flight Officer, which are symbolic of the several other groups that make up the Naval Aviation community today.

...in defense of freedom

Aviation's 75th Year



Aircraft Static Display

Naval Aircraft Factory N3N
"Yellow Peril"

Stearman N2S "Keydet"

North American SNJ "Texan"

Grumman F4F "Wildcat"

Grumman F9F "Panther"

Beech T-14 "Mentor"

North American T-28 "Trojan"

Grumman C-1 "Trader"

Douglas A-4 "Skyhawk"

Vought A-7 "Corsair"

Lockheed S-3 "Orion"

Grumman F-14 "Tomcat"

Lockheed S-3 "Viking"

McDonnell F-18 "Hornet"

Sikorsky SH-60 "Seahawk"



Photo by Jim Kingston

Hot air balloons provide a fascinating spectacle for all ages.



Photo by Regina Gasuk

LT Scott Wood and his children, Rebecca and Christopher, receive balloons from an NADC clown.

Blood donors support Red Cross drive

01A Staff — Jean Dowds and Jerry Guarini. **02 Comptroller** — Nancy Cannon, Linda Lips, Lisa Parsons, Edwin Scholl and James White. **03 Civilian Personnel Office** — Geraldine Keenan, Kathleen McPeak, Robert Pomrunk, Lois Savage and Bernard Skillens. **04 Command Administration** — Ada Fisher and Marie Cwikla. **05 Computer Department** — Karen Churnestski and Robert Smith.

10 Directorate Command Projects — Kent Brown, Kathleen Felts, Peggie Newbrough, Lynn Peaslee, Milton Weaver and William Wentz. **20 Systems Directorate** — Everett Arnold, Joseph Caristo, Frances Davis, Roland Hall, Iris Hayslip, Edward Huber, Robert Imbrogno, Robert Johnson, Saeed Khawaja, Miriam Lentz, Ann Lipinski, Carla Mackey, Robert McCaskey, Sheila McGuire, Thomas McHugh, Thomas Michalski, William Nuss, Robert Oakley, Doris Reece, Carl Reitz, Kristina New, Gwyn Smith, Debbie Sztubinski, Carl Vanwyk, Thomas Wagner and David Williams.

30 Sensors & Avionics Technology Directorate — Roland Bender,

Stephen Campana, Eduardo Danganan, Theresa Dedominicis, Daniel Flynn, Edward Mebus, Brian Concannon, Vincent Contarino, Elizabeth Haney, John Harris, Roger Hontz, Timothy Keck, Dawn Keiser, James Marshall, Michael Rankin, Harry Reichardt, Harry Ricca, Leonard Roach, David Schuck, John Sniscak, John Tepper, Tania Trautman and John Williamson.

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Steven Shelikoff, John Supp, Paul Tom, James Ward and John Whalon.

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Services Department — Joseph Armstrong, George Boyle, Eugene Byers, Joseph Dwornik, Phyllis Grant, Robert Hall, Philip Joiner, David Moore, Michael Rogalski, George Rossi, Ervin Rothermel, William Wiggs and Larry Williams.

83 Public Works Department — Raymond Bernard, Lenwood Broomer, Daniel Christian, John Kelly, John McClintic, Robert McFetridge, William McKenna, Elaine Mears, Kenneth Peers, Frederick Remsing and Theresa Spencer. **84 Supply Department** — Loretta Dunn, Norman Mitchell and Christopher Veith. **90 Navy Publication & Printing Office** — Ross Hendricks and Diane Pfeil.

95 Naval Regional Medical Center Branch — Daniel Keegan. **Contractors** — Samuel Hirsh, Grace McCaffrey, Beth Mumford and Sandra Steiner. **Volunteers** — Diana A'Harrah, Jeanette Gray, Charlene Wadelius and Leif Wadelius. **Others** — David Bolich, Jeffrey Carroll, Robert Cecchine, Joel Feder, Richard Hodge, Anthony Disebastiano, Elizabeth Kasper, James Kearney, Dorothy Mahaffey, Luanne Rogan, James Sanders and Lawrence Scott.

Promotions

Brenda Allardyce, John Andujar, Patricia Aspinall, Jerome Azarewicz, David Ballarini, Robert Balonis, Patricia Beach, Paul Beer, Carol Blizard, Marie Bodkin, Jerome Bortman, George Boyle, Carlton Brown, Margaret Callahan, Michael Cannon, Gina Capozzoli, Peter Carroll, Frederick Catoe, Dante Ceniccola, Sing Cheung Chow, Candace Ciociola, Roland Cochran, William Colket, Mary Cotter, Joseph Cutuli, Mary Daley, Timothy David, Anthony Davis, Douglas Dawson, Mark Debellis, Judith DeFranco, Shawn Donley, Richard Eppright, Mary Feeley, James

Ferris, Pundat Foo, Sherry Forbes, Patrick Ford, Carl Frey, Thomas Gabrielson, Armando Gaetano, Robert Gallagher, Attilio Gatto, Robert Ginn, Richard Goelz, Thomas Gould, Ronald Guignard, Kathryn Hanson, Nancy Harned, Laurence Hart, Dora Huang, John Indelicato, Jeffrey Irvin, Sherry Kabin, Mark Katzeff, Song Young Kim, Thomas Knott, David Kramer, Steven Kravets, Alexander Kuhn, Larkin Lake, Warren Laskowski, Lorraine Lasorsa, Kenneth Lee, Sue Lee, Steven Ly, Danny Ma, Robert Mack, Maryanne Mahoney, Michael Markushewski, John Mayo, John

McGowan, Carol McIlwain, Christopher Miller, Ellen Mills, John Mochulski, Dean Mondelblatt, Robert Moore, Anthony Mosakowski, Francis Mulholland, Robert Murnin, David Mutschler, Scott Natter, Lynda Newman, Samuel Newman, Corrine Newnham, Dominic Nguyen, Ky Nguyen, Sebastian Nicolo, Karen Nilsen, James Palmer, Denise Parrish, Laurie Pelletier, Harold Penn, Stephen Pfeiffer, Michael Roditz, Ferdinand Reetz, Glenn Rhoadside, Ronald Roadarmel, James Robinson, Esther Rubinstein, Margaret Rudolph, Raymond Satterfield, Edwin Scholl, Walter Schoppe, Betty Schultz,

Andrew Schwartz, Scott Shaner, James Sheehy, Irene Simmons, William Siner, Donna Skalski, Pablo Suarez, Robert Suloff, David Swinski, Lam Bich Ta, Karen Taliaferro, David Tauras, Marie Taylor, Karen Thomas, James Toth, Anthony Tran, Stephen Troyanoski, Borys Umyn, Stephen Vajda, Peter Vanschuyler, James Verdi, Mollie Waggner, James Ward, Bernard Waties, Kimberly Wayland, Gerald Wells, Janet Wild, Larry Williams, Charles Winslow, Craig Wood, Caroline Wright, Tsunghsun Wu, Susan Yeager, Joanne Young, Keith Young, Connie Zar, David Zeidler, Thomas Zenobi.

W&R is stepping out

W&R is offering a great 1-day trip on Saturday, June 14th. Visit the Hagley Museum where you'll tour the black powder yards, mill buildings, "ElEutherian Mills" the Georgian-style house built by E. I. DuPont, a barn filled with carriages and wagons, a cooper's workshop, and garden. After lunch on your own at the DuPont Institute you'll proceed to "Nemours Mansion and Gardens" the estate of Alfred I. DuPont. Amid the splendor are fascinating aspects of the DuPont family's lifestyle; the billiard room, the nine pins alley, the bottling plant, and the vintage autos. A delicious dinner at Longwood Inn tops off a great day!

Cost: \$36, includes transportation, admissions, dinner, meal taxes and tip. Reservations by May 15th.

Toronto and Kingston Ontario — 4 days — 19 - 22 July

Travel across the scenic beauty of Upper New York State, through the fingerlakes area to Toronto. Enjoy a guided tour of the city, see its

Parliament buildings, two City Halls, Yorkville Village and Ontario Place. Tour Casa Loma, a 98-room medieval castle with eerie towers, secret passages and hidden staircases. Browse at "Harbourfront", Toronto's liveliest recreation and entertainment center. Top the afternoon off with a leisurely cruise of the harbor. The evening finds you at the CN Tower, the world's tallest free-standing structure.

The next day finds you in Kingston, Ontario. After a guided tour and visit to Bellevue House you'll have free time to explore the city before visiting old Ft. Henry. A sound and sight spectacle and the world-famous Ft. Henry Guard top off a spectacular day.

Cost: \$285 per person double. Includes transportation, 3 breakfasts and dinners, admissions, guided tours, hotel, meal taxes and gratuities.

Reservations by May 30th.

Call Margaret Vigelis for information and reservations on extension 3067.

Commander Salutes

Edward Kenkelen, Ralph Zecca, John Walker, Samuel Sizgorich, Jay Schneider, Paul Rehall, Rasik Patel, Carol Leyrer, Robert Jankiewicz, Joseph Franz, Richard Fenn, Edward Deesing, Albert Cavaliere, John Burns, Brian Brady, William Seeman, Roy Anderson (Code 60): For outstanding support leading to the success of the Supersonic Low Altitude Target (AQM-127A) Preliminary Design Review at the Naval Air Systems Command.

W. Miller (Code 20): For supporting the Naval Air Systems Command with the contract definitization for the A-6F.

ADC Bruce Hopper, AD1 Stanley Meni, AX1 Don Jernigan, AMS2 Robert Grassmyer, AE2 Donald Peters, AE1 William Wiley (Code 80): For outstanding support provided during the recent DF-301E Antenna Tests at the Naval Air Test Center.

Murray Bojman (Code 40): For outstanding support provided to the Integrated Combat Systems Test Facility during the validation of the WSN-5 Satellite Simulation.

William O'Donnell, Vincent

LaRuffa (Code 80): For a professional attitude and a commitment to do their best.

Bettie Simpson (Code 03): For assistance provided during a recent OPM training course.

Kathleen Gause (Code 03): For outstanding contribution to the Inspector General's review of the Naval Coastal Systems Center.

LCDR Steven Myrick (Code 60): For commendable assistance to the Willow Grove Branch Clinic during the illness of their aviation medical officer.

Joan Miller (Code 03): For support to the American Red Cross during the February blood campaign.

Kathleen Gause, Anna Maria Jordal, Janet Russell (Code 03): For cooperation and professionalism during a recent EEO complaint investigation.

MAJOR Daniel Swindell, USMC: For diligent efforts in coordinating a recent visit from the Amphibious Warfare School.

Margaret McLoughlin (Code 30): For outstanding support to the Independence Chapter of the Association of Old Crows.

NADC employees judge 600-entry Science fair

April was Science Fair month for junior high and high school students in the Delaware Valley. Five separate fairs were held with more than 600 entries from students in grades six through twelve, exhibiting scientific know-how in categories ranging from Biochemistry to Zoology.

Eight engineers from the Center participated as judges in support of this year's program and spent an entire day judging these sophisticated science projects. Additionally, the Center has

provided an added incentive. First, second and third place winners from each fair have been invited to the Center by Captain Edward Sturm for a tour of many of the Center's laboratories and a visit to the Dynamic Flight Simulator.

After investigating the world of lasers and electron microscopes, the science fair winners and their parents will be joined by the Center employees who served as judges for lunch in the Executive Dining Room.

On April 23, 1986 NADC employees judge science projects submitted as part of the Delaware Valley, Marie Curie, Ben Franklin, Benjamin Banneker, and Albert Einstein Science Fairs held at the 103rd Engineers Armory at Drexel University.



Reflector

Volume 31 Number 5

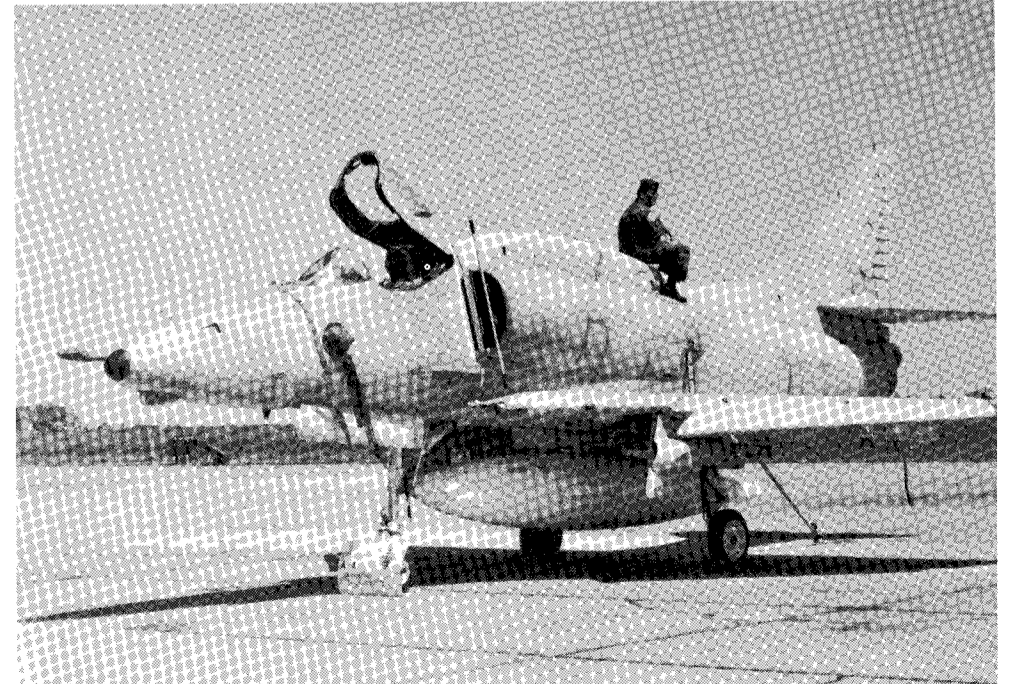
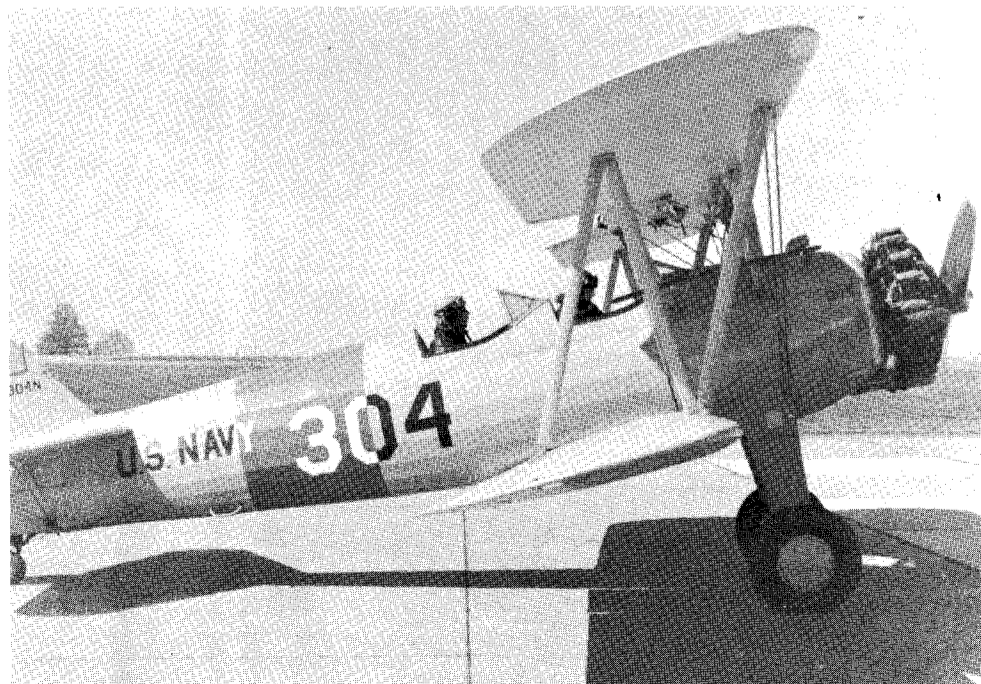
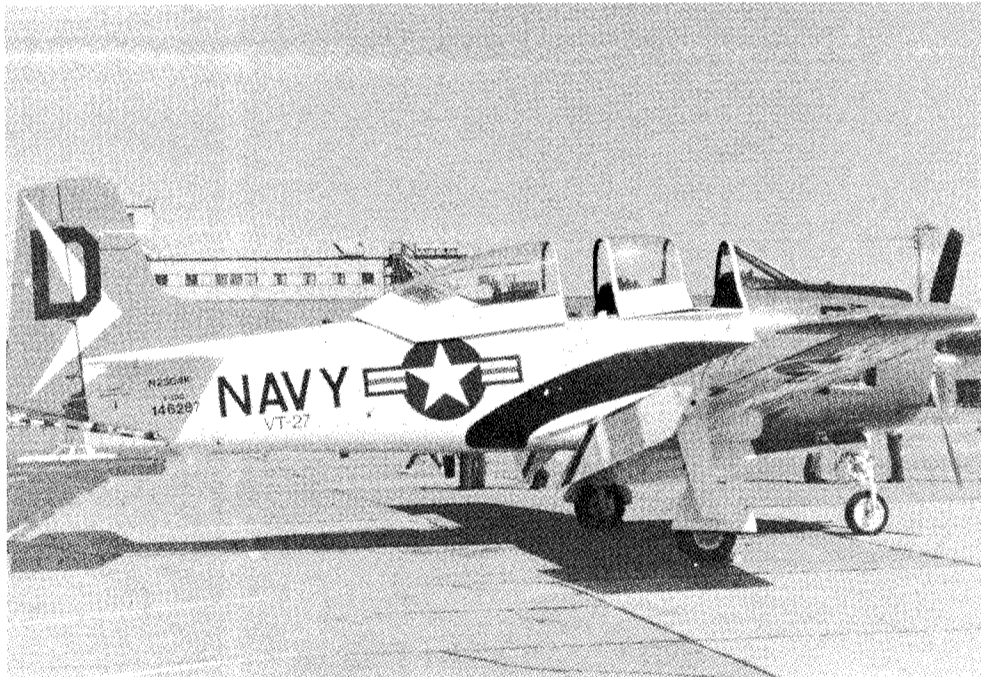
NAVAL AIR DEVELOPMENT CENTER, WARMINSTER, PA.

May 1986

In this issue:

History of Naval Aviation
BJQ & SOQ
Drexel evening teachers
Jog by the rules
New Library additions

Naval Air — past and present meet at NADC



Photos by Regina Gasuk

Top left, T-28 "Trojan", top right, F-18 "Hornet", lower left, N3N "Yellow Peril", lower right, A-4 "Skyhawk" were all part of the current and vintage Navy aircraft static display at NADC's 75th Anniversary of naval aviation celebration. See additional photos on page 7.

History of Naval Aviation

Part III

Rumblings of war again reached across the oceans and Naval Air units would soon be called to protect American interests in connection with the spreading conflict. German U-boats brought the threat of naval warfare into the western Atlantic, and President Roosevelt ordered the Navy to establish a neutrality patrol to keep an eye on any approaches to the U.S. coast.

The attack on Pearl Harbor on December 7, 1941, demonstrated the power of sea-based aviation as Japanese carrier planes devastated America's principal naval base in the Pacific and eliminated a major portion of the Navy's surface power. But, aided by her distance from the enemy and her industrial strength, the United States rallied and produced the needed ships, aircraft, equipment, and trained pilots which made up the forces needed to ensure victory.

In a real sense, Naval Aviation came of age during WW II.

With the wartime expansion of Naval Aviation, the Navy was confronted with a training problem unprecedented in its experience. To meet the fast-growing need for pilots, ground officers at air stations and enlisted personnel in aviation ratings, functional training commands were established. Separate air commands provided operational, primary, intermediate, technical and naval airship training. To ensure standardization and uniform excellence of flight instruction, the Flight Standardization Board was established, whose members made regular visits to the primary

training bases and flew with the instructors to check on their aptitude, procedures and current knowledge. In 1943, the Training Division of the Bureau of Aeronautics was transferred to the newly created Deputy Chief of Naval Operations for Air, and the Chief of Naval Air Training was established with cognizance over all primary, intermediate and operational training commands.

Naval Air power began the fight with one small and seven large aircraft carriers; five patrol wings and two Marine aircraft wings; 5,233 aircraft, including training types; 10 dirigibles; and 5,900 officers and 21,678 enlisted members. During the war, the force grew to over 100 carriers of various types, 40,900 aircraft, 168 airships, 60,095 pilots and 370,760 aviation support personnel.

Early in the war, enemy submarine contacts and the sinking of merchant ships were almost a daily occurrence in U.S. coastal waters. This reaffirmed the need for fleet airship groups and their squadrons. Coastal patrol and escort of convoys became their primary missions, in addition to the general utility role. During wartime operations, the Navy's airship fleet made 55,900 operational flights totaling 550,000 hours. Only one airship was lost to enemy action.

Tactics and doctrine developed in the twenties and thirties were perfected during the forties, and new combat techniques were added to the Navy's inventory.

As the war progressed, the Navy placed much emphasis on instrument flight training and procured airborne radar for fleet aircraft. Combat requirements in the early days of the war in the Pacific resulted in the

development of aircraft capable of night operations.

The PBV *Catalinas*, or *Cats*, were the only long-range patrol aircraft available in nearly adequate numbers during the first years of the war. Though they were slow and vulnerable by day, airborne radar which became available in 1942 allowed them to become "surefooted" and deadly at night against enemy surface and shore installations. Ingenious *Cat* crews of VP-11 experimented with mixtures of soap and lamp black to give their aircraft a coating that made them difficult to see against the night sky, earning them the name *Black Cats*. The first official *Black Cat* squadron was VP-12, which operated its PBV-5As from Henderson Field on Guadalcanal, scouring the New Georgia Sound for Japanese warships and cargo vessels that came south at night to supply their troops and to bombard U.S. positions. As the allied offensive gathered momentum, the *Black Cats* moved westward in the vanguard, operating from tenders and makeshift bases and accounting for the sinking or disabling of hundreds of thousands of tons of enemy shipping.

In conjunction with the night patrol operations, the first carrier-based night intercept attempts were initiated from *Enterprise* during the Gilbert Islands campaign in November 1943. Separate night attack and night intercept missions converged to form a night combat air group, CVLG(N)-41 aboard *Independence* in the summer of 1944, soon joined by CVG(N)-90 embarked on *Enterprise*.

From those successful, innovative night operations, all-weather flying evolved. Instruments, equipment, techniques and tactics were developed

so that carrier-based aircraft could operate in any environment.

Advances in technology and stepped-up ship construction contributed greatly to the effectiveness of Naval Aviation in the war years. Radar and other improved electronics made it possible for airmen to virtually see in the dark to detect underwater prowlers. New *Essex*-class carriers gave the fleet improved striking power, and some major naval engagements were fought entirely with air power without opposing surface forces visually sighting each other. Large numbers of smaller escort carriers provided tactical air power in the Atlantic and Pacific, close air support of amphibious landings on jungle islands, and improved capability against enemy submarines. Patrol aviation was expanded to cover all the waters of the globe.

The young airmen of the twenties had grown wiser with experience. Equipped with WW II aircraft, weapons and tactics, they had checked the Japanese advances at the Battles of the Coral Sea and Midway, stemmed the onslaught at Guadalcanal, and turned the tide in the Pacific from Tarawa and Kwajalein to Saipan and the Gulf of Leyte, to Iwo Jima and Okinawa, and finally carried the offensive to the Japanese homeland.

In the course of the war, Navy and Marine Corps pilots destroyed 15,000 enemy aircraft, sank 174 Japanese warships and, in the Atlantic, destroyed 63 German U-boats. The Navy's air arm played a major part in achieving control of the seas and final victory. By war's end, Naval Aviation had emerged as one of the Navy's most flexible and devastating weapons.

Firemen don't have a chance

This poem is dedicated to NADC's firemen by Chief Don Meadows

When the fire trucks are delayed 40 seconds in traffic, people say: "It took them 20 minutes to get here."

When the trucks race at 40 MPH: "Look at those reckless fools."

When four men struggle with an eight man ladder: "They don't even know how to raise a ladder."

When firemen open windows for ventilation to reduce heat in fighting a fire: "Look at the wrecking crew."

When they open the floor to get to the blaze: "There goes the Axe Squad."

When the Chief stands back where he can see and direct his men: "He is afraid to go where he sends his men."

If they make a good "Stop" folks say: The fire didn't amount to much."

If a lot of water is necessary: "They are doing more damage with water than the flames."

If a fireman gets hurt: "He was a careless guy."

If a fireman inspects a citizen's property: "He is meddling in somebody's business."

If they lose a building: "It's a lousy department."

If he wants a fire hazard corrected: "I'll see the Mayor."

If he gets killed and leaves a family destitute: "That's the chance he took when he joined the Fire Department."

Memorial Day Message

President Pays Tribute

Each Memorial Day we pause to recall with love, with pride, and with gratitude those members of our Armed Forces who made the supreme sacrifice in preserving our liberty.

We Americans traditionally celebrate Memorial Day with picnics, parades, and the opening of swimming pools and beaches. While we look forward to this day as the unofficial beginning of summer, we also know it is a time of painful memories — memories of the many courageous Americans in all our

wars who fought and died so that we could live in peace and freedom in this blessed land.

Today we pay solemn tribute to our fallen heroes. We know that we can never give them as much as they gave us. But we and succeeding generations can see to it that they did not die in vain, by keeping the flame of freedom burning brightly. As we observe this Memorial Day, let us also remember that the best way to preserve our peace and to prevent future wars is to keep our Armed Forces strong and ready.



Reflector

NAVAL AIR DEVELOPMENT CENTER, WARMINSTER, PA.

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Three employees give 130 years to government

Frank Previti

Forty-five year employee Frank Previti is an electronics technician in the Marine Navigation Systems Technical Support Branch of the Communications Navigations Technology Directorate.

An Army Signal Corps veteran, Previti worked at the Philadelphia Navy Yard for a short time before joining NADC in 1947. In the early days he worked on radio interference and communications; more recently he's been involved in the testing and verification of inertial navigation systems.

What's kept him here all this time? "I'm an inquisitive and optimistic person, always learning", Previti said. "NADC has provided a creative environment and opportunities to learn. He explained, "At times, it looked greener on the other side of the fence, but interviews with other companies quickly proved it wasn't so."

Previti completed three years of study at Drexel University. Even with two patented inventions to his credit, he said if given a chance to do it over, he would get his degree.

In years gone by, Previti has seen many changes at the Center. He said, "I've seen a lot of people come and go but I'm still not ready to retire."

Howard Martin

Howard Martin is an Electrical Engineer in the Reliability and Maintainability Branch of the Systems Directorate where he performs systems reliability analyses on the F-14 aircraft.

Martin started his federal career at

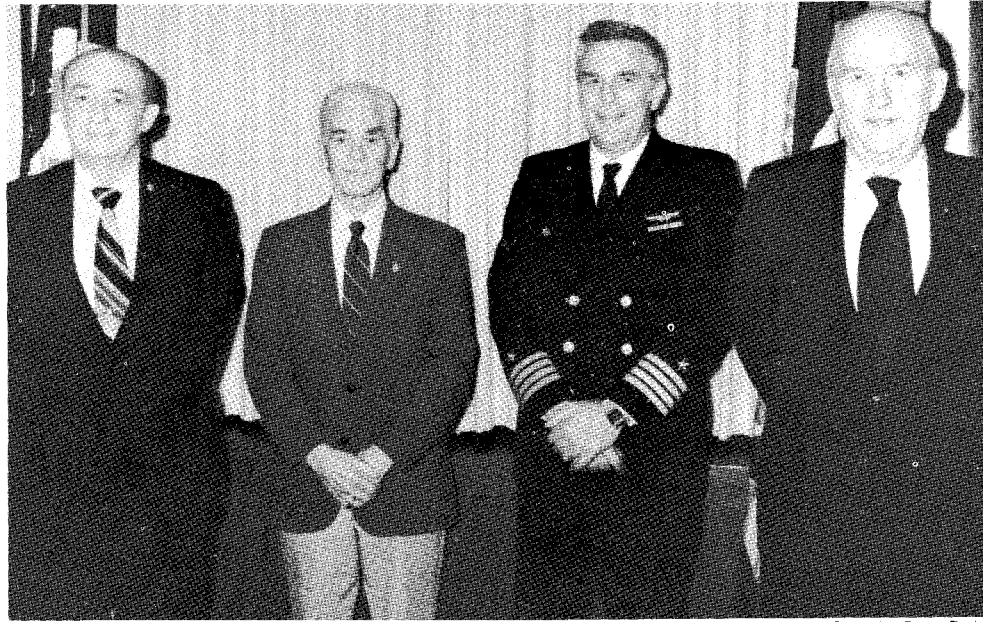


Photo by Cathy Bunan

(L to r): Frank Previti, Charles Powell, and (far right) Howard Martin, stand with Center Commander Captain Edward Sturm during their congratulatory ceremony in the Captain's office.

the Army Chemical Center in Edgewood, Maryland. He began work with NADC in 1951.

Thinking back over his forty years service, Martin said, "It's been a pleasant experience, but it sure makes you realize how old you're getting. My most positive experience has been with my fellow workers and the enjoyment we get out of what we're doing."

Martin commented that one change he's seen over the years is the increase in opportunities to advance one's formal education while on the job.

Martin is the exception of these three long time employees, "I plan to retire on the 3rd of June this year," he was quick to add, "but, I won't be unoccupied."

Civilian career and Reservist duties unite



LCDR John Shannon, USNR

In our continuing series on civilian/reservist duties, we're focusing on John Shannon who serves his country both as the P-3 Update IV Project Engineer in the Center's VP Program Office and as a Lieutenant Commander in the Naval Reserve functioning as a Project/Liaison Officer for NR-NADC 0193, one of two Reserve Units supporting the Center.

Shannon administers and manages the Center's human and financial resources for the development of the Update IV avionics system. As the NR-NADC 0193 Project Officer, Shannon coordinates the two-week Active Duty for Training (ACDUTRA) assignments for 15 military officers and 17 enlisted personnel for the

reserve unit. Over the past year and a half NR-NADC 0193 officers have assisted the Computer Department by performing risk assessments on all major computer systems to determine the extent to which the systems are susceptible to risk from sabotage, fire, compromise or damage. The reservists provided technical support to the Computer Department in an important area where it does not have adequate staffing. Shannon is able to make such recommendations because of his knowledge of the Center and its function.

Shannon performs collateral duty as unit Liaison Officer on behalf of the reserve unit. "I coordinate the dialogue between the unit and the Center as well as between the unit and other activities such as NAVAIR," he said. "I know the Center well as a civil servant; I know its organization and its functions. In this role I've been able to set up a technology lecture series and get Center experts to volunteer to come and brief the unit once a month about what is currently going on."

Receiving valuable training in the Reserve is another benefit says Shannon. He has attended and is planning to attend courses in Acquisition and Logistic Management, Navy Department Planning and Systems Management, Defense Contract Management for Technical

Charles (Steven) Powell

Charles (Steven) Powell came to the Center in 1949 from the Naval Research Laboratory in Boston, Massachusetts. With 45 years of

service, he is now an electronics technician in the Systems Integration Branch of the Systems Directorate, Powell technically supports CV-ASW analyzing equipment used in submarine detection.

Powell remembered his earliest assignment as an aircrew member supporting radar relay systems. His favorite assignment, though, was in the early 70's, the Southeast Asia era, when he travelled extensively working with ground sensors aboard the P-2 aircraft.

"Security and stability," said Powell, "are the reasons I've stayed. It's not, necessarily, the best way to make a lot of money, but it satisfied some other needs."

"Working here has been a generally pleasant and interesting experience," Powell said. With one patented invention to his credit, he, too, advised a college education.

Powell has no immediate plans for retirement; he noted, however, "when I do retire, I'll probably devote my time to charity." (MAB)

Military Recreation

Recreation Services

Three on three basketball program
Commencing Monday, June 9th.

Time(s) 4:00 — 7:00 pm.

Cost per team \$10.00

Location, NADC Basketball Court

Contact Rec Services, ext.2169.

High court games with time limit.

Games to 21 points, win by 2 pt. lead minimum.

Racquetball Court

The racquetball court is available on a walk-in basis only, Court fees are \$1.00, plus \$2.00 per person.

Picnic Pavillion

The Picnic Pavillion is available for use of NADC Civilian Division/Shop parties. Picnic grills, tables and fresh air included. Contact Rec Services for Reservations and additional information.

Swimming Pool

Private party use of the NADC Outdoor Swimming Pool is available on a reservation and after hours usage basis only. Fees are based on group size, lifeguard charges/availability, etc.

Crews Rest, Consolidated Mess Friday, June 6th

DJ Tom McCabe, dancing and free bar snacks and hot coffee 3:30 — 5:00 pm.

Monday, June 9th

Mexican **All You Can Eat Dinner** (6:00 — 9:00 pm), Adults \$7.50, children 16 years and younger \$4.00. With the dinner we have a live band featuring Mexican tunes and John Cassidy MAGICIAN & ENTERTAINER performing magical feats at your table. This is a night not to miss, **no** reservations are required, bring the family, we now have highchairs and booster seats for the children.

Friday, June 20th

ALL MALE REVIEW, "Dynasty Dancers". Ladies only from 5:00 to 9:30 pm. Admission by ticket only, tickets \$10.00 on sale at the club. Cash bar, Cash kitchen, free coffee and bar snacks.

Flag Day 1986

Do You Know?

Number of stars on the longest side of a perfectly folded flag:

4

Personnel and ASW Indoctrination.

Approximately forty percent of the active duty officers on Center are Aeronautical Engineering Duty Officers (AEDO's). Shannon is able to get some of the same exposure through the Reserve as the AEDO's on Center by attending the annual Aeronautical Engineering Duty symposium held in Washington. "I get professional experience as a project engineer which helps me as a projects officer in the unit and vice versa," said Shannon.

He has opportunities in the reserve he would not have otherwise. He has served several ACDUTRA assignments at the Naval Air Systems Command. As a result he learned how the

PMA's function and how many NAVAIR codes are structured. This knowledge helps him in civilian work.

Although both NADC Reserve units are administered out of Willow Grove, functionally, they support NADC and in time of mobilization the Center would have a pool of readily trained personnel to augment the work force in various assigned project management and engineering billets. "I find the Reserve challenging and a good experience that I enjoy. I like the fact that it mutually helps me in my civilian work; it's a good second job," said Shannon. "Since I like the Navy, I am very comfortable in both positions."

Blue Jacket and Sailor of the Quarter selected

Aviation Electronics Technician Third Class James A. Rogers of the Avionics Shop, has been selected as NADC's first Blue Jacket of the Quarter (BJQ), for the first quarter, January through March.

Aviation Antisubmarine Warfare Operator First Class Kenneth D. Newton, of I-P, VP Projects, was

selected as NADC's Sailor of the Quarter (SOQ), for the first quarter.

As the BJQ, Rogers receives a Letter of Commendation and a Special Evaluation, a photograph posted at designated locations throughout the Center, a plaque presented by the Navy League, an NADC coffee mug from the Chief Petty Officers' and

Officers' Associations, 72 hours liberty and one month off of the watchbill.

The Blue Jacket of the Quarter is part of the Master Chief of the Command's continuing program of recognition for outstanding sailors serving the Center. The program was established to honor E-1s through E-4s, who exhibit outstanding professionalism, devotion to duty, and show good conduct and military bearing in the performance of their duties.

The Awards Board is made up of the Command Master Chief, division officers and division chief petty officers. The board convenes no later than five working days following the end of each quarter.

The requirements for selection of the BJQ are: That he or she be in pay grades E-1 through E-4, they have

been on board the Center for at least six months and they have had no disciplinary action for the preceding 12 months. For SOQ, all requirements apply except no disciplinary action for the preceding 24 months, and that he or she be in pay grades E-5 or E-6. Service members are limited to one selection per calendar year.

The board looks at a variety of factors in evaluating each nominee. Some of the traits required are: professional performance, military bearing, contributions to the community and, for petty officers — leadership abilities.

The *Reflector* extends congratulations to Petty Officers Rogers and Newton on their selections as Blue Jacket of the Quarter and Sailor of the Quarter, respectively. (FAD)

Your pint may save a life!

If you are between the ages of 18 and 65, and weigh 110 pounds or more, the American Red Cross (ARC) needs you! The ARC is in desperate need of blood and NADC will continue to help.

In the past, Center employees have donated approximately 200 pints of blood per Bloodmobile visit, usually three times a year. The ARC would like to see that amount increase.

To accomplish this, several suggestions have been adopted: donating hours will be lengthened to 8:00 a.m. — 4:00 p.m. for two days at a time, beginning 3 - 4 June. Directorates will appoint recruiters who will make face-to-face contact encouraging potential donors. Those who donate will receive a coupon for a free 'special' lunch in the Anchorage cafeteria. Also, the bloodmobile site will be made permanent, i.e. the Public Works lunchroom in Building 1 basement. Subsequent to giving, each donor will receive a letter from the ARC describing how his/her blood was used.

If you already give blood, perhaps you could be a 'buddy' to someone who hasn't. Explain how it works and go with that person when it's time for them to give.

Giving blood is simple. It takes about sixty minutes and is no big deal for the donor, but it is a very big deal for the person at the other end of a transfusion. Blood is one community resource which can't be manufactured. Only people can supply blood for each other. Yours might be the pint that saves a life.

On behalf of hospital patients directly benefitting from your efforts, the ARC thanks you for your willingness to help. A special thanks to the NADC Officers' Wives Club for their continuing devotion to this cause.

If you would like information about ARC Bloodmobile visits to the Center, contact Code 031 on extension 3079. (MAB)



AT3 James A. Rodgers
Blue Jacket of the 1st Quarter



AW1 Kenneth D. Newton
Sailor of the 1st Quarter

Better boating basics begin with balance

by Mike Masington

Aside from being a stalagmite of society, a proud cave owner and a coach of the Rockville Littleclan rockball team, Og, our prehistoric protagonist, had a particularly powerful predilection for the pristine provinces of Poseidon. To put his passion into practice and to propagate his penchant for protecting people, Og had joined the Big Water Edge Guard Auxiliary, which was charged with inspecting private water craft including dugouts, pleasure galleys, dahabeahs and imperial barges, and teaching boating safety. One day at the marina next to the boiling sulphur pits, our scion of seagoing safety was approached by a gentleman named Noah. Everyone in the tribe knew Noah. He was to say the least eccentric, and was given to some real excesses. For example, while everyone else was satisfied with a 16 footer, Noah for some strange reason insisted on building a 300 cubit

(whatever a cubit is) houseboat. He also seemed to have an awful lot of pets which he insisted on taking on the boat with him. But all in all he was a nice guy, and Og was happy to oblige when Noah asked for a safety inspection of his craft.

After the inspection as Og finished chiseling up his report, he reviewed the discrepancies with the boatowner.

a. "Overloading and improper loading of a boat are the most common causes of boating accidents. A safe load capacity depends on the boat's construction and characteristics, and if these loading restrictions are violated, it can easily capsize because it will not react properly to waves and other actions aboard. As it turns out, even with a vessel this size, you're seriously overloaded. I'm afraid the woolly mammoths, all the dinosaurs and that pair of unicorns will have to get off."

b. "Current Big Water Edge Guard regulations require that a PFD

(personal floatation device) of the proper size and type be provided for each passenger, and that children and non-swimmers should wear them at all times. Now I don't know what you're going to do about your rhinoceri, rhinoceroses, rhin those big, ugly things with the horn, but they'll need something."

c. "Every boat should be equipped with a fire extinguisher. According to my calculations, your elephants should be able to pump about 200 GPM, which is sufficient for a craft this size. They can also double as a pump which, while not required on a pleasure boat, is still a good idea."

d. "Another thing you should carry is some kind of signalling device in case you need help. Your raven and dove idea is a nice touch, but I was thinking more on the lines of a signal flare."

e. "Also, you should always pay attention to the marine weather

forecast. If small boat warnings are issued, stay in port. I understand that you only go out when it rains, which if you ask me is just begging for trouble."

f. "Finally, it's always a good idea to leave a float plan with a friend or at the marina. The plan should list the number of passengers, proposed route, destination and expected arrival time. Remember, it's important that it be as accurate as possible. I noticed your plan shows you arriving at Mt. Ararat in about 40 days and nights. Since that's about 1,000 miles inland and an awfully long time to be at sea, I think it's obvious your float plan needs some revision."

Noah thanked the inspector for his help and escorted him to the dock just as a downpour started. "Well, I'd better cast off," shouted Noah; "I think this is going to be a big one." "Nah", responded the incredulous Og, "It's just one of those passing showers that won't amount to anything."

Tactical Manual Program process patented

The Tactical Manual Program has been an on going program here at NADC for nearly 5 years. This computer-aided graphic process is so unique that a government patent was issued. Until recently it was not possible to patent a computer process because of the patent regulations. While this process was specifically developed for the Tactical Manual program, it has been used to generate "camera ready" engineering graphical plots for a great number of technical reports.

In 1980 the Naval Air Systems

Command and the Center began a joint program involving tactical maneuvering performance comparisons of U.S. fleet aircraft with various adversary aircraft. Prior to this, these kinds of comparisons were generated by the airframe contractors using manual methods. Additionally the computer generated plots were better quality and consistent in terms of data source. These plot comparisons are used in fleet training programs to teach pilots how to use their planes performance to gain a tactical combat advantage and how to use their weapon systems to defeat the adversary.

NADC and NAVAIR have jointly developed the capability to generate maneuver performance characteristics in "camera ready" form suitable for publication at one tenth the cost of previous contractor estimates. This program has saved the Navy over 7 million dollars since 1980 and, more importantly, has provided the fleet with information vital to national defense.

In terms of research and development the Tactical Manual program has developed the capability at the Center for performance analysis

of future adversary aircraft in order to determine performance requirements for future Naval aircraft systems.

Since the initial beginning of this program, NADC has generated over 4000 "camera ready" plots for Navy Tactical Manuals.

Recently the Tactical Manual program has begun procurement of its own computer system, and two new color graphical workstations necessary to modernize operations. Other features of this new system include a laser graphics plotter and color copy device.

Drexel University Teachers

Photos by Regina Gasuk

NADC employees share their expertise

Joseph P. Cammarota
Electrical Engineering

"Working at NADC and teaching at Drexel are mutually beneficial experiences. While teaching, I can bring 'textbook' problems into the real world through my experiences in the lab, and my work here has improved through the deeper understanding of the theory needed to teach it."



Dr. Phillip Whitley
Electrical Engineering

"Teaching always shows me how much I don't know, but gives me a chance to do something about it."



Ralph R. Fink
Electrical Engineering

"I enjoy being with positive and motivated individuals. Lecturing at Drexel provides that opportunity."



Dennis A. Kiefer
Electrical Engineering

"Teaching is a great way to improve public speaking skills, stay technically up to date, and keep in touch with the academic community."



Bernard T. Svihel
Electrical Engineering

"This year is my 29th year of teaching at Drexel University. In having the privilege of teaching every course within the Electrical Engineering curriculum over these many years, I cherish the memories of interfacing with so many students of varied backgrounds and interests."



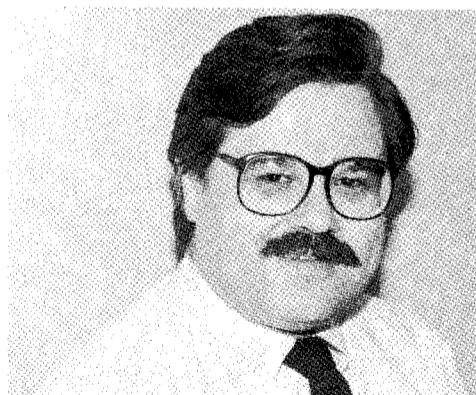
Dr. John J. DeLuccia
Metallurgical Engineering

"Teaching engineering students is particularly beneficial since you get first hand knowledge of a person's academic abilities before you hire him or her."



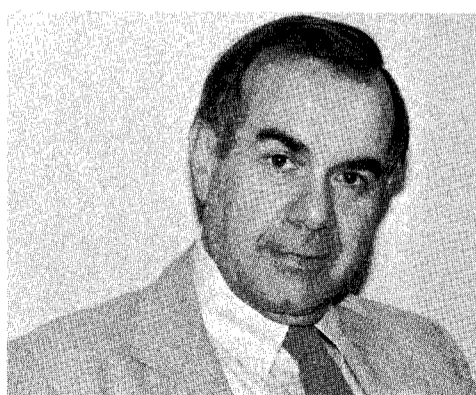
Dr. Martin A. Leonardo
Mathematics

"I enjoy maintaining a relationship with the mathematical academic community as well as working with the students."



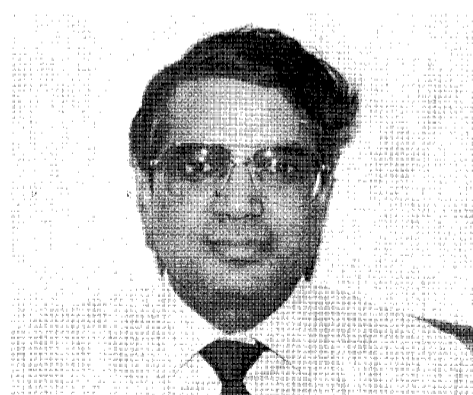
Dr. Leonid Hrebien
Electrical Engineering

"Teaching keeps me current. It is very satisfying when I see it register on my students faces that I got the point across."



Dr. Gilbert London
Metallurgical Engineering

"Teaching Metallurgy and Materials Science has the important rewards of helping young engineers learn this important field and improving my own knowledge of the field."



Dr. Vinod S. Agarwala
Chemical Engineering

"I enjoy teaching in the evenings. Although research is my first love, teaching gives me an opportunity to pass on what I have learned and to refresh my own understanding of the basics."



John E. Harrison
Electrical Engineering

"I like to stress the practical aspects of Microcomputer applications in my course, in that it is gratifying to see how many of the students are receptive to course work of this type. Many of the students have full time jobs in the electronics industry, which leads to some good class discussions and some killer questions."

Softball league is off and running

by Charlie Destra

The softball season was one week into play at press time, and various changes have taken place since our last article. The league was given a facelift as two new teams, the Rumlbers and Bushwackers, submitted late requests (two weeks prior to the start of the season) to join in.

The managers, despite being up against the time clock, voted to accept the teams. However, this necessitated hurried changes to the schedule and to the structure of the league. Instead of two divisions, the managers voted to lump the 14 teams into one division, with the first 10 teams making the playoffs. Schedules had to be revamped and a final one was completed just five days before the start of league play.

Rough start for new teams

If the managers welcomed the newcomers with open arms, so apparently did the Renegades and Nightriders, their first game opponents. The Renegades (Steve Bazow, four RBI's) greeted the Rumlbers with a 19-1 drubbing in their debut and the Nightriders (Charlie Destra, 4-4, five RBI's) christened the Bushwackers' opener with a 24-1 pounding.

New teams generally experience some growing pains, and nervous play and lopsided scores are not uncommon. But the scores indicate just how far these teams have to go.

Later in the week the Rumlbers and

Bushwackers played each other and the Buchwackers posted their first win ever, 17-14. The Rumlbers hit five homers, but sloppy play in the field hurt their chances. Dave Rose powered a double and three-run triple to lead the Bushwackers and outfielder Chuck Koch made a game-saving running grab of a line drive ticketed for the left-field gap in the last inning.

Dramatic first-week play

The best game of the young season, however, was the Granfalloon's dramatic extra inning 5-3 win over their archrival, the Guzzlers. Year after year, it seems, these two teams get involved in nailbiters and this game was no different. The game featured a tremendous hitting display by 'Falloon All-Star third baseman, Tom Weiss, whose one-man show included two home runs and all five RBI's. He capped off his performance by rocketing a two-run homer in the eighth inning to seal the win.

In another thriller, the Druids, unbelievably clawed back from a 22-9 deficit to beat the 8th Inning, 23-22. In a wild fifth inning, with swirling winds and chilled temperatures helping their cause, ten men crossed the plate for the Druids. The coup de grace came in the sixth inning when Rick Kirsch's wind-aided three-run homer proved to be the difference.

Other game results

In other first week action, the Devils



got their season off on the right foot with a 22-7 win over Agent Orange. Dave Hayman, Ed Zawatski and Rock McCartney got four hits apiece. The Druids (Gary Groshner, six strikeouts) nipped the Pacer, 2-1. The 8th Inning came back from a 5-1 deficit to beat the Rebels, 8-5. John Bechtel hit a round tripper for the winners. The Bearcats won 19-13 over the Phantoms. The Guzzlers hit five homers in an 18-1 win over Agent Orange. Slugger Rich Sames hit two, including a grand slam. The Renegades, on Joel Wexler's three-hitter, beat the Bearcats, 8-2. And finally, the Granfalloon smoked five home runs (two for Mike Bubb) in a 13-0 shutout of the Devils. The Falloon has seven homers in two games and have established themselves as the team to catch with two wins over tough opponents in the first week of play.

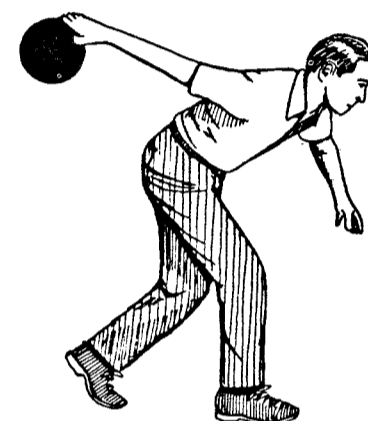
Championship Playoffs Near

Tom Reiter

As we go to press, 4 teams are readying for the League Championship Playoff. Both divisions had a different winner in each half. Congratulations to the A Division winners — Bernie Weber's Warveyhallbangers and Ed Gifford's Dynamic Duos, and the B Division first placers — Sue Casagrand's Big Spenders and Neil Weinman's Magic Markers.

The League Champion will be announced in the next issue and crowned at our upcoming Banquet Bash on June 26th.

The last regularly scheduled night produced the highest female single game score of the season — Iris Hayslip crushed a 242 game. Way to go Iris!



Jog by the rules for health and safety

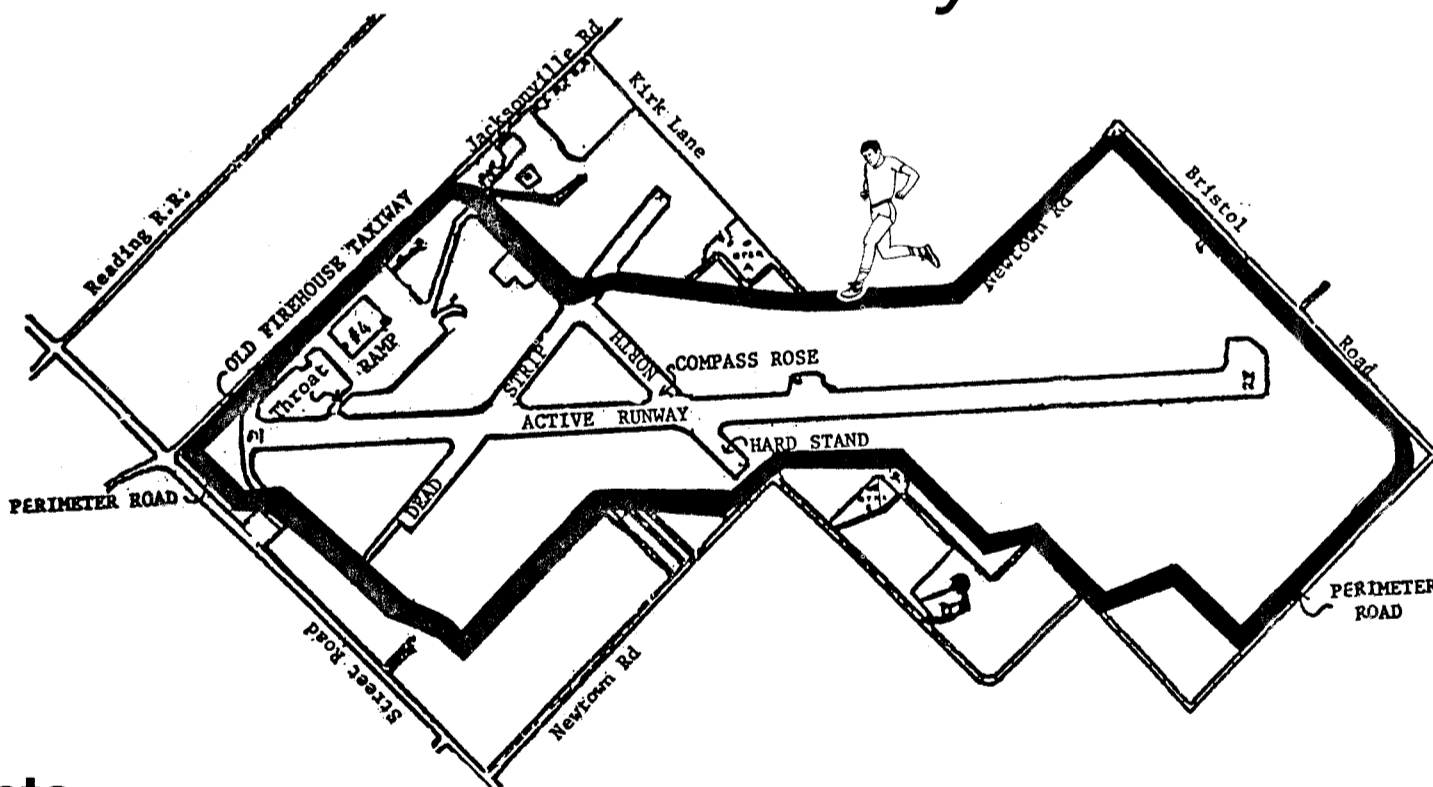
by Mike Masington

Recently, a number of incidents have been reported involving joggers entering aircraft taxi, turnup and runway areas, and conflicts between vehicles and joggers on the perimeter road. In light of this, the following information is provided:

a. The route outlined is the only sanctioned jogging path on the airfield side of the facility. NO DEVIATIONS FROM THIS ROUTE ARE PERMITTED.

b. Since this route is primarily a perimeter access road, vehicles will be using it from time to time. Both pedestrians and vehicle operators are asked to courteously share the right of way.

c. As in all other parts of the facility, the use of personal stereo headphones is prohibited in this area.



Technical Highlights

INTEGRATED TACTICAL DECISION AIDS

NADC has successfully accomplished the first fleet delivery of Integrated Tactical Decision Aids (ITDA) for the Navy's new Standard Desk Top Computer. The ITDA software includes decision aids to support Anti-Submarine Warfare, Anti-Surface Warfare, Electronic Warfare, Anti-Air Warfare, Strike Warfare, as well as the Joint Munitions Effectiveness Manual. As the Central Development Activity, NADC was responsible for the software development and integration of the ITDA software and delivery to the Second Fleet, Third Fleet, NOSC,

NSWC, and the Navy Tactical Support Activity.

HIGH LOAD COMPOSITE JOINTS

Testing and evaluation of designs for highly loaded composite joints, typical of wing and tail root connections, was successfully completed. These concepts, which utilize mechanical fasteners, provide a design alternative to the double step lap bonded joint design, which is strong and efficient, but which also can be difficult to fabricate and quality control. This program has demonstrated that the bolted joints, when properly designed, can provide

the same strength and efficiency with little or no weight penalty. Testing consisted of static and fatigue tests on several subcomponents representative of wing and tail root joints.

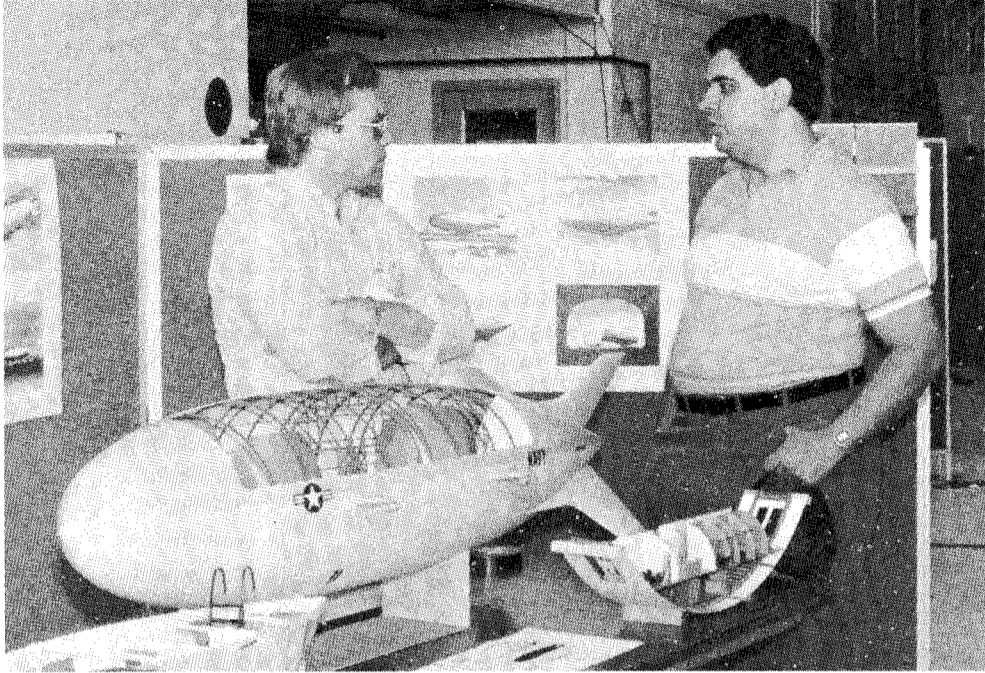
FINAL CARRIER OUTFITTED WITH TARPS

An NADC technical team accomplished the outfitting and verification of the Tactical Air Reconnaissance Pod System (TARPS) on the USS ROOSEVELT (CVN-71). This represents the final carrier to be outfitted with TARPS which currently provides the sole Navy carrier "RECCE" capability.

S-3B SOFTWARE COMPLETES TECHEVAL

The VS Program Office delivered software updates to Fleet Issue (FI) B4.1 to the Naval Air Test Center via NAVAIRSYSCOM for TECHEVAL in late March 1986. These changes included a time critical acoustic system integration fix essential to the continuation and completion of TECHEVAL of the S-3B aircraft by VX-1. Completion of TECHEVAL was accomplished in early April 1986. OPEVAL of FI B4.1 is scheduled to commence in early May 1986 with a projected July 1986 completion and approval for fleet release expected in August 1986.

NADC celebrated 75th year of Naval Aviation



NADC engineer, Paul Gasuk (left) explains Lighter than Air program to an interested visitor.

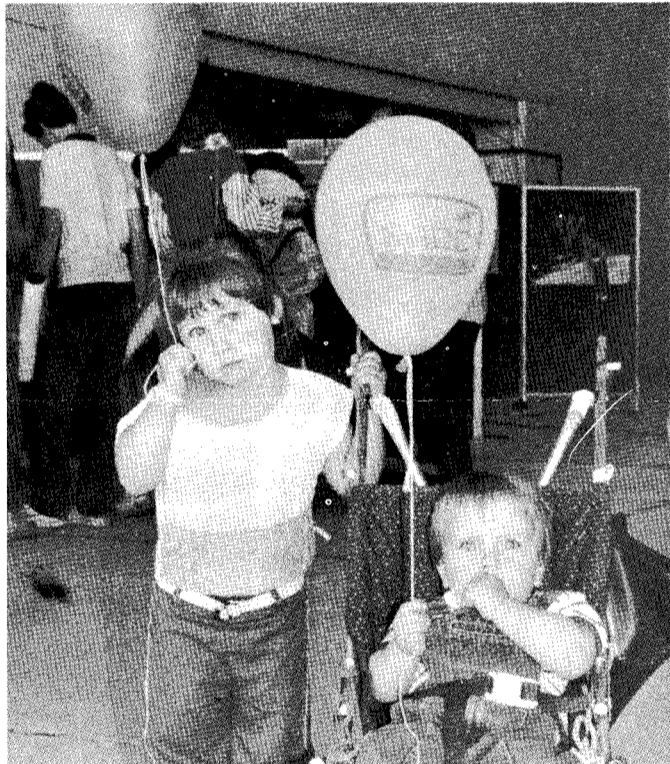
Photos by Regina Gasuk



Young visitor sports NADC T-shirt.



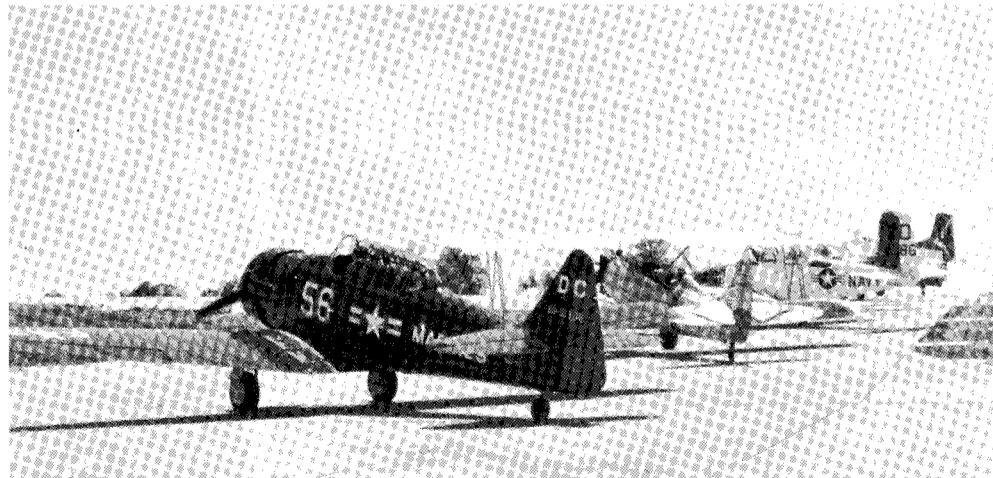
Big and little clowns alike give out free balloons to little girls and boys.



Were hotdogs, soda, ice cream and cotton candy too much?!



The crowd watches intently as the Navy vintage aircraft depart the Center.



Navy vintage aircraft taxi in formation readying to depart.



NADC's Associate Technical Director Jerry Guarini has trouble negotiating BEACON's Drunk Driving Course, a highlight of the day's activities.



The Beasley's, who piloted the SNJ-5 in for the day, stopped to enjoy food and other highlights.

Archbishop Wood girls tour Center facilities



Photo by Drew Schmith

In late April and early May 1986, nearly 50 girls attending Archbishop Wood High School toured NADC at the invitation of the Center's Equal Employment Opportunity Office. These students, who are interested in the engineering and computer science fields, were briefed by female engineers and scientists. Presentations on the Centrifuge, F-14 Simulator, and Electron Microscopes were designed to stimulate the student's interest in pursuing a science-related career. Mr. Ira Bellow (last row), then Chairman of the Center's Equal Employment Opportunity Committee, accompanied the students on their visits.

Promotions

Donna Arcangel, Douglas Bancroft, Elizabeth Bednarzik, Francis Biddick, Frank Boka, Alford Bunting, Michele Campbell, Bradley Cope, Marie Coyle, Rita Donahue, Mary Beth Dormuth, Catherine Fertner, Bernard Finch, Daniel Flynn, Timothy Foley, Michelle Grob, John Hannon, Jonathan Kaufman, Mitchell Kelly, Keith King, James Kingston, Timothy Kraynak, Keith Kreider, David Lam, Anthony Lee, Yoram Levy, Mark Lilly, Vincent Loiseau, Steven Lyman, Henry Lystad,

Richard MacIntyre, Joan Marano, Charles Mayers, Suzanne McNellis, Donald Meadows, Donna Morgan, Thomas Nguyen, Velia Nicolai, Mahesh Patel, Carolyn Richards, Daniel Rose, David Rose, George Rossi, Ida Rossnick, Richard Rowland, Donald Santangelo, Peter Shaw, Richard Silvius, Margaret Tomlinson, Matthew Urick, Margaret Vigelis, Craig Volker, Bernadette Weber, Randall Weidemoyer, Rita Williams, John Williamson, Cynthia Yanoff

Commander Salutes

Jerold Magill (Code 20): For outstanding performance in support of the Advanced Anti-Air Warfare Working Group.

Ron Young (Code 03): For an outstanding briefing at the Navy-wide Civilian Personnel Officers' Conference.

John Clark, Allen Anderson (Code 60): For outstanding support on risk closure to the Naval Air Systems Command.

Robert Lutz, Howard Martin, Albert McGlynn (Code 20); John Kacergis, John Andujar (Code 30): For significant support to the Naval Air Systems Command on the source selection effort for the Second Source Phoenix Program.

Lawrence Johnston (Code 50): For significant support to the Naval Surface Weapons Center on the Anti-Surface Warfare Commander's

Tactical Decision Aid project.

Ferdinand Reetz (Code 30) and William Breitmaier (Code 60): For outstanding performance as a representative on the Joint Logistics Commanders' Ad Hoc Group on Aviation Lighting.

Leonid Hrebien, Jacob Eyth, John Harrison, Robert McConnell, Nancy Topping (Code 60); Dennis Kiefer (Code 80): For significant contributions during the recent briefing to the Institute of Electronics & Electrical Engineers.

AMS1 Kimberly Grard: For outstanding performance gaining him recognition as NADC's Shore Sailor of the Year.

HM3 Michael Gray: For excellent support to Air Test and Evaluation Squadron One during a recent cold water test of the Quick Donning Anti-Exposure Coverall.

Navy Relief goes all out

The Navy relief drive is underway here at the Center and will continue through the month of June.

This year, the Navy Relief Committee, headed by CDR Milton Henke, has gone all out for the grand prize; a Caribbean Cruise for two for seven days on the "Love Boat's" sister, the Sun Princess, plus \$500 spending money. Since the Sun Princess will depart from Puerto Rico, the cruise package includes airfare to San Juan.

Departure date is November 22nd.

Next on the prize list is a five-day trip to South Florida with tickets to Sea World in Orlando.

Weekly prizes include gift certificates to restaurants, casinos, and department stores, a 10-speed bicycle, 19-inch color television and a VCR.

The Grand Prize drawing will be held on June 13th. Weekly drawings will take place May 30th, June 6th and 13th. (FAD)

Security Reminders

Any individual who has had access to classified information and who plans to travel to or through a communist controlled country or a country hostile to the United States, or who plans to attend a meeting in

the U.S. or elsewhere, in which representatives of communist controlled countries are represented must be given a defensive briefing prior to departure. Contact Code 0441.

26 new titles added to NADC library

The following is a partial list of new books recently added to the Scientific and Technical Library. Visit or call your library at 2918 to reserve these books.

Computer Programming

"Cluster Dissection and Analysis: Theory, FORTRAN Programs, Examples."

Spath, Helmuth
QA278 .S68213 1985

"dBASE III For The Programmer: A How-To-Do-It Book."

Dinerstein, Nelson T.
QA76.9 .D3 D543 1985

"IBM PC & XT" Assembly Language: A Guide For Programmers."

Scanlon, Leo J.
QA76.8 .I2594 S3

"IBM PC Assembly Language: A Guide For Programmers."

Scanlon, Leo J.
QA 76.8 .I2594 S3 1983

"Fundamentals of Programming Languages." 2nd Ed.

Horowitz, Ellis
QA76.7 .H67 1984

Computer Science

"Data and Computer Communications."

Stallings, William
TK5105 .S73 1985

"Life Cycle Support In the Ada Environment."

QA76.73 .A35 M38 1984

"Local Networks."

Stallings, William
TK5105.5 .S78 1984

"Pascal For The IBM PC: IBM DOS Pascal and UCSD p-System Pascal."

Bowyer, Kevin
QA76.8 .I2594 B68 1983

"Portability and Style in Ada."

QA76.73 .A35 P67 1984

"Procedural Elements For Computer Graphics."

Rogers, David F.
T385 .R63 1985

Electromagnetics

"Electromagnetics," 3rd Ed.

Kraus, John Daniel
QC661 .K72 1984

"Principles of Electromagnetic Compatibility."

Keiser, Bernhard
TK6553 .K365

Information and Signal Processing

"Optimum Signal Processing: An Introduction."

Orfanidis, Sophocles J.
TK5102.5 .0246 1985

Management

"Competitive Strategic Management."

HD30.28 .C648 1984

"Creating Excellence: Managing Corporate Culture, Strategy and Change In the New Age."

Hickman, Craig R.
HD31 .H48 1984

"Decision Making At the Top: The Shaping Of Strategic Direction."

Donaldson, Gordon
HD30.23 .D655 1983

"The Evaluation Interview." 3rd Ed.

Fear, Richard A.
HF5549.5 .I6 F4 1984

"The New Achievers: Creating A Modern Work Ethic."

Pascarella, Perry
HD4905 .P37 1984

"A Passion For Excellence: The Leadership Difference."

Peters, Thomas J.
HD70 .U5 P425 1985

"Strategic Management Of Industrial R&LD."

T175.5 .S83 1984

"Strategy and Computers: Information Systems As Competitive Weapons."

Wiseman, Charles
HF5548.2 .W37

Material Science

"Engineering Thermoplastics: Properties and Applications."

TA455 .P5 E54 1985

"The Measurement of Crack Length and Shape During Fracture and Fatigue."

TA409 .M39

"Surface Analysis and Pretreatment of Plastics and Metals."

TA403.6 .S76

"Unified Theory of Fracture."

Jagannadham, K.
TA409 .J3

Dr. E. Ann Berman speaks at AFCEA luncheon



Dr. E. Ann Berman (left), Deputy Assistant Secretary of the Navy (C³I and Space) was the guest speaker at the Philadelphia Chapter of the Armed Forces Communications and Electronics Association (AFCEA) luncheon held annually at the Naval Air Development Center. Pictured right, Philadelphia chapter president, Mason Ellzey presents Robert Buffum, Technical Director, with a certificate of appreciation for the time and effort he expended on behalf of the association.





Reflector

In this issue:

In memory of . . .
Veteran tribute
Summer Faculty Program
TBOC '86
Sunshine Foundation
Officers' Wives Club

Volume 31 Number 6

NAVAL AIR DEVELOPMENT CENTER, WARMINSTER, PA.

June 1986

Ninth annual Technical Director awards held



Photo by Drew Schmitt

L to r: Jacob Eyth (Project Leadership), Gwynn McConnell (Technical Support), Robert Buffum, Technical Director, James Cuorato (Administrative Support), Center Commander Captain Edward Sturm, James Crowley (Project Leadership), Dr. James Colvard, Management Advisor to the Director of the United States Office of Personnel Management, Ron Trabacco (Scientific Achievement) and Stephen Campana (Engineering Achievement) are pictured on stage after participating in the annual award ceremony.

by Regina Gasuk
 Mary Ann Brett

“Instead of thinking about the high cost of government, think about the worth of the people. It's really the worth of the people we are going to honor today,” said Robert Buffum, Technical Director of the Naval Air Development Center. Buffum was especially honored to be giving out this year's awards because it is the last time he will do it for NADC. He is being transferred to the Naval Air Systems Command, Washington, DC in December.

The Ninth Annual Technical

Director Awards were held on May 25th in the Center auditorium and honored the Center's best in scientific and engineering achievement, project leadership and administrative and technical support.

Nominations for these awards can be submitted by employees, supervisors or managers recognizing a significant record of achievement and/or leadership. Accomplishments should affect the Center or Navy's mission, personnel or a broad area of science or technology. The following awards were presented:

Scientific Achievement

Ron Trabacco, Composites Group Leader in the Structural Materials

Branch received the Scientific Achievement Award. Trabacco's primary responsibility is to oversee and to initiate new composite programs in polymers and composite materials as they apply to naval aircraft. These programs must also address fleet needs and identify stumbling blocks.

“Receiving the award was great!” said Trabacco. “I know it's not easy to recognize everyone who makes contributions, but it really makes a difference. He added, “Awards give incentive as well as satisfaction.

“My most significant contributions have been in establishing a fine group of people to work with me and in helping to develop NADC's composite capability to the Navy-wide scale of recognition it enjoys today.”

Trabacco has worked at NADC for ten years. Previously he was a Metallurgist at the Philadelphia Navy Yard for 15 years. Trabacco received his Masters degree in Materials Engineering and his Bachelors degree in Metallurgical Engineering from Drexel University in 1966 and 1961, respectively.

Engineering Achievement

Stephen Campana, an electrical engineer and Head of the Remote Sensing Branch received the Engineering Achievement Award.

Campana's branch of about 22 personnel develops electro-optic sensors for naval aircraft. These sensors include forward looking infrared imagers used for ocean surveillance and infrared search and track equipment used to detect air targets for fleet air defense.

A highlight of Campana's career was developing military applications for solid state devices in the 70's when the technology evolved from vacuum tubes.

“It was a pleasant surprise,” said Campana of hearing his name announced as a winner. “I didn't even know I was nominated; the money was

nice, too.” Having received other awards during his 23 years government service, Campana said, “even though there was no money involved, the Meritorious Civilian Service Award I received was also nice.”

Campana worked as a co-op at the Philadelphia Navy Yard in 1963-1964 and at the Center in 1965-1966. In 1967 he received his Bachelor's degree and in 1972 his Master's degree, both in Electrical Engineering at Drexel University.

Project Leadership

The Project Leadership award was presented to two outstanding individuals. Jack Eyth, program manager of the Dynamic Flight Simulator and Centrifuge Facility manager and Jim Crowley, program manager for the Marine Helicopter programs.

“It's good to know that people appreciate the work I've done, not just this year but over the past five years,” said Eyth. “This was technically a very difficult project with a lot of risk factors.” The project went through every phase that a project goes through, according to Eyth. The first phases are design, fabrication and installation, then G-qualification to 15 G's and, finally, validation to prove flight just like an F-14. The final test was to bring F-14 pilots to the Center and find out if the simulator handled like the real thing, with the ability to go into a flat spin and recover. This led to the flat spin study.

“We are trying to expose our Centrifuge and its capabilities to the fleet so they will recommend and roll through with the building of two training centrifuges on each coast for all pilots to train early in their career.

The check that Eyth received meant more to him than the money. It represented the confidence and sincerity of the Center for the people who were getting the awards. “It separates you from the ordinary ‘atta
Continued on page 7

Commander gets saluted

The Commander, Naval Base, Philadelphia, on behalf of the Philadelphia Area Navy Equal Employment Opportunity Council takes pleasure in awarding

**CAPTAIN
EDWARD J. STURM
UNITED STATES NAVY**

The PANEC Equal Employment Opportunity (EEO) Annual Honorary Award in the category of EEO Program Official for 1986, for superior accomplishment as set forth in the following

CITATION:

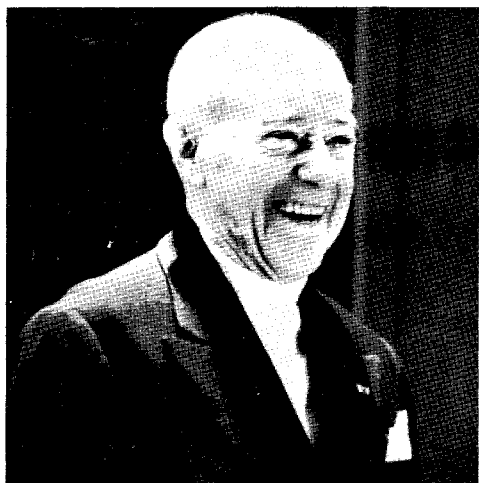
"Captain Edward J. Sturm, Commanding Officer and Equal Employment Opportunity Officer at the Naval Air Development Center, has demonstrated a personal commitment to long-term affirmative action initiatives, which are mission related and community enhancing. He has turned statistics, goals, and action items into management tools, and has given new meaning to the Affirmative Action Plan. Minorities in the workforce have increased from 8.6% to 9.1%, while females increased from 21.9% to 24.3%. Additionally minority and female scientists and engineers have increased by over 4%.

A number of programs have been established and strengthened to increase female and minority representation in the professional workforce pipeline. These include the Philadelphia Regional Introduction of Minorities in Engineering Program. Traditional programs such as Worker-Trainee and Upward Mobility, have also been accelerated.

Under his leadership, the EEO program at the Naval Air Development Center is more than a moral imperative, it is good business."

R. F. BUTTS
Rear Admiral, U.S. Navy

In memory of . . .



Ralph S. Barnaby

Ralph S. Barnaby died in his Philadelphia home on May 15th, 1986 at the age of 93. Barnaby was the first Commander of NADC from July 1943 through November 1946. He retired from the Navy in 1947 as a captain with thirty years service.

Barnaby graduated in 1915 from Columbia University with a degree in Mechanical Engineering. He was the nation's first licensed glider pilot and in the 1930's he founded the Navy's first glider school at Pensacola Naval Air Field in Florida.

During World War I, Barnaby served in Europe. In 1947 he joined the Franklin Institute where he headed its Aeronautical Engineering staff and directed their aircraft research and development work. Later, he was named Curator emeritus of the Institute's Hall of Aviation. During World War II he worked at the Naval Shipyard in aircraft design and procurement. In 1967, Barnaby won the First International Paper Airplane Competition sponsored by Science America Magazine. As well as other books on aviation, he wrote "How to Make and Fly Paper Airplanes," which was published in 1968.

His accomplishments stretched beyond aviation. His interest and talent in sculpture resulted in his bronze busts of naval leaders being housed at the Naval Academy, Annapolis, Md.

His personal friends and co-workers included such historical greats as Alexander Graham Bell, the Wright brothers, Amelia Earhart and Charles Lindbergh.

Barnaby literally made history during his near-century long life. He was buried with honors at Arlington Cemetery, Arlington, Virginia.

—and—

George Stinson Wertz, 19-year NADC employee died on May 24, 1986. Born on January 19th, 1928 and a Doylestown, Pa. resident, Wertz was a photographer in the Presentation and Information Division of the Technical Services Department.

"George was a diligent worker," said Ray Satterfield, long-time co-worker of Wertz. "He cared about what happened to us and in turn we cared about him," Satterfield added, "George was an effective and likeable person, but to us (in the TV Studio) he will be remembered as our friend."



George S. Wertz

Commander Salutes

Robert Finkelman (Code 05): For dedication and professional competence while teaching the Computer Applications and Security portion of the Intro to Navy Internal Review training program.

Edwin Scholl, Harry Deal, Maxwell Zelikoff (Code 00R): For dedication and professional competence while teaching the Internal Review Concepts and Standards and Non-Appropriated Funds portion, Internal Review Tools and Techniques, Payroll, and Imprest Fund Audits portion and Travel and Review on On-Board Contractors, respectively.

Marvin May (Code 40): For valuable contributions provided to the

TRIDENT Strategic Weapon Systems Program during the past ten years.

Thomas Reiter (Code 10): For outstanding performance during the recent sixty-day detail as Acting Deputy for the Small Business Office.

Janet Koch (Code 094): For excellent assistance to the Director of Small and Disadvantaged Business Utilization.

LCDR Earl Smith (Code 80): For outstanding support provided to the Naval Air Propulsion Center.

Otto Kessler (Code 30): For an outstanding briefing on the Mission Avionic Sensor Synergism Program presented at the Naval Air Systems Command Industry Workshop.

If the 'SOC' fits

by Robert Janes

One of the most fundamental elements of the Standards of Conduct (SOC) is the prohibition against gratuities. This rule forbids the acceptance by Navy personnel of any tangible or intangible benefit at less than fair market value from a defense contractor. Most people are aware of the prohibition as it applies to such things as meals, tickets to sporting events, etc., but violations of this rule can come up in many unusual ways.

A recent memo from the Commander of SPAWAR noted that there have been some incidents where Navy personnel on TDY to a contractor's plant accepted corporate rate hotel reservations from that contractor. When this occurs, the Navy employee often obtains the hotel room at less than its fair market value, which would violate the gratuities prohibition of the SOC. Accordingly, the memo directed that SPAWAR personnel may not request a contractor to arrange hotel reservations nor accept a contractor's offer to do so.


Another recent incident involved one of the exceptions to the prohibition against gratuities. That exception allows DoD employees to accept unsolicited advertising or promotional items from contractors where the items

are of "nominal intrinsic value." Because the actual value of such items is rarely determined, DoD employees have accepted high dollar items in the mistaken belief that the items fall within the exception. Not long ago, over 50 senior Air Force officials (including 20 Generals) accepted Titan Missile models from the Martin Marietta Corporation. Many of these officials accepted the models in the mistaken belief that they were allowable promotional items of nominal intrinsic value. In fact, the government was charged in excess of \$1500 apiece for these models because Martin Marietta charged the Air Force for the labor hours spent constructing them. When this was discovered, the models were returned, the Air Force officials involved received letters of caution, and Martin Marietta agreed to repay the Air Force for the costs of constructing the models.

As with the SOC in general, the best approach to follow where gratuities are concerned is one of caution. Gratuities may not be accepted unless they fit within one of the narrow exceptions listed in the SECNAV SOC Instruction. If there are any doubts at all about the propriety of accepting a gratuity, the gratuity should be declined.

Do You Know?

Only president to be sworn into office by a woman:
Lyndon Johnson



NADC Reflector

NAVAL AIR DEVELOPMENT CENTER, WARMINSTER, PA.

Volume 31
Number 6
June 1986

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Views and opinions expressed in this publication are not necessarily those of the Department of Defense.

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Commander, NADC	CAPT Edward J. Sturm
Technical Director	Robert S. Buffum
Public Affairs Officer	James S. Kingston
Editor	Regina Ann Gasuk
Assistant Editor	Mary Ann Brett
Military Journalist	JO2 Fred Dias

Human Resources Awareness Week

NADC pays special tribute to Veterans

by Regina Gasuk

As the saying goes — EEO is for everyone.

At NADC everyone gets recognition during one special week in June known as Human Resources Awareness Week (HRAW). This year HRAW was held during the week of June 23rd to June 27th and was dedicated to the Center's veterans. These men and women represent not only seven EEO categories but also the freedom people in the United States enjoy.

Accounting for a third of the workforce, the Center's nearly 800 veterans served their country from the 1940's through the 1980's all over the world in every branch of the Service.

Four NADC veterans shared their stories with the *Reflector*.

Frank McHale of the Packing Shop, Supply Department was McHale's Navy when Ernest Borgnine was just a Chief Gunners Mate. That was 41 years ago for McHale who has served on 9 ships through 2 wars and has been around the world twice.

During World War II he served in the Armed Guards which were gun crews on merchant ships. "I consider myself fortunate I was never hurt," said McHale, "but I've seen a few unpleasant things." McHale retired from the Navy in 1962 as Chief Boatswain Mate, craftmaster for a landing craft utility and has worked at the Center every since. "I'm proud to be a veteran," said McHale, "when I talk to people in conversation it doesn't take me long to find out whether the person I'm talking to is a veteran also."

"They stand pretty high with me. I attend all the reunions of the ships I've been on. When I go to these reunions, the people from 35 or 40 years ago are a little older, balder, and grayer but never will you see such a proud bunch."

Harry Ubele is a project engineer in the TACAMO Project Office working on the E6A and EC-130 programs. Ubele enlisted in the Army in November 1952. In May of that year he was sent to Korea and fought on the

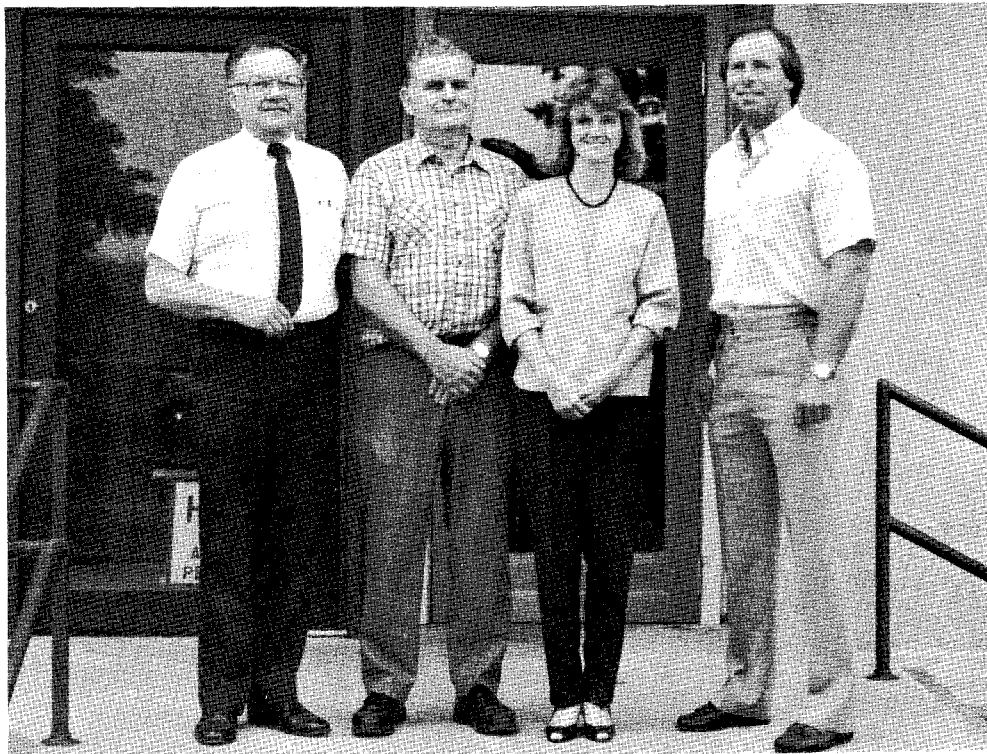


Photo by Regina Gasuk
Standing at the Center's front door are (l to r): Harry Ubele, Korean veteran, Frank McHale, World War II and Korean veteran, Marguerite Hoefling, Vietnam veteran, and Ed Swiski, Vietnam veteran.

front line until the Armistice was signed. "You never forget about it," he said, "I even dream about it still." Ubele's life is dearer to him now. The three years he spent in the Army matured him; they were a turning point in his life. "Veteran's benefits and my peers made it possible for me to quit my job as a printer and embark on an education. I found the educational process was easier for me because I had grown up," he said.

When he meets another veteran on the street, Ubele feels a certain amount of camaraderie, especially if he served during the same time. "Only those people who have lived through it can talk about it with humor and feeling," he said.

"When you see a movie, the feeling is nothing like being there and having shells rain on you for example," said Ubele. "You can't feel the effects of the concussion of fire in the theatre. You know you can't be hurt. Only when you're terrified, horrified and absolutely frightened out of your wits can you experience that sort of thing. All the basic training does not

necessarily condition you to shoot at somebody, kill somebody or be shot at yourself," said Ubele.

As a child Ubele remembers the deep respect everyone had for the soldiers of WWII. "I felt at the time those guys deserved a lot of respect," said Ubele. "Then when I went in and served, I thought we did a good thing, too. I didn't want special recognition necessarily, just acknowledgement that it was an honorable thing to do whether you were drafted or enlisted."

Ed Swiski is a planner and estimator in the Maintenance Control division of Public Works. In 1969 he was a Navy Seabee, 3rd class working in a mobile construction battalion in Vietnam. Construction work on bridges, camps that were blown up, and roadwork occupied most of his battalion's time.

Describing the fighting in Vietnam is difficult Swiski said. It was guerrilla warfare and once it was night everyone was involved. "I think Vietnam veterans feel different than Korea or World War II vets . . . categorized maybe. It's not that we're not proud,

because we are, but, we do feel a little different. I think all veterans like to be recognized because they served their country," said Swiski.

Swiski was stationed at I-CORPS in the northern section of South Vietnam. He is proud to be a veteran and feels they form a brotherhood where no prejudice exists. "You have to have been there, and experience it to understand what a veteran thinks about another veteran," concluded Swiski.

Marguerite Hoefling has been at the Center 2½ years working in the Systems Analysis branch on anti-submarine warfare, evaluating operational tactics of the P-3, S-3 and sonobuoys. In 1973 she enlisted in the U.S. Marine Corps and was stationed at 29 PALMS, then Camp Pendleton in California. In both places she worked in basic communications repairing radios, microphones, amplifiers, or anything to do with base communications. Hoefling is considered a Vietnam Veteran even though she was not stationed outside the United States. The Vietnam refugees were evacuated to Camp Pendleton after the war. She was partially responsible for all the communications equipment there.

"I'm proud to have been a Vietnam Veteran, even though I didn't see any combat," said Hoefling. "I wasn't trained for combat either; at that time women marines didn't even carry rifles," she said. "We were strictly in supporting roles."

Serving her country allowed her to decide what she wanted to do with her life. "After I got out I used my VA benefits to go to Penn State," she said. Hoefling graduated in 1981 with two degrees in meteorology and biology.

"Personally I don't think that as a veteran I require any more recognition," said Hoefling. "Generally people just look on veterans as another group of people. They see the services as a good opportunity for young people today. They don't look at us as special," she said. "It was a career choice. We make a commitment; we take an oath and that's the deal!"

Military Recreation

Consolidated Mess (OPEN) Crews Rest

Points of interest for the members of softball and volleyball teams at NADC are the new selections of jumbo hotdogs, Texas bbq sandwiches, free bar snacks and other food items now on sale during all hours of operation. The Crews Rest welcomes all team members to socialize and discuss their team's thrill of victory or agony of defeat over some good food and cold refreshments.

The patio at the club has been refurbished and is available for private parties or just to sit down, relax and enjoy the view of the pool. A good summertime idea is to get your department, division or just a group of friends together, reserve the pool for a private party after 7:30 p.m. and let the club cater your food, beverage, and entertainment needs. The club offers food and beverage catering for all food

tastes and price limitations. Before you schedule your luncheon, retirement ceremony, etc. off station, call the Crews Rest X7651 and compare our prices, service, and convenient location.

Recreational Services

Hot, and tired of the humid weather, well why not schedule a pool party through Recreational Services. Private parties can be held after 7:30 p.m. at the outdoor pool located behind the Crews Rest. If you're interested in reserving the NADC outdoor swimming pool here's how you do it.

Complete an application for reservation at the Recreational Services Bldg. 99 (X2169) at least seven working days in advance of the requested reservation date.

Upon applying for reservation of the pool, you will be required to pay the reservation fee.

Upon payment of the reservation fee, present the receipt of payment to the lifeguard(s) on duty the night of your private party.

The fees are as follows:

0-49 people	
1930-2200 hours	\$43.00
1930-2300 hours	\$49.00
1930-2400 hours	\$55.00
50-74 people	
1930-2200 hours	\$71.00
1930-2300 hours	\$83.00
1930-2400 hours	\$95.00
75-125 people	
1930-2200 hours	\$99.00
1930-2300 hours	\$107.00
1930-2400 hours	\$125.00

The NADC swimming pool is available for *private party usage only*, to all NADC federal employees. So plan your next event at the outdoor swimming pool and don't forget to cater the eats and drinks through the Crews Rest.

Welfare & Recreation

W&R goes to New York on September 13th . . . Enjoy a ferry ride to the newly restored Statue of Liberty; a tour of NBC Studio; dinner at the Front Street Restaurant; then after dinner stroll along South Street Seaport savoring its unique shops and sounds. Bus leaves NADC at 7:30 a.m. and returns at 11:00 p.m. Cost: \$44 includes bus transportation, admissions, dinner, meal taxes and gratuities. Reservations will be taken only until July 31st. A deposit of \$20 p.p. required. Call M. Vigelis, X3067 for reservations.

Summer Faculty Program begins

by Hank Beyer

The NADC has been awarded two Postdoctoral Fellowships under the Office of Naval Technology (ONT) Postdoctoral Fellowship Program. Dr. Martin Squicciarini, who received his Doctorate in Physics from Drexel University, will be working with Dr. Lloyd Bobb of Code 30 on "Spontaneous Cooperative Emission Studies in Xenon." Dr. Richard Hammond with a Doctorate in Physics from the Rensselaer Polytechnic Institute, will have Dr. Warren Rosen and Mr. Eric Alfonsi of Code 50 as his colleagues. Dr. Hammond's research will consider "Theoretical Problems in Optical Networking and Computing."

Both of our visiting researchers were approved by a panel of experts assembled by the American Society for Engineering Education who manages the program for ONT. The Postdoctoral Program has been established to increase the involvement of highly trained scientists and engineers in disciplines to meet the evolving needs of naval technology. That the NADC has received approval for two positions is to the credit of both the researchers and their NADC colleagues.

We want to welcome our ten Summer Faculty members who will be spending ten weeks at the Center on various research projects.

In Code 40:

Ms. Stella Lawrence from the Bronx Community College working on integrated communication and navigation avionics survivability.

In Code 50:

Dr. John Beidler from the University of Scranton, software engineering.

Dr. Richard Perry from Villanova University, computer aided design.

In Code 60:

Dr. Witold Brostow from Drexel University, polymer-based composites.

Mr. August Krenkel from Polytechnic Institute of New York, aircraft conceptual design.

Dr. Moira LeMay from Montclair State College, human factors and flight simulation.

Dr. Harry Rogers from Drexel University, advanced metal processing.

Dr. Alexis Cenko from Hofstra University, aircraft design.

Dr. Ihab Kamel from Drexel University, conductive composites.

We hope they enjoy their stay at NADC.

You can't fly without Supply

by JO2 Fred Dias

"You can't fly without Supply," is a saying that holds true throughout Naval aviation.

Here at NADC, the Aviation Support Division (ASD) handles the supplying of parts and equipment for the Center's aircraft. Headed by Senior Chief Aviation Storekeeper Thomas H. Phillips, ASD employs three Navy personnel and two civilians.

"The Aviation Support Division is tasked with supporting the Center's aircraft plus the fleet functions for the S-3 and P-3 labs," Phillips said. He reported that soon he will be supporting a portion of the LAMPS, or HS-60 helicopter flight simulator for the anti-submarine warfare helos that often fly off frigates and cruisers.

The division's largest responsibility is to order and distribute parts as quickly as possible in order to keep the aircraft flying. This is done in two ways. One is to replace a part; the second is to repair it.

Close communications between the Aviation Support Division and Aviation Maintenance Control is a must. Without it, ordering parts for deployed aircraft, for example, could be a waste. When an NADC aircraft deploys, the host squadron or base operations is responsible for repairing that aircraft including the ordering of parts.

Because this is a small command, the ASD keeps what is known as a short count in stock. "These are only items for the aircraft supported," Phillips explained. However, this does not prevent ASD from performing its task. Liaison between NADC and other command's supply departments have been established through the Navy's Supply System.

"We have the option of getting the parts repaired through working agreements with Naval Air Station, Willow Grove; Patuxent River, Maryland; Jacksonville and Cecil

Field, Florida," Phillips explained. "We're working on the only repair facility on the East Coast, now being built at Mayport, Florida, for the HS-60 helicopter." Phillips continued, "This gives us our option, to find the fastest means of supporting this command, without having a full fledged Aircraft Intermediate Maintenance Department (AIMD), here."

"If there are ample quantities available in the system," Phillips continued, "we'll just send a requisition into the system and have one shipped here and we send the bad part out." NADC has received parts from as close as Philadelphia and as far away as Japan.

A computer system is one of the biggest reasons ASD can act so quickly in replacing or repairing a part. "We have people assigned here whose job it is to expedite material getting in," explained the Senior Chief.

Another segment of ASD is the Component Control Section. Their job is to take repairable material and either get it repaired for the aircraft or, if it's a stock asset, use the one available then repair the broken part and put it back into stock.

Senior Chief Phillips reviews annually the parts the Center stocks to see if they are needed in greater volume or are no longer needed.

The item stocked the most by ASD is aircraft tires. Various avionics radios and other avionics equipment follow close behind. Free issue items include nuts, bolts, washers, and wire. These are kept in Maintenance Control for easy access.

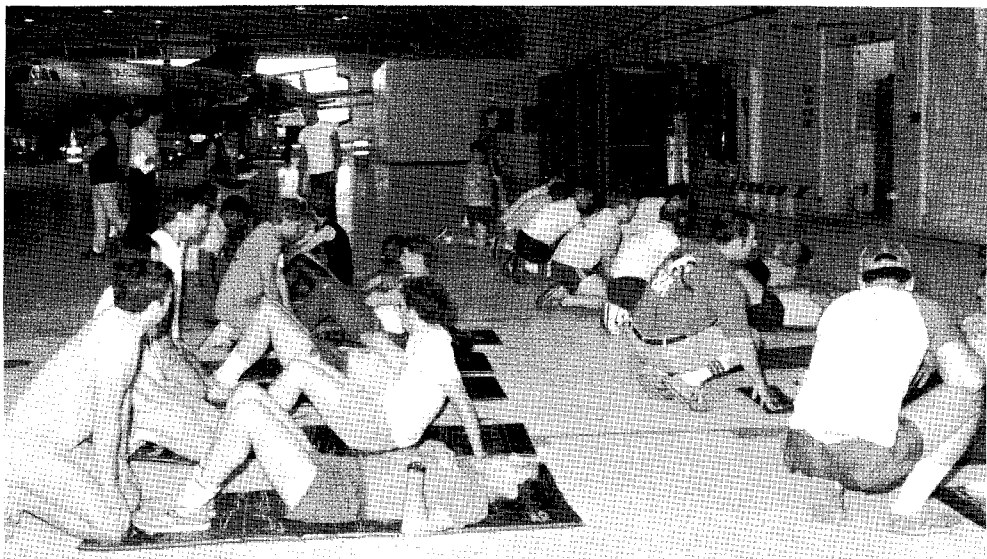
Because of the computer system throughout the Navy, ASD, which is linked to that system, can order and receive parts in one or two days, thereby reducing the Center's aircraft down time. "Our major goal is to see all systems in an up status," Phillips concluded.

Physical Readiness Testing

Military personnel shape up



A required 1.5 mile walk/run quickly separates the crowd.



What's a workout without sit-ups once a year — once a year is obviously enough.



Percentage of body fat is quickly calculated by relating waist measurements to neck size.



After the pain (fun) was over, all hands celebrated at the annual 'recovery' picnic.

Oceanographer of the Navy sees navigational capabilities



Photo by Regina Gasuk

On June 3rd, Rear Admiral John Seesholtz from the Oceanographer of the Navy Office, Bay St. Louis, visited NADC. Accompanied by CDR Richard Blumberg, their visit concentrated on satellite navigation, systems integration and a tour of the Communication Technology Directorate facilities.

Shown above (l to r) John Handal (Code 40), RADM Seesholtz, CDR Blumberg and Steve Kochanski (Code 40).

Sunshine for children

by JO2 Fred Dias

Sailors have traditionally answered the call for help in a community, especially when that help includes children.

The First Class Association (FCA) here at the Naval Air Development Center is no exception. Members of the FCA helped the Sunshine Foundation on May 31st with their Spring Fair at the War Memorial Field in Doylestown.

The Sunshine Foundation is a non-profit organization that fulfills wishes and dreams of terminally ill children. The organization was founded by former Philadelphia policeman Bill Sample, who granted a wish to a young girl dying of leukemia. Sample paid for a trip to Disney World for the girl and her immediate family.

NADC's FCA contacted the Foundation two years ago to offer help in some of their fund-raising events. "Last year, we helped park cars, helped set up tables and took care of all the food at Clement Field in Chalfont," explained Bill Wiley, Aviation Electrician's Mate First Class. Wiley and his wife Ayesha joined the Sunshine Foundation last year.

Wiley and other members of the FCA have also sold flowers and raffle tickets at the Center to help raise money for

the Foundation.

The Foundation grants last wishes to children whose parents otherwise can't afford to pay for these wishes. They raise money to pay for these wishes through raffles, annual flea markets, and Spring and Fall fairs. Foundation volunteers, like Wiley and Aviation Machinist's Mate First Class Stan Meni, contact businesses for material donations for the flea markets and raffles.

Through these donations and fund raising events, the Sunshine Foundation has turned fantasy into reality for more than 4,000 children in its brief history. Besides Disney World, the Foundation has flown grandparents to the U.S. from Germany and, says Wiley, "There was one guy who couldn't speak or hear, so the Foundation bought him a special computer so he could communicate with his friends through his telephone." Because of its success, the Foundation has opened chapters in Georgia and Virginia. Wiley plans on opening a chapter in his native Maine when he retires from the Navy later this year.

If you are interested in helping the Foundation or the FCA with a donation or volunteer work, contact Wiley on extension 3802.



Photo by JO2 Fred Dias

Sunshine Foundation volunteers sell memorabilia to raise money during their Annual Spring Fair.

Small Business Week sponsors TBOC'86 at Bucks College

This year NADC participated in Small Business Week by co-sponsoring the Technology and Business Opportunity Conference (TBOC '86) with the Pennsylvania Technology Assistance Program (PENNTAP) and the Bucks County Community College.

The conference was held at the college on Thursday, May 22nd, 1986 and offered to over 200 members of the region's Small Business community a wide range of procurement opportunities, technical and business assistance, and technology transfer/innovation available from the Federal, State, and Local governments. Over 50 government agencies and prime

contractors provided person-to-person counseling. Exhibitors included NASA's Goddard Space Flight Center, the Naval Avionics Center, David Taylor Naval Ships R&D Center, Pennsylvania's Ben Franklin Partnership Program, and the Defense Logistics Agency. Seminars on current technical and business assistance programs for small business were held throughout the day and participants were given the opportunity to tour NADC in the afternoon.

The Center's participation in TBOC '86 was coordinated by the Small Business Office and the Technology Transfer Office.

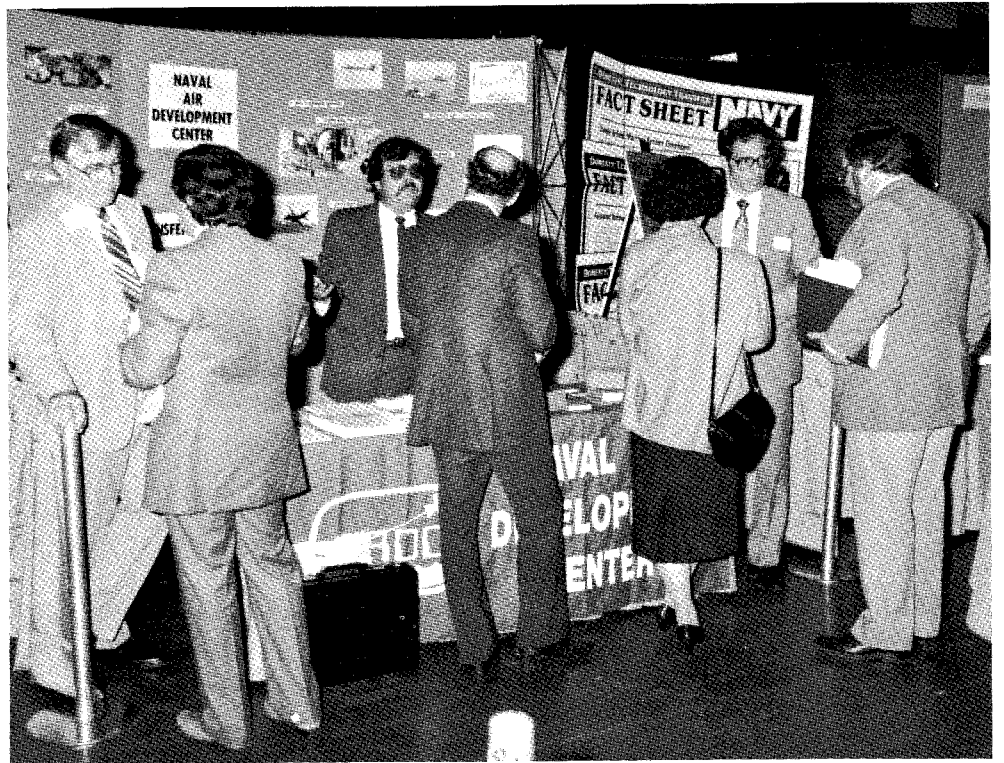


Photo by Drew Schmith

Center personnel Jules Lewyckj and Craig Jencks discuss NADC's Small Business and Technology Transfer Opportunities with interested visitors, many of whom toured the Center later in the day.

USMC BGEN Milligan gets NADC troop safety briefs



Photo by Regina Gasuk

Brigadier General Robert F. Milligan, USMC Deputy for Development/Director, Development Center Marine Corps Development and Education Command Quantico, Virginia visited the Center June 9th. Interested in passenger/troop safety, he received briefings on ten related topics and toured four different areas of the Center. Shown above, the General sits in the pilot's seat of a simulated cockpit in the Crew Station Evaluation Facility.

Guzzler "Hockey Puck" Golf Open statistics

by Charlie Destra

The 1986 Guzzler "Hockey Puck" Golf Open was played under picture-perfect skies at Neshaminy Valley Golf Course on April 23rd and the tournament championship, a team prize this year, was garnered by the foursome of Rich Sames, Greg Kovach, Bob Parsons, and Pete Carroll.

The golfers, a new entry that never before participated in a Guzzler tournament, captured the most "skins" (21) to finish in first place over five other foursomes. Their nearest competitors were the foursome of Jim Eck, Lee Morris, Pat Finnegan and Neil Hesser (13 skins).

The Skins concept works like this: the team with the best score through holes 1 — 6 gets one skin per hole; holes 7 — 12 are worth 2 skins; and holes 13 — 18 equal 3 skins. So, a team that failed to win any of the first few holes could hypothetically win the contest by capturing the more "valuable" last few holes.

There was no such comeback with the winning foursome this time, however. The champions were hot from

the outset and never really challenged. Parsons and Carroll, in fact, tied for the best individual score (86) and teammate Sames shot an 87.

The "Closest to the Pin" event was played on the 13th hole, a steep, downhill sliding board-like terrain only 120 yards long. Walt Latosh, a former Guzzler Open Champion (1984), plopped his tee shot 10 feet from the cup to win the honors.

Latosh and the other golfers, however, were fooled by prankster John Bowes, who, as a member of the first team to tee off, placed a marker only three inches from the 13th hole's flagstick, indicating he had hit his tee shot there. (Bowes, of course, didn't even hit the green in reality.) At the end of the day's event, he finally revealed his little joke.

"That was my third shot — I thought we were supposed to mark our third shots," Bowes cracked.

The Guzzler Open took on the "hockey puck" theme this year in honor of former Guzzler pitcher Ron Lang, who died earlier this year after playing in a hockey game. Donations were



Photo by Craig Volker

Steve Bazow and Craig Elicker show off their holiday puck golf outfits.

taken, and proceeds benefitted the Barry Ashbee Memorial Fund in Lang's name. In an ironic twist, Lang was holder of the all-time low score ever (86) in a Guzzler golf tournament, tied by Carroll and Parsons in this event.

The fifth annual Guzzler Invitational will be held at an as yet undetermined date in late August. If interested, enter your foursome through tournament director, John Markow (extension 1026).

NADC's softball league standings

by Charlie Destra

The Granfalloon and Guzzlers, as expected, were perched at the top of the softball league's standings with 8-1 records, at press time. At roughly the season's halfway point, the two leaders had remarkably similar statistics: the 'Falloon were producing 13 runs per game against the Guzzlers' 12, and both teams were allowing their opposition to score only three runs. (In a potential playoff preview, the two powerhouses faced each other in their first game of the season with the 'Falloon prevailing in extra innings, 5-3.)

The Granfalloon was tabbed to be the cream of the crop in the league, what with their deadly pitching duo (Greg Heydet, Steve Torok) and All-Star laden hitting attack, but the Guzzlers' strong showing has been a mild surprise.

Despite the loss of a couple of key contributors (ace Ron Lang, slugger Dave Gleisner) going into the season, they have maintained their superior

play. The main reasons have been the acquisitions of power hitter Rich Sames (6 HRs, .682 ave.), whose hitting production thus far has led the team, and back-up hurler Dave Whitenack. Also, pitcher Jay Ward is having an effective season on the mound. The Guzzlers look ready to challenge for the crown.

8th Inning, Nightriders threaten leaders

The 8th Inning, at 7-2, is right behind the leaders. They have been pounding opposing pitchers and clubbing a lot of homers as usual, but have also been giving up more runs (8.11) than in the past. That statistic is somewhat misleading, however, since they surrendered a whopping 23 runs in one game early in the season to the Druids. In any case, their offensive firepower is such that their winning habits have not been affected. And we can look for this team to get tougher as the season progresses, as has been their trademark.

The Granfalloon, Guzzlers, and 8th

Inning were picked to be the league's elite at the start of the season. The big question was which of the seven (or so) second-echelon teams would challenge them.

The Nightriders, alone in fourth place at 5-3, were trying to provide the answer. The reason for their improvement has been an explosive hitting attack. They were scoring 11 runs per game (three more than last year) with four starters hitting above .500. Key off-season acquisitions have helped to shore up the defense, as well.

League's parity shows

The Pacer, Renegades (both at 4-3), and Bearcats (5-4) were next in line, three games behind the leaders. All three teams have been victims to the league's parity, having won some big games and lost some disappointing ones.

The Pacer's big weapon has been their pitching, which ranked right behind the Granfalloon's and Guzzlers' hurlers' earned run averages at 4.43. The Renegades started out hot, but

pitching problems surfaced in their last few outings. The Bearcats have scored at an impressive 11.8 runs per game clip, but their 8.4 runs — against average has let them down.

Two teams that figured to be better at this point were the Druids and Devils, knotted at 4-4. The Druids have been giving up far too many runs (10.6, fifth worst in the league) for a team of their experience, and the Devils have not been getting consistent pitching.

The Rebels, inhabiting 10th place at 3-4, have stayed close in most of their games thanks primarily to an outstanding defense. But the Phantoms (2-5), who follow the Rebels, have a decent shot of creeping into that last playoff spot (10 of the 14 teams play in the post-season), mainly because of their hitting attack.

The Bushwackers (2-7), Rumlbers (1-8) and Agent Orange (0-9) are going to be left out this season. Despite their losing records, however, they have been involved in some close contests against tough opponents, and can look forward to next year.

Bowling league banquet honors high rollers



Photo by Cathy Burton

Mixed League Champions Magic Markers (l to r): Standing: Andrea Sicher, Jeff Irvin, Lois Savage; Seated: Larry Sicher, Ed Beach, Diana Beach, Terry Weinman, Neil Weinman (Captain) (Missing from photo — Lee Bourgeault).

by Tom Rieter

Congratulations to the **Magic Markers**, this season's winner of our League Championship Rolloffs. Team members included Captain Neil Weinman and his wife Terry, Ed and Di Beach, Larry and Andrea Sicher, Jeff Irvin, Lee Bourgeault, and Lois Savage.

Some of the season's highlights included Ed Fields' 256 Male High game and Iris Hayslip's Female High score of 242. In the A Division, Al Knobloch's 177 Season Average was the League's best. Rick Yeager's 174,

second place finish, wasn't shabby. **Mary Lentz**, at 155, again won the Female High Average award while **Lorraine Reidinger** closed with a 153 season average. In the B Division, both High Average titles were decided by percentage points. **Ernie Wykes** at 171.1 edged out **Kevin Ryan's** 170.5 and **Janet Geyer** at 146.8 nudged **Iris Hayslip's** 146.6.

Our annual awards banquet was held on June 6th at the Warrington Country Club — you know a good time was had by all 220 party people.

Security Reminders

Supervisors are responsible for the continuous evaluation of their employees eligibility for access to classified information. Any information reflecting on an individual's

loyalty, reliability, judgement, or trustworthiness must be reported to the Security Officer (Code 044) as expeditiously as possible.

Ninth annual Technical Director awards held

Continued from page 1

boy," said Eyth. "This award really brought home to my family that the Center thinks I do valuable work not just a good job," he concluded.

Eyth holds a Bachelor of Science degree in Mechanical Engineering from Drexel University. In 1978 he received a Master of Engineering from Penn State University and in 1980 he attended the Naval Postgraduate School and received a Master of Science in Computer System Management.

Jim Crowley was very surprised when his name was announced. "My wife was called early in the week, so she made sure I had a suit jacket on that morning," he said. Crowley considered it quite a compliment to receive this recognition, however he was quick to pass it on to the people who work for him. "Basically I'm a reflection of the people who work under me. It is because of them getting their assignments done and making some of the detailed decisions they do that makes the whole project successful," said Crowley.

Crowley was commended for outstanding technical management of the Helicopter Integration System (HIS-2) and the VH-60 programs. He is responsible for the planning, assignment of responsibilities, control and funding. The success of Crowley's program has led to the Center being asked to take the lead for avionics

integration and electro-magnetic pulse hardening for the VH-60 program.

Crowley sees these awards as enticing and motivating especially to the younger people here. "They see opportunities and recognition; it's good feedback," he said.

Crowley holds a Bachelor's degree in Electrical Engineering from Manhattan College in Riverdale, N.Y. and has completed graduate study work at Villanova University.

Administrative Support Achievement

James Cuorato, a supervising contract negotiator and contracting officer in the Contracts Division was presented the Technical Support Achievement Award. Cuorato supervises a group of negotiators who are responsible for purchasing supplies, equipment, and services for various Departments on Center. Typically, this entails 200 contracts a year for approximately \$50 million.

Now at NADC for ten years, Cuorato spent 23 years at the Frankford Arsenal in virtually the same position.

Unaware of his nomination, Cuorato said he was shocked to hear his name announced and even more surprised at the amount of the award — \$5,000.

Cuorato attributes his success to a philosophy he adopted many years ago. "In many instances," he said, "service organizations and the people they support have an adversarial relationship. My philosophy has been to

explain our limitations but then to try to satisfy their needs in a mutually agreeable and legal manner. The people I support soon learn that if a purchase is at all possible within the system, I will find a way."

Among other accomplishments, Cuorato was attributed with developing the Center's Contracting Officer's Technical Representative (COTR) program, which is considered to be a model to be emulated by other contracting offices.

Cuorato has received several awards throughout his 44 years of federal service, but none the magnitude of this one.

"To me, this award is the ultimate in recognition," he said. "It was like receiving an Oscar."

Technical Support Achievement

Gwynn McConnell, a Physical Science Technician in the Structural Materials Branch was selected for the Technical Support Achievement Award.

McConnell's responsibilities in the area of non-destructive testing include developing inspection procedures for locating defects in aircraft structures and components. These defects could appear anywhere from tires to turbine blades, as cracks, corrosion, or graphite epoxy composite delamination.

"It was enough of an honor to be nominated," said McConnell. "I would not have felt like a loser if I hadn't won.

When I did win, though I was thrilled.

McConnell went on to explain, "I've had tremendous opportunities to do meaningful jobs at the Center and I enjoy what I do." He added, "This award was just icing on the cake."

With an Associate degree in Electronics from Temple University in 1962, McConnell worked at the Philadelphia Navy Yard from 1968 to 1970 when his group was transferred to NADC.

Captain Edward Sturm, Center Commander introduced the guest speaker, Dr. James Colvard, Management Advisor to the Director of the U.S. Office of Personnel Management and life-long friend of the Navy. Colvard who has held many important positions within the Department of the Navy as well as receiving numerous awards throughout his distinguished career, paid respects to this year's winners as people who have done real tangible things they should be proud of. He commented on the good mixture of civilian and military employees and sees these awards as a team effort measured against absolute standards.

"The Navy must own its ability to control its technological destiny. Your business at NADC is critical to the Navy and the Navy is critical to the country," said Dr. Colvard. "I commend each of you for your efforts. The efforts you have demonstrated in the past will not flag in the future."

VIEWPOINT

If your life at the Center was a weather report, what would your forecast be?

Prepared by Rosemary Dominic

Photos by Regina Gasuk



"Instead of responding in the traditional way, I've put together a stirring video extravaganza. It's a tender look at NADC as you dreamed it could be, featuring stunning pictures of my NADC life with my own personal description in words and song. A treasured remembrance or gift. 623 minutes. VHS and Beta."

Craig Volker (Code 5033)



"Tornado watch effective all week."
Betty Beans (Code 0315)



"I am forecasting 2 feet of fresh powder on a 60 inch packed base."
Jim Macaulay (Code 6042)



"Sunny, hot and humid all day."
JO2 Fred Dias (Code 091)

"Foggy in the morning and clearing around lunchtime."
Carol Gendur (Code 5040)



"The forecast for today and tomorrow is for stormy weather with dark and overcast skies, to be followed by hot and hazy days. The long term outlook calls for cooler weather with clear to partly sunny skies."
Ray Satterfield (Code 8131)

"Partly cloudy on Monday. Hurricane watch on Tuesday. Bright and sunny as the week progresses."
Fran Caffrey (Code 8301)



Promotions —

Daniel Aaron, William Arnold, Bridget Beatty, Dorothy Bleiler, William Borkowski, Rita Brownlee, Joseph Cameron, Daniel Carbo, Helen Catto, Alice Colyar, Mary Conyers, Steven DeLuca, Lynn Drelick, Keith Faller, Scott Finken, Gregory Folts, Steven Gabai, Thomas Gilligo, George Gluz, Phyllis Grant, Elizabeth Haney, Inger Hansen, David Herbine, Scott Holloway, Gregory Kovach, May Lee, Stephen Levitski, Jane Libbos, Roger Liu, Gino Lostracco, Tony Madison, Carol Majer, Elaine Mears, Christopher Miller, Thomas Murphy, Kristina New, Evan Nosel, Christopher Oprandi, Eric Patent, Sharon Robinson, Maureen Satchell, Michael Schultz, Lynne Sherr, Stephen Skilton, Lloyd Smith, Michelle Smith, Joseph Stamato, Janice Suessenguth, Michael Sutton, Karen Taylor, David Torr, Peter Ulrich, William Williams, Joseph Wolfe, Hong Wong, Peter Yost, Yuk Yung, Christopher Zech.

General grass grooming guards

by Mike Masington

As we noted in previous episodes, Og, our consistently clever caveman, had already invented gardening, barbecuing and home maintenance, but he realized that there must be something else that would bring complete fulfillment and real meaning to the lifestyle he was trying to create. Suddenly, the true essence of genuine suburban living struck him — lawnmowing! Up until now this chore had been performed by Boris his pet brontosaurus, which did provide the advantage of speed since the voracious vegetarian could devour the average 200 cubit lot in about 3 minutes. Unfortunately Boris, though a loveable creature, was not a mental giant, and had a little trouble distinguishing between tall grass and objects it perceived as similiar such as trees, household pets and the neighbor's front porch. The neighbor in this case was one Conan T. Barbarian who, rather than listen to lengthy explanations of the intricacies of homeowner's liability insurance, settled the matter quite effectively with an extremely large club. With his old lawnmower now converted into steak tartare for 400, Og realized that he now had the opportunity to complete the suburban dream.

After hours of tedious labor in his cave workshop, our intrepid inventor produced an object he dubbed a lawnmuncher. The muncher had a three squirrel power mower that rotated sharp, horizontal blades made of a revolutionary new material called steel that he had gotten from his friend Prometheus. Anxious to test his new invention, the all agog Og immediately started cutting his front yard.

Unfortunately, it had rained earlier that morning and soon his bare foot slipped on the wet grass and under the rear of the muncher. Blessed with some incredibly fast reactions, he managed to extricate his foot with only an industrial strength pedicure, while learning his first lesson about safe munching. After allowing the grass to dry a bit and putting on a pair of steel-toed safety sandals, he decided to try again. This time a thick clump of elephant grass clogged the blades, and stalled the squirrels. In a hurry to continue, the careless caveman reached his hand in to clear the blades, releasing the restraints on the running rodents and allowing the blades to again spin freely. Now with a manicure to match his previously applied pedicure, the nearly gnarled neanderthal learned his second lesson. The third came shortly thereafter as he

was attempting to mow a steep bank by pushing the cumbersome muncher up and down hill. On one uphill journey it finally got away from him, and he watched in horror as the spinning wheel fell towards him. The rotating blades battered his bearskin, and removed most of the fur from his hirsute body, thus simultaneously creating the cleaner closer shave and jumping him three evolutionary stages.

After recovering from his latest close encounter, our hero learned his final lesson when he failed to check the area he was munching and ran over some loose gravel. One of these stones was launched across the yard and struck the previously mentioned neighbor. Mr. Barbarian, still possessed of the same good humor as before, stomped over and gave Og and his lawnmuncher essentially the same treatment that he had previously applied to the brontosaurus. Needless to say as he was recovering in the hospital, Og decided that the world was not yet ready for the lawnmuncher, and it would have to wait for future generations to enjoy the sweating and straining that would become an honored tradition throughout suburbia on Saturday mornings.

Energy savers

Indoor Lighting

- **Turn off lights in any room not being used.**
- **Light-zone your home and save electricity.** Concentrate lighting in reading and working areas and where it's needed for safety (stairwells, for example). Reduce lighting in other areas, but avoid very sharp contrasts.
- **To reduce overall lighting in non-working spaces,** remove one bulb out of three in multiple light fixtures and replace it with a burned-out bulb for safety. Replace other bulbs throughout the house with bulbs of the next lower wattage.
- **Consider installing solid state dimmers or hi-low switches** when replacing light switches. They make it easy to reduce lighting intensity in a room and thus save energy.
- **Use one large bulb** instead of several small ones in areas where bright light is needed.
- **Use long-life incandescent lamps only in hard-to-reach places.** They are less energy efficient than ordinary bulbs.
- **Need new lamps?** Consider the advantages of those with three-way switches. They make it easy to keep lighting levels low when intense light is not necessary, and that saves electricity. Use the high switch only for reading or other activities that require brighter light.

NADC Officers' Wives Club holds annual luncheon



Photo by Drew Schmith

NADC's Officers' Wives Club culminates the year's activities with their annual luncheon.

During 1985/1986 the NADC Officers' Wives Club raised \$1396 which was contributed to eight charitable organizations. Among those were: National Military Families Organization, A Woman's Place, Mothers Against Drunk Driving, and the recipient of the Club's largest single contribution of \$500 was the Ginger Tuttle Memorial Scholarship Fund. This scholarship is awarded in \$500 increments to qualified students at Bucks County Community College with special consideration given to military dependents and women returning to school.

The Club will take a summer respite and will resume its activities in September with newly elected officers — Janet Long, President, Jane Neboshynsky, Vice President, Kathy Moroney, Treasurer, and Pam Bristow, Secretary. (MAB)



Over 400 give in blood drive



Photo by Regina Gasuk

Giving blood must not be so unpleasant if this donor can muster up a smile while Red Cross volunteers are attentive.

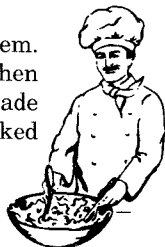
NADC RECIPE REVIEW

Shrimp Scampi with Rice

This month's recipe is provided by Chris DeMatteo (Code 503) who will receive a \$50 cash award from the Food Service Board. The recipe will also be served in the NADC cafeteria. Submit your recipes to the Cafeteria Manager. One winner will be selected each month.

This is a really simple dish to prepare. Get the baby shrimp and boil them. (If you get the shrimp preboiled, just run a little cold water on them.) Then warm or preheat your tomato sauce. Boil some rice and you have it made already! When I make this I use 1 pound of baby shrimp, 2 cups of cooked rice and 1 jar of marinara sauce.

LOOK FOR THIS RECIPE TO BE
SERVED IN THE NADC CAFETERIA



Tremblay receives award for technical excellence

Harold G. Tremblay, Director of the Computer Department at the Naval Air Development Center (NADC) has received the Interagency Committee on Information Resources Management annual award for technical excellence. Tremblay has provided outstanding leadership in promoting and using the computer for research and development of naval aircraft and aviation systems. He pioneered the use of computers to perform realtime simulations of early missile systems, the X-15 research aircraft and the Mercury manned spaceflight program. NADC computers also provided performance and problem analysis for missiles and modern, high-

performance aircraft saving the cost of test flights and avoiding accidents inherent in such testing.

As Director of the Computer Department at NADC, Tremblay has succeeded in continuously developing resources that have maintained NADC as the premier realtime simulation among the Navy Laboratories for nearly four decades.

Tremblay holds a Bachelor of Science in Electrical Engineering from Tufts University. He has completed graduate study work at Princeton, MIT, University of Pennsylvania, Penn State and the Navy Postgraduate School in Monterey in CA.



Photo by Cathy Burian

Well-wishers and a congratulatory cake greeted Hal Tremblay when he returned to the Center after receiving his award.



Volume 31 Number 7

NAVAL AIR DEVELOPMENT CENTER, WARMINSTER, PA.

July 1986

In this issue:

New DNL
AOM competition
Eagles Cheerleaders
New Military Journalist
GPS/TACAMO Lab progress
Volleyball

Annual EEO Awards Day

Reeps selected NADC's "Woman of the Year"



Photo by Regina Gasuk

Woman of the Year Suzanne Reeps by Regina Gasuk

"We are here today to give honorary recognition to those employees who have contributed in an outstanding manner to the Equal Employment Opportunity Program here at NADC. These employees have recognized that human resources are our most valuable asset and have invested a great deal of energy and time into optimizing human resources at this Center and in our own community."

These words spoken by Captain Fred Wright, Chief Staff Officer epitomized the feeling of accomplishment and satisfaction felt by everyone present at the 2nd annual awards day luncheon for this year's EEO program award nominees and winners. "We had a high standard for our program and through the teamwork of employees and managers we have exceeded these high objectives," said Captain Wright.

Woman of the Year, Suzanne Reeps is an example of NADC's high standards and accomplishments through her technical work, community involvement and service to her fellow employees.

Reeps has been at the Center for 11 years and is a recognized authority on personal life support equipment and in particular anti-exposure protective systems.

"I was shocked," said Reeps. "To me it means the culmination of 11 years of work I've done here, not just technically but the help I've given other employees and the work I've done on various committees over the years."

As team leader of 7 scientists and engineers and 1 technician, Reeps provides technical direction on projects from helmets and oxygen masks to all the anti-exposure clothing. Reeps is

proud of her work in the anti-exposure area, where she has been involved the longest and considers her area of expertise. "If a pilot has to eject or ditch into cold water, it is not a nice environment. I feel I've been able to make some progress and identify some layered clothing anti-exposure systems that I feel will save some lives," she said. "It must provide the pilot with an ability to survive in an emergency but also has to be balanced against his ability to fly."

Preparing meals for the elderly and the handicapped under the "Aid for Friends," program, Reeps manages to balance career, family, and community service work while also serving as a mentor to new professional employees and "Big Sister" to summer aides. "When I first came to NADC I was part of the Center EEO committee and then the Directorate EEO committee. A lot of what we did was to set up some of the mentor programs and try to reach people in the upward mobility programs, basically just trying to get some information out," said Reeps.

Recently she has been part of the committee responsible for the protection of human subjects. She finds it interesting to review all the test projects involving humans because she learns about other research that can ultimately impact what she is working on.

"I have always felt that I was on the leading edge for women since I started

working. When I first came here there were other professional women but they were few and far between, and now there are many. It has to do with a changing attitude that I see within management," said Reeps. "The men are beginning to realize that the women are trained, dedicated and able to do the job as well as men, if not better in some cases. I think they are really starting to realize that minorities are some of their most valuable employees."

"For myself, I would like to break into the management ranks very soon. I feel at that point I will be in a position to impact some of these programs even more," she said.

Reeps is quick to thank her division head, John Harding and branch head, Al Hellman for the flexibility and support they give her.

"I consider it a great honor to be named Woman of the Year but I also consider it a responsibility to be a model for the young females and scientists, and to live up to that image," she said. "It's a really good feeling though to be appreciated," she concluded.

A graduate from Cornell University in 1973 Reeps has a Bachelor of Science degree in Design and Environmental Analysis and is pursuing graduate study in management at Temple University.

"It is important to realize that EEO is not only an opportunity but a responsibility, besides that, its just good business."

Captain Edward Sturm, Center Commander

Guarini guest speaker for Association of Old Crows



Photo by Gerry Pirrung

Jerry Guarini (left) receives commemorative Liberty Bell from Ed Morsgen, outgoing President, for speaking to the Old Crows.

by Regina Gasuk

Jerry Guarini, NADC's Associate Technical Director was guest speaker at the June dinner meeting of the Independence Chapter of the Association of Old Crows (AOC). Captain Edward Sturm, Center Commander was their honored guest and recently endorsed the local chapter's request to sponsor the national Association's convention to be held in Philadelphia in 1993.

The Independence Chapter was organized in 1980 to serve Philadelphia, eastern Pennsylvania (Harrisburg included), Southern New Jersey and Delaware. Since 1980, the chapter has

grown to more than 500 active members, receiving the Regional Chapter-of-the-Year award in 1981 and the Regional Growth award in 1985. The chapter's NADC involvement has been quite extensive. More than 30 NADC employees belong to this prestigious organization.

The National organization has more than 22,000 members, and its President is RADM Albert A. Gallotta, Jr. (Ret.), former Commander, Naval Electronic Systems Command.

Anyone interested in learning more about the AOC may contact Chapter president, Gerry Pirrung, on extension 2285.

Letter to the Editor

Dear Editor:

The employees at NADC were recently encouraged to participate in the U.S. Savings Bond campaign. If these savings bonds need to be redeemed the following cashing options are available at:

1) local banks (provided they "DO" administer this service; if an individual has an account with the bank).

OR

2) savings and loan associations (provided they "DO," also)

OR

3) the Federal Reserve Bank, downtown Philadelphia.

Why participate in this yearly campaign if our own First Atlantic "FEDERAL" Credit Union, does not provide bond cashing service?

Mary E. Williamson
Code 5011

Dear Mary E. Williamson:

Your question addresses two separate issues. The reasons for buying bonds are personal to the purchaser and unrelated to why financial institutions, including the First Atlantic Federal Credit Union (FAFCU), have generally decreased their bond cashing services.

Several years ago, the FAFCU Board of Directors set a policy to discontinue bond cashing services because of operational and administrative considerations. According to Vice President Branch Administrator Patrick Loonie, although federally chartered, the Credit Union is a private, profit-making organization. Bonds compete directly with other money-making vehicles such as money-market accounts, Individual Retirement Accounts, certificates of deposit, etc. which are more lucrative investments from a bank or credit unions perspective.

The administrative process involved in redeeming a bond places an unwanted burden on Credit Union personnel. Each redemption transaction requires verifying the holder's identity, searching through a non-computerized listing of bond values, often twenty to thirty years old, and an involved recording process. In light of these considerations, as well as servicing window transactions in an expeditious manner, it is unlikely that any changes to current policy in regard to bonds will take place.

The Editor

SECNAV raises NADC's Small Business goals

by Diane Heal

SECNAV has revised our goals for awards to businesses owned by disadvantaged individuals from:

\$5M Under the 8(a) Program
\$1M Other Awards to Disadvantaged Business

or 3% of the Center's Total Direct Purchasing Dollars to a total of 5.9% of our Total Direct Purchasing, approximately \$15M. In the past the Center has awarded 2.7% to 3% of its total purchasing dollars to businesses owned by disadvantaged individuals. This change is evidence of Congress' emphasis on expanding government contract-

ing opportunities for minority owned business firms.

This emphasis was expressed by the House Appropriation Committee in their Report No. 99-332, in which they established the overall DOD goal for contract dollars to minority owned business firms at 5% of the total DOD direct contracting dollars.

In addition, Congress is encouraging efforts to increase participation of Small Disadvantaged Business Firms in Small Business Innovation Research (SBIR) conferences and programs as well as increase participation of Historically Black Colleges and Universities in defense research.

Technical Highlights

S-3B SOFTWARE COMPLETES TECHEVAL; OPEVAL INITIATED

The NADC VS program delivered Fleet Issue (FI) B-4.1J to VX-1 for OPEVAL testing in the S-3B aircraft. TECHEVAL on FI B4.1J was successfully completed in late May 1986 and included extensive flight and laboratory testing of the enhanced acoustic package for the S-3B.

SATELLITE RECEIVER NAVIGATION SYSTEM (SRNS)

The SRNS processes the navigation messages transmitted by TRANSIT and GPS satellites to provide position

fixes to the OSP Host Computer. The In-house System Integration Lab testing of the SRNS has been ongoing since Jan 86. The operational check-out of the SRNS receiver firmware and the Host Computer software has been completed in preparation for installation on the USNS HESS. Tests performed to date show that the SRNS meets all NADC specified performance requirements and meets or exceeds satellite position fix accuracy requirements under stationary conditions. Operation of the SRNS under dynamic conditions will be evaluated as part of the USNS HESS at-sea tests.

New director of Navy Labs

William R. Hunt has become the new Director of Navy Laboratories, headquartered in Washington, DC. Hunt was previously the Technical Director for Research and Technology at the Naval Air Systems Command (NAVAIR). He succeeded Gary W. Morton who left to become the science and technology advisor at the Naval War College in Newport, R.I.


The Director of Navy Laboratories, who reports to the Commander of the Space and Naval Warfare Systems Command, oversees an operating budget of nearly \$2.5 billion and a staff of about 25,000 (as of Fiscal Year 1985). These assets are distributed among eight Research and Development Centers and their detachments of which NADC is one.

Hunt brings to his new position technical expertise in electrical and aerospace engineering, with specialization

in signal processing, avionics integration, anti-submarine warfare, ocean acoustics and active and passive sonar design. In addition, he has experience in all aspects of major program management.



William R. Hunt

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<p>Regina Ann Gasuk</p>	<p>Mary Ann Brett</p>	<p>JO2 Todd Lufkin</p>

Human Resources Awareness Week

Awards luncheon honors superior achievement

by Mary Ann Brett

During this year's Equal Employment Opportunity Awards Luncheon held on June 26th, the categories of Personal Incentives, Manager/Supervisor, and Group Achievement were represented.

The Personal Incentive Awards acknowledging the employee(s) who has advanced the principles of EEO through affirmative action and by personal example on the job or in the community went to (in alphabetical order) William Becker, Nancy Topping and Lieutenant Junior Grade Cheryl Valdivieso.

Becker, of the Aircraft and Crew Systems Technology Directorate, said "EEO counseling is a challenging and often misunderstood process, so this award is particularly gratifying. Over the years I've associated with a lot of people who worked quietly and effectively for EEO because they believed in it. I'm delighted to see their efforts recognized," he added. Becker was cited for perseverance and skillful negotiating and communicating as a complaint counselor and the encouraging junior employees to develop enthusiasm for the job and to strive for achievement.

Topping of the Aircraft and Crew Systems Technology Directorate said in addition to the enjoyment she gets from these EEO activities, the award made her feel as though people understood what she was doing. "More than any other award I've received," she said, "this one compliments my personal ideas and not just my technical ability." Topping, who has been at the Center for just one and a half years, was cited for voluntary contributions to the Center EEO programs through mission-related community outreach endeavors.

Valdivieso, of the Command Admin-



Photo by Drew Schmith

(L to r): Chief Staff Officer CAPT Fred Wright, Al Hellman (accepted for Group Award), Deputy EEO Officer Kathy Gause, Nancy Topping (Personal Incentive award), Al Kaniss (Manager/Supervisor award), Woman of the Year Suzanne Reeps, guest speaker Donna Alvarado, Bill Becker (Personal Incentive award), Technical Director Robert Buffum, Robert Jones (Manager/Supervisor award) and LTJG Cheryl Valdivieso (Personal Incentive award).

istration Department, is the first military person to receive this award at the Center. Pleasantly surprised at her selection, she said, "I had no idea I was even nominated; it's very nice to be recognized and appreciated." Valdivieso was cited for selflessly contributing to both civilian and military programs including countless hours she committed after work to assist employees.

The Manager/Supervisor Awards acknowledging excellence in promoting EEO by motivating employees, direct encouragement and assistance were shared by Robert Jones, Al Kaniss, and Richard Zielenski.

Jones, of the Software and Computer Directorate, knew of his nomination. He said, "After hearing two other winners announced, I didn't think I'd been selected. But, mine was the third and I was pleasantly surprised." Last year Jones won the group award for his work with the Minorities in Engineering Program. This year, the twenty-two year employee was cited for excellence in promoting EEO and for a constant policy of fairness and assignment of maximum responsibility and career enhancing opportunities to all personnel.

Kaniss, of the Computer Department, said it felt good to be recognized

for things he seemingly does everyday. "We don't work toward equal employment opportunity to get a pat on the back," he pointed out. "We just try to hire the best person for the job!" Eleven years at NADC, Kaniss was cited for exceptional hiring and advancement accomplishments for females, minorities, and handicapped individuals and for automating the statistics required by the EEO program enabling the long range affirmative action requirements to be streamlined as well as recognized by other Navy offices as an effective approach.

Zielenski, of the Systems Directorate, was aware of his nomination. "I really appreciated the award. It was especially nice to be considered among those other winners who have done a very good job." Zielenski was cited specifically for backing EEO programs wholeheartedly and for going to great lengths to ensure the success of his employees. Additionally he actively participated in recruitment and encouraged his employees to participate in special emphasis programs.

The PRIME (Philadelphia Regional Introduction of Minorities to Engineering) and SPARC (Space Research Capsule) program volunteers from the Aircraft and Crew Systems Technology Directorate received the group award. Those volunteers took on the job of structuring a specialized program of presentations and demonstrations for two separate groups of science and engineering students at Northeast High School.

As Chief Staff Officer Captain Wright stated in his opening remarks, "... These employees have contributed in an outstanding manner to the EEO program at the Center... and have recognized that human resources are our most valuable asset."

Also part of the week's activities.....

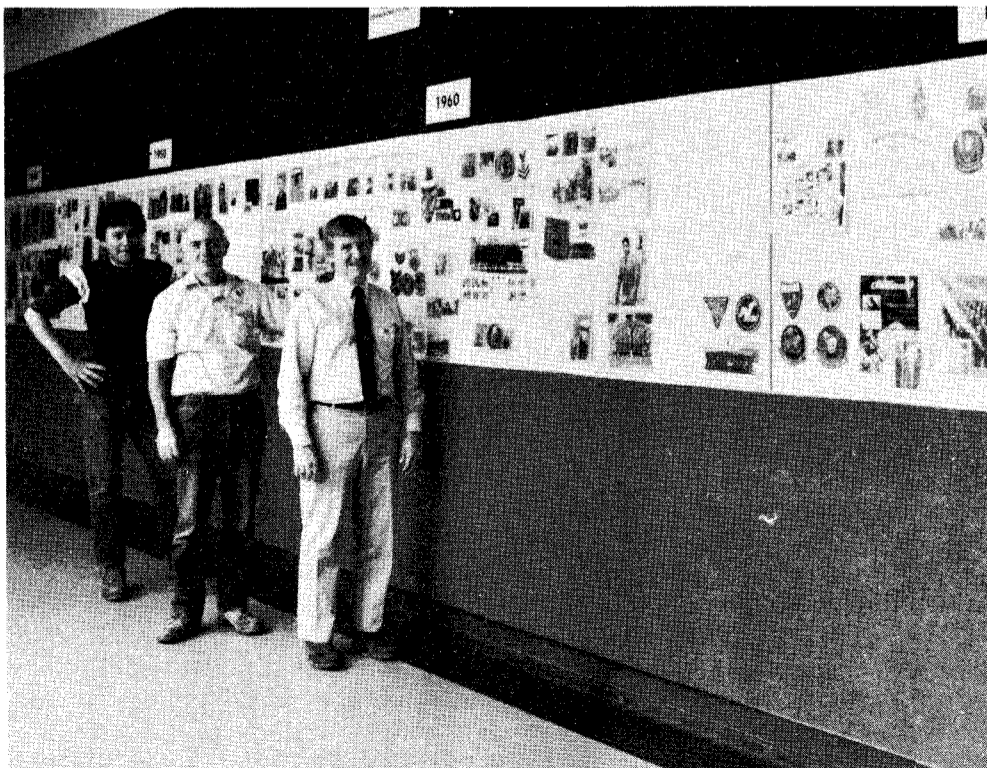


Photo by Drew Schmith

(L to r): Bob Clegg, Bill Stumpp and Ira Ballew admire their work on the Veteran's commemorative display board in the atrium hallway. Veterans at the Center volunteered their memorabilia dating from the 1940's through the recent past. The display will be up through the first week of August.

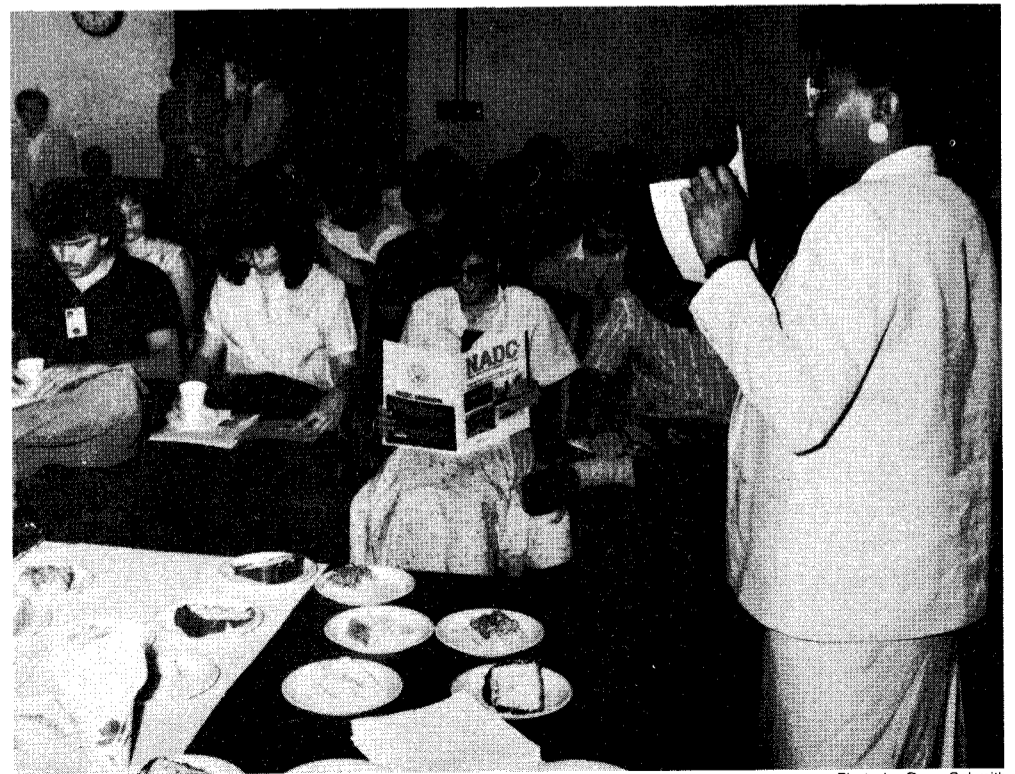


Photo by Drew Schmith

Janet Russell (standing right), Federal Women's Program Manager, addressed 50 co-ops during the recent Welcome Back brunch in the Center Conference Room. This was another activity coordinated through the EEO Office in recognition of Human Resources Week.

All Officer Meeting sparks friendly competition



Photo by Drew Schmith

Center Commander Captain Edward Sturm (right) presented a farewell plaque to LCDR Karl Kail during a recent All Officers' Meeting by the pool. Later during the meeting, it was hard to keep dry as the Helo, P3, TACAIR, and Ground teams got waterlogged.

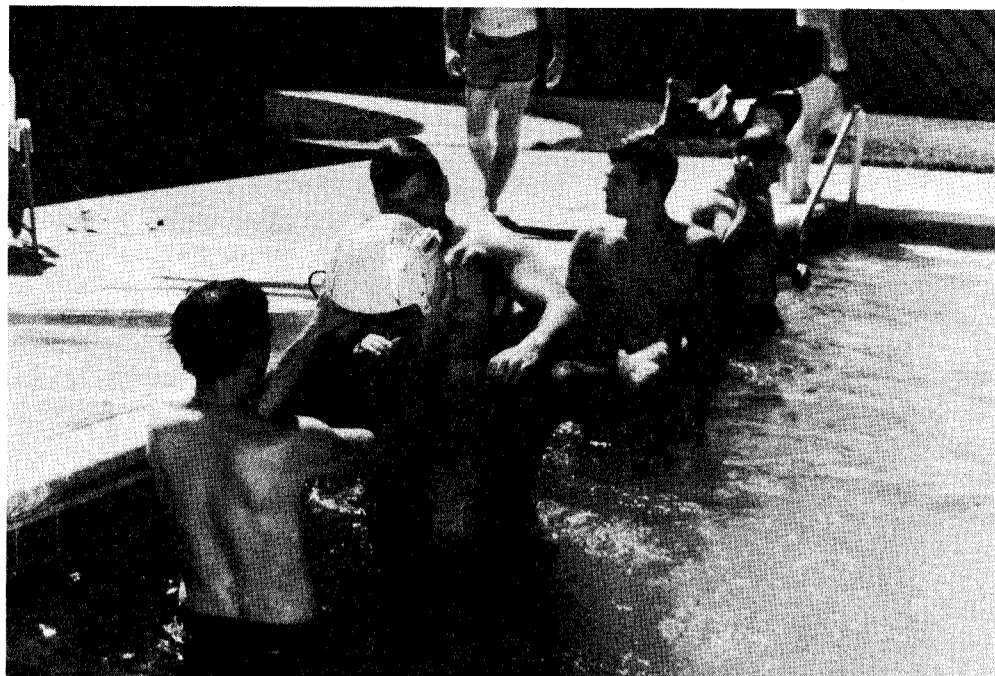


Photo by Drew Schmith

Members of the TACAIR team prepare for swim competition in partial flight gear. LCDR Fred Ziska is 'dressed' by CDR Fred Ameal (left) and LT Jerry Cleveland (right).

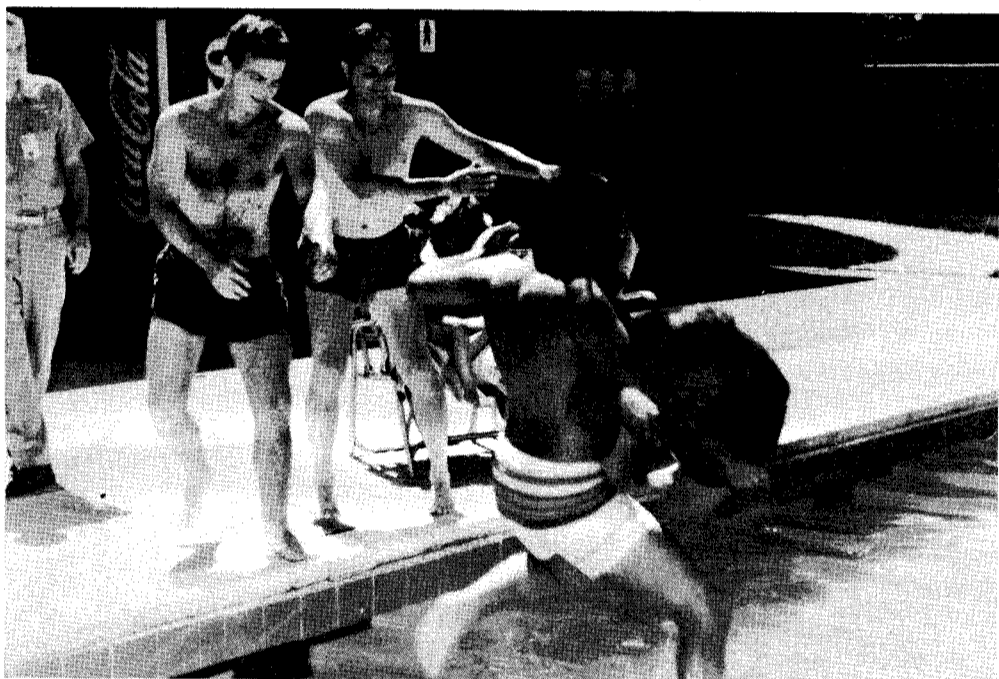


Photo by Drew Schmith

L to r (standing): LT Leo Dacey and CDR Richard Feierabend retaliate against team members by pushing team captain CDR Ken App (black shirt) and attached bystander LT Rick Ryan into the pool.



Photo by Drew Schmith

The Ground team was victorious (contested, of course)! L to r: LCDR Peter Letarte, LT William Little, LT Richard Ericson and LT Leland Goodman smile proudly.

Details on defensive driving do's & dont's

by Mike Masington

It was summer, and Og and his family were planning to embark on a relatively recent innovation called a vacation (derived from the Latin verb vaco meaning to empty and the Assyrian acion meaning wallet or purse). The whole family was looking forward to the upcoming trip to Disneyswamp which featured the new Molten Lava Slide, Voyage to the Bottom of the Boiling Sulphur Spring, the Bubbling Tarpit Ride and of course Dinosaur Country Safari. (This particular attraction was really an adventure since the feeding regime was supplemented by allowing the denizens to snack on tourists.) Furd, their youngest child, was of course anxious to meet Mickey Marsupial and Pluto (the original Pluto that is).

Since the ordinarily organized Og didn't know anything about vacation planning, he didn't do a lot in the way of preparation. Oh sure, he converted most of his clamshells into American Express Travelers Slates, but other than that the family just packed a few clothes, jumped into the wheel and took off. After about five hours of constant

driving, Og's luck began to run out. First Furd and Nimrod, after a 200 mile chorus of "I'm hungry, I'm bored, I have to go to the bathroom and when are we going to get there" started fighting in the back seat. Then Og couldn't remember if he was supposed to take the Pterodactyl Turnoff from Route XXXVII or stay on until he hit Route XIX at the Stegosaurus Circle. At this point Liltling Lava, his wife, added to the tension by yelling about how he had forgotten to bring the map, but almost mercifully her voice was partially drowned out by the loud clattering noise the engine was starting to make. Suddenly, up ahead Og spotted a sign for Disneyswamp, and executed a spectacular three lane, lateral shift without signal to the accompaniment of screeching brakes and screaming curses from other drivers.

This death-defying maneuver not only gained the exit and the wrath of his fellow motorists, but also attracted the attention of a state smokey bear, who promptly pulled them over. (Author's Note: This is really the origin of the slang term for state troopers, since at this time real bears were used. Being

naturally intelligent and tenacious, they were ideally suited for this type of work, and their size and disposition discouraged arguments from all but the most obstreperous drivers.)

As the furry law enforcer chiseled the citation, the nervous neanderthal narrated his tale of woe. "Look pal," offered Officer Ursidae, "If you're planning to take a long road trip, especially with a family, there are some things you've got to keep in mind."

a. "First, check your wheel well in advance. Pay particular attention to belts, hoses, fluid levels, brakes, etc., and then make whatever repairs are necessary. This will reduce the chance of a breakdown, and make the trip run smoother. A sacrifice to Ramada, the god of recreation, isn't a bad idea either."

b. "Get a good road papyrus, and plan your route before you start. If possible, brief your front seat passenger on the directions, and have them handle the navigation. This allows you to concentrate on your driving, avoids arguments and subsequently reduces our homicide rate significantly."

c. "Take a 15 minute break every two hours, and switch drivers as necessary. This gives everyone a chance to relax and stretch, and keeps you from being committed to a padded cave."

d. "Insist that everyone wear their seatbelts at all times, and bring some games, books or puzzles along to keep the kids occupied. If the games and puzzles don't help, a short, heavy club usually works well."

e. "Finally," he emphasized, "Obey the local speed limits and traffic laws, and keep alert for the mistakes of other drivers. Defensive driving is always important, but especially on long trips. It will keep you alive, and also we won't be forced to feed you to Vascar, the demon of evil expressways."

With that friendly advice, a forty clamshell fine and some minor engine repairs, Og and family proceeded to their destination. Disneyswamp by the way was everything they expected, and they had a great time except of course for the tyrannosaur eating the top of their Volkswheel, Nimrod being carried off by a giant tse-tse fly and a few other minor inconveniences.

Eagles cheerleaders play for benefit game

by Charles Destra

The Philadelphia Eagles Cheerleaders will play a team comprised of the Softball League managers on Saturday, August 2nd, in a benefit game at Sailor's Field. Proceeds for the non-profit contest will go to the family of Ricky Ulvano, Center employee and outfielder for the Nightriders softball team, who was paralyzed from the neck down last September.

Don Cannon, disc jockey at WSNI, will do the play-by-play along with his "Cannon and Company" crew, Dennis Malloy and Tony Bruno.

The game will take place at 3:00 p.m. preceded by the league's All-Star game at noon. The doubleheader extravaganza was the brainchild of league commissioner Jim Kearney, who has worked painstakingly at arranging and coordinating the events.

As if the prospect of the Eagles Cheerleaders, Don Cannon, and the All-Star game wasn't enough of a drawing card, Kearney conceived of another exciting feature—a home-run hitting

contest between the games, consisting of the league's top power-hitters. Associate Technical Director Jerry Guarini will be the man on the mound dodging the bullets.

The games are open to the public and there will be no admission charge; the league is requesting donations from all attendees, however. There will also be refreshments, food, and raffles for a number of prizes sponsored by local business concerns, including a VCR, a one-year membership to the Babylon racquet club, dinner for two at the Hampton House, and a basket of cheer (donated by the league's teams).

All employees are encouraged to attend and bring the whole family to this unique event, the first of its kind in NADC history. If it rains, the make-up games are scheduled for the same times during the next day.

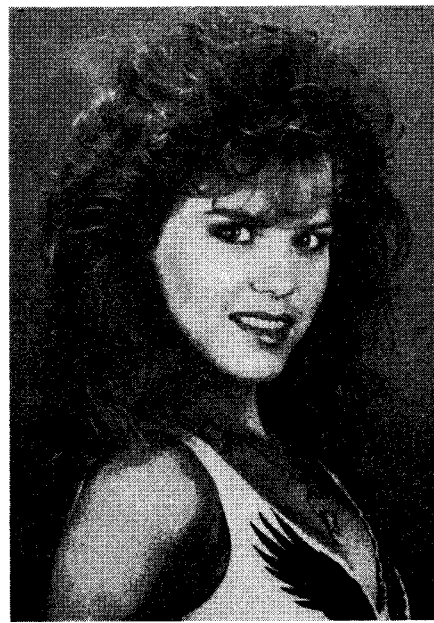
Rick Ulvano has been hospitalized since his accident and has just recently been moved to a rehabilitation center and permitted to come home on week-ends.

He was the spirit of the Nightriders and through his ordeal has shown a strength of spirit that few of us will ever know. When I last talked to him to give

him specifics, and to make sure he'd be there, he laughed, "You better believe I'll be there."

Let's all be there.

PHILADELPHIA EAGLES



JANET WASS

Compliments of Frito-Lay, Inc.

PHILADELPHIA EAGLES



DALENE WHITE

Compliments of Frito-Lay, Inc.

Vanderslice heads Supply Office

by Mary Ann Brett

Commander Wayne Vanderslice, born right here in Ivyland, is the Center's new Supply Officer replacing Commander Milton Weaver who recently retired.

Vanderslice, who will be here until June 1989, is acutely aware of the constraints placed on the technical side of the Center's operations by Supply's ability to get the contracts out.

"It's a challenge," he said, "to solve the problem of increasing work volume with decreasing available personnel." Vanderslice added, "At least management is already aware of this problem; sometimes 'awareness' is a problem in itself, but not here."

Favorably impressed with the talent not only in his department but all throughout the Center. Vanderslice said, "Because of the quality of people, I can foresee spending less time administrating. Additionally, I'd like to solidify the physical relocation plans already underway for the department."

Vanderslice received a BS in Accounting from Ohio's Miami University and an MS in Financial Management

from the Navy Post Graduate School (NPS) in 1979. After NPS, Vanderslice put the USS BELKNAP back in commission. In 1981 he went on to the Aviation Supply Office as Systems Development Branch Head. From 1982 until his rotation here, he served at the Navy International Logistics Control

Office in Philadelphia where he was Controller for all Navy Foreign Military Sales operations amounting to approximately \$26 billion.

Vanderslice's wife Jeanne, their son, Chad (14), and their daughter, Cari (10) have been living in the North Wales, Pennsylvania area since 1979.

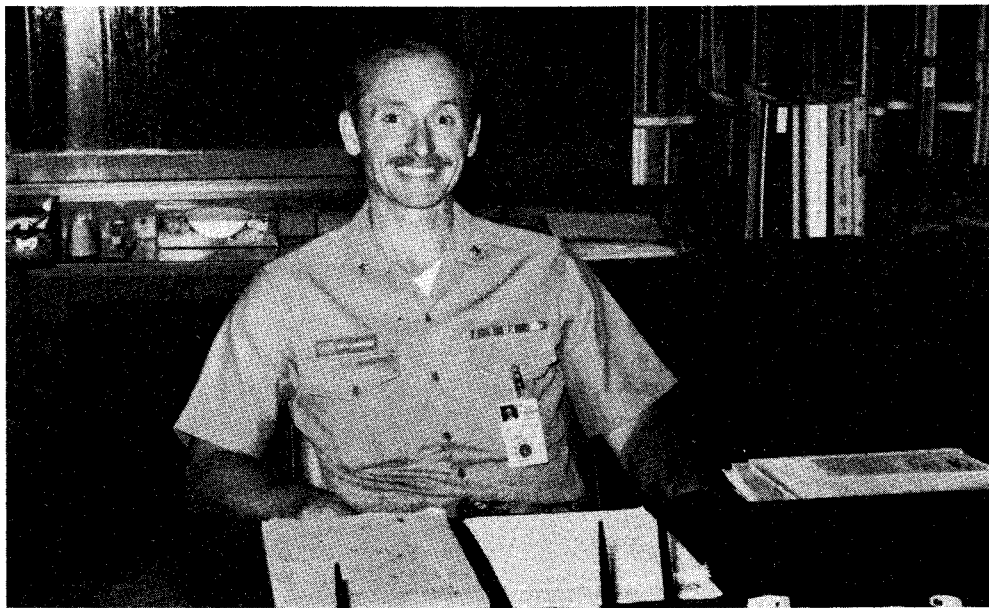


Photo by Regina Gasuk

Commander Wayne Vanderslice, new Supply Officer

Leap second Postponed

Precision clockwatchers won't have to set their clocks back one second this summer, say the people at the International Time Bureau. Leap second, usually proclaimed in June each year to keep the Earth's rotation time in step with the more accurate atomic clocks, has been postponed until next January or June.

Atomic clocks, accurate to within one second per 30,000 years, were adopted as official timekeeping instruments in 1967 by the International Committee of Weights and Measures. But in 1970 it was noted that the atomic second was .0026 of a second shorter than the mean solar second (the one we get up and go to work by). This amounted to about one second per year and could change one way or the other due to variations in the Earth's rotation.

Beginning Jan. 1, 1972, the practice was adopted of keeping atomic time within 0.5 second of mean solar time by resetting the atomic clocks when necessary. The resulting time is referred to as UTC (Universal Time Coordinated).

New military journalist joins PAO team

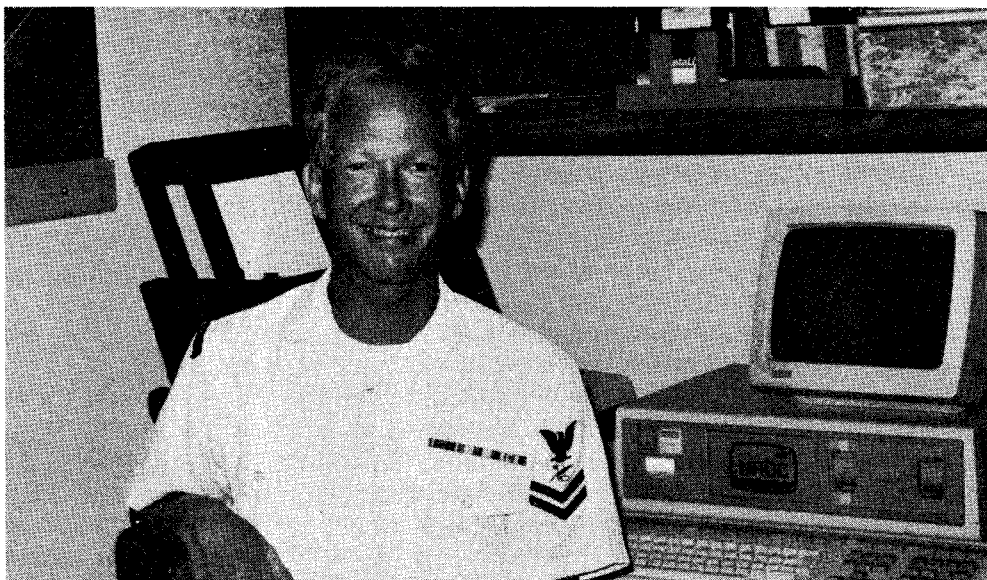


Photo by Regina Gasuk

Petty Officer Second Class Todd Lufkin

There is a new face in the Public Affairs Office, that of JO2 Todd K. Lufkin. Lufkin replaced JO2 Fred Dias who was transferred to Guantanamo Bay, Cuba.

Lufkin will now be responsible for UPDATE, the monthly familygram as well as military stories for the REFLECTOR and releases for the Center's Fleet Hometown News Program.

Lufkin is from Orange, CA (between Los Angeles and San Diego). He holds a Bachelor's degree in history and political science. Prior to his assignment at NADC he spent three years aboard the USS MAHAN (DDG 42) homeported out of Charleston, South Carolina.

"I'm looking forward to the challenges that will naturally arise during my stay at NADC," said Lufkin. "How-

ever, I am confident that with the experience that I have gained out in the fleet and with the aid and support of the Public Affairs Office that the Center will continue to have the viable/visible public affairs program that they have come to know and expect."



Softball league team playoffs

by Charlie Destra

The Softball League was entering its last week of play at press time, and the playoff picture was still muddled and uncertain. In an unusual development, five teams were scrambling to make the cut off for the playoffs, with the Rebels, at 5-9, in the most precarious position.

The playoff structure works like this: the first 10 finishers make the playoffs, with the top six teams getting first-round byes. Teams seven through 10 must play a wild-card game. After the wild-card games, the quarterfinals begin with the eight remaining teams. (In a three game series, the top team plays the number eight team, the second best team plays the number seven team, and so forth.) The four quarterfinal winners advance to the semifinals (also a three-game series) and the two survivors play in a five-game championship series.

Five teams battle for playoffs

There was an outside possibility at press time (with just a couple of games remaining for most of the teams) that five teams could finish with identical 7-9 records. If that should happen, the league would determine the team that gets left out of post-season play by a series of complicated tie-breaking procedures.

But the team feeling the most pressure was the Rebels, who needed to win their last two games to reach seven victories, the magic number this year. The other four potential wild-card teams al-

ready had seven wins.

The six teams that escaped the wild-card situation were the Granfalloon (12-2), Pacer (11-3), 8th Inning (11-4), Druids (9-4), and the Guzzlers and Nightriders (10-5 each).

Surprises likely in playoffs

Look for the Granfalloon to be in the finals, but their opponent can be almost anybody. All of the top 10 teams, for instance, are averaging between 11 and 13 runs per game and are capable of exploding offensively. This often allows for a climate of upsets.

Two teams to watch are Pacer and the Druids. After slow starts, they've both had big winning streaks, and consequently, momentum. Pacer has been scoring a lot and playing the second best defense in the league (5.50 average runs against). The Druids, in a six game winning streak have recorded three shutouts, an impressive achievement.

The 8th Inning, Guzzlers, and Nightriders all have reasonable chances. They have played excellently this year as well as sloppily at times. But they have a nucleus of hitters that, when hot, can create havoc for opponents.

The Bearcats chances depend on their fine pitching and defense, the Devils', Renegades', and Phantoms' hopes rest on their run-producing abilities, and the Rebels (should they make the playoffs) need to play good defense to advance further along.

Worth Repeating

"The man who can smile when things go wrong has thought of someone he can blame it on."

—Arthur Bloch, author

Military Recreation asks What is smart compass?

by Ron Brewer

Your satisfaction with the benefits and services you receive from Military Recreation Service at NADC is important to us. In order to provide the best possible variety of recreation and club activities we need your help.

Dept. of the Navy and the NADC Military Recreation Services will be conducting a leisure needs survey in September. This survey is one part of "Smart Compass" which is a new program for evaluating existing services and projecting future needs and trends at each Navy installation. This study will help us better understand your needs and your satisfaction with the recreation and club services currently offered at NADC. The survey will provide military recreation services with up-to-date information on your recreational preferences and suggestions of how we can best meet your needs as a member of the NADC community. By identifying the strengths and weaknesses of the existing programs and offering your opinions/suggestions we will be able to create a more accurate plan for meeting our community's future recreation needs. The results from this study will directly affect future leisure activity program/facility design and plans based on the community's expressed needs and desires. The data will help identify and justify new recreation and club facilities and incorporate these fu-

ture improvements in a comprehensive five year plan.

Leisure needs survey questionnaires will be mailed to a randomly selected group of participants representing the total community of NADC who are eligible to use Navy recreational programs. Survey participants will include members of the active duty, spouse, civilian employee, military retiree and Shenandoah Woods Communities of NADC.

If you have been selected to participate in this study your cooperation is essential. The answers you give will represent many others who were not selected to participate in this survey.

Participation is voluntary. We hope you do choose to participate. Your opinion is important to us. Make it count by filling out the questionnaire so your ideas and suggestions can be heard. All responses will be confidential and anonymous.

The questionnaire will take about 20 minutes to complete. Not much time when you consider the investment of your suggestions in the future of your recreation pursuits at NADC.

For questions or information about the survey please call 441-2169. Remember that your participation is essential to the success of this project and your opinions are important to us and the future of Military Recreation Services at NADC.

Pop-Ups

by Charlie Destra

Who's the best of the two new teams (Bushwackers and Rumblers)? Call it a draw—each has beaten the other once and Agent Orange once . . . the Bearcats pulled off the season's only triple play (versus the Granfalloon) on a grounder to the pitcher. Outs were recorded at second, first, and home . . . the 'falloon's Greg Heydet, while somewhat off his usual offensive production (.455 ave.) was 9-0 on the mound at press time, with an amazing 53 strikeouts in 61 innings . . . the Guzzlers have smacked 38 team homers in 15 games, an average of 2.5 per game . . . Have the Renegades picked up a diamond in the rough late in the season in Jeff Price? He had eight hits in eight plate appearances with six extra-base hits . . . the teams' top hitters for the year are as follows: Agent Orange—Jim Mitchell (.567), Jim Buggy (.522), Jim Kister (.500, 21 RBIs) . . . Rebels—Craig Volker (.622, .702 on-base percentage), Frank Hollenbach (.464), Keith Kreider (.442) . . . Bushwackers—John Passfeld (.579), Darren Fields (.476), Jeff Miller (.391) . . . Rumblers—Al Ortiz (.467), Keith King (5 HRs, 23 RBIs), Paul Ondeck (.396) . . . Phantoms—Mark Dungan (.603, league high 46 RBIs, 11 HRs), Al Pe-

trone (.585), Mike Janinek (.566) . . . Bearcats—Age Hribar (.536, 20 RBIs), Scott Van Sant (.452), Tom McGovern (.429) . . . Devils—Rock McCartney (.610), George Reichl (.550, 6 HRs, 32 RBIs), Ed Zawatski (.525) . . . Renegades—Craig Elicker (.469), Scott Kee (.481), Jim Kearney (.459, 3 HRs) . . . Nightriders—Jaime Clavell (.576, 9 HRs, 41 RBIs), Charlie Destra (.558), Nelson Torres (.512) . . . Druids—Gary Chase (.548), Dave Dummeldinger (.545, 5 HRs), Mark Cahill (.500) . . . Granfalloon—Mark James (.576, 1.636 slugging percentage), Mike Bubb (.513), Tom Weiss (.471, 9 HRs, 28 RBIs) . . . Guzzlers—Rick Sames (.634, 8 HRs), Joe Spieker (.523, 10 HRs, 26 RBIs), Jay Ward (.487) . . . Pacer—Mike Stevens (.565), Pat Powlen (.510), Mick Rudock (.493), Rick Rhodeen (10 HRs), Tom Risbon (36 RBIs) . . . the 8th Inning's Curt Swatchick led the league with a .660 average and tied the Phantoms' Dungan for the home run title (11) . . . and what does the team who wins it all do with their winning share? How about trying Tug McGraw's advice: "Ninety percent of it I'll spend on wine and women; the other ten percent I'll probably waste."

ADM Trost new CNO

ADM Carlisle A. H. Trost relieved ADM James D. Watkins as Chief of Naval Operations (CNO) in a Change of Command ceremony on June 30th. Secretary of Defense Caspar Weinberger was guest speaker. Secretary of the Navy John Lehman and Chairman of the Joint Chiefs of Staff ADM William J. Crowe attended along with nearly 3,000 other people.

Trost who graduated at the top of his class from the U.S. Naval Academy in 1953, became the 23rd CNO. He is a submariner who has served in both attack and ballistic missile submarines. In addition, Trost has served as Commander of the U.S. Seventh Fleet and as Commander in Chief, U.S. Atlantic Fleet and Deputy Commander in Chief, U.S. Atlantic Command.

GPS/TACAMO Laboratory Progress report

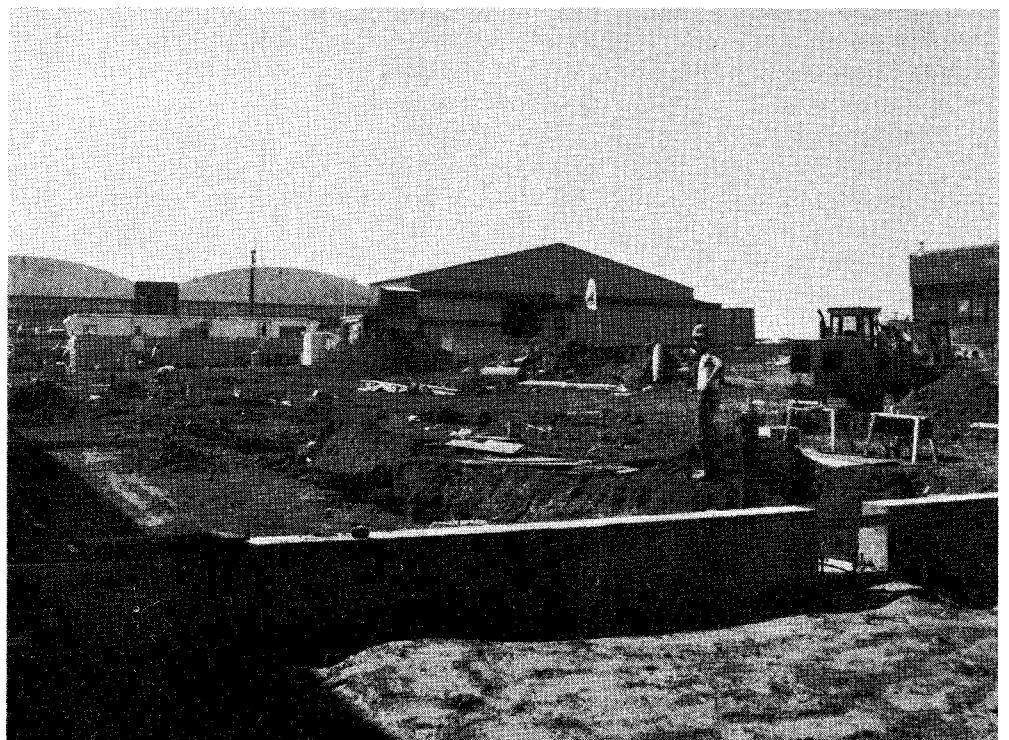


Photo by Regina Gasuk

Construction on the new, two-story GPS/TACAMO laboratory is proceeding according to schedule—completion in spring/summer 1987. The contractor is currently performing underground, site utilities, and foundation work.

Volleyball-lunchtime fare at NADC



Photo by Regina Gasuk

"Riff Raff's" Joe Frisco (far left) gets the edge over "Jammers" Alicia Harper.

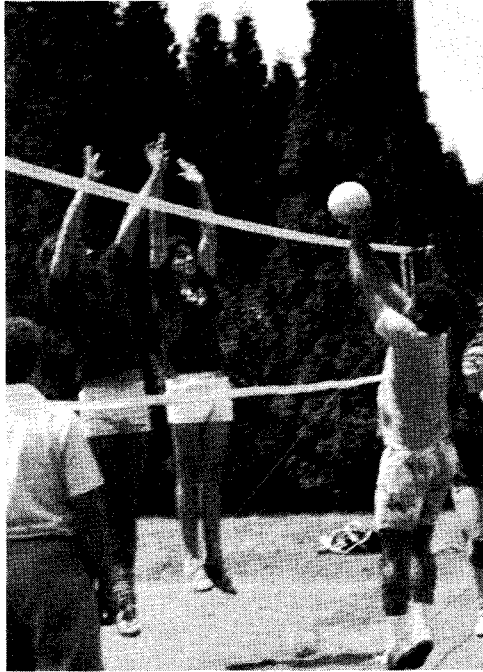


Photo by Regina Gasuk

"Spiked Punch's" Tim Foley (left) and Jim Barber (right) go up to block the shot from "Fred's" Ron Brewer.

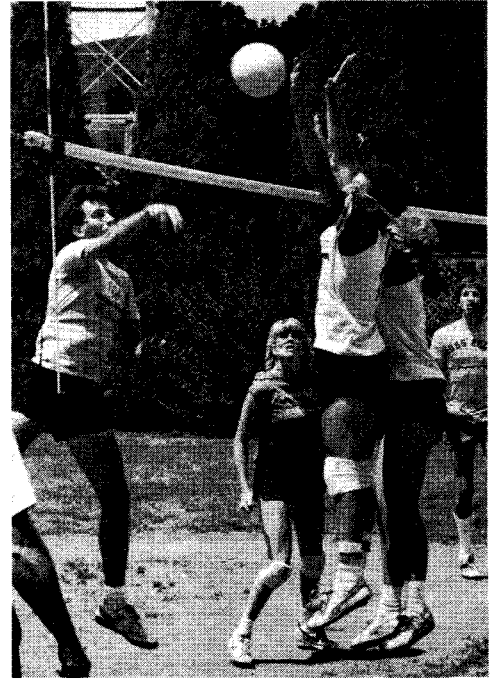


Photo by Regina Gasuk

"Skyrocket's" Ross Osbourne goes up against the "Marauder's" Dave Popeck and Mary Ellen Grady.



Photo by Regina Gasuk

"Fred's" Rob Cobb (far side) makes the shot to "Spiked Punch."

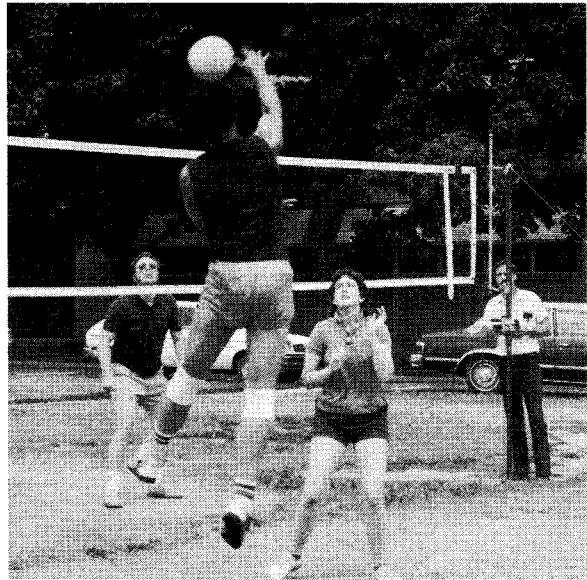


Photo by Regina Gasuk

"Rusty Spike's" John Walker (left) keeps an eye on the ball as the "Long Shots" Mike Bubb goes high for the ball.



Photo by Regina Gasuk

Marauders cool down after hard victory against the "Skyrockets."

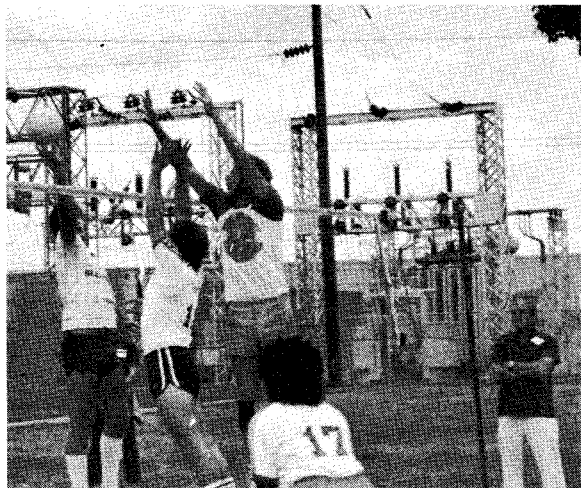


Photo by Regina Gasuk

"Riff Raff's" Mark Salamon goes up against Tim Woolverton and Tom McGovern of the "Jammers."

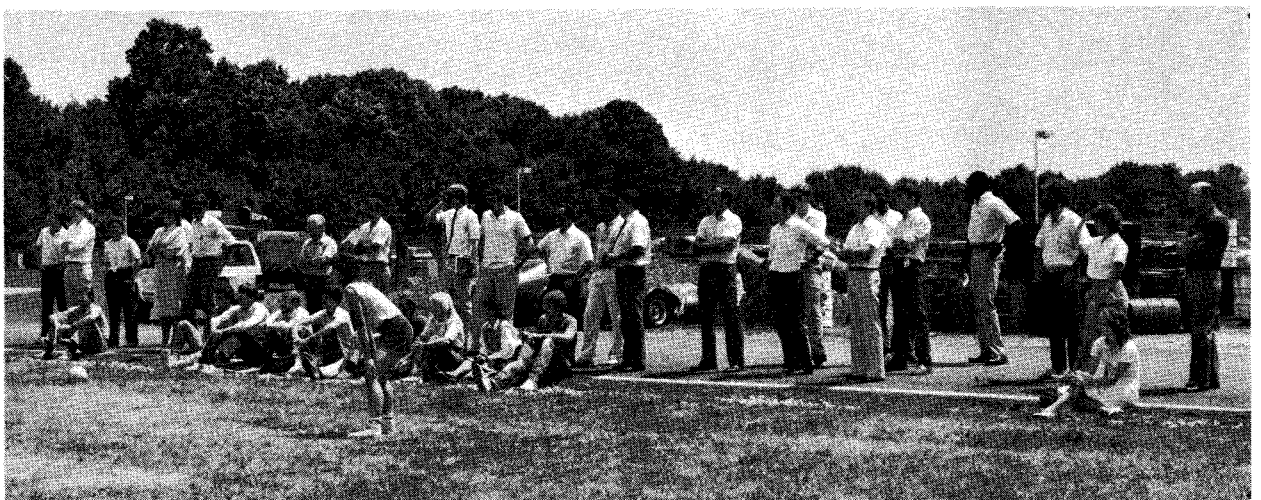


Photo by Regina Gasuk

Cooler, and perhaps having just as much fun, are the lunchtime volleyball onlookers.

Commander Salutes

LCDR Karl Kail (Code 20): For outstanding performance as Project Manager for the Desk-top Computer Tactical Decision Aid Program.

Thomas Green (Code 20): For outstanding performance in support of the

Naval Air Systems Command Reconnaissance and Imagery Division.

Thomas McLaughlin (Code 83): For service and expertise provided during the Eastern Montgomery County Area Vocational/Technical School tour.

Security Reminders

Access to classified information is based upon the potential recipient's "need-to-know" that information. It is not based upon the individual's level of clearance exclusively nor is it based upon the individual's rank or position. The person possessing the information

being sought must verify the seeker's security clearance and determine if the person has a valid need-to-know. Clearances can be verified through the individual's directorate/department if an employee or through Security Division if the person is a visitor.

Promotions

Terrence Anchrum, Rose Aquila, Jeanne Birrane, Reynolds Brooks, Michael Bubb, Jonathan Buck, Joseph Bunting, Gilbert Campbell, Andrew Carroll, Steven Catricks, David Choi, Edward Coleman, Elizabeth Curran, Maria Cusanelli, Harry Deal, Katherine DeJneka, William Derr, Michael DiBerardino, Lynne Edwards, Joseph Empert, Joseph Frisco, Lisa Goldberg, Robert Greenblatt, John Greiner, Marianne Haiduck, Stephanie Hall, Richard Hallman, Janice Hammond, James Hardy, Jennie Harris, Diane Heal, Otis Johnson, Jon Jones, Earl Kauffman, Doris King, Robert Kowalik,

Paul Kulowitch, Paul Labonski, John Lewis, Robert Lubanski, Laura Madara, Cindy Mathers, Janet McQuiggan, John Mehr, Norwood Metcalf, Jeffrey Miller, Darryl Morris, Janice Moser, Thomas Ormond, John Petro, Robert Piras, Jaime Puppek, Harry Reichardt, John Reilly, Faye Roseman, Debra Rubin, Janet Russell, Umberto Salvati, Jeanne Sartoris, Susan Smith, Marilyn Strothers, Edmond Turmelle, Andrew Valko, William Valko, Thomas Vollmar, Catherine Walsh, Constance Walsh, James Waugh, Lewis Wertley, Stephen Wichrowski

Record numbers answer call for blood

During the recent Red Cross Bloodmobile visit to the Center, more than 400 donors contributed during the two day drive. Those donors were:

Code 01A

Jean Dowds
Kathleen O'Brien
Edwin Scholl

Code 02

Suzanne Baier
Leonard Brinton
Joseph Caristo
Joann Cocchimiglio
Carla Crist
Susanna Dougherty
Byron Drayton
Sylvia Fiumara
Lisa Helock
Philip Horne
Evelyn James
Rhea Koncz
Clara Laiss
Linda Lips
Richard Macintyre
Lisa Parsons
Blaine Price
Margaret Rudolph
Mary Sutter
James White
Michael Wolfe

Code 03

Charles Banionis
Jacquelyn Benner
Rita Brownlee
Eileen Craig
Margaret Higgins
Kathleen McPeak
Robert Pomrink
Lois Savage
Judith Scott
Bernard Skillens

Code 04

Michael Bothwick
Rhonda Britland
Ada Fisher
Bruce Heath
Dale Kostenbauder
Norman Mittauer
Vic Olmedo
John Pessano

Code 05

Karen Churnetski
John Greiner
Anne McNamara
Robert Smith
Steve Jerden
Alan Reines

Code 09

Michael Masington

Code 10

Joseph Colombo
Daryl Cook
Kathleen Felts
Michelle Helmers
Thomas Merkel

Grace McCafferty
Lynn Peaslee
Luanne Rogan
William Wentz

Code 20

Dennie Baker
Leonard Cantor
Francis Davis
Rena Davis
Darren Fields
Roland Hall
Thomas Herbert
Edward Huber
Robert Imbrogno
Michael Janinek
Gino Lostracco
Sheila McGuire
Bernard McHugh
Thomas McHugh
Thomas Michalski
Dean Mondelblatt
Kristina New
William Nuss
Rosanne Petro
Robert Preedy
Therese Reis
Carl Retz
Gwyn Smith
Joyce Sweeney
Debbie Sztubinski
Steve Torok
Thomas Wagner
David Williams

Code 30

Walter Beamer
Roland Bender
Anthony Brescia
Angel Carreras
Eduardo Danganan
Theresa Dedominicis
Margaret Douglas
Daniel Flynn
Robert Gallis
Thomas Gilligo
Elizabeth Haney
Mary Hilger
Roger Hontz
Joseph Kaszapski
Timothy Keck
Dawn Keiser
Harry Koper
Regina Luce
Lorraine March
James Marshall

Code 30

Edward Mebus
Robert Melby
Donald Miller
Scott Natter
John Oakley
Frank Planski
Stephen Potchak

Mary Reingruber
Harry Ricca
Leonard Roach
John Schneider
David Schuck
Richard Sensenig
John Sniscak
Michael Walker
Barbara White
John Wilks

Code 40

Edward Beals
Don Borcharding
William Bradley
James Buggy
Tomas Castro
Frank Corredine
Lynne DelPrato
Craig Elicker
Lisa Goldberg
Dorothy Gramlich
Gordon Heal
D. Scott Kee
William Klopfer
Martin Leblang
Richard Lewis
Charles Malko
Michelle Martin
David Matschler
Marion May
John McFadden
F. R. Miller
Marcy Nissley
Stephen Phieffer
Norbert Reis
Charles Schweizer
Peter Shaw
Marybeth Tobin
John Wagner
Michael Wagner
Marcus Wolf
William Zane

Code 50

Myron Anton
Jerome Azarewicz
Edward Beach
Eileen Beans
Richard Billman
Carol Blakey
Joseph Bunting
Jeanne Canton
Barbara Cavander
Stephen Cloak
John Freeman
Karl Geist
Raymond Glemser
John Hester
Jeffrey Irvin
Glenn Jadney
Helen Keller-Surmon
Beverly Lazaras
Joel Lenko
Tony Madison

John Monastra
George Moroney
David Moyer
Denice Parrish
Robert Piras
Sreekanth Rajan
Theodore Risko
Jeremy Robinson
Rosa Ruiz
Steve Shelikoff
John Santini
Fred Shocket
Frederick Stowell
John Supp
Frank Termine
James Tidwell
Paul Tom
Luke Wassum
Mary Williamson
John Whalon
Timothy Woolverton
Robert Zwissler

Code 60

Ralph A'Harrah
Randall Allen
Joseph Beby
Nora Beck
James Bethke
Brian Brady
Kenneth Bullard
Reynolds Brooks
Kathryn Burger
Tracey Burns
Michael Cannon
Kenneth Clark
Alice Colyar
John Connors
B. Ranae Contarino
R. Bradley Cope
Michael Costanzo
Richard Dalrymple
Dan Darrigo
Edward Deesing
Eileen Dobrowolsky
Michael Doyle
Lynn Drelick
Bernard Dupee
Michael Eddowes
Ronald Emery
John Felix
Timothy Foley
Armando Gaetano
Ron Garber
John Harding
John Harrison
Thomas Haug
Charles Hegedus
James Henderson
Thomas Hess
Teresa Hughes
Marshall Hynes
Craig Jencks
John Johns

Jonathan Kaufman

Kenneth Kelly
Kevin Kennedy
David Keyser
Steven Kinsley
Thomas Kircher
Kenneth Koper
Fred Kuster
Richard Lee
Mark Lilly
Sheila Little
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Leonid Markushewski
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Kenneth Mergner
Thomas Milhous
Charles Miller
Wayne Mondelblatt
Darryl Morris
George Mott
John Ohlson
Albert Ortiz
Sherri Oslick
Michael Poli
Carole Preston
David Pulley
Gregory Reh
John Reilly
Glenn Rhodside
Mark Salamon
William Schork
Ronald Schwartz
Robert Seltzer
Irving Shaffer
Albert Simkins
Christian Skriver
Patricia Tease
Marshall Thomas
Nancy Topping
Lawrence Waldman
Marvin Walters
Edward White
Gary Whitman
Heather Wild
Janet Wild
Steven Wormser

Code 70

Robert Carroll
Donald Furmanski
Harry Heinzl
Christopher Kirk
Mary Moran
William Myers
Christopher Oprandi
Sal Picard
John Scott
Alan Victor

Code 80

Philip Kaufman

Code 81

Joseph Armstrong
Jeffrey Biscardi
George Boyle
Catherine Burian
Linda Calderwood
Joseph Dwornik
Thomas Gould
Phyllis Grant
Robert Hall
Michale Hartman
Mary Hellings
Dennis Kiefer
Vincent Loiseau
David Moore
Robert Moore
Michael Rogalski
Ervin Rothermel
Andrew Schwartz
John Sprenger
Edmond Turmelle
Malio Ventresca
William Wiggs
Larry Williams

Code 82

Brenda Denonville
Michael Dixon
Cathleen Dudek
Lusi Dunbar
Renaul Johnson
Charles Komindo
David McDermott
D'Wayne Nelson
Michael Palaia
Thomas Smith

Code 83

Lenwood Broomer
William Brown
Daniel Christian
Roy Deese
Otto Engdahl
Robert McFetridge
William McKenna
Lisa Schmidt
Theresa Spencer
Frank Tarlecki
Lewis Trautz
Robert Urban
David Varner

Code 84

Claire Ashley
Elizabeth Bednarzik
Elmer Bradshaw
Randy Collins
Loretta Dunn
Teri Hackett
William Henesey
Blas Ibasco
Thomas Karr
Ellen Mills
Norma Mitchell

Ronald Pepra
Robert Reed
Selina Ridpath
Jean Rodriguez
Susan Schopfel
Shawn Sebring
T. William Singleton
Brian Truskolaski
Michael Valdivieso
Christopher Veith
Milton Weaver

Code 90

Ross Hendricks
Dinne Pfeil

Code 94

Michael Redman

Code 97

Arlys Erickson
Frank Lazenka
Barry Topham

Contractors

Linda Evans
Jeff Jengehino
James Kearney
Lawrence Scott
Jack Starrentino

Volunteers

Diane A'Harrah
Charlene Wadelius

Others

David Bolich
Anthony Dischbastiano
H. Herchak
Robert Johnson
Henry Kowalewsky
Dorothy MaLaffey
Michael Malecki
Norman Miller
Edward Pickering
Robert Rosenberg
Joseph Smith
Robert Tobin
Edward Tuhacek
Kevin White

NADC welcomes visitors with new lobby look

The Robert Ripper Construction Co. of Rushland, PA began refurbishment of the NADC Lobby in March 1986. Although the Lobby has received facelifts in the past, none have been as extensive as this one. The project has been divided into two phases—Phase I, the visitor check-in area which was recently completed and Phase II, the waiting area which should be finished in October. The new design allows Civilian Personnel Office visitors to enter without going through the normal security check-in procedures. Also, the electric eye doors will ease entry for the handicapped. These changes were made in an effort to relieve the congestion created by the 80,000 visitors to the Center last year alone. Early in 1987, a new security badge identification system is scheduled for installation in the Lobby and at various points throughout the Center. Pictured right, Elaine Kane (left) and Lois Kieserman (right) attend to visitor control in their new surroundings.

Photo by Regina Gasuk



Volume 31 Number 8

NAVAL AIR DEVELOPMENT CENTER, WARMINSTER, PA.

August 1986

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New code 1A
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Handicapped swimmer
Eagles Cheerleaders
Quarters for Muster
SOQ & BJQ

President's Commission honors Brennan



White House photo

Assistant Secretary of the Navy Melvyn Paisley presents the President's Commission on Executive Exchange plaque to Thomas J. Brennan.

by Regina Gasuk

On July 11, Tom Brennan achieved a personal milestone in his career as he met with President Reagan at a special reception in the White House. This meeting resulted from a year-long assignment as a Presidential Exchange Executive and climaxed an exciting and rewarding foray into the executive management world of the aerospace industry.

The whole story behind this White House meeting involves a partnership that started two years ago as part of a mutual program between the government and the nation's free enterprise businesses. From August 1984 to Au-

gust 1985, Brennan participated in this program under the auspices of the President's Commission on Executive Exchange (PCEE) that fosters "cross-fertilization" among executives in the public and private sectors. As the Director of Strategic Planning and Special Assistant to the President of Teledyne Ryan in San Diego, Brennan was able to experience hands-on participation at the executive level with the day-to-day decision making necessary to nourish success in the highly competitive aerospace market. As one of ten government executives selected for comparable corporate assignments nationwide, he experienced interaction and perspectives from a vantage point

on the "other side of the fence." Conversely, twenty-seven executives from a broad range of corporate experiences were placed in government executive positions in the Washington area. As part of the program constraints, Brennan was placed on leave-without-pay from the Navy during his year's tenure and his salary was paid by Teledyne as a fully qualified employee.

As the sole DOD participant and only engineer of the Federal Executives, Brennan recalled that his assignment at Teledyne was "somewhat different but nonetheless rewarding than my fellow executives in that I concentrated at the operating company policy level rather than at the corporate policy

level. I rapidly discovered that policy-making at this level had many parallels to the Navy laboratory system and, thus, based on my previous assignments at the Center, I was truly able to make my assignment a two-way interaction."

During his appointment, Brennan was able to develop for Teledyne Ryan their first time-phased strategic plan to meet their mid-term objectives while, at the same time, contribute substantially to the technical and managerial issues that arose on a day-to-day basis. When queried as to the company's perception of his presence, he indicated that his role and acceptance was "not as an outsider, but a genuine feeling of belonging. In a very short period of time after my arrival, I was permitted to interact as a true member of the Teledyne team. This was fortunate for me since, without this confidence, the very foundation of the executive interchange philosophy would be jeopardized."

In the midst of a career matured by long-term managerial as well as executive responsibilities in a world of the high technology advances characteristic of the Navy labs, Brennan shared his views from the first-hand perspective of being on the receiving end of the government acquisition process. Of particular concern, Brennan recalled that "the reactive nature of industry to perceived or stated requirements by a customer sets in motion a flurry of design, analysis and marketing activities which can be quite costly, particularly to the smaller industry competitor. Accordingly, a well-defined requirement allows a more efficient utilization of critical resources and, in many cases, limited discretionary funds." On the other side of the ledger, however, Brennan said his return to the Navy executive ranks has been strengthened with an in-depth appreciation and understanding of the industry viewpoint on program acquisition.

continued on page 2

President's Commission honors Brennan

continued from page 1

During his year's assignment, Brennan's wife Pat and six children, accompanied him to share the "San Diego experience." He noted that the transition of life style, schools, friends, etc., was surprisingly not a traumatic experience. "All of us returned to Philadelphia with a lifetime of memories and fond remembrances of friends who welcomed us and made our year a true family achievement," he said.

Viewing his position and experiences over his year assignment, Brennan offered some observations and perceptions that are directly applicable to our daily interfaces with industry. The overriding surprise to Brennan was the "similarity between the industry and the Navy counterparts. Perhaps when you consider that we are both a cross-section of the same occupations, the profile similarities in personnel capabilities and skills mix should be obvious." Likewise, he also noted that, as a government executive, he felt that he was "extremely well qualified and

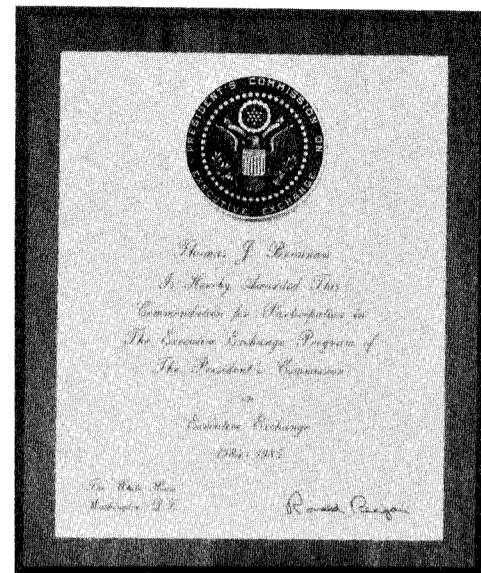
trained to execute major policies and decisions within a large corporation. Our system promotes technical credibility and depth in our planning, both characteristics which allow rapid and positive acceptance at a company level." Also of surprise to Brennan during his year were the influences that the aerospace industry can exert at the legislative and policy-making levels of the government and the singular importance in maintaining a consistent manufacturing base. "With a viable backlog of products in production, the make/buy options and the assurance of positive earnings promote an attitude of productivity and a spirit of determination."

Upon his return to the Center, Tom Brennan was assigned as the Director of the Sensors and Avionics Technology Directorate and, subsequently, as the Department Head of the newly-formed Tactical Air Systems Department. When queried on his impressions of the Center's reorganization, Brennan noted "Captain Sturm, Bob Buffum and their

executive team have taken bold steps toward building a linkage between the technical and marketing opportunities for the Center's product lines. A revised matrix has been created that, in turn, is implementing a corporate planning process, increasing its research and development role and improving its ties with the operational needs of the Navy. Certainly from an industry perspective, the Center is pointed toward the future with proper direction and momentum."

Since his return to the Navy last year, Tom Brennan has briefed his experiences at all levels of the Navy community and remains a firm supporter of the exchange philosophy. He has represented the Federal sector executives on several occasions, the most recent being a summary of his industry experiences to the PCEE Directors in the West Wing of the White House. He was personally decorated by Assistant Secretary of the Navy Melvyn Paisley for his contributions and finally, ten months after his return to NADC, accompanied his fellow executives to a private audience with President Reagan. "The President, along with Secretary Shultz (State Department) and Attorney General Meece, personally offered his commendation to the corporations, agencies

and executives on the commitment to excellence in government. I was particularly struck with the obviously genuine demeanor of the President as he thanked, in turn, both the government and industry executives during his 20-minute address to us. To be addressed by a leader of such obvious talents and dedication was a fitting end to a unique experience," recalled Brennan.



Plaque signed by President Reagan

Code 1A gets new life

by Mary Ann Brett

If you have noticed the reappearance of the Code "1A," it's not *deja vu*. The former ASW Acoustic Office has been reestablished as the ASW Sensors Integration Program Office, the former and latter both headed by Robert Fosko, a 29-year Center employee. In the pending reorganization, this six-person office will report to the ASW Warfare Department headed by Captain Jack Hood.

Disestablished in March 1984 due to DoD funding constraints, the old 1A concerned itself primarily with the development of acoustic sensors. The role of the new 1A is to apply the systems approach to the requirement, development, and integration of sensors into various platforms such as the P-3, S-3, and LAMPS Helo.

Fosko, who acted as the Air ASW Acoustic Systems Program Manager for the last three years, explained Center management reestablished the office largely in response to a challenge by Washington, DC sponsor, PMA-264.

The sponsor was concerned that although acoustic sensors were being developed, there was insufficient planning to integrate the sensors into the platforms. Another reason for its reestablishment was the visibility gained by Center's ability to build up the acoustic sensor business base from a few million dollars two years ago to approximately \$35 million in 1987.

"Our objective," said Fosko, "is to use the systems approach for the development of sensors to detect, classify, track, localize, and destroy submarines." He emphasized, "We are not involved with the actual design, development, or integration; we provide the requirements, and integration plans. The new Mission Avionics Technology Department will develop the sensors while the individual platforms will integrate them. We will, however, serve as the focal point for technical and financial management of all 6.3 and 6.4 (advanced and engineering) sensor development for PMA-264 as well as other Washington, DC sponsors."



Robert Fosko

Photo by Regina Gasuk

'Breakout' aids Small Business




Vincent Rice

Photo by Regina Gasuk

Vincent Rice is now the U.S. Small Business Administration (SBA) Procurement Center representative for "Breakouts" at the Center. The purpose of the Breakout Program is to find areas that can be targeted for increased competition or targeted for set-aside for small or disadvantaged businesses. Rice will review programs/projects and identify systems/subsystems for potential

breakout. He will also counsel small, minority and female-owned businesses and review unsolicited proposals to pass on to the Center personnel.

Rice holds a Bachelor of Science in Engineering from the U.S. Naval Academy and Juris Doctor (Law Degree) from Widener University. For more information call extension 1433.



Reflector
COLLECTION

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August 1986

NAVAL AIR DEVELOPMENT CENTER, WARMINSTER, PA

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Guarini selected Technical Director of NISC



Jerry F. Guarini

by Regina Gasuk

Working more than 30 years at one place would be enough of a career for most people, but Jerry Guarini, NADC's Associate Technical Director is not "most people."

Guarini has been selected as the new technical director of the Naval Intelligence Support Center (NISC). NISC, located at the Suitland Federal Center in Maryland, is known as the scientific and technical nerve center of the Naval Intelligence Command. It gathers information on foreign naval systems from every intelligence source. The Center's work involves Undersea Warfare technology, Naval Systems and

Weapons, Electromagnetic Systems, Technical Services, Imagery Analysis, Naval Warfare and Operations and Foreign Material Exploitation.

BEGAN IN 1954

Guarini started working at NADC in 1954 following graduation from La-Salle College with a degree in Physics. For 18 years he worked as a technologist and still considers himself one, though he's been working in systems since 1972.

In 1966 Guarini was asked to head the Antennas and Radome Group as it is now known. It started with only three people and grew to twenty-three. In the time period between 1966 and 1972 Guarini hired more than a dozen engineers, many of whom are still with the Center in important technical and managerial roles. "Seeing the organization today and seeing how these people have progressed, is one of the biggest accomplishments that you can have in my position," he said.

Being named the Navy's first F-18 project engineer in 1974 was a most joyful moment for him from a singular project point of view. In the two years 1974-1976 he headed a team of 125 engineers mostly from NADC who made the recommendation that McDonnell Douglas produce the FA-18. "To be party to such a successful aircraft was quite an accomplishment and provided a lot of satisfaction for me and the guys that worked on the project," he said.

FASCINATED WITH THE WORK

Guarini was asked in 1976, to head up the Center Design Team (CDT), a new concept at NADC. Utterly fascinated with the work, Guarini's five years there proved to be another big thrill of his career. Many of the Center's current programs such as TACAMO, LAMPS P-3, and the F-18R projects were advanced by the ingenuity of the CDT.

"I've always said I never did anything myself. I do think my forte and the reason the Center paid me the money they did, was because of my ability to pull people together and utilize them to their utmost, motivate them and get them to work together harmoniously as a team and produce," said Guarini.

He has spent six months with the Legis Fellows Program where he worked in Congressman Kenneth Robinson's office and another three months as the Director of the Planning, Assessment and Resources Department. The latter became, in effect, a crash course for the Associate Technical Director's position where he learned the business side of NADC.

NOT AN EASY JOB

As Associate TD and head of the Center Management Group (CMG), since 1983, Guarini feels everyone has shown an outstanding attitude toward and acceptance of him. "Despite the fact that the working masses at NADC think the CMG does not make decisions, I offer

to anyone to try to sit in that room; look at the problems that come up; take into account all of the political, financial and other factors that have to be considered in making a decision and he or she will recognize that it is not an easy job," he said.

Robert Buffum, Technical Director, appointed Guarini to a Director of Navy Laboratories (DNL) study group for the past 13 weeks. Guarini was one of three Senior Executive Service personnel working for the Space and Naval Warfare Systems Command under Admiral Clark and Robert Doke to do an intensive study of the work done by the eight RDT&E laboratories and the four University Laboratories. Their goal was to minimize the redundancy between the labs and set up well-defined roles and missions.

"I think the combination of the new internal organization—which I think is "right on" for what is needed by NADC to meet future Navy needs—a new technical director, and the new theme of amalgamating the Navy Laboratories is going to make NADC an even better place to work," said Guarini. "I'm sorry I won't be around to see more of it, but one has to move on and I have a tremendous opportunity in my job at NISC. I think Washington and the new position will be a new life for me and I'm looking forward to it with excitement. If this next job is half as much fun as what I've had here at NADC then I'll really have to count my blessings."

Handicapped swimmer holds five nat'l records

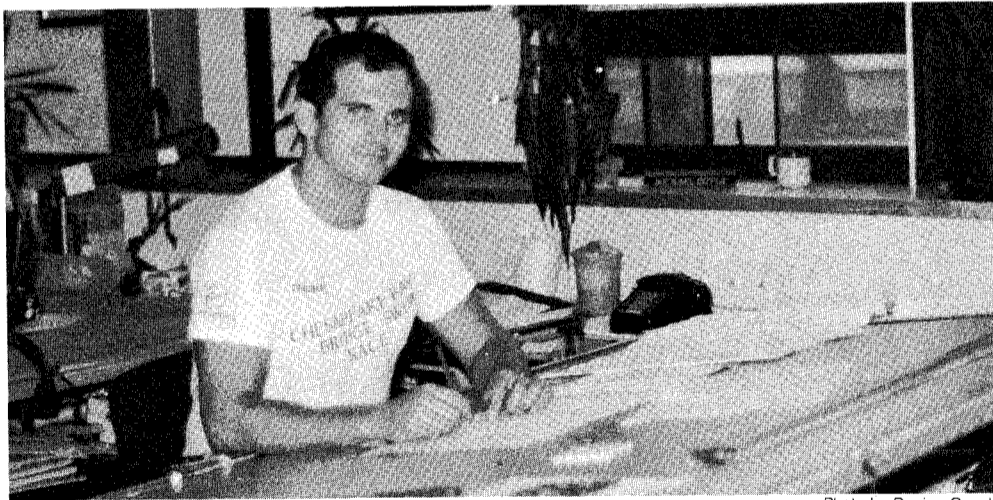


Photo by Regina Gasuk

Michael Doyle at his desk in the Engineering Design Branch, Code 6011.

by JO2 Todd Lufkin

By day he is a seemingly "mild-mannered" electrical draftsman at the Naval Air Development Center, but by night he becomes "super swimmer."

He is Mike Doyle.

What is so super about Doyle's swimming is that he is a single leg amputee who holds five national records in competition.

Hailing from Warrington, Pa., he swam as a child but had to stop because school and other activities were too demanding. Three years ago he began to competitively swim. "I wanted to get some exercise and the swimming just evolved from that into what it is today. I was then recruited to compete by a local team." In fact, Doyle swims for three different local groups: the Hattboro YMCA, the Valley Forge Masters and the McGee Rehabilitation Hospital. "We don't have any real expert coaches, just one person or another giving a pointer or two," he explained.

Swimming about five times a week, for a total of 10 miles, Doyle finds that working out with small weights increases his strength. He also skis and plays half-court basketball.

"I'm hoping to get faster with my swimming, but it takes a lot of time to improve even a little. I wouldn't say that I'm Olympic calibre nor do I have the regimentation and the dedication that they do," said Doyle. "They swim for a living and I swim for fun and exercise."

Not content with just his work at the Center (where he has been for three years) and swimming, Doyle also takes engineering courses at the Bucks County Community College. It's a tight schedule trying to juggle everything together. "Work is important and swimming falls somewhere after school and before homework."

In June, Doyle swam at Santa Clara, Ca., where he set national records in the 200-meter individual medley, the

100-meter breaststroke, 100-meter backstroke, 100-meter freestyle and the 500-meter freestyle.

This November he will participate in the Pan Am International Games in Puerto Rico. His main goal will be "to try and beat the European competition—they hold the international records. I'm shooting for the record in the 400-meter freestyle," he said.

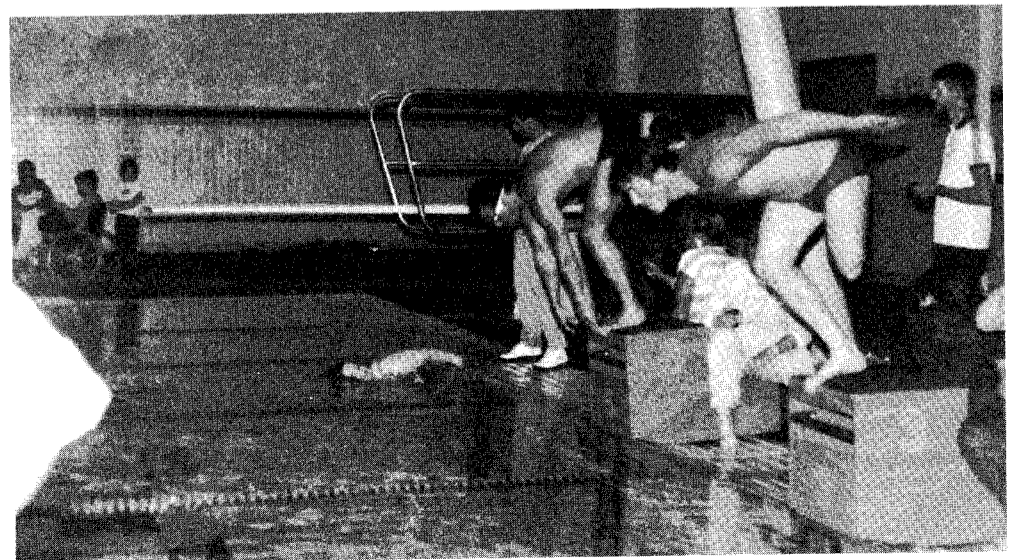
Doyle has his own strategy of winning. "A good swimmer is supposed to keep an even pace throughout the race and then end with a kick. I usually go out fast and die at the end," Doyle laughingly admits.

While in California the super swimmer witnessed several people worse off than himself. "You just wouldn't believe some of the people that were there. They were in bad shape, but they were running around and swimming. They were doing stuff you couldn't

imagine—pushing themselves out of their wheel chairs into the swimming pool," he said. "For me it wasn't all that hard, but it was for them; and they were doing it so effortlessly. It was very moving and inspirational."

When asked what could be done to encourage more handicapped people to participate in sports, Doyle responded; "Nothing really. It has to come from the people themselves. No one can talk them into doing it. People tend to believe that the handicapped are limited and then the handicapped start to believe it themselves."

Doyle has not always been competitive. Right now he feels he is just doing what has to be done. Super swimmer Mike Doyle is an outstanding example of a person's ability to overcome physical handicaps, and exceed one's goals and expectations.



On starting block no. 5, Michael Doyle readies for a competition in Fishersville, Virginia.

Softball events domina

Granfalloon wins 1986 championship

The Granfalloon, a team with a short history yet rich tradition, has captured their fifth softball league championship in their 10 years in the league. And, they won this championship under difficult circumstances, missing various top players in key series' games. By doing so, they showed why they're the deepest and most talented team in the league.

The victims were nothing less than a pitching and hitting machine known as the 8th Inning. They marched into the finals looking like the team to beat, having steamrolled over tough opponents in the quarter-and semifinals. The 'Falloon had a softer road to the finals and were winning, but not in dominating fashion.

Early Play-off Action

The playoffs got underway with the Renegades trouncing the Phantoms, 13-3, and the Bearcats besting the Devils, 7-4, in one-game wild-card elimination play. Thus, the Renegades earned the right to play the Pacer and the Bearcats drew the Granfalloon in quarterfinal action.

The Renegades, playing like a team on a mission, shocked the Pacer in the only quarterfinal matchup to go the three game limit, 21-8, 6-8, and 17-12.

In three out of their last four games up to this point, the Renegades scored 13 runs or better, but had been showing signs of newfound muscle ever since the last few regular season games. That muscle was in the frame of Jeff Price, who joined the team late in the year and proceeded to carry it on his back. And with their convincing wins over an excellent Pacer club, the Renegades were being watched more closely by the other teams.

Meanwhile, the 'Falloon, using their one-two pitching duo of Greg Heydet and Steve Torok, prevailed over the Bearcats in two tight pitching duels, 4-1 and 6-3. Skip Reed pitched well for the losers but got little support. The 'Cats blew a golden opportunity to win the second game, as four of the first five batters in the 'Falloon lineup were missing.

In other quarterfinals, the 8th Inning beat on the Druids, 13-4 and 15-3, and in a battle between two 11-5 teams, the Guzzlers thumped the Nightriders, 19-4 and 20-5. Guzzler longballer, Rich Sames, accomplished an unheard of feat, smoking four homers in succession (three in the first game).

Semifinal Action

In the semifinals, the Guzzlers were paired against the 8th Inning, and most observers expected fireworks from the two power-hitting teams. However, the only team lighting up the sky was the 8th Inning, who won the series easily, 20-5 (five-inning rule), and 8-3 (Fred Kuster, two HRs). The only concern at this point was whether the 8th Inning was winning too easily, never having been tested.

In the other matchup, the Cinderella-

like Renegades were engaged in a curious series with the mighty Granfalloon. Though it was a two game series win for the 'Falloon, they had originally lost the first game, which was later protested, 8-2. The protest was upheld, the game replayed from the fifth inning, and the 'Falloon squeaked by, 2-1. The second game's score was 11-6.

In the replayed game, the Renegades owned a 1-0 lead going into the bottom of the last inning, when the 'Falloon's character came to the fore. The Renegades elected to pitch to Steve Fleischut with first base open and a runner on second, and "the Fly" characteristically roped a game-tying single to center. Then, in the top of the eighth inning, the 'Falloon's Heydet struck out slugger Jeff Price with the bases filled and only one out. The strikeout, a deceiving changeup that froze Price, was the play of the game, perhaps the play of the entire playoffs. The 'Falloon, as they've done in the past, came up big again. Mike Bubb iced it in the last half of the inning by knocking in Mike Warren with a single. Give credit to the winners who played without four starters in both games, and to the losers, who were finally stopped but not without making a statement for next season.

Top Pitchers Duel in Finals

As usual, the teams with the best pitching, in this case the 8th Inning and Granfalloon, were pitted against each other in the five-game championship series. The 8th Inning's Bob Larr had been overpowering the opposition and the 'Falloon's Heydet-Torok tandem were equally effective.

The 'Falloon got off to a quick start by easily winning the first game, a 5-0 Heydet masterpiece. In the second game, the 'Falloon erupted for 10 first inning runs, en route to an 18-2 victory (Gary Marinelli, 4 for 4). It didn't look too promising for the 8th Inning at this point, down two games. No matter what the team, it would take a minor miracle to beat the 'Falloon three games in a row.

But the 8th Inning, a proud and experienced team, summoned a small miracle in the third game. It started out ominously enough, with a misfiring Larr walking the first five 'Falloon batters in the game. Larr was lifted and replaced by steady John Bechtel, who kept the game close until Larr reappeared on the mound in the fourth inning.

Larr was now on the mark, and was squelching 'Falloon opportunities. He punctuated his performance by easily retiring sluggers Heydet and Tom Weiss with a man in scoring position in the sixth inning. His team went on to win, 9-8, in a thriller marked by inning to inning lead changes. The Falloon's Marinelli hit a grand-slammer in the game.

In the fourth game, the 8th Inning played with renewed vigor and took a 5-3 lead into the sixth, when suddenly, it all fell apart for Fred Kuster's team. The 'Falloon scored 10 runs in the last two innings to win, 13-5, and seal up the championship.

And, it was the bottom of the 'Falloon batting order doing most of the damage, highlighted by a bases-loaded triple by unsung hero, Mike Warren. Warren



te August sports

by Charlie Destra

Photos by JO2 Todd Lufkin, Tom Weiss



had an excellent series, but the top post-season 'Falloon player was Marinelli (.608, 14 hits, 13 RBIs, 2HRs), who picked up the slack when other key players were missing. For the 8th Inning, Kurt Swatchick poked six round-trippers during the playoffs.

It's only fitting that this year's crown went to the 'Falloon. It seemed like an act of fate that the departing Jerry Guarini, the original architect of the team, would leave with one more championship. And it was fitting that they would win over the 8th Inning, who, as it was related by Guarini at his luncheon, beat a very raw and outmanned 'Falloon team in their first game ever 10 years ago, 40-1. They've come a long way, baby.

Squad two easy victor in All Star Game

The Softball League's 1986 All-Star game, played August 2 at Sailor's Field, was won easily by Squad Two over Squad One, 8-1.

Squad two, managed by the Pacer's Bob Boyer, broke open a close 1-1 game in the sixth inning, and won going away. (Squad two consisted of the Pacer, Guzzlers, Druids, Bearcats, Phantoms, Rumlbers, and Agent Orange.)

Squad one (Granfalloon, 8th Inning, Nightriders, Renegades, Devils, Rebels, Bushwackers) had runners in scoring position on many occasions, but couldn't cash in the chips. "We did it to ourselves," team manager Tom Weiss (Granfalloon) lamented. "We had our chances."

Skip Reed (Bearcats) was named the game's MVP on the strength of his three shutout innings late in the contest. But Rick Brodeen (the Pacer Eraser) also warranted MVP consideration by hurling five shutout innings against an imposing Squad One lineup. He also got two hits, along with teammates Rich Sames (Guzzlers), Jack Reilly (Bearcats), and Mike Stevens (Pacer).

HOME-RUN HITTING CONTEST

After the game, a home-run hitting contest was held with 21 of the league's top strongmen. Participants were given seven swings each and the top five finishers advanced to a final round of seven more swings.

Most of the entrants had a rough time thanks largely to a stiff wind blowing right smack in the batters' faces. The Guzzlers' Rich Sames, though at an apparent disadvantage batting from the right side (with a short rightfield fence), won anyway by placing his shots to the opposite field. He hit two homers in each round (all to right field), displaying great opposite-field power and hitting skill.

The league's All-Stars, voted to the game by their team members are as follows:

SQUAD ONE

MANAGER: Tom Weiss (Granfalloon) Tom Weiss, Mark James, Mike Bubb (Granfalloon), Kurt Swatchick, Rick

Mohici, John Santini (8th Inning), Jamie Clavell, Nelson Torres, Chas. Destra (Nightriders), Marshall (Steve) Hynes, Jim Kearney, Jeff Price (Renegades), George Reichl, Tim Barry, Rick McCartney (Devils), Craig Volker, Pat Ford, Lorraine Lasorsa (Rebels), Keith Rickowski, Don Scott, Bill McGowen (Bushwackers)

Pitchers

Greg Heydet (Granfalloon)
Bob Larr (8th Inning)
Joel Wexler (Renegades)

SQUAD TWO

MANAGER: Bob Boyer (Pacer)

Mike Stevens, Pat Poulen, Tom Risbon (Pacer), Dave Whiteneck, Stan Zejdel, Jim Eck (Guzzlers), Bill Vaughan, Joe Wolfe, Gary Chase (Druids), Age Hribar, Jack Reilly, Tom McGovern (Bearcats), Mark Dungan, Mike Janinek, Al Patrone (Phantoms), Bill Schork, Phil Richardson, Eric Preissner (Rumlbers), Jim Buggy, Paul Arbuckle, Jim Mitchell (Agent Orange)

Pitchers

Rick Brodeen (Pacer)
Skip Reed (Bearcats)
Jay Ward (Guzzlers)

Cheerleaders play benefit game

The Philadelphia Eagles Cheerleaders played the softball league managers in a wild and wacky benefit game for Rick Ulvano (Nightriders) in the second game of a doubleheader extravaganza on August 2 at Sailor's Field. It followed the league's All-Star game and for some crazy reason, seemed to attract more interest as the noise level of the roughly 400 spectators rose considerably after the game began.

The seven cheerleaders, enthusiastic, personable, and clad in white shorts and white jerseys sporting the Eagles logo, showed up anxious to play. When they arrived, the league's home-run hitting contest was taking place and they immediately went off to a clear area to practice.

Rounding out the athletic cheerleaders team were volunteers Carol Bigham (ARC), Mary Lentz (SEMCOR), Dorie Reilly (Code 40), and one male, lucky Bill Mulley (Code 60). "This is one time I didn't mind being drafted," Mulley admitted. (He went hitless, reportedly due to a lack of concentration.)

The managers, donning green t-shirts which read "I played with the Eagles Cheerleaders," agreed to bat opposite-handed to make the contest move competitive.

But when the game began, the Cheerleaders introduced an unusual, but effective brand of competitive softball, sort of a mixture of softball and rough-touch football. It wasn't uncommon, for a cheerleader to nonchalantly step in the way of a base-runner, or outright hold on to him. The managers, not a very fussy lot, didn't complain about the tactics; in fact, it appeared they rather liked it. The game

Quarters sets the stage

Center Commander commends eight military

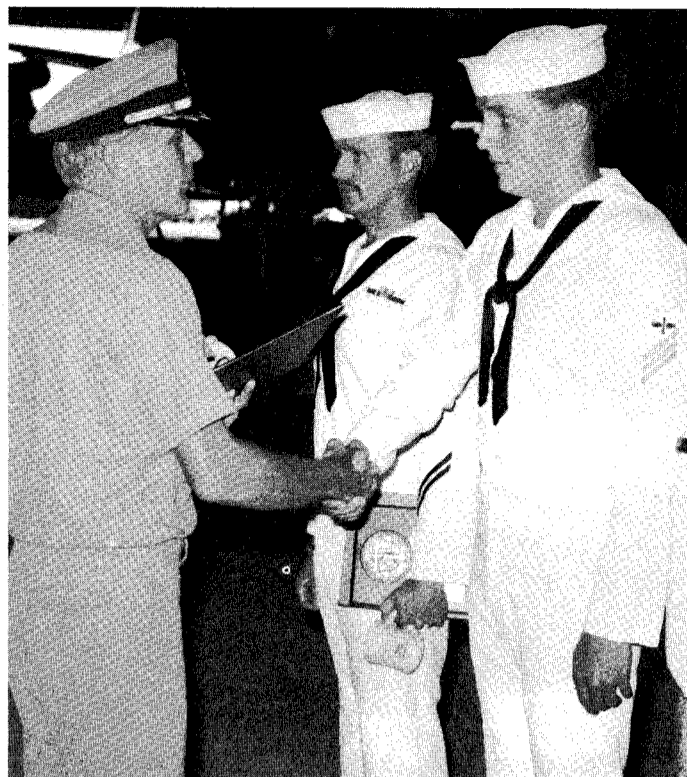


Photo by JO2 Todd Lufkin

CAPT Edward Sturm congratulates ADAN David Jackson on his selection as Blue Jacket of the Quarter after presenting the Sailor of the Quarter, MS2 Randy Collins, a letter of Commendation and coffee mug.

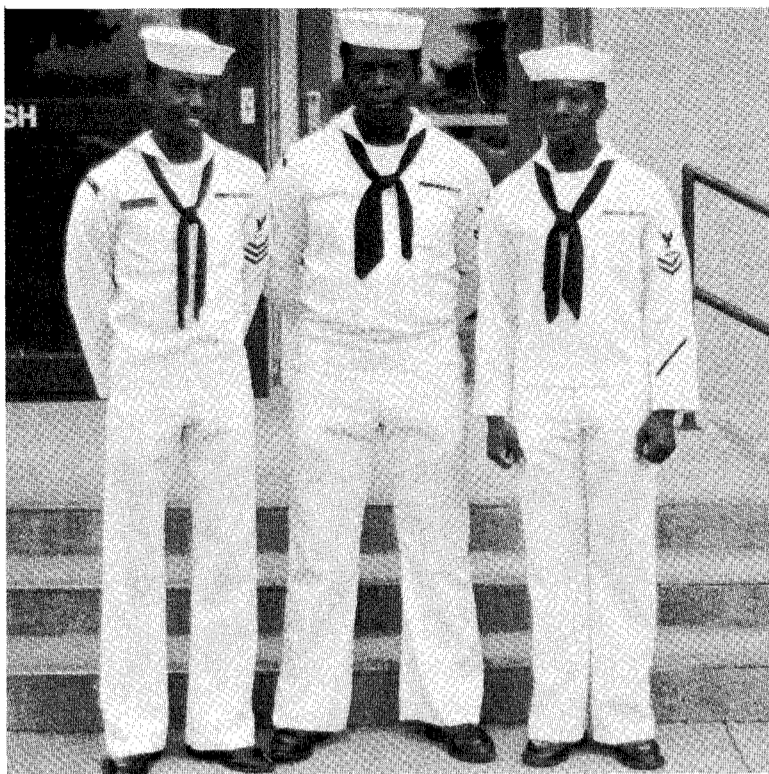


Photo by Regina Gasuk

Good Conduct Awardees: (from L. to R.) YN1 Ron Moody (second award), ET2 Walter Brown (first) and AMH2 Dean Countz (first). Missing from the picture is AW1 Douglas Kallman (second).



Photo by JO2 Todd Lufkin

ADCS (AW) Richard Barton receives his seventh Good Conduct Award from CAPT Edward Sturm.

Sports

continued from page 5

turned into a high-scoring farce with the Cheerleaders clearly the crowd favorite. The managers were booed by their own fans and the Cheerleaders, virtual strangers, were applauded and cheered throughout the game.

Showers stopped the game in the fifth inning to the dismay of all, but not after both teams had a lot of fun. It occurred to me then that no one at the game, spectators or players, knew or cared what the score was. Team manager Jim Kearney offered that the score was "inconsequential" and added that the Cheerleaders "completely dominated the managers, in more ways than one."

Putting together the event was a difficult undertaking with countless details to work on. But it was a success thanks to the leadership of Kearney (who coordinated it from start to finish), the hard work put in by the league managers, and the many volunteers who gave their assistance.

The game was not without its problems, however. WSNI disc jockey Don Cannon had to make an early exit, thinking the game was to start at 2:00 p.m. (vice 3:00). But a good time was had by all, and for Ricardo Ulvano, the guest of honor, hopefully it was a day he'll look back on throughout his lifetime, and remember his friends.



Photo by JO2 Todd Lufkin

CDR Wayne Vanderslice proudly wears his Meritorious Service Medal after presentation by CAPT Edward Sturm (left). Sharing the occasion are his wife, Jean; daughter, Cari; and parents, Mr. and Mrs. James Vanderslice.

Pop-Ups

Prior to the Eagles' Cheerleaders benefit game, Rick Ulvano, the subject of the event, received a football signed by the Eagles' players and a plaque from the league recognizing his outstanding play . . . Also before the game, Jerry Guarini presented the "Jerry Guarini Sportsman of the Year Award" to first-time recipient Steve Torok (Granfalloon) for years of service, dedication, fine play, and exemplary behavior. The new award was conceived by Commissioner Kearney . . . Guarini was also presented with a plaque for 31 years of service in the league . . . Unknown to many, Guarini's contributions to the benefit game were considerable . . . The Eagles' Cheerleaders and WSNI's Don Cannon were presented with plaques for their participation in the benefit game . . . Congratulations to the first

woman to make the All-Star team, Lorraine Lasorsa (Rebels). (No, she did not receive a plaque) . . . It occurs to me that only two teams have slogans: "Guzzler magic" and "Night-rider know-how." I thought I'd end the season on a silly note by suggesting some slogans for consideration next season by some of the teams . . . How about "playing to the tune of the 'Fall-oon?" . . . "The Rebels, with a cause" . . . "8th Inning means winning" . . . How come we're not hearing about "Phantom feasts" and "Renegade run-aways?" . . . Or a Maria Cusanelli home run being called a "Bushwacker smacker" . . . And why doesn't Dutch Krauss' team inflict "Bearcat bites" on its opponents? . . . And how about "the Pacer's edge," "Go with A.O." (Agent Orange), and a "Rumbler humbler" . . . And why aren't the Devils' rallies termed "Devilish behavior?" Just some thoughts—guess the Devil made me do it.

Sailor of the Quarter

by JO2 Todd Lufkin

MS2 Randy A. Collins was recently named Naval Air Development Center's Sailor of the Quarter (SOQ) for the second quarter of 1986.

Collins, who has been in the Navy for 11-and-a-half years and has been stationed at the Center for 22 months, is currently assigned for 90 days to the Bachelor Enlisted Quarters (BEQ) as the Assistant BEQ Manager. According to Collins this position "entails making sure that the barracks operates smoothly and correctly according to Navy standards."

A native of Eugene, Ore., Collins is pleased at his selection as SOQ. "It's an honor and a privilege to be named Sailor of the Quarter. This is an opportunity to express my feelings towards the Navy and have it count. In the long run it's a feather in my cap; a stepping stone toward advancement."

The 28-year-old sailor has had a varied career in the more than a decade that he has served in the Armed Forces. He has served on the USS CONSTELLATION (CV 64); Naval Air Station, Whidbey Island, Wash.; Naval Station, Treasure Island, Calif.; and the USS BUTTE (AE 27), where he was selected as Sailor of the Quarter in 1984.

As Sailor of the Quarter, Collins personifies the highest qualities and standards of a petty officer at the Center. But what does he consider makes a good petty officer? "An individual with exemplary communication skills, one that is well-trained in the art of leadership (and I feel that it is an art) and an individual who strives for positive relationships with both his peers and subordinates."

The only advice that he would give to his fellow sailors is in the area of education. "I feel that the era of the hard-worker is coming to an end, if not over. This isn't to say that hard work

doesn't pay off. But today an individual needs to place a heavy emphasis on education. The Navy provides reasonable opportunities for its employees to gain an education. Unfortunately what I see is that people aren't taking advantage of these benefits. In my opinion this is definitely a shame."

Collins' plans for the future include attaining a college degree (he is currently a senior in business at Pennsylvania State University), getting a commission from Officer Candidate School and going back to sea, "I like to visit foreign places and experience the different cultures," he said. His ultimate goal is to retire as a Commander and then return to Oregon and open up a small club with a dance floor.

Blue Jacket of the Quarter

by JO2 Todd Lufkin

ADAN David N. Jackson has just been named Naval Air Development Center's Blue Jacket of the Quarter (BJQ) for the second quarter of 1986.

The 20-year-old has been in the Navy for a year-and-a-half and has been at NADC for 11 months. Prior to his assignment at the Center, Jackson was stationed at NAS Jacksonville, Fla., for AD "A" school.

As BJQ, this native of Decatur, Ga., will receive a Letter of Commendation and a special evaluation, a photo posted at designated sites around the Center, a plaque from Navy League, an NADC coffee mug from the Chief Petty Officers' and Officers' Associations, 72 hours special liberty and one month off of the watchbill.

Your opinion counts!

by Patsy Schaefer

Help us put some sunshine in your life! In just a few short weeks Military Recreation Services will be conducting the U.S. Navy Leisure Needs Survey for the Center. This survey is one part of "Smart Compass" which is a new program for evaluating existing services and projecting future needs and trends at each installation. As a valuable member of the NADC community your opinion is important to us! We would like to improve and expand our services and programs for the NADC community, but need your help to show us which direction to grow for you. By actively participating in this survey you will help provide us with the important up-to-date information we need to offer the best possible variety of recreation and club activities.

Who will be included in the Leisure Needs Survey? Participants will be selected from all areas of the community at the Center who are eligible to use recreation/club programs.

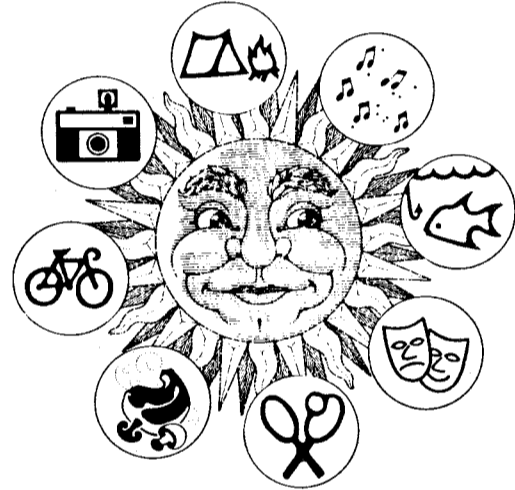
Active Duty Military and their spouses

Civilian Employees of NADC
Retired military in the area
Residents of Shenandoah Woods housing complex

Why should I participate? You are important to us! The information you share with us through this survey will directly affect decisions for future recreation and club programs, services, and facilities at the Center.

Survey packages will be mailed mid-September. If you have been selected to participate you will receive all materials needed to complete the survey in this package. All we need is about 20 minutes of your time to fill in the questionnaire and return it to us in the envelope provided. All responses will be confidential and anonymous.

For questions or information about the survey, please call 441-2169. Your participation is essential to the success of this project. Your opinions are important to us and the future of Military Recreation Services at the Center.



Help us put some SUNSHINE in your life!

Bal new director of VP program office



CDR Eugene Bal III

Photo by Regina Gasuk

by Mary Ann Brett

Commander Eugene Bal III is the new Program Manager of the VP Project Office, code 1P. Bal replaced Commander Michael Milchanowski who transferred in July.

As head of VP, Bal is responsible for software maintenance on the computer-intensive P-3 aircraft. Since there are numerous P-3 configurations, each of which has an associated project, this results in approximately eight areas under his purview.

Bal is not unfamiliar with NADC and the VP community. He served as the

Avionics Systems Project Officer involved in research and development of the P-3 aircraft at the Naval Air Systems Command (NAVAIR). "I was charged with the systems engineering and integration of all avionics into the P-3," said Bal.

Bal expressed his former and current impression of the Center's VP office: "It works like a well-oiled machine that is functioning properly." Other than being a part of the larger reorganization causing VP to become part of the ASW Systems Directorate, he said, "I see no reason to make changes for

change's sake or because I'm here instead of Mike (Milchanowski)."

Fourteen years with the U.S. Navy, Bal graduated from the Naval Academy in 1972 and from the Naval Postgraduate School in 1973 with a Bachelor's and Master's degree in Operations Research. After various training stops, Bal was assigned to VP-9 at Moffett Field, CA from 1974 to 1977 as Tactics Officer. Late in '77 until 1980

he served at the Center for Naval Analyses, Washington, DC as Staff Analyst for Advanced Maritime Patrol Aircraft. From November 1980 through 1983 he was Officer in Charge of the Naval Military Personnel Command Sea Duty Component CONUS Detachment, Dallas, TX. In mid-1984, until the present, Bal was the P-3 Avionics Systems Project Officer at NAVAIR.

Promotions

Dickson Alley, Sharon Bebey, Francis Kurdziel, Beverly Lazarus, Jacquelyn Benner, Patricia Boyle, Wendy Lin, Mark Lipacis, Ann Rita Breitenbach, John Brett, Mary Lipinski, Jose Llanos, Richard Ann Brett, Richard Brookes, Leonard Llorens, Daniel Lorch, Kamala Buckley, Neal Carper, John Carr, Samuel Cheney, Danny Chun, Michael Colabrese, John Connors, Russell McWilliams, Matthew Meer, Michael Costanzo, Eileen Craig, J. Jayme Miller, Michael Miller, John Thomas Defiore, Annette Dietz, Nagurny, Vinh Nuyen, Jennifer Michael Draham, Helen Eddowes, Ottaviano, William Palmer, Kevin Harriet Feder, Darren Fields, Parson, James Rachiele, Sigmund Suzanne Firth, John Freeman, Harry Rafalik, Raphaela Routzahn, Margaret Russo, Keith Sansalone, Frost, Gordon Goodman, Dorothy Vicky Schwartz, Judith Scott, Robert Gramlich, Thomas Green, Segal, Dominick Siano, Joseph Janettarose Greene, Gary Goshner, Specker, Gregory Sweriduk, Robert Dorothy Harner, Alicia Harper, Mary Turzanski, Lawrence Waldman, Jane Hellings, Mary Hilger, Elizabeth House, Tsung Yao Hsu, Lisa Johnson, Charles Krafft, Stephen, Krasznay, Wells, Johnson Yuen.

Technical Highlights

FIRST CV-ASWM INTEGRATED MODEL 4.1/Q-21 PRODUCT DELIVERED TO FLEET

The initial model 4.1/Q-21 integrated product was delivered to the USS ROOSEVELT (CVN -71). This system improves the performance of many current functions on a new display and provides the added capability of mapping, message management, improved interface with the Combat Direction System, and growth capacity for future significant features. This delivery is the culmination of combined in-house and contractor efforts begun in 1981. It represents the achievement of a new Navy-standard display system, updated data processing equipment, and new functionally enhanced software being installed in the CV-ASWM Module.

INTEGRATED NAVIGATION

NADC has completed sea trials aboard the USS REASONER FF-1063 of a Canadian developed system, the Marine Integrated Navigation System (MINS), for potential use on U.S. Navy surface ships. Efforts began in the third quarter of FY-85 to evaluate MINS for technical and operational suitability against U.S. Navy requirements. Laboratory and shipboard testing was completed in the fourth quarter of FY-85, and test results have been analyzed. As a result of the analysis and subsequent NADC recommendations, the Canadian Navy has modified its own MINS procurement plans to include hardware and software modifications to improve system performance. These enhancements will be evaluated in future shipboard testing for U.S. application.

BG NAVIGATION ACCURACY

At the request of CINCLANTFLT, NADC is in the process of implementing an improved navigation capability for the Northern Wedding, K310 Exercise. This is similar to the navigation capability successfully demonstrated by NADC during RIMPAC 84. This effort will concentrate on five key ships. Tasks will include audits resulting in specific recommendations for each of the ships to improve navigation system performance, operations and support areas. NAVCERTS will be conducted to insure proper system operations. Equipments will be installed to provide improved navigation accuracy, including GPS receivers.

HORIZONTAL LINE ARRAY SONOBUOY SUCCESSFULLY TESTED AT SEA

NADC recently conducted performance verification tests of the Horizontal Line Array (HLA) Sonobuoy in the Atlantic Ocean 8 miles south of Bermuda. The tests demonstrated the ability to deploy a horizontal array of acoustic sensors from an A-size sonobuoy. Two design configurations developed under the Advanced Development Model program were evaluated, representing alternative solutions to the problem of providing increased detection ranges for Navy Air Antisubmarine Warfare. One concept used omnidirectional hydrophones which provide additional signal enhancement prior to forming beams. Over 15 hours of acoustic data were collected for assessing the sensor performance, and for determining the design approach to be used during Full Scale Development.

Security Reminders

Critical or sensitive technological information might not be classified but require control of its dissemination. Refer to NAVAIRDEVINST 5510.13C for the proper application of distribution statements that limit the

dissemination of reports, etc. to those having a valid need-to-know such information. See also OPNAVINST 5510.161 for in-depth guidance on the new distribution statements and their proper application.

Energy savers for the kitchen

Cooking Energy Savers

- Use cold water rather than hot to operate your food disposer. This saves the energy needed to heat the water, is recommended for the appliance, and aids in getting rid of grease. Grease solidifies in cold water and can be ground up and washed away.
- Install an aerator in your kitchen sink faucet. By reducing the amount of water in the flow, you use less hot water and save the energy that would have been required to heat it. The lower flow pressure is hardly noticeable.

Refrigerator/Freezer Energy Savers

- Don't keep your refrigerator or freezer too cold. Recommended temperatures: 38° F to 40° F for the fresh food compartment of the refrigerator; 5° F for the freezer section. (If you have a separate freezer for long-term storage, it should be kept at 0° F, however.)
- Match the size of the pan to the heating element. More heat will get to the pan; less will be lost to surrounding air.

- Use small electric pans or ovens for small meals rather than the kitchen range or oven. They use less energy.
- When using the oven, make the most of the heat from that single source. Cook as many foods as you can at one time. Prepare dishes that can be stored or frozen for later use or make all over-cooked meals.
- Make sure your refrigerator door seals are airtight. Test them by closing the door over a piece of paper or a dollar bill so it is half in and half out of the refrigerator. If you can pull the paper or bill out easily, the latch may need adjustment or the seal may need replacing.
- If you have a gas stove, make sure the pilot light is burning efficiently—with a blue flame. A yellowish flame indicates an adjustment is needed.
- Never boil water in an open pan. Water will come to a boil faster and use less energy in a kettle or covered pan.
- Watch the clock or use a timer; don't continually open the oven door to check food. Every time you open the door heat escapes and your cooking takes more energy.

RADM Leuschner visits Center for ASW briefs

RADM R. L. Leuschner from the Naval Air Systems Command (PDA-13) visited the Center on July 21st. His aim was to gain insight on Center projects, especially in anti-submarine warfare (ASW). Thomas Sanders and CDR Wayne Savage coordinated several presentations for the day including Vertical Flight, Lighter than Air, VP, and VS programs, ASW sensors integration and advanced concepts and a tour of the ASW laboratory facilities. At the end of the briefings, Center Commander CAPT Edward Sturm presented the Admiral with a plaque to commemorate his first visit to NADC.



Photo by Regina Gasuk

Commander Salutes

Joseph Klicka (Code 30): For an excellent briefing to New Hope Solebury School students during their Career Program.

LCDR Timothy Singer (Code 60): For outstanding performance as Program Manager for the advanced development Air Warfare Human Factors Engineering Program.

LT Leland S. Goodman (Code 60): For outstanding performance in support of the Pattern Analysis Decision Aid.

Janet Koch (Code 094): For valuable assistance during the Michigan Conference of Federal Research and Development.

Warren Rosen (Code 50): For valuable assistance to the Naval Ocean Systems Center during the proposal review process for the Optical Fiber Crossbar Switch.

LT L. Goodman (Code 60): For an excellent briefing on Pattern Analysis Decision Aid to the Naval Reserve Unit NADC 0193.

Janet Russell (Code 03E): For significant contributions during the Prevention of Sexual Harassment training.

Alan Kaniss, Robert Greenblatt and Barbara Goldstein (Code 05): For excellent assistance to the Defense Industrial Supply Center.

Harold Tremblay (Code 05): For exceptional contributions in computer research meriting the Interagency Committee on Information Resources Managements 1986 Award for Technical Excellence.

David Panetta (Code 20): For significant contributions to the ASW Master Warfighting Strategy Study.

Thomas Knott, Joseph Schneckner, David Town, Stephen Troyanoski (Code 40): For outstanding efforts during the VLF Transverse Electric/Transverse Magnetic Antenna Testing.

Thomas Castaldi (Code 20): For a highly effective briefing on systems engineering during the recent Assistant Program Managers for Systems and Engineering visit.

Jacob Eyth, Nancy Topping (Code 60); **James Dunn, Theodore Trilling, Michael Rankin, Nelson Hall, Dr. Lloyd Bobb, Christopher Giranda, Arthur Samouris, Barbara White, Gerald Ferguson, Marie Taylor** (Code 30): For dedicated support of the

Bucks County School's Science Seminars.

Fire Chief Donald Meadows, Fire Inspector Vincent Crusco (Code 81): For professionalism displayed while conducting a fire-fighting course for the Independence National Historical Park.

Robert Balonis (Code 30); **James Cuorato, Catherine Young** (Code 84): For significant efforts contributed toward the Tactical Surveillance Sonobuoy contract award.

Richard Norford (Code 20): For outstanding performance in support of the Development Options Paper for the Outer Air Battle Weapon System.

Sam Yosen (Code 10); **Robert Bello, Gale Katz, Robert Lubanski, Robert Skalamera** (Code 20); **Stanley Czar-nuszewicz** (Code 50): For valuable assistance to Commander, Third Fleet during the BGAREM/86-2 exercise.

Kathleen Gause, Lois Savage (Code 03): For excellent assistance to the Philadelphia Area Navy EEO Council's Workshop.

Joseph Spodaryk (Code 02): For continued support of office automation efforts to the Naval Training Center.

Alvin Spector (Code 20): For outstanding support of the Naval Air System's Command system engineering initiative.

Thomas Castaldi (Code 20): For outstanding contribution to the Tri-Service Laboratories R & D initiative Seminar.

Suzanne Reeps (Code 60): For dedication toward advancing Aviation Life Support Systems.

Gerald Ferguson (Code 30): For fine assistance provided to General Electric during their Tri-Service Engineering Review.

Jerome Bartman (Code 70): For exceptional efforts during the Technology and Business Opportunities Conference.

Norbert Armstrong (Code 30): For outstanding performance in support of the F/A-18 reconnaissance program.

CDR David Cudia AMCS Grover Green, ADCS Richard Lancaster (Code 80); **CDR Paul Long, CDR Thomas Mumford** (Code 70); **LT Joseph Romano, John Gibbons, Stuart Boose, William Gelatka** (Code 30): For outstanding performance in support of the Defense Advanced Research Agency's Project "Y" flight tests.

Key West offers real-world laboratory



The Naval Air Development Center's Detachment located at the Naval Air Station, Key West (left) is used for planning, scheduling and executing project work in the field. The Key West team, (standing left to right) Bobby Orr, Ryan Reeder, (sitting left to right) Maureer Satchell, Dan Probert, and Helen Savord, provide the critical support to meet all at-sea research needs necessary for projects requiring specific ocean environments. (See story on page 6.)




Reflector

In This Issue:

- Letter from the Commander
- Life aboard ship
- New Ombudsman
- Retirement update
- Cricket results
- Special group act award

Volume 31 Number 9

NAVAL AIR DEVELOPMENT CENTER, WARMINSTER, PA.

September 1986

Long term training—investment in the future

by Mary Ann Brett

This academic year the Center is sponsoring six personnel for the Graduate Study Award Program (GSAP) and the Weapons Systems Educational Program in Computers, Operations Research and Systems Engineering, better known as 'WEPCOSE.' This year's GSAP selectees are Robert Chin, William Gelatka, Randall Sands and Robert Seltzer. Lisa Cowles and Michael Elser were chosen for the WEPCOSE program.

Each year the Center invests both dollar and manpower resources in long term training to build and maintain a staff of employees skilled in vital technology areas such as Computer Science and the following engineering disciplines: Electronic/Electrical, Aerospace, Systems and Materials.

These two programs have been in existence at the Center for over twenty years. Dick Chern, Head of the Employee Development Division, said, "Our long term training programs are designed to obtain critical, urgently required expertise in a timely manner. We average approximately eight selectees per year and this year we'll invest approximately \$100,000."

Both programs sponsor up to one academic year of full-time, graduate level training while paying the selectee his/her full salary. Applicants must be permanent, full-time employees and must submit a comprehensive application package including the appropriate director's comments regarding the value of the proposed training to the Center.

In the case of GSAP, applications are forwarded to the Training Advisory Committee. The committee evaluates each submission and provides recommendations to the Technical Director who makes the final selection.

For WEPCOSE, a Navy-wide selec-



Photo by Drew Schmith

L to r: William Gelatka, Randy Sands, Technical Director Robert Buffum, Robert Seltzer and Robert Chin during the award presentation.

tion committee, chaired by Herb Heffner of the Sensors and Avionics Technology Directorate, tests, interviews, and evaluates the nominees and makes recommendations to the Space and Naval Warfare Systems Command for final determination.

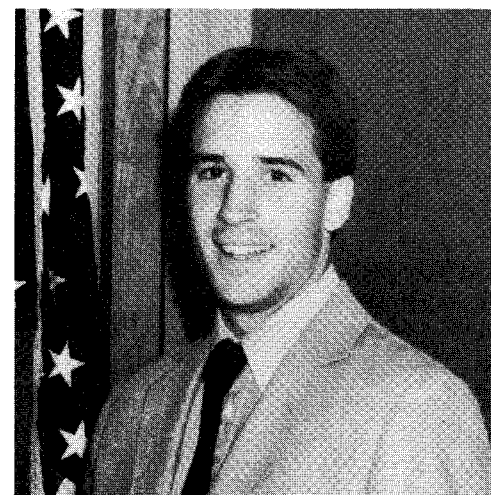
GSAP selectee **Robert Chin**, an electronics engineer (EE) in the Combat Systems Software Division, will study computer science/artificial intelligence at Villanova University. Eleven years at NADC, Chin said of the program, "It's a unique opportunity and to my knowledge, unavailable in private industry." Chin has a Master's degree in Engineering Science from Pennsylvania State University. This training will assist him in the development of high quality, lower cost software and testing techniques supporting Carrier Anti-Submarine Warfare Module weapons systems.

William Gelatka, an EE in the Electro-Optics Development Division, will study digital systems design at Le-



Lisa Cowles

Photo by Drew Schmith



Michael Elser

Photo by Drew Schmith

high University. His studies will provide technical expertise in several areas of electro-optics required in ASW systems and technology. Gelatka has been at the Center for ten years and has a Bachelor's of Science (BS) in EE from Pennsylvania State University.

Randall Sands an EE in the Aero

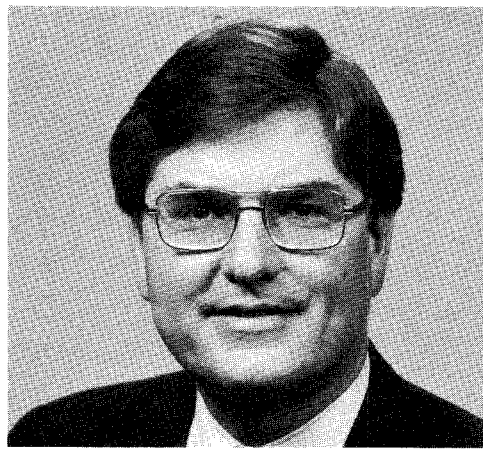
Materials Division will study materials science at the University of Pennsylvania. This training will assist Sands in leading research on high temperature ceramic protective coatings for use on naval aircraft. Sands, a three-year NADC employee with a Master's

(continued on page 2)

Command corner



CAPT Edward J. Sturm
Center Commander



Robert S. Buffum
Technical Director

The Inspector General, Department of Defense (DOD), periodically prepares "integrity alerts" pertaining to those situations and activities which are vulnerable to fraud, waste and mismanagement. In view of the increasing number of personal computers on the Center, it is necessary for all personnel to become thoroughly familiar with the following governing regulations provided in a recent integrity alert distribution.

OFFICE AUTOMATION EQUIPMENT (PERSONAL COMPUTER USE)

The ready accessibility of office automation equipment has led to fraud, waste, and abuse disclosures involving the misuse of word processors and computers. Government-owned automation equipment may not be used for personal projects.

Government-owned computers may be used for professional education and other education programs authorized at the discretion of the appropriate military official or senior civilian manager.

Other uses may be authorized only on the basis of noninterference with the performance of duty, with due consideration for safeguarding Government property and conserving consumable resources, and only for functions that are considered of benefit to the Government.

Use of such equipment for unofficial or private business purposes is neither proper nor authorized and may be grounds for disciplinary or adverse administrative action.

All software developed by Government employees, on Government-owned equipment, or on Government time is the property of the U.S. Government.

Vendor-supplied software may not be reproduced for distribution, other than to authorized Government agencies, according to the terms and conditions of the contract.

Privately-owned computers are not recommended for use in Government work. Products created on privately-owned computers in the performance of official duties are official and not the personal property of the computer owner.

Reference: DOD Directive 5500.7 (Par. X)

Remember, it is the responsibility of each individual to be aware of prescribed standards of conduct and integrity. Ignorance of these standards is no excuse for not adhering to them. When in doubt about a particular activity or situation check with Internal Review (Code OOR, X3033) or General Counsel (Code 095, X3000). Known or suspected violations of governing regulations may be reported to the Center Commander through the Center hotline on X3015.

EDWARD J. STURM
Captain, USN
Commander

ROBERT S. BUFFUM
Technical Director

Long term training

(continued from page 1)
degree in Physics from Temple University, said, "I'm elated at receiving this opportunity; it's one of the best features of working for the government."

Robert Seltzer, Aerospace Engineer in the Aero Analysis Division is pursuing study in flight dynamics and control at Purdue University. With a BS in Aerospace Engineering from the Polytechnic Institute of New York, this additional training will better enable Seltzer to lead efforts in exploratory development of aircraft flying qualities and to support Navy aircraft acquisition programs.

WEPCOSE selectee **Lisa Cowles**, also an aerospace engineer in the Aero Analysis Division will study aerodynamics at the Naval Post Graduate School for state-of-the-art aerodynamic analysis techniques supporting air vehicle aerodynamic configuration and performance analysis. Here only three years, this was Cowles second application for the program. "I'm glad I was

accepted this time," said Cowles. "But, I'm still surprised at how many people aren't even aware of the program."

Michael Elser is an EE in the Systems Integration Division. He will concentrate on signal processing and computer applications at Rensselaer Polytechnic Institute. Elser will gain a broader knowledge of modern hardware and software development technologies and signal processing techniques essential to the development, integration and support of Navy aircraft weapons systems. Elser has a BS in EE from Lafayette College and has been at NADC for only one year.

"Since 1964," said Chern in tribute to long term training, "NADC has retained 79% of the employees who participated in these programs including some of the Center's most successful technical and managerial personnel."

(Note: For further information on long term training programs, call Edward Calvello on extension 1020.)

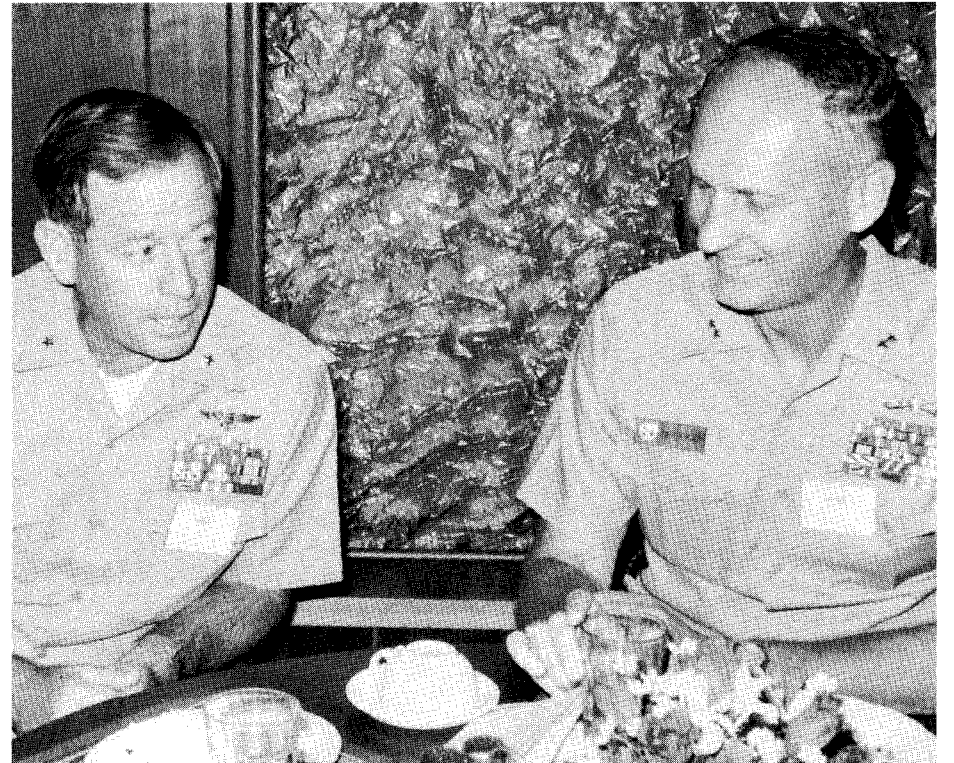


Photo by JO2 Todd Lufkin

NADC hosts steering committee

Pictured above Rear Admiral H. J. Herberger (right) and Rear Admiral L. W. Smith (left) enjoy lunch during the CNO (OP-953) Tactical Development and Engineering Steering Committee Meeting held at the Center on August 25 through 28.

Security reminder

Security is everyone's responsibility. Any person having knowledge of known or suspected security violations

should contact the Security Officer (Code 044). When in doubt, call.


If the SOC fits

by Robert Janes

It is a popular view, both inside and outside the Government, that Government employees are never fired from their jobs nor disciplined for misconduct. This, of course, is not the case, and during the last two months alone, NADC has fired two nonprobationary employees—one for non-performance of his job and the other for misconduct. In addition, during the last fourteen months, NADC has issued 9 suspensions, 30 letters of reprimand for misconduct, 13 letters of warning for job performance problems, and had 14 employees resign or retire after having been informed that action would be taken to remove them.

While we have never removed an employee for a violation of the Standards of Conduct (SOC), we have taken several disciplinary actions against em-

ployees on SOC matters. Most of these have been letters of reprimand, although not long ago one employee was given a lengthy suspension for certain SOC improprieties. We are coming under increasing pressure from higher authority to deal strictly with any SOC infractions, and I expect this trend toward stiffer SOC punishment to continue. In the past, many people have approached SOC questions with the attitude that they were better off not checking beforehand regarding the propriety of their proposed actions. Better to have one's wrists slapped after the fact than to ask in advance and be shot down altogether. With the stiffer penalties being handed out, that attitude has become increasingly risky, and I urge any of you with SOC questions to see me before you undertake any questionable action.



Reflector

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NAVAL AIR DEVELOPMENT CENTER, WARMINSTER, PA

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Center Commander responds with an open letter to all employees having sponsors external to NADC

The text which follows is a letter that was recently sent to the editor of the Center's Reflector.

Editor,

I, and many other scientists and engineers with whom I've spoken, question a recent Center administrative activity whose objective is unclear, namely the attempted conversion of millions of dollars of NIF funding to Direct Citation to reduce unaccrued contract balances. This has continued at a cost of hundreds of S&E man-hours despite reported sponsor displeasure and even threats that some returned funds will be lost.

I have the following questions about this activity:

a. What is the point, since this doesn't seem to affect the Navy's total unaccrued balance, but just transfers accountability from our books to our sponsors?

b. Apparently the Center is allowed an unaccrued balance of about \$100M, but seems to be taking extreme measures to drive the total much lower. Won't this simply lead to imposition of a much lower ceiling next year rather than a gradual clamp down as the system adjusts?

c. Is there Center concern about the potential for damaging long-term R&D programs and sponsor relationships, as well as demoralizing professionals, by responding abruptly to a midyear change in administrative objectives?

d. Finally, what does this change bode for the future, since I know few engineers who would be interested in undertaking the burdensome procurement process, which now takes nearly the entire FY in many cases, before they have promised funding firmly in hand?

I personally find this entire activity demoralizing, and it will be much more so if I lose funding as a result. As there are many other professionals who feel the same, could the REFLECTOR obtain and publish an article by Center management giving the "big picture," and addressing these concerns as well as others that have come to your attention?

Thank you, Engineer

The letter asks some good questions which deserve answers. I shall endeavor in the following paragraphs to provide the insight which perhaps will give more meaning to the considerable effort we have been going through in the funding arena.

Over the past two years significant events have taken place within the Navy which have resulted in many policy and organizational changes both here at the NAVAIRDEVCON and throughout the Washington community. During the same period the laboratories have come under intense scrutiny from Congress, DOD, SECNAV, ASN(R,E&S), NAVCOMPT, and SPAWAR. The area of major concern has been the question of whether the laboratories have the ability to execute their current workload in a timely manner since the volume of business at all laboratories has increased significantly over the past several years. Evi-

dence provided by the yearly increases in unobligated and unbilled balances indicate to all reviewers that the laboratory workload is exceeding capacity. Significant Navy budget cuts have occurred as a result of these observations and changes to financial policy have been made to correct the situation and prevent future budget reductions. As these changes have been made many questions have been raised by both laboratory personnel and by our sponsors concerning the objectives of the actions. Included among these concerns are: lack of information and understanding of the overall situation, adverse impact on laboratory/sponsor relations and RDT&E programs, restrictions placed on incoming funds, the inconvenience of converting reimbursable orders to requests for contractual procurements (RCP), the need for early initiation of contractual actions along with the associated risks, and the effort needed to provide accrual schedules on all contracts. An overview of the situation the Center faces along with a discussion of each of these concerns listed above follows to permit everyone to better understand the problem and the aims of the actions we are currently taking to resolve it.

**"If money allocated
... is not expended,
it appears that DOD
... was given too much."**

Confronted with a steadily increasing federal deficit, Congress annually scrutinizes and reduces the proposed budget in an effort to lower spending and reverse the trend of the deficit. The Gramm-Rudman-Hollings Act is an example of actions taken by Congress to come to grips with the situation. Since the DOD commands a major share of the discretionary portion of the budget it is a primary target for a significant percentage of these reductions. This occurs in spite of strong support from the President. After the money is allocated DOD's performance in executing the approved programs is closely monitored. When DOD does not execute the plan in accordance with the budget, future budget requests become targets for reductions. *In short, if the money allocated for use during the fiscal year is not expended it appears that DOD asked for and was given too much money!* Although this may not be true, a perception is created that is difficult to refute. This perception has grown over the past several years and has resulted in significant cuts to the DOD budget during the FY-86 Congressional review.

The basis for the Congressional actions is clearly shown in several studies conducted by the General Accounting Office (GAO) related to increases in the unbilled balances of all federal agencies, and in particular the DOD balances. Findings in a January 1986 GAO report (GAO/AFMD-86-24BR) showed that DOD budget authority increased by 44.7% between FY-81 and FY-84, while during the same period the un-

billed balance rose by 81.7% and the unobligated balance increased by 94.7%. These figures reflect trends that clearly lead to questions about the accuracy of the DOD budget estimates and the ability of DOD to execute the proposed plan. Conclusions reached in the report "suggest that DOD has had difficulty in absorbing the sustained increases in funding since FY-80." To sharpen their awareness of the situation Congress imposed an additional reporting requirement on DOD by asking for progress reports on obligations throughout FY-86.

**"... Examination of
Navy and NADC
performance
... shows we contributed
our share ..."**

After DOD suffered significant reductions to the FY-86 request, the DOD Comptroller distributed cuts to all three services. Like Congress, DOD imposed a portion of the reductions on the Navy because of high unbilled balances. The reason for this action is clear since the Navy's \$81.1B unbilled balance was the highest of the three services at the close of FY-84. One particular area cited by the DOD Comptroller was the Naval Industrial Fund (NIF) where unbilled balances had also increased significantly in recent years. As a result of these NIF increases alone the Navy suffered a \$1.2B reduction. This reduction was distributed across many program elements for FY-87 and later years. The DOD Comptroller also recommended that the Navy laboratories be taken off NIF. SECNAV, upset with the gravity of the situation, directed that actions be taken to prevent this situation from ever occurring again. In response to this SECNAV imperative many changes to the manner in which financial policies are enforced have been made during the past year.

A more detailed examination of Navy and NAVAIRDEVCON performance in the area of unobligated and unbilled balances shows that we contributed our share to the upward trend discussed above. At the close of FY-77 the Navy had an unobligated balance of \$10.1B and an unbilled balance of \$29.8B. By the end of FY-84 these figures had risen to \$21.3B and \$81.1B respectively, increases of 110.9% and 172.2% from the FY-77 base. By comparison, the NAVAIRDEVCON had an unobligated balance of \$37.5M and an unbilled balance of \$86.9M at the end of FY-77 with increases to \$81.1M and \$184.8M by FY-84. These figures reflect increases of 116% and 112%. At the end of FY-85 the Center's unbilled balance had risen to \$229M. The situation at the other Navy laboratories closely parallels our performance.

Since we were placed under SPAWAR early in 1986, actions to attack the unbilled balance problem in the Navy laboratories have been numerous, dramatic, and revolutionary; imple-

mentation has been swift; and enforcement has been rigorous. These actions struck at the heart of the issue and demanded swift decisive actions by both the laboratories and the sponsors. The initial Center unbilled balance target, set in May 1985, for the end of FY-86 was \$219M. This was reduced to \$156M early in FY-86 and finally lowered to \$105M in April 1986. We are currently estimating that we will just barely make this \$105M goal come 30 September 1986. The Center's goal is \$48M in FY-87 with a further reduction to \$20M in FY-88. Policies issued to facilitate the achievement of these targets, although seemingly radical, are simply enforcement of long standing rules that have not been rigidly enforced. Progress on our performance is reported monthly, directly to ADM Clark, Commander, SPAWAR.

Examples of enforcement of such long standing rules relate to both RDT&E and procurement accounts. RDT&E funds are intended to be both obligated and expended during the year they are issued. Although these funds are legally available for obligation for two years the extension of these funds into the second year should only occur when exceptional circumstances prevent expenditure of the funds during the first year. In the procurement accounts (APN, OPN, WPN) the money is available for obligation over a three year period, and for five years in the case of SCN funding. However, even if the programs are "fully funded" from the first year the burden is on the laboratories to only accept funding from sponsors on an incremental basis for each year that the laboratory participates in the program. When we accept money intended to cover several years of work and carry this money on our account over several years, the perception, true or imagined, is that the money has been "banked" at the laboratory. Loose enforcement of both of these rules have been to a large degree the cause of the inflated unbilled balances in the NIF laboratories.

**"Management actions
... are aimed ... to
prevent additional cuts
in future budgets."**

Because the laboratories receive funds from many sponsors to support hundreds of programs it is very difficult for a laboratory, SPAWAR, or NAVCOMPT to defend a large unbilled balance in the NIF account. Since no one account is seen as the source of the problem a reasonable justification is almost impossible to develop to explain the reason for the increase. It should be clear that the NIF account is a relatively easy target to decrement. Consequently during the DOD review of the Navy budget no specific programs need to be identified as the basis for a general NIF cut. The management actions SPAWAR has taken this year are aimed at reducing the unbilled NIF balances of the laboratories to less than 50% of the FY-85 level to prevent additional cuts in future budgets.

(continued on page 12)

Navy journalist recounts experience of life aboard ship

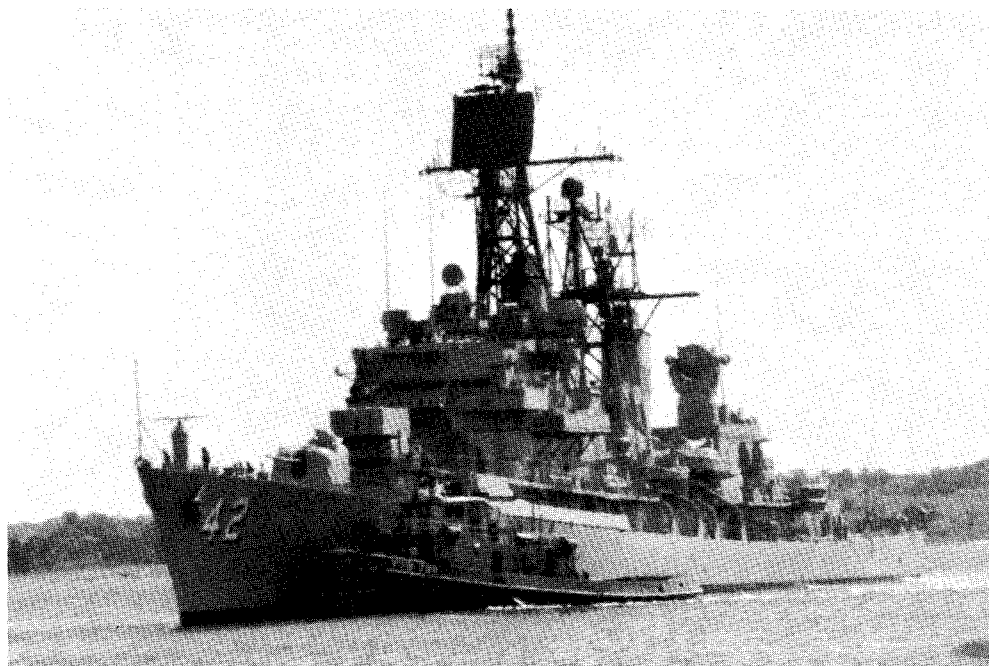


Photo by JO3 Elizabeth Rathbone

USS MAHAN (DDG 42), JO2 Lufkin's ship, returns to Charleston after eight-month Mediterranean deployment.

by JO2 Todd Lufkin

Most of us have probably spent time on small boats, fishing, skiing or sailing; a few have even spent some time onboard a house boat. But what if you were stationed on a medium-sized ship for several years that served as your job and home? What if this was a warship which periodically got underway in support of the country's foreign policy/national interest?

Life onboard ship can be irritating and exasperating, but at the same time rewarding and career-enhancing. The work is hard and the hours long; often it seems like the day will never end or ever begin again. Shipboard life is something that has to be individually experienced; no advance preparation is ever enough, nor can words adequately describe it.

How can the feelings of going ashore in a foreign port for the first time be conveyed? How can one describe sun-

rise or sunset on the high seas or waiting on that elusive mail? How about the emotions of going to battle conditions for real or returning to home port after an eight month cruise?

From early morning until late at night the day is planned out: reveille, breakfast, quarters, work, lunch, work, dinner and taps. However, this seemingly-monotonous schedule is modified at times to accommodate special events, Sundays and holidays.

Due to the vessel's compactness, the size of the crew is restricted to about two hundred enlisted and thirty officers. These constraints promote camaraderie in the ranks. When the ship hits rough seas or loses its fresh water everyone is affected. It is through these shared experiences that the bonds of friendship are formed. During a lengthy cruise the predominant feeling that develops is a sense of family.

Noise is a fact of life, to be contended

with daily. Engines and boilers on-line produce hums, buzzes, vibrations and a variety of assorted sounds. At first this is bothersome to the newly-reported personnel, but in time it becomes second nature. After awhile sailors find it difficult to sleep in a silent environment.

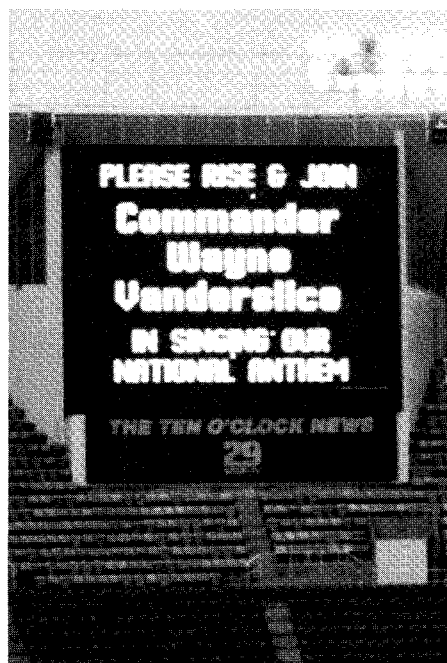
Another noise to be reckoned with is the ship's public address system. This provides information on the daily events, as well as news and future happenings.

A nickname for a destroyer is "tin can," for the simple reason these small ships bob like their namesake. These small ships will often behave like an amusement park's wildest ride. Simple

tasks become complicated. Walking (eventually a person does develop their balance—sea legs), eating and sleeping are no longer routine. Also a person's stomach gets a little queasy during some of the ship's maneuvers. Even the "ol' salts" occasionally get nauseous.

Sea life isn't as glamorous as some of the movies have portrayed it or as some of the recruiters paint it (in this instance maybe it should be Petty Officer Benjamin instead of Private?) However, it can be very career-enhancing. Ribbons, greater responsibility, higher evaluations, sea pay, and the coveted Enlisted Surface Warfare Specialist (ESWS) pin are all available with life in the fleet.

Take me out to the ball game



Supply Officer Commander Wayne Vanderslice, homegrown son of North Wales, PA, recently led Phillies fans in the national anthem during North Wales night at Veterans Stadium. (P.S. The Phillies won this game against the San Francisco Giants.)

Drexel promotes Hrebien

Reprinted in part from the Drexel Evening Dragon.

Dr. Leonid Hrebien is the newly appointed Assistant Department Head of Electrical Engineering at Drexel University's Evening College. A research physiologist/biomedical engineer in the Life Sciences Research section of the Aircraft and Crew Systems Technology Directorate, Hrebien entered Drexel in 1967 and continued his education there up through his Ph.D. At the same time he was establishing a name for himself in the biomedical engineering field. At NADC, Hrebien designs equipment and experiments for conducting applied research in acceleration physiology and biophysics.

Hrebien started teaching Evening College students in 1981. A teaching and research assistant while working towards his degrees, he was well equipped to teach and considers it an avocation. He says it tests one's ingenuity because there is much creativity involved in developing ways to present subject matter. This is especially important when many students are al-

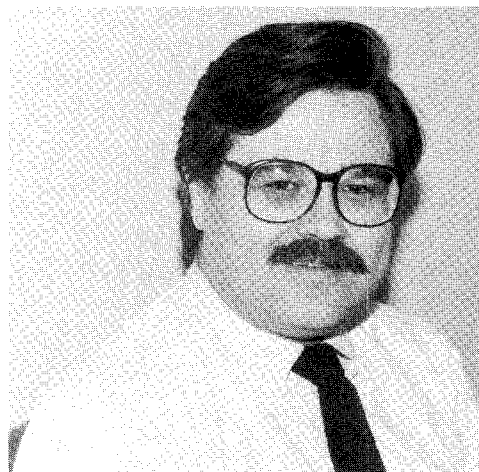


Photo by Regina Gasuk

Dr. Leonid Hrebien

ready working in the field, including NADC.

A member of numerous societies, Hrebien is presently chairman of the Philadelphia Chapter of the IEEE Engineering in Medicine and Biology Society and an associate fellow in the Aerospace Medical Association.

On this date

October 1

October is "National High-Tech Month" and "National Kids" Fitness Month."

James Lawrence's birthday, 1781. A brilliant U.S. naval officer, his dying words, uttered after he was mortally wounded in battle in the War of 1812, were "Don't give up the ship."

James Earl Carter, 39th president, born 1924.

Federal Fiscal Year 1987 begins.

October 4

Rutherford B. Hayes, 19th president, born 1822.

Rosh Hashanah (Jewish New Year).

October 5

National Employ the Handicapped Week, October 5-11.

Fire Prevention Week, October 5-11.

Chester A. Arthur, 21st president, born 1830.

October 10

U.S. Naval Academy opens in Annapolis, Md., 1845.

October 12

Columbus first sights land in the New World, 1492.

October 13

U.S. Navy birthday, Second Continental Congress establishes Navy, 1775.

White House cornerstone laid, first federal structure in Washington, D.C., 1792.

October 14

Dwight David Eisenhower, 34th president, born 1890.

Air Force Capt. Charles Yeager becomes first person to fly faster than the speed of sound, 1947.

October 17

First major victory for Americans in the Revolutionary War (Battle of Saratoga), 1777.

October 19

Revolutionary War ends with British surrender at Yorktown, 1781.

John Jay takes oath of office as first chief justice of the Supreme Court, 1789.

October 22

Cuban missile crisis anniversary, 1962. President John F. Kennedy demands the removal from Cuba of Soviet missiles and imposes a quarantine to prevent more weapons from reaching Cuba. Soviets agree to remove the weapons on Oct. 28.

October 25

Grenada rescue mission, 1983.

October 26

Resume standard time, 2:00 a.m. "Spring forward, fall back."

October 28

100th anniversary of dedication of Statue of Liberty. Frederic Auguste Bartholdi's famous sculpture, "Liberty Enlightening the World," dedicated on Bedloe's Island in New York Harbor, 1896.

October 30

John Adams, second president, born 1735. He died on July 4, 1826, the same day as Thomas Jefferson.

October 31

Halloween.

Galley's 'steamship round' draws big crowd



Photo by JO2 Todd Lufkin

CAPT and Mrs. Edward Sturm anticipate a hearty lunch at the Navy Galley.



Photo by Regina Gasuk

Cathy Coulon (L) and Chris Middleton (R) proudly display cake baked by MSSN Sean Sebring and decorated by MS2 Randy Collins.



Photo by Regina Gasuk

MSSN Sean Sebring looks on as MS2 Randy Collins carves the 54-lb steamship round.

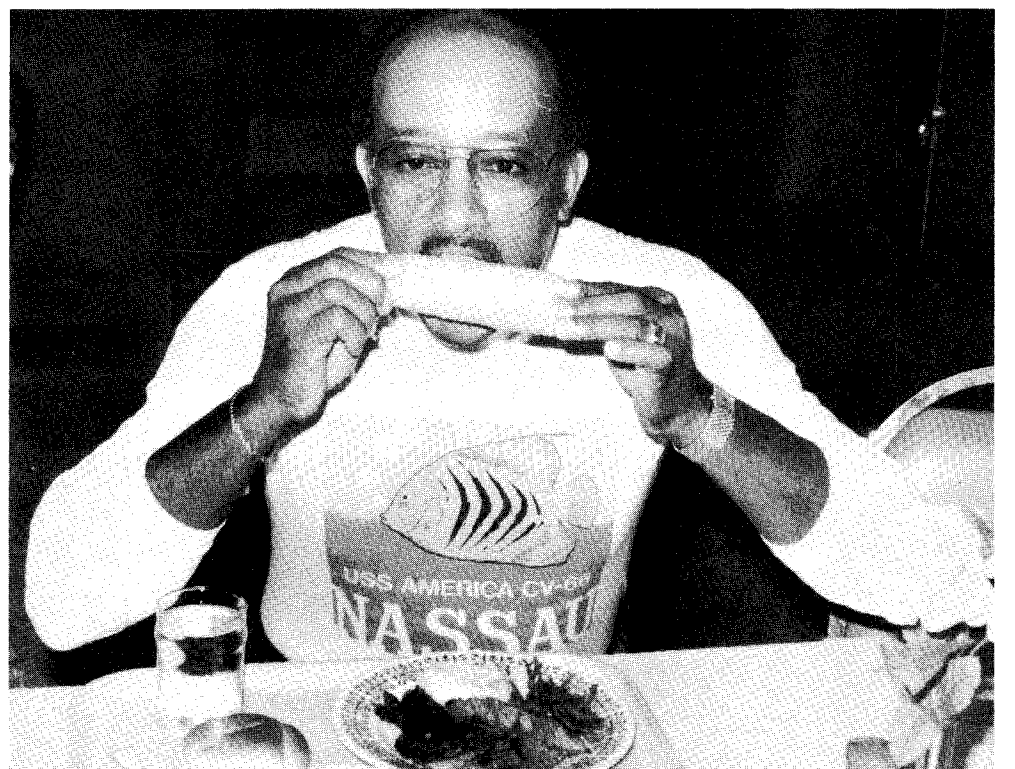


Photo by JO2 Todd Lufkin

Command Master Chief Nelson Williams eagerly devours an ear of corn.



Photo by Regina Gasuk

One of the many tables of satisfied customers.

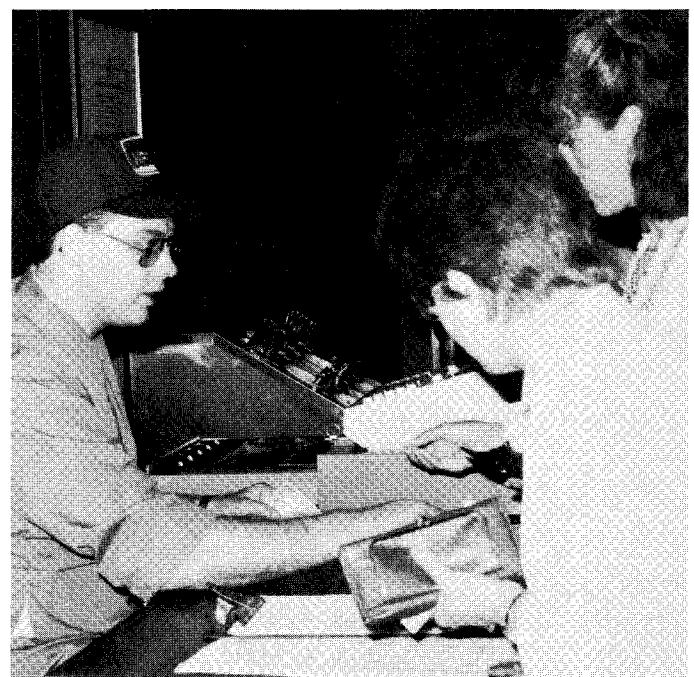


Photo by Regina Gasuk

Patrons willingly pay MS2 Nick Wandishin for taste treat.

Key West—Paradis

by Regina Gasuk

Nestled among palm trees laden with coconuts and caressed by the calmest and bluest seas, is a little bit of paradise known as the NADC Key West Detachment. Located at the southernmost tip of the continental United States, at the Naval Air Station, Trumbo Annex, the detachment is one of forty tenants at the various locations belonging to NAS, Key West.

Dan Probert, director of the detachment for the past 21 years, sees Key West as a real-world laboratory where equipment encounters its intended operating environment. "If you haven't been down in the past couple years, you'll be surprised when you enter our office spaces which have been relocated and completely renovated. The laboratories and work areas have been tiled, painted, and the entire building is completely air-conditioned. The shops have been relocated from building 27 to the main building, with clean freshly painted spaces," said Probert.

Upon arriving at Key West, you receive a warm Florida greeting from Maureen Satchell, receptionist and secretary to the director. She makes all visitor reservations, checks security clearances and performs a wide variety of tasks in support of office and project personnel.

Satchell is the newest member of the Key West team, having arrived only a few months ago after working seven years as a secretary at NADC, Warminster. "I think for the type of experimental endeavors that the Center is involved in, this facility is vital," said Satchell. "People come from all over the country to utilize the facilities here to test equipment."

Part of Satchell's duties is monitoring the ship-to-shore radio, a critical aspect of the operation providing the sole contact between the detachment and project work at sea. Satchell hopes to learn to swim, and plans to bike and explore the endless possibilities open to her in Key West.

The area's balmy, subtropical climate (averaging 74 degrees), history of frost-free weather, and calm shallow seas

make it ideal for scientists and engineers to deploy and recover equipment. Developmental sonobuoy testing, including the Low-Cost sonobuoy program; floatation, delivery and safety systems; shock tests; ordnance testing; laser detection of underwater objects, and virtually any design the Navy has that is associated with water is tested at Key West.

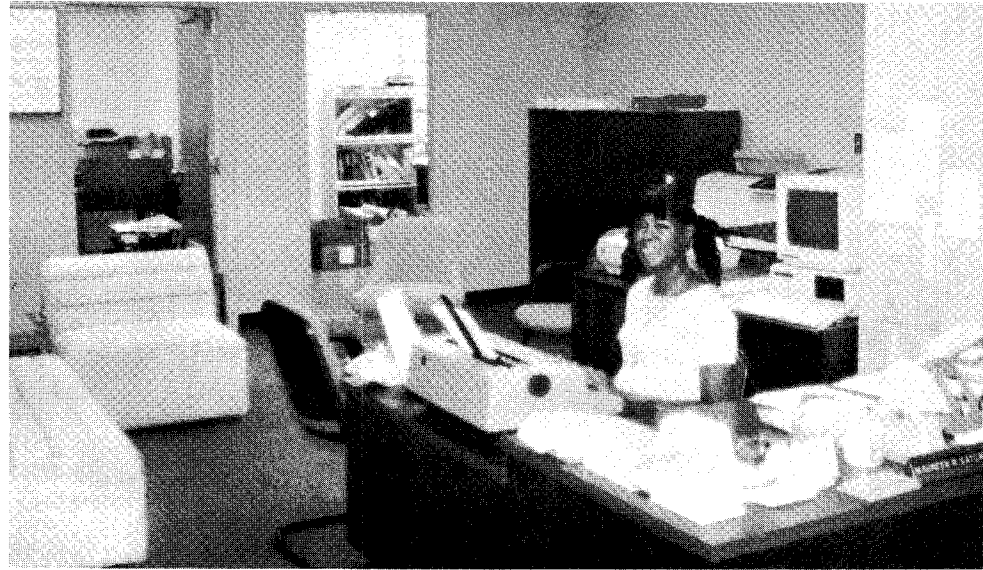


Photo by Regina Gasuk

Maureen Satchell welcomes visitors in spacious reception area.

"We feel that we offer one of the finest working areas on the east coast for laboratory testing. I think the biggest service that we provide the Center is a quick reaction test facility," said Probert.

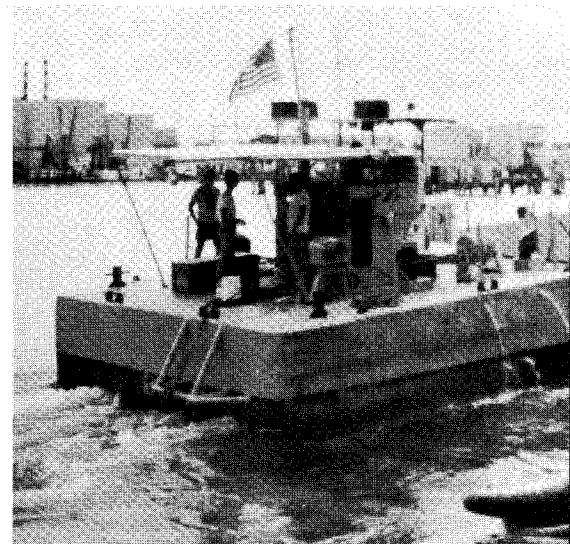
He describes the process of trying to rent a boat or test platform, for short periods of time, as difficult. Negotiating with vendors about time and cost, preparation, installation of equipment, testing support, and offloading equipment can be both time consuming and an expensive proposition. Also, time periods are usually fixed and not readily changeable. "In our case, the boat is ready, we are geared for short term testing, and generally, we can accept equipment, have the project ready to go, and run a several-day test, quickly and at a minimal expense," he said. "If they (engineers) have problems, they can return to their respective installations, make adjustments and return to the detachment for re-test, without their having to pay for long-term leases." Storage facilities are available for safekeeping of equipment until the next test session.

The renovated spaces Probert refers to include 26,000 square feet of offices; a walk-in vault; fully equipped wood, machine, and welding shops; spacious laboratories and staging areas; also, complete shower facilities and dressing rooms for men and women.

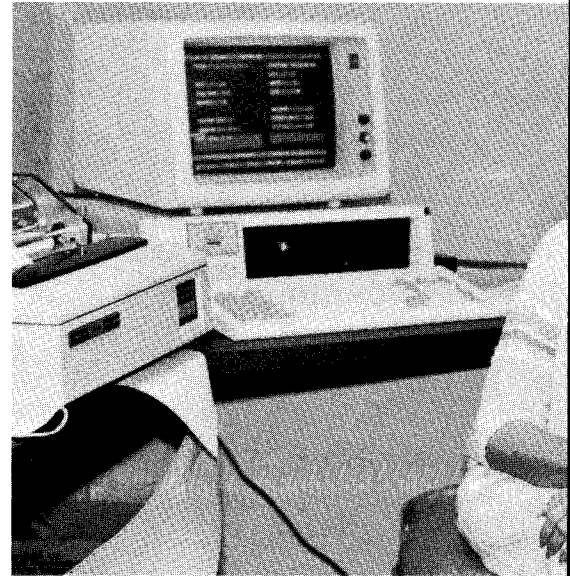
"Anything an aircraft or vessel does in the water, over the water, or with the capability of placing something into the water, is what we end up testing," said Ryan Reeder, deputy director of the detachment. Reeder is responsible for the financial management and assisting the director in day-to-day operations. He also monitors the NADC contract with General Offshore Corporation, the company responsible for operating the boats, performing repair and maintenance work, and assisting project people.

In his 25th year with the Navy, Reeder spent 19 years at the Naval

Weapons Support Center, Crane, Indiana, working on the Polaris, Poseidon and Trident fleet ballistic missile weapons systems before coming to Key West. "As a rule, our work falls into two categories," said Reeder. "Over-the-side testing (i.e., lowering hardware into the water from a boat) or air drops (i.e., deployed from a P-3 or helicopter). Many times we see projects through



The Landing Craft Mechanized (LCM) prepares to work on the Hydrographer Laser at Key West.



Helen Savord takes a moment away from inputs much of the supply data generated.

Connie and children Wendy (16), and Rob (13) enjoy sailing and all the water sports available to them.

The man who does everything is Bobby Orr, an electronics technician who has been at Key West for five years. He gets things together for a scheduled test, receives the shipments, frequently participates as a test team member and makes arrangements to ship the material back to the specified installations. Orr has 17 years prior experience at NADC Warminster where he worked in Public Works and as a Materials Engineering Technician in the Coatings Laboratory of the Aircraft and Crew Systems Technology Directorate. "The work at Key West is interesting," said Orr, "in the past, it entailed a lot of sonobuoy testing, but we've broadened the field. We are not as restricted as some other places because we are a remote facility and this is strictly a Navy area. The water is so clear here that, at least 80% of the time I can see the bottom at 50 to 70 feet. It's easy to work with temperatures in the 70's. Radio reception capability is enhanced in these calm waters. Commander Tom Mumford and John Tate have broadened our relationship with the parent command; we interact more with NADC's engineers now."

Orr spent four years aboard the submarine, USS CROAKER as an Electricians' Mate and has worked at E.I. DuPont as a chemist's assistant and Black & Decker as an electric tool repairman, skills that make him a val-

multiple phases. First, the project personnel come down to test the mechanical model, then they'll install the complete electronics package and test again."

Reeder would like to see NADC personnel use the facility more. "Obviously I am biased, I would like to see NADC personnel use this facility all the time, but complete testing does require different environments. We call it the Shallow Water Test Facility in Key West and the St. Croix facility is for deep water testing. Key West manages the St. Croix assets through the same support contractor, General Offshore Corporation. Actually we have very deep water here at Key West, just as deep as St. Croix, if you are willing to go 150 to 170 miles out into the gulf stream," said Reeder, "instead of five miles from shore as at St. Croix."

Reeder received his Bachelor's degree in engineering from the University of Evansville in Indiana. He moved to Key West because he and his wife

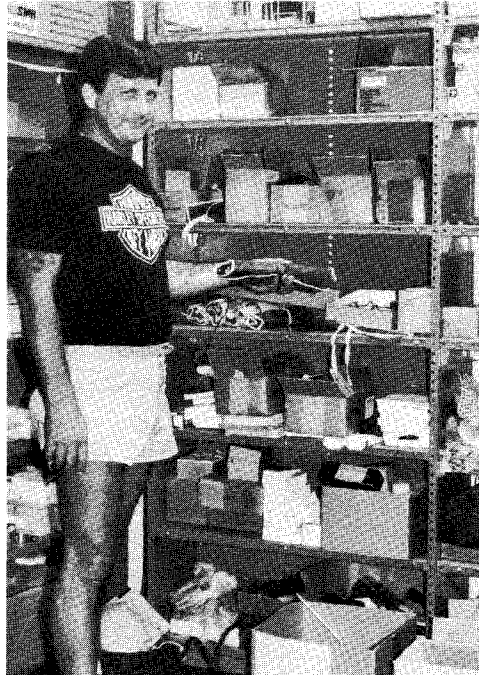


Photo by Regina Gasuk

Supplies are kept on hand by Bobby Orr to aid engineers and contractors in their work.

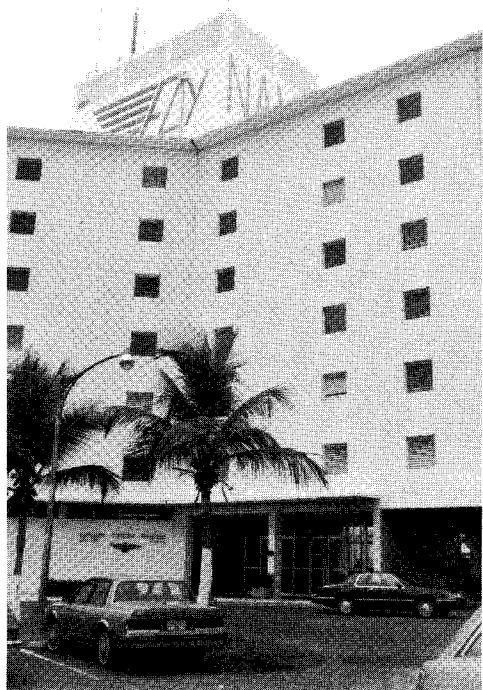


Photo by Regina Gasuk

Key West's Bachelors' Officers Quarters offers modern living arrangements to visitors.

Key West Island at NADC

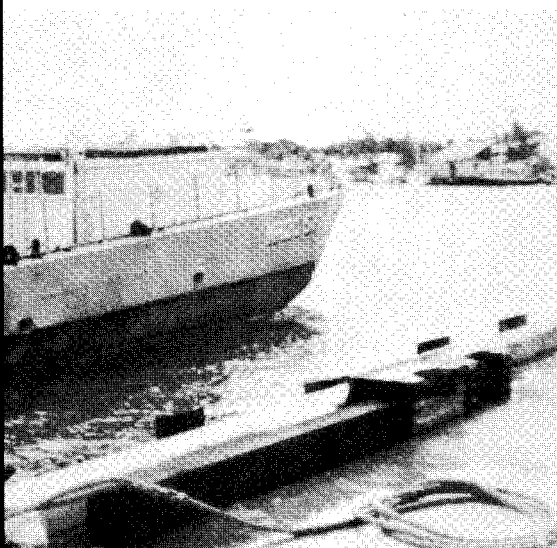


Photo by Regina Gasuk

away from one of NADC's three finger piers (HALS) project currently underway



Photo by Regina Gasuk

her indispensable computer where she works at Key West.

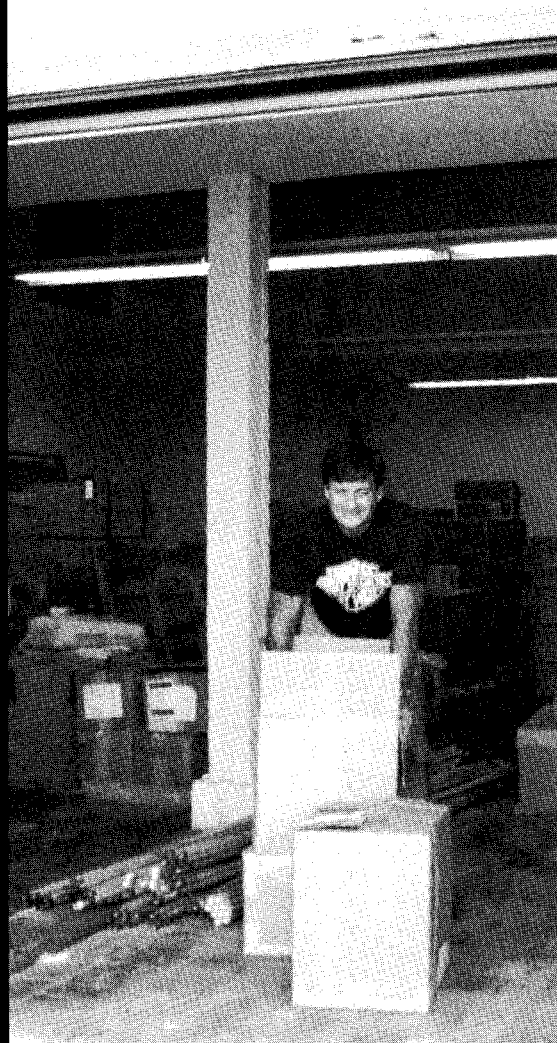


Photo by Regina Gasuk

Orr unloads materials at the detachment's shipping and receiving dock where equipment can be sent directly by the facility.

able asset to the Key West team. Orr has four children: Deborah (25), Robert, Jr. (22), James (21) and Marion (19), and has just become a grandfather for the second time.

Almost any item that an engineer may need is available at Key West, but if something is needed which the detachment does not have, Bobby Orr or Helen Savord, Clerk Typist, can get it for them almost as fast as it takes to drive to one of the many companies with whom the detachment has Blanket Purchase Agreements. Savord has 30 years with the government and her primary duties include supporting the detachment's logistics requirements, which also includes ordering parts for the boats, and assisting Ryan Reeder. "I like being part of NADC," said Savord. "I am in contact with Warminster every day. If there is a problem with a payment, I call up to NADC and usually straighten things out in a matter of minutes. Everything I do is put on the computer and that is how Warminster has a record of what is being done."

Savord is married 36 years and has one son Joseph (24), who lives in St. Petersburg. She's a "Conch," that's someone who was born and raised in Key West. She and her husband are actively involved in the Moose club, where they attend dances, dinners and Sunday breakfasts. In her spare time she is a 'Bingo Queen' and lately she has been winning she said, (while knocking on wood for luck).

Key West is a service organization. Dan Probert and the other team members are there to assist in any way they can the special testing that is critical to the performance of NADC's projects and overall mission of the Center.

Highly adaptable sea-going platforms are the detachment's major asset that facilitates this mission work. Three research craft are based at the Key West Trumbo annex: a 135 ft. Landing Craft Utility (LCU), a 74 ft. Landing Craft Mechanical (LCM), and a 50 ft. crew boat. Probert is expecting a 192 ft. offshore vessel soon, which will be equipped for almost every aspect of ocean research. Currently the LCU is the mainstay of the detachment's research vessels. Used for two to three week missions, it can accommodate 22 people overnight in air-conditioned comfort. It has a 35 ton hydraulic crane with a 45 ft. boom and winches. Also aboard is a galley, pantry, laundry, and shower facilities. It carries UQN-1 depth-sounding equipment (up to 6000 fathoms), UQC underwater telephone, Ross fine-line recorder, gyrocompass and has autopilot capability.

Three finger piers, under direct control of the detachment, provide 1400 feet of docking space, with an additional 1500 feet available at an adjacent pier.

"There are a number of people at the Center who don't know we exist," said Probert. "They don't know our capabilities or what we can do for them. If they have a program that involves ocean testing, we sure would like to see them."

Before working at NADC, Probert worked for Spartan Electronics building sonobuoys, which supplied him with the technical background he needs.

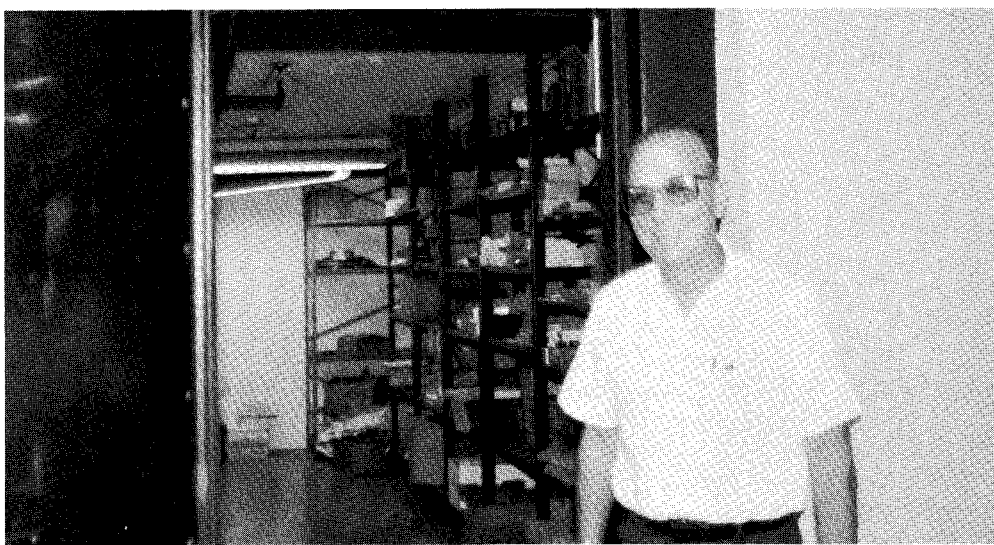


Photo by Regina Gasuk

Dan Probert proudly displays the detachment's walk-in vault where classified information and valuable items can be stored.

He received his Bachelor's degree in electrical engineering from the University of Michigan and attended Wayne State University for graduate studies.

He does everything in his job that is done at any major command. "Every person who works at Key West learns all of the different jobs that are done at the various departments on Center. We even know how to: drive a forklift, op-

"I think at the present time under CDR Mumford the relationship between Key West and Warminster is the best it's ever been. He and Captain Sturm have shown a real interest in our problems and have supported us by presenting our capabilities to the Center," said Probert. "Management is looking at us as an asset and they are pleased to have the NADC logo on the facility."

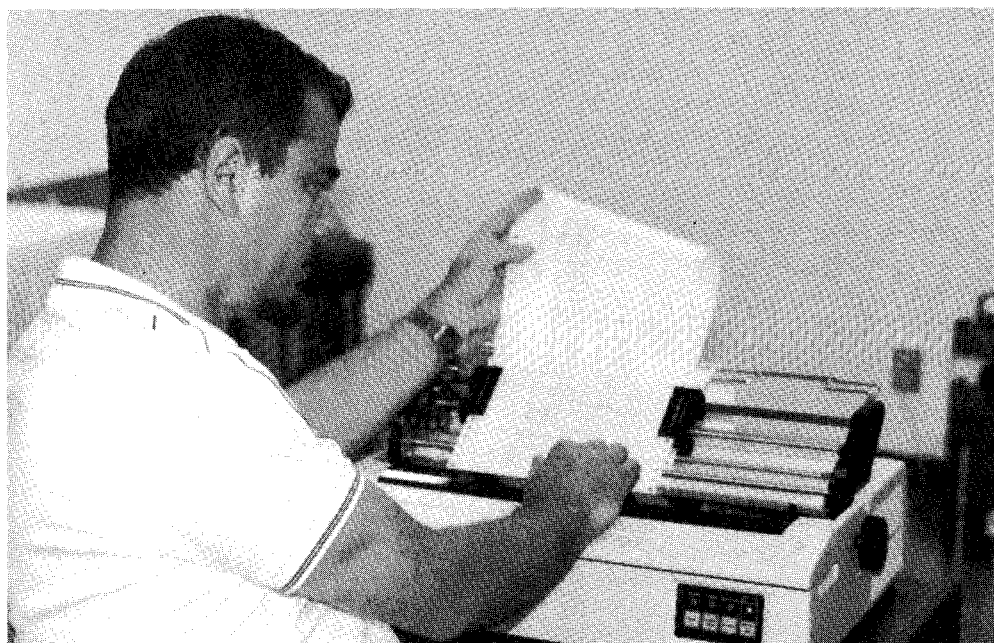


Photo by Regina Gasuk

Ryan Reeder, financial manager double checks computer data before sending final reports to Warminster.

erate a boat, or serve as members of the aircrew on a test, if necessary," he said.

"When project people arrive, we try to have everything in place for them to conduct their tests and if they need supplies or repairs, we try to provide them because we know the support which is available." This is one of the features that Key West offers that most places don't; project personnel can continue their testing and not be concerned with logistics while NADC personnel perform repairs or track down supplies.

The detachment can accommodate up to three to four projects at the same time, if several weeks' advance notification has been received. "We are involved in the various phases of airborne ASW from the conceptual stages to TECHEVAL. We also get involved in troubleshooting for the fleet," said Probert.

Probert and his wife Ginny just bought a new home and spend much of their spare time renovating the new residence. He has three children, Ben (30), Carly (27), and Jency (26).



Photo by Regina Gasuk

Jack Gibbons, NADC engineer, determines precise ocean location for mission work with Ben Olah, vessel operator employed by General Off-shore Corporation.

Vickie Sparkman offers helping hand



Photo by JO2 Todd Lufkin

Vickie Sparkman

by JO2 Todd Lufkin

One of NADC's newest Naval personnel has recently reported for duty. However, you won't find her working on the line, assigned to any duty section or standing in ranks at Quarters. But don't underestimate the worth or necessity of this individual's work.

Meet Vickie Sparkman, the newly appointed Ombudsman for the Naval Air Development Center.

Working with the Navy isn't new to this Jacksonville, Fla., native. Not only is she married to NADC's Schedules Chief, AXC Ira "Sparky" Sparkman, but she is also the daughter of a 20-year retired Naval Warrant Officer. "I know from first hand experience what it's like to be raised in a Navy family. I know all about broken friendships and never ending adjustments. We Moved during my Junior year in high school and I thought it was the meanest,

cruellest thing my parents could ever do to me. It's easy when you're small, but it's hard on children as they get older."

But don't think Sparkman is down on the Navy. On the contrary, if any of her family considered enlisting she "would be pleased and would back them 100%." A firm believer in the naval system as it works, she states "I'm not in the military, but I feel like it. The Navy's a good life; a secure life. I know the family will be paid twice a month and get various benefits."

Sparkman heard in May that the position of Ombudsman would be vacant in July when Nancy Dias would be transferring to Guantanamo Bay, Cuba with her husband, Fred. "I thought by applying for the job I could make a contribution to the Navy, help others and in the process cultivate an interest in Warminster and southeastern Pennsylvania."

Additionally, being Ombudsman seemed a natural step for her to take. "Our door is always open and there's always an extra chair at the dinner table. Of course it might be pot luck, but it is a home-cooked meal. I've always been the kind of person who helps others any way I can," she said. "If I know how to cut through some red tape or deal with some particular office, then why shouldn't I share that information with someone else?"

She views her Ombudsman job as "a helping hand between the command and the command personnel; a link in the chain." Sparkman sees the job as providing aid to people who have a problem or the need to know some important information or fact. She states a willingness "to exhaust my resources," but admits that "I may not be able to find an answer. Maybe I'll just get them pointed in the right direction, but I'll give it a good shot."

This mother of four (two boys and two girls) has had no practical experience as an Ombudsman, just what she has heard by word of mouth. "I don't think being an Ombudsman on shore is nearly as hectic as being one for a ship," said Sparkman, "but I am a firm believer that a job is as important as you make it, and I intend to give it all that I've got."

Having been at the Center for 16 months, Sparkman is anxious to do her part at helping others and making NADC a better place for all sailors. "I feel sorry for the single people and the barracks' residents. It's got to be lonely for them and, hopefully, I can do something to brighten their existence," said Sparkman.

On another subject Sparkman stated, "Our husbands mean well, but face it, due to one reason or another they often forget to tell their families everything; over in Shenandoah Woods (Navy housing) we suffer from a lack of information." She has already met with the Command Master Chief, AFCM(AW) Nelson Williams, to discuss ways to combat this problem. "I see him (Williams) as a concerned individual who wants to have the military informed." To that end they are working on ways to keep the families in touch with pertinent facts. *Update* (a monthly newsletter) and usage of a central bulletin board at Navy housing are two ways she plans to accomplish this.

The Sparkmans were stationed at Jacksonville, Florida prior to NADC. "I was used to a large exchange, commissary, and hospital nearby. Here at NADC we are forced to go to Willow Grove, Philadelphia or Fort Dix. We need to work with what we have got and take advantage of other base's facilities.

What do they offer? What are their hours? What kind of meetings are taking place there that may affect us? Where and when are they? This is the kind of information that needs to get out and the kind of information that I'll see gets put out," stated the Ombudsman with determination.

"At this time I realize my job will be very challenging, but in time and with the help of Master Chief Williams and Captain Sturm," crossing her fingers now for added emphasis, "I don't foresee any problems."

CPD reports on updated retirement benefits

by Dottie Kirkpatrick

After 3 long years, federal employees finally have a new supplemental retirement plan. The Federal Employees' Retirement System, FERS, is a combination of ideas from the old retirement plan and from plans currently in use in the private sector. FERS is a 3-tiered plan that consists of a Social Security plan, a basic pension plan, and an optional thrift plan. Although the first two tiers are mandatory, the third tier, the optional thrift plan, allows you the flexibility to tailor your retirement plan to suit your individual needs.

Almost everyone who works is covered by Social Security; however, federal employees are not covered except for civilians hired after Dec. 31, 1983. For those covered by Social Security, your benefits are based on what is called the Primary Insurance Amount, which is the amount you would receive if you retired at the normal retirement age, i.e. 65. Benefits, obviously will vary greatly from employee to employee depending on salary, time in service, and age at time of retirement.

In order to be eligible for Social Security benefits, you must have the required number of quarters of coverage. The required quarters of coverage for employees born after 1928 is 40 quarters. Those born before or during 1928 need fewer quarters. In 1986, one quarter of coverage is earned for each \$440 of annual earnings. A maximum

of 4 quarters may be earned per year. In addition to quarters of coverage, you also contribute 7.15% of your pay on a maximum of \$42,000 of income for 1986.

The basic pension plan is open to all federal civilian employees hired after December 31, 1983 who are also covered by Social Security. To be eligible, you must have 5 years of civilian service, provided that none of your contributions have been refunded. Your contribution will be 1.3% of your pay in 1987, 0.94% in 1988-1989, and 0.8% after 1989. In return, you will receive an annuity that is 1% of your high-3 pay times the years of service, or 1.1% if you retire after age 62 with 20 years of service.

To receive unreduced benefits, you may retire at age 62 with 5 years of service, at age 60 with 20 years of service, or at the minimum retirement age with 30 or more years of service. The minimum retirement age is 55, but it will begin to rise in the year 2003 and will eventually reach age 57 in the year 2027. If you are age 50 with 20 years of service or any age and 25 years of service you may also receive unreduced benefits if you are involuntarily separated from your position.

If you retire at the minimum retirement age with only 10 years of service, you will receive reduced benefits.

There is no COLA before age 62. At age 62, you are entitled to a full COLA

if the CPI increase is less than 2%. If the CPI is 2% to 3%, the COLA will be 2%, but if the CPI is 3% or more, then the COLA will be equal to the CPI minus 1 percentage point.

Survivor benefits under the basic plan entitle the surviving spouse to a lump sum of \$15,000 plus one-half of your annual pay or average of high-3 pay, whichever is higher. You can also make provisions for post-retirement death benefits for your spouse by forfeiting 10% of your annuity. Similar provisions can also be made for surviving children.

To be eligible for disability benefits, you must meet the definition of an "occupationally disabled" employee. An "occupationally disabled" employee is unable, due to disease or injury, to render useful and efficient service in his or her position.

Disability benefits for the first year are 60% of high-3 pay minus any Social Security benefits payable to you. After the first year, disability is 40% of high-3 pay minus 60% of initial Social Security benefit payable to you. This will be increased by an annual COLA percentage.

The optional thrift plan is a tax-deferred plan that allows employees under FERS to contribute up to 10% of their annual pay and employees who remain under CSRS to contribute up to 5% of their annual pay.

Contributions made by FERS employees are matched by the employer dollar for dollar on the first 3% of pay, then \$0.50 per dollar for the next 2% of pay. The employer also automatically contributes 1% of pay into each employee's account, even if you choose not to contribute to the thrift plan. If you elect to remain under CSRS, you may contribute up to 5% of your pay with no employer matching.

You can have your thrift-account funds invested in a government securities fund, fixed-income investment fund, or a common stock index investment fund, subject to certain restrictions through 1996.

You may not withdraw your funds until you are eligible for retirement. Once you do retire, however, you may choose how you receive your payout. You may choose an annuity for life or a fixed term, cash, or a rollover to an IRA. After January 1, 1988, you may borrow from your own contributions to the thrift fund.

CSRS employees will have the opportunity to join the new program between July 1, 1987 and December 31, 1987.

Editor's Note: Information for this article was obtained from the Office of Personnel Management

Technical Highlights

VERTICAL FLIGHT PROGRAM COMPLETES FINAL RAST DELIVERY

The NADC Vertical Flight Program Office completed its responsibilities on the Recover, Assist, Traverse and Secure (RAST) Trainer program with delivery of a second Flight Deck Director/Landing Signal Officer Trainer. NADC will be phasing out of the maintenance trainer program in October 1986 and transferring that responsibility to other activities.

S-3 COMMUNICATIONS CONTROL GROUP COMPLETES OPEVAL

An NADC-developed Communication Control Group (CCG) for the S-3 aircraft completed OPEVAL (OT-IIA) in late July 1986. The CCG provides enhanced Reliability and Maintainability, independent Built-in-Test features, and growth potential, and will provide a direct replacement for the existing system without the need for software or major changes. Approval for Limited Production is anticipated in early FY-87 after OT-IIB by VX-1.

ENHANCED LOW COST SONOBUOY

Data obtained by using the Test Steerable Vertical Line Array (TSVLA) was analyzed by broadband cross correlation processing of the TSVLA beams. An ambient sea noise analysis

was conducted to verify the vertical directionality of broadband acoustic noise in several frequency bands. ELCS system gain may be increased by taking advantage of vertical directionality. Cross correlation of TSVLA beams were also processed against an acoustic projector to measure the potential system gain.

OPEVAL/TECHEVAL OF THE OSP SYSTEM

During the period 14 July to 10 August 1986 a dockside and at-sea OPEVAL/TECHEVAL of the OSP system aboard the USNS HESS were successfully accomplished by NADC personnel. During this period various hardware and software updates to the Oceanographic Survey Program (OSP) system were incorporated and evaluated. The system improvements included the integration and evaluation of a new, state-of-the-art Satellite Receiver Navigation System (SRNS) and associated software for the SRNS and Navigation Computers. The SRNS, which replaces the existing obsolete NAVSAT receivers, provides GPS position and velocity data in addition to providing transit position data. The added GPS system capability will significantly increase navigation accuracy for ships operations outside of LORAN-C coverage.

LOW COST SONOBUOY

Wind tunnel tests are being conducted in the Princeton 4 ft x 5 ft wind tunnel to investigate alternative fold-out winged surfaces on two models (SIPPICAN & SPARTAN) versions of the low cost sonobuoy model. Baseline tests of the unmodified SIPPICAN sonobuoy model were completed in July 1986. The objective of the winged tests are to determine a suitable self-trimming configuration which will provide sufficient lift/drag ratio for gliding dispersion of the sonobuoy.

TAV-8B ESCAPE SYSTEM

The service release test program continued at NAVWPNCEN, China Lake, CA. Test velocities of 0, 180, 25, 350, and 435 KEAS have been successfully completed. These tests demonstrated acceptable escape system performance including canopy penetration/fracturing, sequencing, spatial separation, and parachute four line release stowage.

A field maintainability evaluation was conducted at NAVWPNCEN. This review assessed the preliminary manuals, tools, and procedures used to maintain the escape system in Fleet operations.

Promotions

Frances Abramson, Ross Barcklow, Kenneth Bullard, Daniel Christian, Stephen Chung, Patrick Clausius, Jaime Clavell, George DeLisi, Diane Erdman, Joan Fallon, Joseph Flynn, Ronald Garber, Mary Ellen Grady, Charles Harless, Marilyn Hatzenbeller, Nora Hernandez, William Holcomb, Helen Hummel, Marshall Hynes, Sharie Janow, Lea Joret, Thomas Keegan, Joseph Kozol, Jeffrey Lytle, Abraham Meth, Joseph Morton, Carol Ann Newman, Binh Nguyen, Thach Nguyen, Kathleen O'Brien, Joseph Oriti, Alan Park, Thomas Persing, Barbara Potts, Eric Preissner, Bryan Rittenhouse, Janice Rudy, Timothy Shannon, Loraine Siron, Kenneth Smith, James Tidwell, Nancy Topping, Lawrence Turner, Carol Vanwyk, Claire Walsh, Margaret Walter, Timothy Woolverton.

Worth Repeating

"Thought, to be worthwhile, must complete itself in action."
—Shakespeare

"The cruelest lies are often told in silence."
—Robert Louis Stevenson

VIEWPOINT

This month's question is:

Do Blondes have more fun?

Photos by Regina Gasuk

"I think everyone has a lot of fun, but it depends on the person. Unfortunately, the old cliché that blondes are dumb is still in effect, but not necessarily true. As an individual I definitely have more fun."

SK2 Jean Rodriguez, code 0452



"Yes! Blondes have more fun, and since I am a dirty blonde, I enjoy dirty fun."

MS2 Randy Collins, code 0421



"Yes, while lying on a beach in Hawaii sipping pina colodas."

Barbara Keyser, code 1AS



"Yes, Men have always preferred blondes. Blondes just want to have fun."

Candy Ciociola, code 20C



"Definitely, especially when my boyfriend is travelling."

Donna Conway, code 095

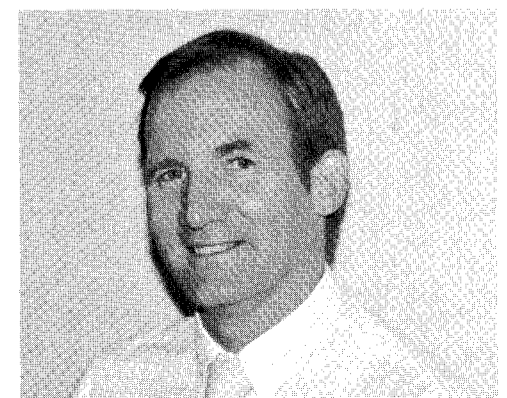


"Do we? I mean, we do, of course we do. Now if I can just keep telling myself that."

JO2 Todd Lufkin, code 091

"As an Operations Research Analyst I think the validity of such a hypothesis can only be evaluated by large scale testing. Sign me up!"

Glenn Carter, code 201C



Annual NADC England vs Australia cricket match

The annual NADC England vs. Australia cricket match was held on August 24th. Both teams were well represented while friends and family cheered them. Sunny blue skies and lots of refreshments made it a perfect day. Here are the results:

Australia were all out for 72 runs. In reply the English team scored 71 runs, giving Australia victory by one run (there is a rumor that the score keeper lost his pencil and the result was decided by counting the empty beer cans produced by each team!).

CDR Otani, the JMSDF Liaison Officer, believes that the reason the game hasn't caught on in Japan is that it can take five days to complete and still end in a draw, while the Canadians attribute the lack of popularity in their fair

country to the limited opportunities for body checking and high sticking! A few of the Americans were confused by some of the technical terms used by the Australian team, which included:

POMEs = Prisoner of Mother England, a derogatory term which should be used often, and in conjunction with other profanities, to distract the English team, and 'AVAGOYAMUG = have a go you silly English gentleman!

Play was temporarily stopped when Ralph Collins (Code 5041, and representing England) hit the ball out of sight and into the long grass. LCDR John Bramer, VP Program Office, took the winning wicket for Australia. All in all a good time was had by all, and that's fair dinkum!

ANON

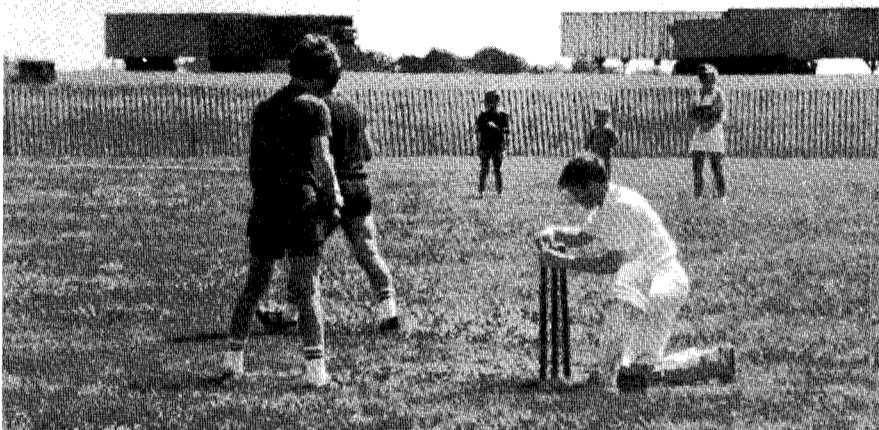


Photo by Regina Gasuk

Britain's John Coote (kneeling in white) replaces bails knocked over by the wind?!



Photo by Regina Gasuk

Chief Ronald May bowls in devastating fashion as Stu Heppenstall (left), Steve Gray (rear), and Mrs. Gray (right) prepare for their next move.



Photo by Regina Gasuk

Players' families and friends gathered to watch the friendly competition.

Behavior Codes for Game of Cricket

ENGLAND

1. The game is more important than the result. Players should behave in a sporting manner at all times.
2. The fielding side shall applaud the opposing batsmen on their way to the wicket.
3. The fielding side shall offer congratulations when the batsman plays a good shot.
4. The fielding side shall offer commiserations to any batsman who is out.
5. The bowler shall only appeal when he believes the batsman is out.
6. The bowler will address the umpire as "sir" and accept all his decisions.
7. If the batsman believes he is out, he should not wait for the umpire's decision, but should give himself out.
8. The batsman should never attempt to interfere with the fielders.
9. If it looks as if you might lose the game, adopt the Australian code of behavior.

AUSTRALIA

1. Winning is paramount. Any means should be used to achieve victory.
2. The fielding side should make derogatory remarks about the batsmen on their way to the wicket.
3. Any good shot played by the batsman should be commented on as "lucky."
4. If a batsman is out, the fielders shall say "Got you, you *!#!*" or similar expressions.
5. All the close fielders will appeal whenever the batsman misses the ball or it hits his body.
6. The bowler will be rude and aggressive to the umpire and query every decision which goes against the fielding side.
7. A batsman should always argue vehemently with the umpire when given out.
8. A batsman should try to prevent fielders from catching the ball by shouting "leave it" or "mine" or running directly at the fielder.

Editors Note: Rules were supplied by Squadron Leader Stu Heppenstall.

Attention all skiers

by Joyce Smith

The NADC Ski Club will be holding its second meeting on October 20th at 7:30 PM in the dining room of LuLu Wellington's restaurant on York Road, Warminster. Come on out and join the fun as the "Great Giveaway Contest" continues!

More information will be available regarding the upcoming ski trips for the 1986-87 season. Scheduled trips include: a week trip to Steamboat Springs, Colo. and weekend trips to Killington Vt.; Lake Placid, N.Y.; and Jay

Peak, Vt. There is still time to sign up and reserve your place on the trips!

If you are interested in becoming a Ski Club member (or in renewing your membership) and signing up for one or more of the trips, come out and join us for the meeting on the 20th of October and find out what our Meetings Chairperson (Jim Macaulay) has in store for us this month.

Membership fees are \$2.00 per season (with NADC code) or \$4.00 per season for an off base address.

Hope to see you there!

Crews Rest Hosts 1986 Summer Pool Tournament

by Linda Lips

On Saturday August 23rd the Crew's Rest was filled with excitement, red T-shirts, two piece cue sticks, and blue billiard chalk. The afternoon marked the beginning of a two day 8-ball pool tournament with twenty-six entrants setting their sights on winning one of the three trophies on display. Over fifty games were played over the two days of intense competition. Those waiting their chance to compete got some

professional tips from a Minnesota Fats instructional video tape. On the second day of competition the participants enjoyed a buffet lunch while awaiting the final results. Linda Lips, Tournament Coordinator, presented trophies to three finalists immediately following the final rounds of competition. Jim Gittings won first place, Jack Tyburski placed second and T.J. Smith took third place. Watch the Log for the next tournament announcements and come join in the fun.

Low score guzzles 1986 NADC Golf Open

by Charlie Destra

The 1986 "Mad Hatter" Guzzler Open, played at Fairways Golf Course in Warrington, was won by Rich Sames who blistered the course with an all-time Guzzler tournament low score of 71. Bob Parrons (75) and Pete Carroll (78) were his nearest challengers.

Sames, making his first Guzzler tournament appearance, surprised everyone with his exceptional score, and laid claim to being the one to beat in the upcoming Guzzler Fall Classic.

The golfers enjoyed ideal weather and the course played easy with 16 of the 26 players posting scores below the 100 mark.

The "Mad Hatter" theme requested participants to wear hats, and a prize was awarded to the golfer with the craziest headwear. The winner, predictably, was John Bowes, who came as "John Arrows"—wearing an empty beer box with three arrows sticking through it.

Handicap prizes were also awarded to the golfers who finished 11th and 21st. Steve Fleischut (94) came in 11th place, beating Glenn Willis and Tom Weiss in an exciting two-hole playoff. Bill Walsh (107) likewise needed a playoff victory over Jay Ward to win the prize for finishing 21st.

The "Closest to the Pin" contests were won by Bob Parsons and Greg Kovach.



Photo by Bob Geyer

Mad Hatters display their mad headwear for the competition.

Parsons lofted his winner five feet from the cup on the 130 yard 9th hole, and Kovach's shot dropped eight feet from the 125 yard, 15th hole's flagstick.

The Guzzler Open is the second stop on the Guzzler tour, preceded by the Spring Invitational and followed by the Fall Classic. This year's Fall Classic, featuring a "Halloween" theme, will be played at Horsham Valley Golf Course on October 16th. Contact John Markow, Tournament Director, on extension 1026, if you're interested in participating.



Photo by Bob Geyer

John "Arrows" alias "Bowes" was the winner of the hat competition.

The Field

R. Sames	71	G. Willis	94
R. Parsons	75	C. Destra	95
P. Carroll	78	D. Whitenack	96
G. Kovach	86	B. Cerino	98
W. Latosh	87	R. Geyer	103
P. Finnegan	87	S. Zajdel	103
J. Bretton	87	D. Stiles	104
M. Bubb	88	L. Morris	105
D. Krause	90	R. Zielinski	106
J. Markow	92	W. Walsh	107
S. Fleischut	94	J. Ward	107
T. Weiss	94	J. Bowes	112
		G. Holland	128
		K. Mergner	130

W&R visits Lady Liberty and New York City

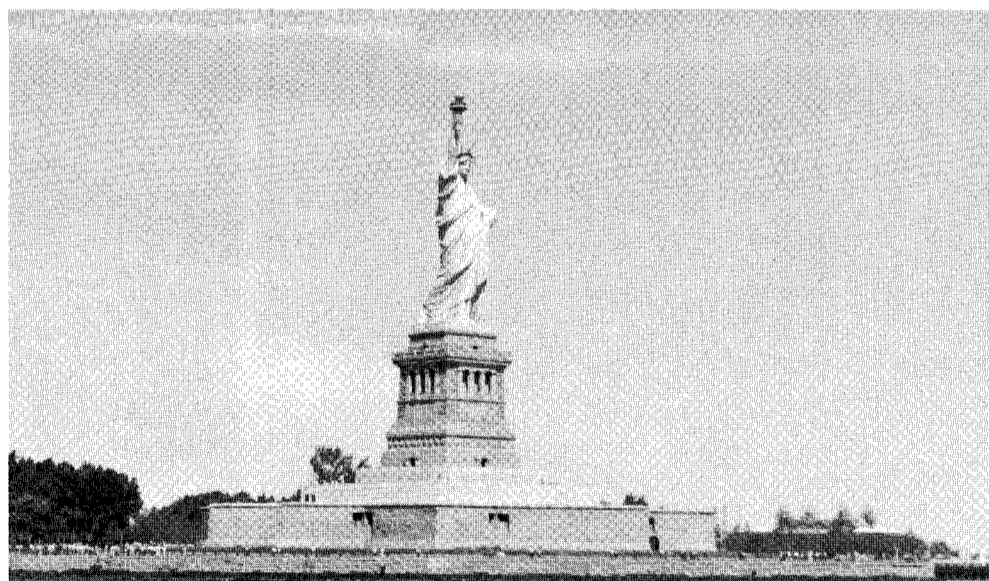


Photo by JO2 Todd Lufkin

The Statue of Liberty lifts her light high into the sky for all NADC employees to see.

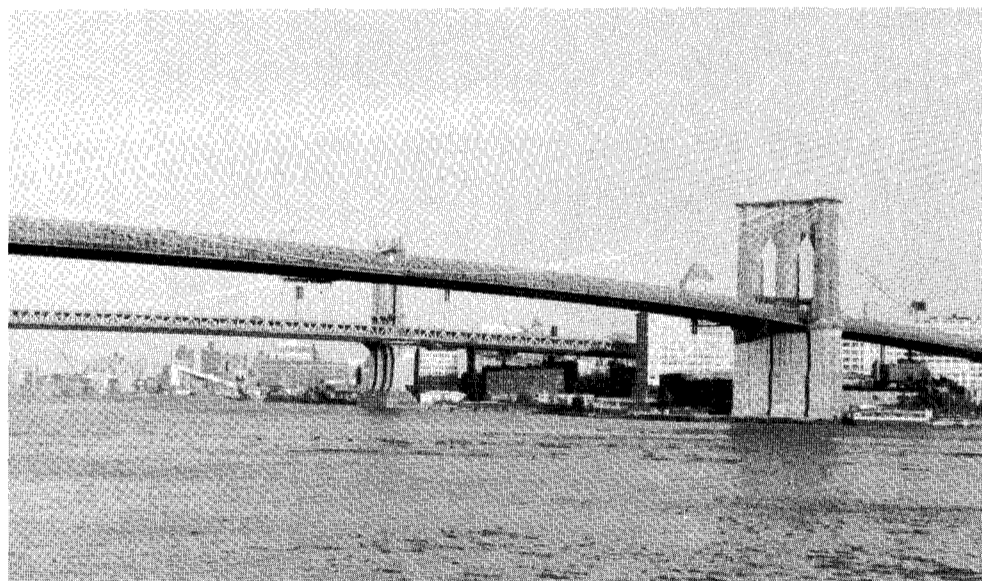


Photo by JO2 Todd Lufkin

From South Street seaport the magnificent Brooklyn Bridge (in the foreground) and Manhattan Bridge may be seen.



Photo by JO2 Todd Lufkin

Chris Andersen viewing the picturesque Manhattan skyline with the World Trade Center twin towers (far left), the last stop on the trip.



Photo by JO2 Todd Lufkin

Mr. and Mrs. William Myers admire the Statue and its detail.

Open Letter from the Commander

(continued from page 3)

Actions were taken here at the Center at the beginning of FY-86 to limit the amount of funding we would accept in an attempt to reduce our backlog of work and our year-end balances. By midyear decisions were made by SPAWARS to bring the workload of all laboratories into closer alignment with their workload capacity and specified missions. This was to be accomplished by the selective reduction in work areas not strongly aligned with the primary missions of the laboratories.

In April SPAWAR issued policies that accelerated the process of reducing the laboratories unbilled balance. Although these changes took place in the middle of a fiscal year the implementation process was not to disrupt the orderly execution of ongoing RDT&E projects. These actions were coordinated by the Commander SPAWARS with all SYSCOMS as well as OCNR. Laboratory Commanding Officers and Technical Directors also discussed the situation with all major sponsors. Although it has caused considerable work on the part of laboratory and SYSCOM personnel to accomplish these changes, failure to do so would have made all future budget requests vulnerable to further reductions. The process has worked well and long term relationships with our technical sponsors should not be degraded as of a result of these bilateral actions.

SPAWAR also placed the "70/30 Rule" on all funding sent to the laboratories. Under this rule at least 70% of the funding provided to a laboratory on a reimbursable order must be used in house and no more than 30% of the funds can be used for contracts. Any additional contract funding needed to support a project must be provided by an RCP. By operating in this manner the amount of funding accepted is governed by the available work force while the 30% of contractual funds must be awarded and expended during the year that the funds are received. Obviously to meet these conditions and insure that funds

are expended in a timely manner, contracts must be awarded early in the fiscal year and the total amount of money obligated on the contract must be expended during that year. Funding needed to cover subsequent years of a multi-year contract should be received and applied in each of the successive years. In spite of the effort required and the risk of not receiving all of our promised funding each year, the early initiation of all contractual actions is mandatory if we are to successfully perform our mission in the current environment.

Conversion of reimbursable orders to requests for contractual procurements has two effects 1) it eliminates the funding from the laboratory accounting system thereby reducing the unbilled balance of the laboratory, and 2) it places accountability for the funding on the sponsor who has the authority to use the funding over the entire life of the appropriation on "fully funded" programs and who can more readily justify the existence of any unobligated or unexpended funds.

Accrual of contractual cost allows timely billings of our sponsors by the Center, thereby reducing to a minimum undelivered orders (The contractual costs that we are obligated to pay on outstanding contracts.) which are a significant portion of the total unbilled balance. By systematically performing the accruals, we insure that funds for the work already performed by contractors is "billed" at the time that the work is actually completed. When this is not accomplished, funds remain in the account until the contractor actually submits an invoice and is paid. In many cases this does not occur until many months after the work is completed.

I hope the above explanation provides the understanding required by all whose support is needed as we go about solving the problem of huge and vulnerable unbilled balances in the NIF account. I do not see us ever returning to the way we accepted money from sponsors prior to April of this year.

Energy Savers

Laundry Energy Savers

Washing Machines

- Fill washers (unless they have small-load attachments or variable water levels), but do not overload them.
- Use the suds saver if you have one. It will allow you to use one tubful of hot water for several loads.
- Don't use too much detergent. Follow the instructions on the box. Oversudsing makes your machine work harder and use more energy.
- Pre-soak or use a soak cycle when washing heavily soiled garments. You'll avoid two washings and save energy.
- Wash clothes in warm or cold water, rinse in cold. You'll save energy and money. Use hot water only if absolutely necessary.

Clothes Dryers

- Fill clothes dryers but do not overload them.
- Keep the lint screen in the dryer clean. Remove lint after each load. Lint impedes the flow of air in the dryer and requires the machine to use more energy.

- If you dryer has an automatic dry cycle, use it. Overdrying merely wastes energy.
- Dry your clothes in consecutive loads. Stop-and-start drying uses more energy because a lot goes into warming the dryer up to the desired temperature each time you begin.
- Keep the outside exhaust of your clothes dryer clean. Check it regularly. A clogged exhaust lengthens the drying time and increases the amount of energy used.
- Separate drying loads into heavy and lightweight items. Since the lighter ones takes less drying time, the dryer doesn't have to be on as long for these loads.
- If drying the family wash takes more than one load, leave small, lightweight items until last. You may be able to dry them, after you turn off the power, with heat retained by the machine from earlier loads.
- Save energy by using old-fashioned clothesline. As a bonus, clothes dried outdoors often seem fresher and cleaner than those taken from a mechanical dryer.

FEW holds career session for 'Women's Equality Day'



Photo by James Moore

(L to r): Miriam Goldstrach, Suzanne Reeps, and Rita Brownlee spoke to the audience about secretarial, engineer/scientist, and personnel career fields, respectively.

On August 26th, the Federal Women's Program Committee, headed by Janet Russell, hosted a 'Careers at NADC' panel discussion in honor of Women's Equality Day in the Center Auditorium. The program provided women on Center an opportunity to know the success others have obtained in various career paths. Panelists included Miriam Goldstrach, Suzanne Reeps, Rita Brownlee, Loretta Dunn, Irene Zuegel, and Linda Calderwood.

Special Group Act Award presented to nine employees of the Accounting division



Photo by Regina Gasuk

Front row (L to r): Elizabeth Walsh, Colleen Perkins, Middle row (L to r): Rose Masselle, Martha Purchase, Rear row (L to r): Cathleen Fertner, Lois Kieserman, Sandra Schwartz, and Roseanne Wehrs smile after receiving their awards.

A Special Group Act Award was presented to nine employees of the Accounting Division of the Comptroller Department. Since 1981 the volume of invoices and the total dollars that is certified for payment has grown tremendously. The current estimate for fiscal year 1986 is expected to be \$70 million.

Responsible for the commercial accounts payable and invoice certification function, these women reduced interest payments to \$1,739 for the period from

October 1985 through March 1986. It has been estimated that interest payments could have exceeded \$25,000 without their efforts. Additionally 93% of all possible discounts were taken amounting to \$200,000.

The actions of these women go beyond their actual responsibility. Not only have they saved the Center real dollars in terms of interest payments and discounts earned but the Center's bills are being paid in a timely, efficient manner.

Congressmen revisit for mission update

An update of the Center's mission is why Eighth District Congressman Peter Kostmayer and Chairman of the House Armed Services Committee, Congressman Les Aspin visited the Center on September 15th.

After various technical briefings and a tour of the Center's research and development facilities including the S-3

laboratory and TACAMO/Global Positioning Satellite laboratory still under construction, the Congressmen met with Center employees to answer questions on a variety of topics.

The Congressmen promised a return visit to keep up on the Center's accomplishments.



Photo by Regina Gasuk

(L to r) Robert Buffum, NADC's Technical Director, Congressmen Peter Kostmayer and Les Aspin, and Center Commander Edward Sturm exit the main complex to visit the construction site.



Volume 31 Number 10

NAVAL AIR DEVELOPMENT CENTER, WARMINSTER, PA.

October 1986

In This Issue:

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Reorganization
Military picnic
Trembly retires
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Senior Executive takes new position in industry

by Regina Gasuk

Robert Buffum, Technical Director of NADC, originally scheduled to go to the Naval Air Systems Command in January as part of the five-year SES rotational assignment program will, instead, be leaving Government for the private sector. Rather than going south to Washington, he will be going West to McDonnell Douglas Helicopters in Mesa, Arizona as a Senior Program Manager.

Soon to be responsible for the development of a new, next generation, light-weight helicopter, Buffum said, "The prospect of doing something like that at this point in my career is exciting. I've got about 15 years left of what I consider to be active aggressive participation with a company or with the government."

Buffum's decision to go to industry was made easier because of his already scheduled departure from NADC. Guy Dilworth, Technical Director at Panama City, Fla. had already been selected to replace him here, further making this an opportune time. His earlier-than-scheduled departure stems from a nine month initial planning phase beginning immediately on his new McDonnell Douglas project.

"I'm going back West where Sarah and I started our married life," said Buffum. "We were there from 1963 to 1969 in the Phoenix area. Both our children were born there and we've still got a lot of friends there."

Center provides good support

"NADC is the greatest place to work in the world," said Buffum, "the people are great and I've enjoyed what I've done here." He feels the Center possesses the finest support organization he has ever worked with. "When management needs something done," he explained, "support personnel say, 'how can it get done' rather than 'it can't be done.'"



Photo by Regina Gasuk

Robert S. Buffum

"I can't imagine that anybody has a better engineering and scientific cadre than we have here. The number of PhD's and people with Masters' degrees is disproportionately high," he said. "A lot of those are people from NADC who have had the perseverance to go to school and work those programs at night or go away to complete them."

Experience here beneficial

Having been exposed to the latest technology at NADC will aid him in his new position, which he terms a "systems engineering job one level above what we normally consider systems engineering. One of the benefits an engineer or scientist has in dealing with other government activities, Navy laboratories, and industry is seeing the technology available out there," he said. "I've gotten a lot of ideas based on the dialogue that I've had. No intimate detailed technical knowledge, obviously, because at the TD level you don't get that, but you get perceptions of what is good and what is not so good."

More high grades needed

Buffum was surprised by the small number of high-grade positions assigned to scientists and engineers when he came to NADC. He felt the emphasis was on supervisory and management engineering and scientific positions. "I think during the period I've been here we've reconfirmed that there is a technology ladder for people to be promoted on. In fact, we have far more high grades now than when I came," he said. "The management ladder is alive and strong; we haven't done much to expand that."

Proud also of the refurbished engineering spaces, Buffum said, "Quite frankly when I came here the place really looked drab. Captain Anderson and I tasked Tom Brennan and Captain Sheehan to put together a facilities plan that would improve the environment for employees." Besides the surroundings, Buffum has kept the pressure on the system over the past four years to bring in good R&D work—

"the hands-on kind that is interesting to an engineer."

Center has vital role

"I think NADC has a critical role in the support of Naval aviation, and to a lesser, but still important extent, the navigation program for NAVSEA and a number of the battle force programs that are starting in SPAWARS," he said. "I think we have a role in all that, and I think the future is healthy, if we can maintain a technically competent staff, and have sponsors continue to use us to get the work done. There are many possibilities out there for good work in the future," he said, "and the Navy needs NADC to do that work."

"It is not news that the federal employee is not loved right now. Until that perception changes by the people in the United States, there is going to be continued pressure on civil servants to do more for less," explained Buffum. "Managing to payroll is going to be tough on us and on the rest of the laboratory system."

Buffum came to NADC in January 1982. Prior to that he had more than twenty years experience in aerospace systems research, development, test and evaluation. Buffum came to the Federal Government in 1969 at the Naval Air Test Center, Patuxent River, Maryland. Of particular value were his positions at North American Aviation, El Segundo, California, General Dynamics, Fort Worth, Texas, and Sperry Flight Systems, Phoenix.

In 1980 Buffum was selected for an SES position at the Naval Surface Weapons Center in Dahlgren, Virginia. Under their Executive Development Program, he was assigned to the Office of the Assistant Secretary of the Navy (Research, Engineering and Systems), followed by an assignment to the Staff of the 97th Congress of the United States as an Office of Personnel Management LEGIS Fellow, providing

(continued on page 10)

Chief Staff Officer tells it like it is

(continued from page 3)

by stating your abilities, and deciding what price you are willing to pay to get as close to perfection as possible. For some, dollars are important, for others, job satisfaction, and for still others home life and family are the motivating factors. You need to be happy at your work," he continued, "but not complacent. When you get to the point when you become too happy or complacent, then you should look to do something different, better, or harder in order to challenge yourself, otherwise your performance goes down."

"When you compete against other people, the most important element is performance—how do you do it, how well, and how you interface in the environment to get it done? In the mili-

tary, civilian, and civilian business world, it is directly related to promotion. You can talk about politics, advanced education or the luck of the draw, but most of the people who consistently produce get promoted and those who don't, usually get passed by."

"I compare the military person to the civilian with one basic difference. The military person has to do all the many things that the civilian has to do to be successful plus one more thing. Because they wear the uniform," said Captain Wright, "they have to set a personal example and they have to lead by that example. That is the basic difference. A civilian is not required to be a leader, a military officer must."

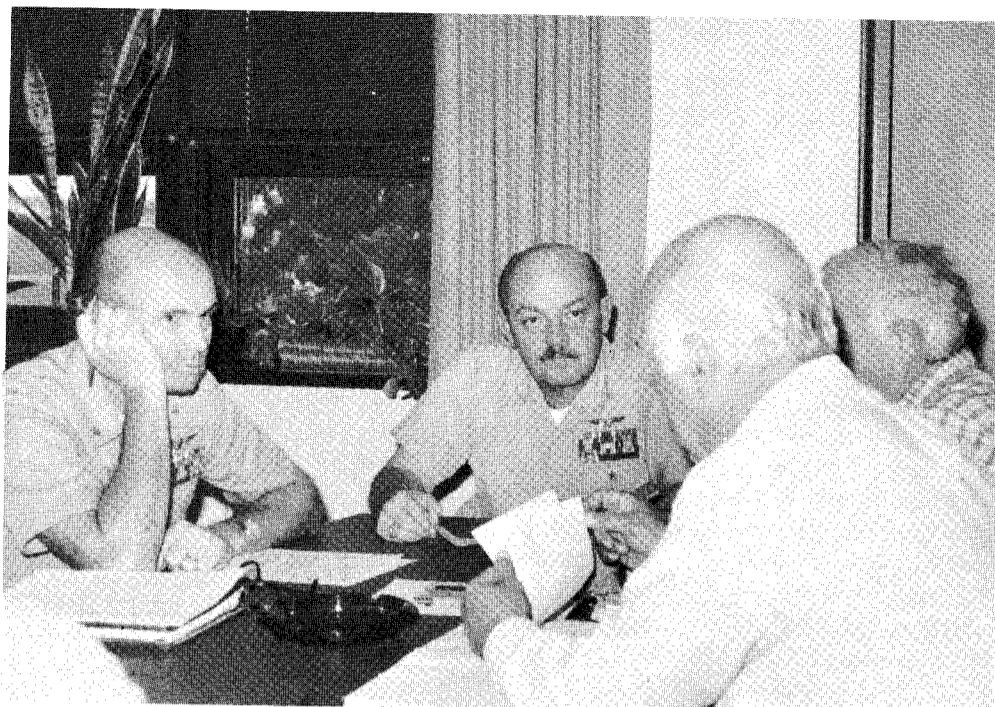


Photo by Regina Gasuk

(L to r) CDR Don Clark, CAPT Wright, Bruno Sposato (AFGE Local 1928 President) and William Stumpp meet for their monthly Union/Management Meeting.



Photo by JO2 Todd Lufkin

Chief Staff Officer CAPT Wright reads a Letter of Commendation to be presented during quarters.

—
"When you compete against other people, the most important element is performance—how you do it, how well, and how you interface in the environment to get it done."
—



Photo by JO2 Todd Lufkin

SH1 Rodolfo Laguitan receives Navy Achievement Medal from Captain Wright.

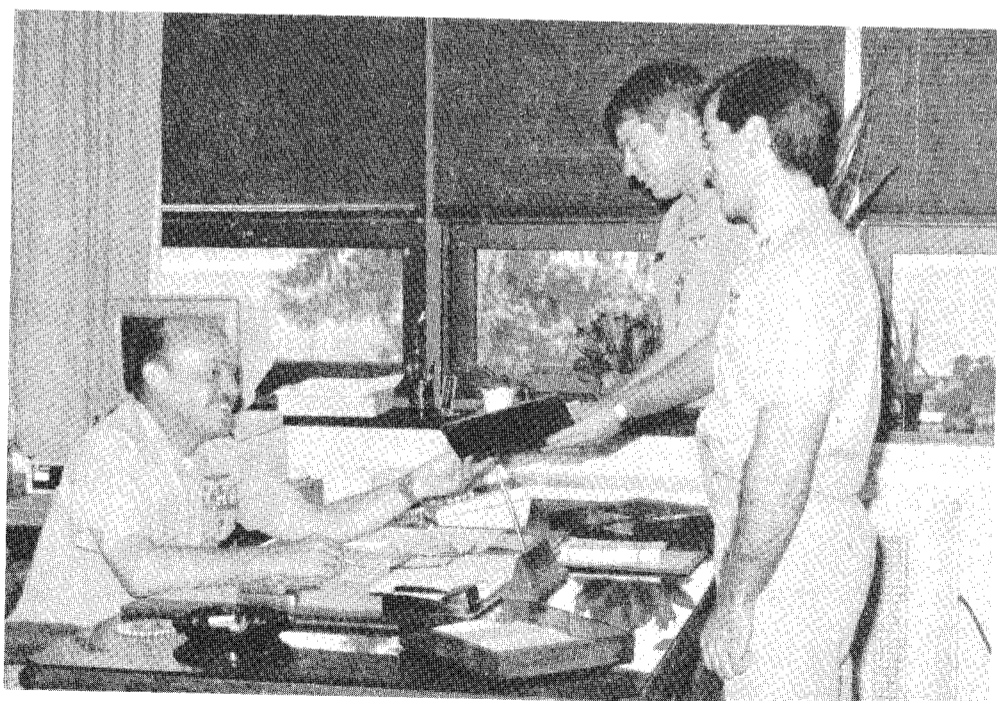


Photo by Regina Gasuk

Captain Fred Wright (sitting) conducts daily change of the watch turnover with Lieutenant Tommy Klepper (rear) offgoing Command Duty Officer (CDO) and Lieutenant Joe Romano oncoming CDO. Captain Wright receives logbook where daily events are recorded.

—
"I've enjoyed NADC very much because it puts what I consider my strong points and forte to maximum use for the Navy."
—



Photo by JO2 Todd Lufkin

HMC Leland Donnan receives a Good Conduct Award (fifth) from Captain Fred Wright.

Meritorious service rewarded



Photo by Regina Gasuk

Lawrence G. Johnston

by Mary Ann Brett

Lawrence G. Johnston of the Advanced Software Systems Branch and Ralph R. Collins of the Tactical Mission Software Branch, both in the Software and Computer Directorate were the proud recipients of the Navy's Meritorious Civilian Service Awards.

Johnston, a computer scientist at the Center for 12 years, is the Lead Software Engineer for the Integrated Tactical Decision Aids (ITDA) Project for which NADC is the Fleet's central development agency. Since 1984 he has been primarily responsible for the development and integration of all ITDA software and its delivery to the fleet.

"A significant engineering achievement," were the words used in John-



Photo by Regina Gasuk

Ralph R. Collins

ston's award nomination to describe his ITDA developments which provide a battle group with the means to plan and evaluate multi-warfare capabilities under different circumstances. His software includes decision aids to support anti-submarine, anti-surface, anti-air, electronic and strike warfares. It is also used in conjunction with the Joint Munitions Effectiveness Manual.

The award nomination also stated Johnston's expertise and technical insight have been of significant benefit to the Center establishing it as the central development agency for this effort. Johnston, who has a Master of Science in Mathematics from Rensselaer Polytechnic Institute, said, "I am pleased at receiving the award, but I work with a good group and I consider the award

largely for our team effort."

Collins is the P-3C Tactical Mission Software Division Team Leader. He was nominated for the award because of his technical accomplishments which resulted in providing the United States Navy with P-3C aircraft equipped with the most advanced software anti-submarine warfare (ASW) systems in the world.

With his group of nine engineers and scientists, Collins is responsible for the development of all tactical mission software for the P-3C aircraft. A Center employee for fourteen years, he is highly respected and continually praised by fleet squadron personnel for his expertise and software development accomplishments.

In 1972 Collins started his NADC career as a member of the P-3C UPDATE evaluation team. From 1976 through 1982 he was the lead technical engineer for numerous P-3C development efforts.

"It was a rare opportunity" said Collins of receiving the award. "I've received other awards but not at this level; I'm thrilled!" he said.

Collins was cited for an outstanding job in managing the P-3C software engineering team in the development of quality products for the fleet. He is recognized as NADC's point of contact to the rest of the Navy and the North Atlantic Treaty Organization community for interoperability and data like standards of all ASW weapon systems within the Center.

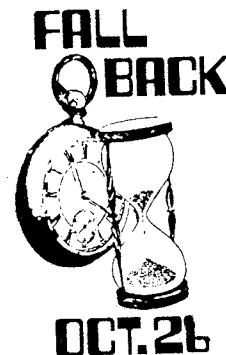
Attention all personnel It's your tax dollar

A recent DoD Fraud Awareness letter addressed the problem of Government activities paying for goods and services not received and/or paying for inferior/substandard products.

Whether it be major systems or base level contracting, we must all be vigilant for false claims by contractors as to the amount and quality of goods or services provided on any contract. Unscrupulous contractors may short the Government in the delivery of products or services which are not easily viewed for quantity/quality (i.e. labor hours, fuels, large quantity/small bulk items, product specifications).

If you are aware of contractor billings/delivery irregularities call the Center Hotline Recorder x3015 or Internal Review x3033.

Remember—you can make a difference be aware and call.



Center's reorganization falls into place

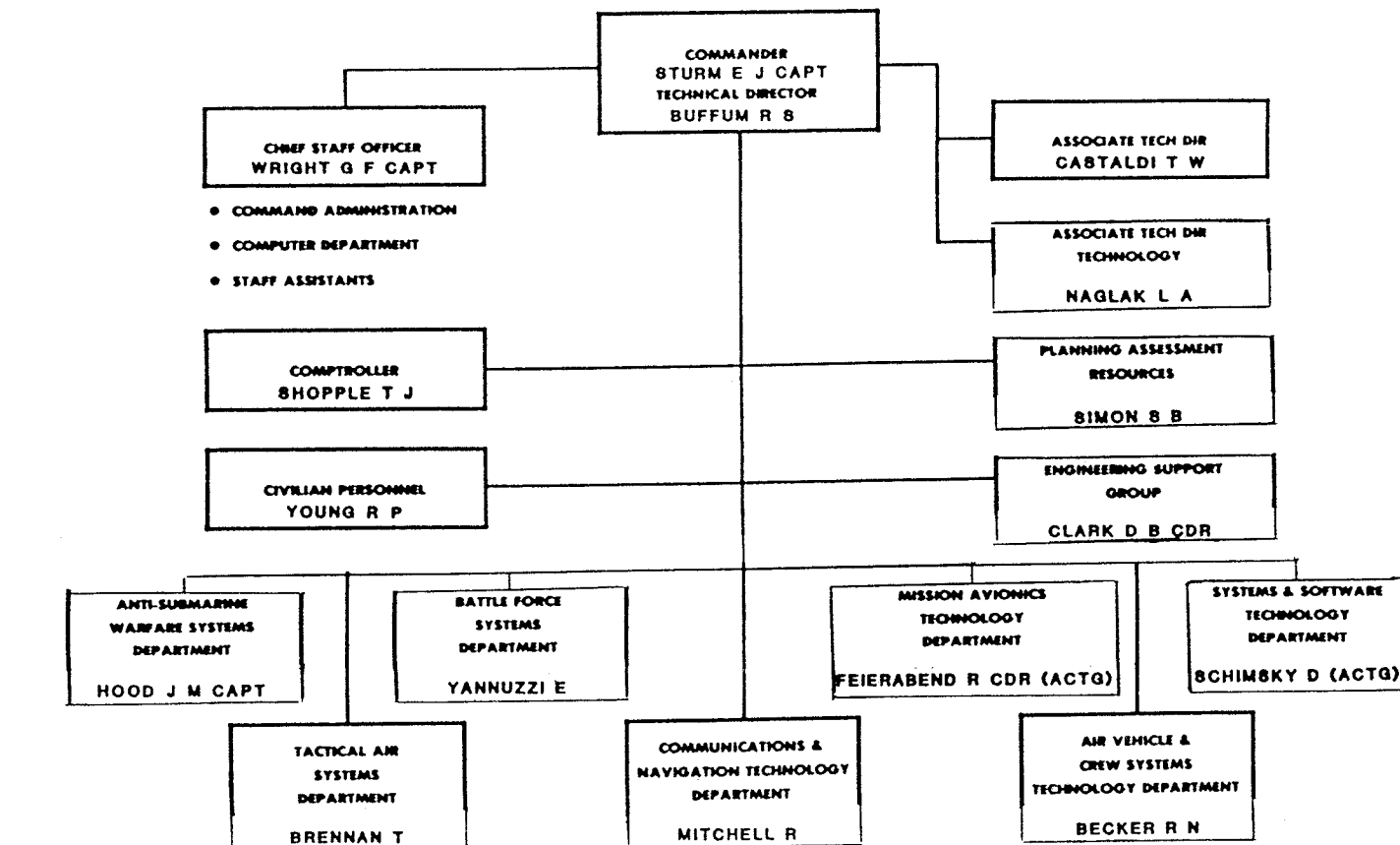
Well, readers, we have arrived. The long-awaited reorganization is here. As projected by CAPT Sturm in his State-of-the-Center message in January of this year (see Jan 1986 Reflector, page 6), the reorganization of the Center took place on October 1, 1986.

CAPT Sturm and Mr. Buffum have orchestrated the reorganization to increase the Center's effectiveness in responding to Navy/sponsor needs, to align the Center with the warfare and technology structure in Washington, and to internally establish clear lines of responsibility, authority and accountability for major mission areas.

The new structure now includes three Warfare Systems Departments, four Engineering and Technology Departments, and an Associate Technical Director for Technology. Most support codes have remained unchanged. See the organization chart related to this article for details.

With the departure of Jerry Guarini and George Eck, and the assignment of Tom Castaldi to the position of Associate Technical Director, two major vacancies exist at the department head level for the Mission Avionics and the Systems and Software Departments. Action to fill these positions will be initiated in October 1986.

Please note that the major organizations on Center are called DEPARTMENTS, not DIRECTORATES. Let's try to start this reorganization off right by getting that one little item straight. We now have eight major DEPARTMENTS led by DEPARTMENT HEADS, not Directors.



From the logistics standpoint, CAPT Hood's office, Code 10, stays where it is; Tom Brennan, Code 20, takes over the former Code 20 spaces; Ed Yannuzzi, Code 30, moves into the PAR offices; Dick Mitchell, Code 40, and Bob Becker, Code 60, stay where they are in numerical code as well as office location; the new Code 50 is in the spaces

of the former Code 30, and the New Code 70 will be located in the spaces occupied by the former Code 50; Lou Naglak, Code 01T, the new Associate Technical Director for Technology, will move into the CMG Conference Room area.

A lot of thought went into planning this reorganization; even committees

had committees. And now, it's here. The structure is set, people are in place, and surely some details have been overlooked—but together we can make it happen.

This office wishes the best to all of you in the reorganization.



Military families gather at yearly picnic

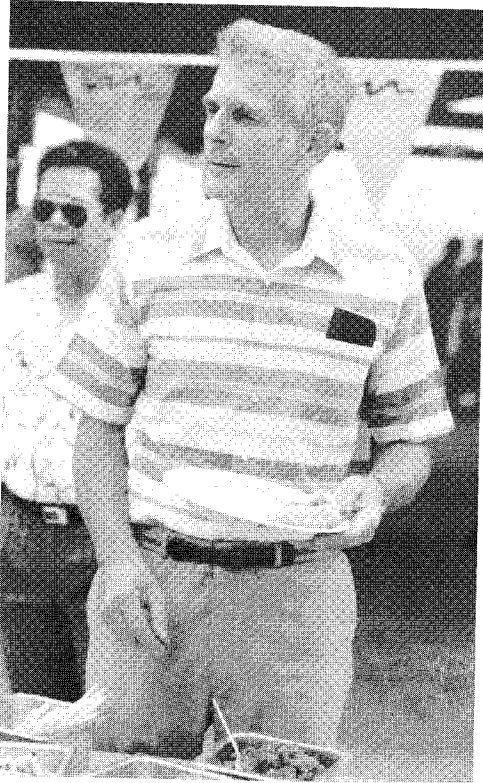


Photo by JO2 Todd Lufkin

Who said I'm on a diet?!



Photo by JO2 Todd Lufkin

Picnic-ers fuel up with food and drink to withstand the fun and games.



Photo by JO2 Todd Lufkin

Robby Rodriguez finds his fun in a field full of stones.



Photo by JO2 Todd Lufkin

To MS2 James Hunter, who barbecued for nearly 75 people, picnic means feeding the troops.



Photo by JO2 Todd Lufkin

Swings entertain the children, at least for a little while.

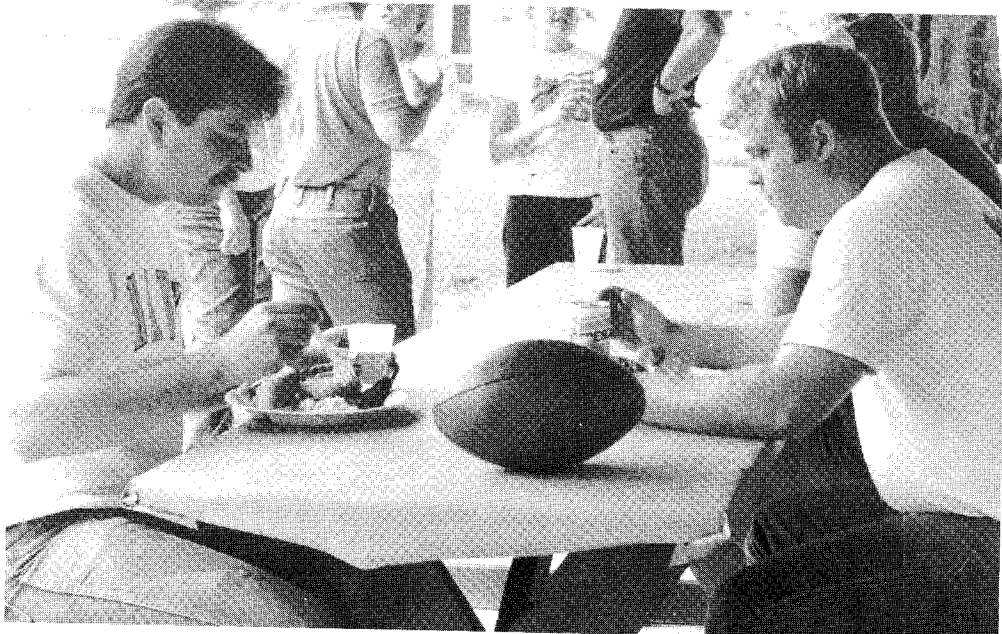


Photo by JO2 Todd Lufkin

AC2 Ken Dayton (left) and AMS2 Ed Pickering (right) give their football a rest.

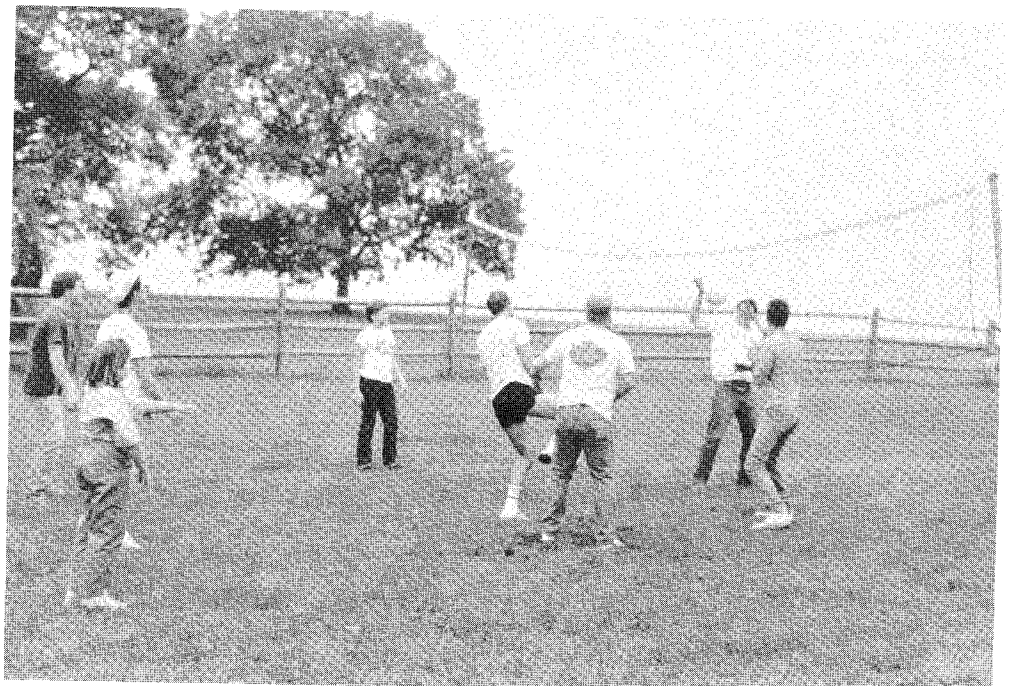


Photo by JO2 Todd Lufkin

Volleyball games were another one of the days festivities.

Tremblay retires with more than 40 years of service



Photo by Robert Greenblatt

Mr. and Mrs. Hal Tremblay said goodbye to their many friends during a retirement dinner given in their honor at Williamson's Restaurant on September 26th.

by JO2 Todd Lufkin

Computer Department Director Hal Tremblay has retired after more than 40 years of service at the Naval Air Development Center and from the position of being the most senior SES in the Department of Defense.

"I was surprised when Mr. Buffum mentioned the fact that I was the most senior SES. I didn't realize that I held that position. It is indeed a great honor," he said.

Tremblay didn't start thinking about retiring until last February. "The more I thought about it during the summer, the more it seemed like the thing to do. It definitely was a very hard decision to make," stated Tremblay.

He is very optimistic about the role that computers will play at the Center during the next few years. "We haven't begun to imagine the impact computers will make on day-to-day life at NADC. I think we are only beginning to see what they can do; the field is wide open, the sky is the limit. In the long run they

will permeate the entire work force here at the Center," Tremblay stated with enthusiasm.

Tremblay is very proud of his recent 1986 Award for Technical Excellence by the Interagency Committee (of the U.S. Government) on Information Resources Management. "However, I'm equally proud of receiving the Ralph S. Barnaby award," he stated. Tremblay is also the recipient of numerous letters of appreciation and commendation within the Department of Defense.

"I'm not retiring to retire. Come the 30th of September I will be sending resumes to various companies and see what kind of responses I receive. I definitely want to stay in the computer business—I feel comfortable in that field," stated Tremblay.

Tremblay offers this advice: "get interested in your work and get work that is interesting to you. Do the best job you can. And above all believe that the good guys win in the long run."

Commander Salutes

Lee Morris (Code 40): For many years of outstanding performance and dedication to the development of Navy Command and Control.

Beverly Lazarus (Code 20): For dedicated support to the conversion of Navy Tactical Aircraft Fleet Mission Planning Computer Programs.

Michael Kreuter (Code 70): For significant assistance during an NSTEP assignment to the Space & Warfare Systems Command.

Gerald Ferguson (Code 30): For professional assistance in developing a Roadmap for Electronics Warfare.

John Scott (Code 70): For valuable contributions in establishing the SOC-RATES Project.

Lisa Cowles (Code 60): For an excellent presentation to NR NADC 0293 Reserve Unit.

Thomas Weiss (Code 30): For outstanding leadership in conducting team support of the Tactical Surveillance Buoy field exercises.

Larkin Lake (Code 40): For outstanding performance as cognizant engineer of the S-3 Communications Control Group.

Michael Kuszewski, Frank Scheetz, Aaron Burstein, and Albert McGlynn (Code 20): In valuable contributions to the Advanced Anti-Air Warfare Working Group's Development Options Paper for the Outer Air Battle Weapon System.

Cdr Kenneth App (Code 10): For outstanding performance in completing the installation of the CV-ASWM Model 41 System.

Raymond Satterfield, Kenneth Smith, Philip Joiner (Code 80): For valuable assistance provided to the NR NADC 0293 Reserve Unit.

Robert Williams (Code 50): For a presentation to the Boy Scouts of America Camp Hart.

Alvin Spector (Code 20): For a superb job as the System Engineering Advocate at the Naval Air Systems Command.

Thomas Polaneczky (Code 30): For providing valuable service to the Defense Intelligence Agency.

Gerald Seidel (Code 60): For excellent assistance to the Naval Avionics Center in documenting requirements for the 115 P-3D Patrol Aircraft.

HM3 Michael Koifith, HM3 Joseph Kailis, HM3 James High, HM3 Thomas Campbell (Code 60): For efforts in support of the Trauma Management Weekend.

Stephen Campana (Code 30): For outstanding assistance in the field of infrared systems.

Lee Allen, Bruce Steinberg, John Gambale, Eugene Macur (Code 30): For outstanding support to the Broadband Distributed Systems Technology Program.

Donald Santagelo, Mark Showmaker, Kevin Haggerty, Kenneth Sims, Paul Cronin, Michael Gindele (Code 81): For dedicated support during a fire at the Eastern Montgomery County Area Vocational/Technical School.

Joseph Minecci, James Alper, Richard Dalrymple, Vincent Catone, Gerald Heston (Code 60); Alfred Lerza, Russell Donahue, Neil Bailey, John Gledhill, Anthony Cicale (Code 81): For outstanding performance during fatigue tests on the Antenna Mast Group.

AT1 Earl Getch (Code 04); AE2 Troy Kramer, AMS2 Joseph Simone, AE2 Dawne Nelson, AT2 Thomas Johnson (Code 82); SK2 Jean Rodriguez (Code 84): For significant contribution to the Naval Air Propulsion Center's change of command ceremony as a sideboy.

Donald Booz, Roland Hall, Jerald Nice (Code 20): For valuable contributions to the Advanced Anti-Air Warfare Working Group's Development Options Paper for the Outer Air Battle Weapon System is commendable.

Joseph Minecci (Code 60): For providing outstanding technical and program management support in the position of acting Structures Technology Manager at the Naval Air Systems Command.

LCDR John Bramer, AW2 Kenneth Carrigan (Code 10); AT1 Earl Getch (Code 09); Cdr Milton Henke, Lt Michael Christiansen (Code 70); Lt P. Nacoste, ADCS Richard Lancaster, AEC Richard Parsons, A02 Henry Taylor, AMSC Kimberly Gard, AME3 Brian Higgins, AD3 Richard Whittington, AX3 John Bates (Code 80): For outstanding efforts in providing excellent flight support to the Low Cost Sonobuoy Program.

Technical Highlights

TACTICAL ARCTIC SONOBUOY

ICEX 1-86, the Navy's major arctic exercise, was recently completed.

Important tactical and developmental operations were conducted at five ice camps and included three nuclear attack submarines, fleet P3 aircraft and numerous support aircraft. Fifteen different organizations were involved in the project executions which cost more than \$50 million. NADC participated significantly as one of the ice camps and conducted three distinct sets of P3 evolutions. NADC has recently completed a quicklook analysis of passive detection results for a series of modified production sonobuoys and velocity type sensors. In addition a tradeoff study of potential costs, risks and schedule requirements to produce a viable arctic specific "sonobuoy" was finished. It was combined with the field test comparison results and briefed to PMS-264. Sponsor endorsement of NADC recommendations has refocused

the FY87 Tactical Arctic Sonobuoy program.

HIGH ALTITUDE REMOTE PLATFORM SURVEILLANCE SYSTEM RADAR ANTENNA

The High Altitude Remote Platform Surveillance System Radar Antenna was delivered to NADC. This Phased Array Antenna was calibrated in a special near field facility at RCA to derive a computer table of phase shifter/alternator settings for each beam position. The antenna aperture is 3 feet by 30 feet, light weight graphite epoxy construction, with a solid state transmit/receive module feeding each of 80 columns of radiating elements. The active antenna aperture will be integrated with other equipment at NADC for testing and demonstration. The Antenna Test Range at NADC is being instrumented with special test equipment to operate and evaluate this radar system.

Retirement and reenlistment becomes a family affair



Photo by JO2 Todd Lufkin

Center Commander Captain Edward Sturm presided at the recent ceremony where three Navy Phillips were present. (Far right) AKCS Thomas Phillips, who has been at the Center since 1983 retired after 25 years service. His son Karl Christian Phillips (center right) enlisted for his first 4 year tour while his other son IC3 Thomas Phillips, Jr. (center left) was present to pipe their father over the side.

Small Business Fair held at the Center

by Vincent Rice

The U.S. Small Business Administration Procurement Center Representative for the Breakout Program, Vincent Rice in cooperation with the Center, held a Small and Disadvantaged Business Fair in the Harvard and Yale Training Rooms on Friday, September 19th. All employees were invited to attend and see the latest in equipment and engineering services, that the eighteen (18) participating companies had to offer.

The companies that talked about or demonstrated their products were Ark Electronics; ORFI Systems, Inc.; and Xi Magnetics.

The distributors represented were

Bell Associates; Communications Office Products, Inc.; Computer Resources Company; Metra Systems and Multifacet Industrial Supply Company. The companies that had related computer services to offer were Advanced Computer Applications, Inc.; American Scientific International, Inc.; Data I/O—Futurenet; Datanamics Computer Corporation and Scherke and Solar Systems Software, Inc.

There were several companies at the Fair that could provide other engineering services such as Asta Engineering, Inc.; ATR Reports; Esscube Engineering, Inc., RBC Incorporated and Synetics.

The U.S. Small Business Administration appreciates the time and effort of the participating companies.

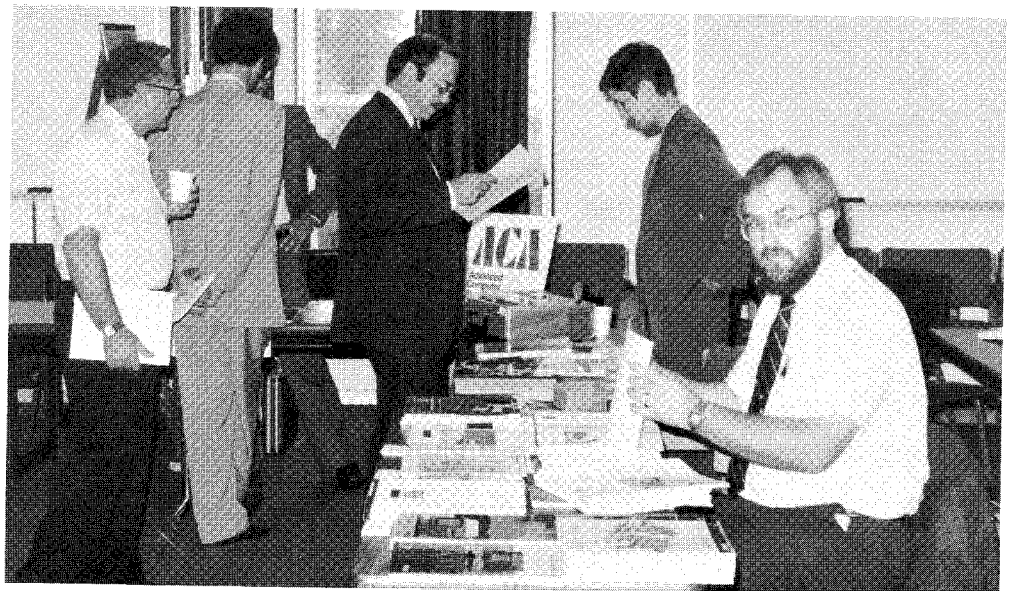


Photo by James Kingston

Small businesses displayed their products during the day-long show.

8th Inning hold golf outing and dinner

by Bob Larr

Inspired by other softball teams which have staged successful golf outings, the 8th Inning recently held its first Invitational at the Fairways Country Club. The golf day coincided with a meeting of the American Institute of Aeronautics and Astronautics at the luxurious Fairways Banquet Facility. This gave the golfers a chance to keep current in their field while waiting for the rain to ease up.

Overcast yielded to clear skies as the three teams broke from the lounge for the first tee. Tournament organizer Scott Fowler had formed the teams based on a complicated formula which took into account age, weight, and pay grade of the grade. The round was played under the Calloway handicap

system, which, as Fowler explained, lowered scores on the basis of creative scorekeeping and good posture.

After a brief ceremony on the first tee during which retired 8th Inners Denny Baker and Jim Crockett were inducted into the 8th Inning Hall of Fame, the round began. Highlights of the match included a nearly impossible triple double bogey by John Santini and an incidental snakebite incurred by this reporter while searching a swampy area for an errant tee shot.

Several holes-in-one were recorded during the round, as was expected due to the lack of umpires on the links. This made the closest-to-the-pin competition a moot point. Glenn Rhodside was eventually awarded the trophy, having tallied the longest—a 300-yd. hole in one. Avid duffer Fred Kuster, unchar-

acteristically got off to a slow start, which he attributed to medication prescribed for an injured toe. The gutsy Kuster carried his medicine in his golf bag and went on to anchor the winning team.

Following the match, the golfers retired to Giuseppe's for an evening of formal dining and dancing, at which they were joined by their wives and/or dates. Chef Giuseppe prepared an apricot-glazed duck entree and a stunning rum and pumpkin mousse desert. Master of ceremonies Fowler announced the trophy winners—the team of Baker, Crockett and Kuster—best combined score; Baker—lowest gross; Bruce Heath—grossest low; and Ross Hendricks—swimsuit competition.

Fowler denied charges that the magnificent trophies had depleted the al-

ready strained 8th Inning softball budget, which usually earmarks funds for expensive new uniforms, indoor practice time, and chauffeur service to games for certain key players. Nevertheless, the trophies—pewter and gold leaf on a marble pedestal—were indeed handsome tributes to their recipients' skill.

Since most of the attendees prefer to start the work day prior to 6:30 AM, the banquet was adjourned early, with the traditional formation of the 8th Inning conga line, which wound its way across the Tudor Square parking lot. All agreed that a good time was had by all—there is talk that the Invitational may next year become a Softball League Open, affording all teams the opportunity to participate in this grand event.

Japanese Officers present token of their history



Photo by Regina Gasuk

Several Japanese Maritime Self-Defense Force (JMSDF) Officers are currently visiting the Center for a six month training assignment to become familiar with P-3 software. Recently they presented Center Commander CAPT Edward Sturm with a 'kabuto' or Samurai helmet. Until the 19th Century, kabuto were worn by Samurai warriors as a symbol of their social position and as protection when fighting. Present for the presentation were: (1 to r) CDR Eugene Bal (VP Program Director), CDR Yasumasa Otani, JMSDF Liaison Officer to NADC, LCDR T. Fuke (visitor), CAPT Edward Sturm, LT T. Suzuki and LT K. Ichimura (visitors) and Stanley Dunn, Project Director for Foreign Military Sales.

Mixed bowling league news

by Tom Reiter

The first month of our season at the renovated(?) Thunderbird Lanes, had us ditch hopping, dirt dodging, and still trying to figure the game out. Those that must have practiced over the summer included:

Rick Yeager—257
Steve Metcalf—
244
Carl Kizelowiz—
243
Steve Metcalf—
617

Rick Yeager—608
Al Knobloch—
592
Donna Morgan—
211
Lorrie Dunn—
207
Karen Kee—207

Caroline
Tierney—536
Debbie Erney—
534
Karen Thomas—
533

Promotions

Richard Adams, Peter Boretsky, Peggy Bower, Brian Brady, William Bremner, William Bristol, Catherine Burian, David Burleson, Robert Casagrand, Gregory Catrambone, Lisa Cowles, Frank Crea, Frank Drummond, Robert Finkelman, Karl Geist, Vladimir Gershman, Elaine Granieri, John Harris, Robert Hay, Margaret Higgins, Nancy Holden,

Jon Jones, Thomas Kircher, Stanley Kondrad, Carol Leyrer, Michelle Martin, Dean Mondelblatt, James Moran, James Orfe, Robert Preedy, Therese Reis, Keith Rizkowski, Arthur Samouris, Andrew Schmith, Ronald Simononis, Jesus Suarez, John Walker, Fredrick Weist, Heather Wild, Keith Wills.

Security Reminders

Combinations to security containers must be changed at least annually unless more frequent changes are specified by special security requirements. Other occasions which necessitate combination changes include changes of

custodian, security violation in which the container is found open an unattended, transfer or reassignment of alternate custodians or others having knowledge of the combination.

Caveman's clutter creates calamity

by Mike Masington

In the midst of the latest and certainly most creatively confusing reorganization at NADC (Neolithic Architectural Design Corp.), Og our primordial predecessor and his fellow S & E's found themselves reassigned to new clans specifically dedicated to advanced weaponry. Og, now a GM (Grand Munchkin) -14, headed the SPAWAR (Sling Propelled, All Weather, Aimed Rock) project, while his friend Ugh worked in LAMPS (Large Animal Maximum Penetration Spear) and the rest wound up creating softwear. (This project was rather short-lived, since in a remarkable breakthrough someone discovered that you make softwear by reversing your animal skin thus putting the fur on the inside. Soon however, the development of softwear necessitated the creation of ASW (Anti-Itch Softwear, but that's another story.)

Anyway, in his zeal to occupy his new office and start working, Og ignored the rules and started moving his granite furniture himself. This produced SPAWAR's very first creation, the severe lower back strain. Undaunted by his now L-shaped posture, he continued to cram every available nook and cranny in the office. Aisles and clear spaces disappeared as file scrolls, data slates, cuneiforms and things he couldn't do without such as his collection of out-

dated calendar wheels, the last 337 issues of **Creative Caveman** and an assortment of "I might need it some day" items were piled around his desk and cabinets. His previous discovery of electricity had spawned a plethora of immediately essential electrical inventions such as his PC (Personal Counter), digital sundial, rechargeable abacus, electric stylus sharpener, desk torch, etc., etc. Of course the lack of available outlets was easily handled by festooning the space with a pattern of extension cords and multiplex outlets resembling the web of a hyperactive spider.

At this time Jeanie Legume, mystically empowered high priestess of the Paleolithic Advertising Office, walked in to do an indepth interview with Og on his opinion of the reorganization for the corporation newspaper, **The Convector**. The interview quickly became up close, personal, and potentially fatal, as she tripped over an outstretched extension cord in what used to be an aisle, bumped into Og's family photo which happened to be a cave painting, and was nearly buried alive in an avalanche of obsolete technical tablets that cascaded from a cabinet. Frantic excavation by members of the staff quickly disinterred the uninjured Legume who, in a remarkable display of self-control, resisted the temptation to turn the abjectly obsequious Og, into

an exceptionally slimy sea slug.

"Og," she began calmly after removing her hands from his throat, "there are some things that you have to realize. First, anytime you have heavy items to move, contact the riggers. They are specially trained and equipped to handle desks, cabinets, pyramid parts, stone idols, etc. Also, a move like this is a good time to discard excess files, obsolete equipment and the outright junk you've accumulated over the years. I realize that that cabinet full of sphinx blueprints has special meaning for you, but since you haven't opened it in 28 years, you probably really don't need it anymore. This is especially important if keeping all this impedimenta causes aisle space to be restricted or necessitates storage above head level. Finally, avoid the use of extension cords as much as possible. If you need additional outlets, put in a Service Edict to Publicus Workus to have them installed. In any event, always route power and extension cords in a way that keeps them out of the walking area."

"Well thanks for the suggestions Jeanie," responded Og, "and I'll get to them if I ever get a chance." Sensing a certain lack of commitment, Legume replied, "Og how would you like to begin a whole new career as a tree toad?" "Like I said," sputtered the suddenly shaken supervisor, "I think I'll get this place cleaned up right now."

RADM Batzler visits NADC



Photo by Regina Gasuk

RADM J. R. Batzler (SPAWAR 36) visited the Center on October 3rd, 1986 to familiarize himself with work performed here that relates to the newly formed Warfare Systems Architecture and Engineering Department of the Space and Naval Warfare Systems Command.



VIEWPOINT

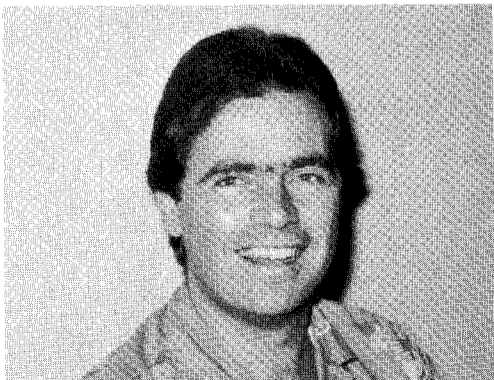
This month's question is:

What song title best describes your job at NADC?

Photos by Regina Gasuk

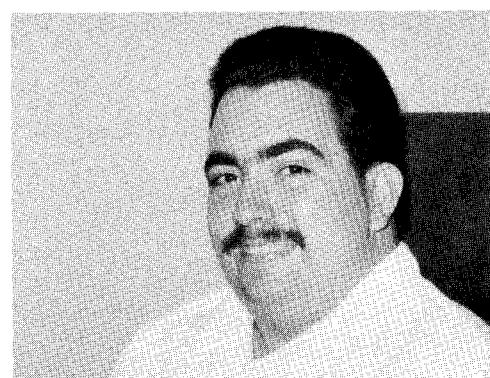
Generally, it's a "Land of Confusion" (Genesis) around here. That's why I'm always "Workin' For The Weekend" (Loverboy).

Sharie Janow, Code 6062



It has to be either "What's Love Got To Do With It" (Tina Turner) or "Everybody Loves A Clown" (Gary Lewis And The Playboys).

John Bowes, Code 2041



"Nobody Does It Better."

MSSN Tony Matthews, Code 0452



"Stormy Weather." It's smooth, sophisticated, meteorological and the boss doesn't listen to it anymore.

Brian Rittenhouse, Code 3042



"Some Day Your 'Prints' Will Come" or "You Ought To Be In Pictures."

Delores Mitchell, Code 8132

"Bridge Over Troubled Water."

Janet Russell, Code 03E



"Gypsies In The Palace," by Jimmy Buffet.

Bob Larr, Code 8133



NADC holds flea market to benefit Navy Relief



Photo by JO2 Todd Lufkin

The weather was nice and the buyers and sellers turned out for the Navy Relief Flea Market.

by Regina Gasuk

The Center held a Flea Market on Saturday, September 20, 1986 and it was a big success. Table space was rented for five dollars, with the proceeds benefitting Navy Relief. Rentals generated almost \$200.00 for this worthy cause. It was held in the main parking lot with over 250 anxious shoppers and browsers stopping by throughout the day. Center employees displayed mostly houseware items, however, if you looked carefully, there were antiques to be purchased, crafts, new clothing, and a table of Wedgewood porcelain.

Here is what a few of the now richer Center employees have to say:

Bill and Terry Ganter—"Not only did we make a little money, but we had a really fun time as well. It was surprising and lots of laughs to see so many

fellow workers (buyers and sellers) outside the office. Both of us were quite impressed with the amount of sales we registered; it was quite productive."

Sue Casagrand—"The Flea Market was a huge success. It was a three-pleaser. First, it pleased my husband by removing the boxes out of the basement. Second, it pleased me by attaining a few extra dollars for my pocket. Third, it pleased the buyer—One man's junk is another man's treasure."

Dolores Falco—"This is about the sixth Flea Market I've done and I really enjoy doing them for various reasons. There are always things we have and do not use but just can't throw away. I can always use a little extra cash. But the best part of all is meeting the different people and doing some bargaining. It is always fun to see the items you sell. Can't wait until the next one."

Ski club winter trips planned

by Joyce Smith

The next meeting of the Ski Club will be held, as usual, on the third Monday of the month. That's right, November 17th is the date. Plan to be there as the Great Giveaway Contest Continues, and the points are adding up toward that \$100 credit on any Ski Club trip.

The ski trips are filling up, so sign up today, before you are left out (in the cold). Here's the trip list:

- 1) January 16-19, 1987 to Jay Peak, Vermont staying at the Slope Side Condos. The price of \$218 includes transportation & lodging. For more info. or to sign up . . . contact Karl New @ 348-8851 or Kristine New @ 441-3723.
- 2) February 6-8, 1987 to Killington, Vermont staying at Pinnacle Condos for ski-in ease. The price of \$119 includes transportation & lodging. For additional information or to sign up . . . contact Roland Bender @ 441-1176.
- 3) February 26-March 1, 1987 to Whiteface, New York Lake Placid; home of the 1980 Winter Olympics! We will be staying at the Town House Motor Inn. The price is going to be approximately \$140 which includes transportation & lodging. For further information or to sign up for

this popular trip, contact Gene Stohrer @ 441-2017.

- 4) March 7-14, 1987 to Steamboat, Colorado; this trip is full & there is a waiting list. If you would like more information contact Fran Bender @ 345-7787 or Roland Bender @ 441-1176.

Day trips will be announced at a later date. Check the Ski Club bulletin board by the credit union for more info. on the Ski Club and scheduled trips.

Senior Executive takes new position

(continued from page 1)

counsel on defense programs to a member of the Defense Subcommittee on Appropriations.

He and his wife Sarah are looking forward to moving back West. They will be closer to their daughter Tracy who attends Oklahoma State University's architectural school. Their daughter Michelle resides in Florida with her husband Scott, an Annapolis graduate who is due to get his Naval Flight Officer wings in February.

Did you get your flu shot?

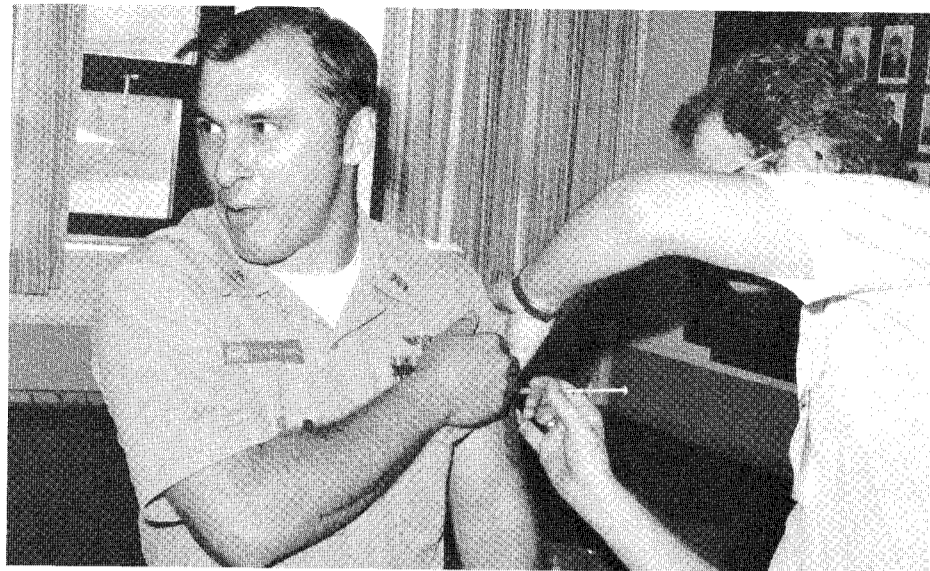


Photo by JO2 Todd Lufkin

AVCM Thomas Mazzone can't stand to watch as the Corpsman administers the annual flu shot.



Photo by JO2 Todd Lufkin

This needle doesn't seem to bother PR2 James Dagers.



Photo by JO2 Todd Lufkin

No smile, no frown, just get it over with is LT Joe Romano's idea.



Photo by JO2 Todd Lufkin

The next in line should know better than to watch the needle for AT2 Robert Stanton.



NADC Reflector

In this issue:
 Airborne sounder success
 Antique cars
 Sports
 Integrity Alert
 Bottoms up!
 CFC '87 kickoff

Volume 31 Number 11

NAVAL AIR DEVELOPMENT CENTER, WARMINSTER, PA.

November 1986

Research and development awards presented

By Mary Ann Brett

Christof H. Heithecker and James F. McEachern are this year's recipients of the Center's Independent Research/Independent Exploratory Development (IR/IED) awards, respectively. Their programs and accomplishments were selected from among 35 programs.

The Center's Technical Director (TD) grants these awards annually to the

scientists or engineers who, under the NADC IR/IED program, have made a significant contribution to the solution of a Navy or Marine Corps problem. This year's nominees were recommended to Robert Buffum, TD, by the Center's IR/IED Evaluation Panel, headed by Dr. Arno Witt and Andrew Atkinson. The panel reached its conclusion after an on-site review conducted by a team including the Naval

Air System Command Chief Scientist and representatives from both Johns Hopkins and Drexel Universities for the IR program and the Chief Scientist and representatives from the Office of Naval Technology for the IED program.

IR Award for AI

Heithecker, who works in the Software Technologies Application Division of the Systems and Software

Technologies Department, received the IR award for his research on the "Artificial Intelligence Plan Recognition for Airborne Tactical Alerting."

His research effort included developing an Artificial Intelligence (AI) system, a software plan recognition model, that could emulate the way an operator interprets and assesses tactical situations, e.g. whether an
(continued on page 5)



Christof Heithecker (right) receives congratulations and a plaque for his IR work from Technical Director Robert Buffum.



Robert Buffum, Technical Director congratulates and presents a plaque to James McEachern for his IED work.

Moroney promoted to Captain

By Mary Ann Brett

Our newest Captain, William F. Moroney, formally received his promotion and fourth stripe last month during a ceremony in the Center Commander's office.

Moroney arrived at NADC in August 1984 and was assigned as Head of the Man Machine Integration Division in the Aircraft and Crew Systems Technology Department. While still in that assignment, his responsibilities have increased to include three more Branches—Personal Protection Systems, Environmental Effects, and Biomedical Support for the Centrifuge.

A major goal of Moroney's has been reducing the communication gap between the developers of aircraft systems and the Fleet. He has accomplished this. One specific example includes his division developing a display which will help reduce the loss of situational readiness in an aircraft. He expects that within two years, this device will be used in all upgraded F-18's.

His manner of approaching problems is as noteworthy as his results. "We were aware of the problem; we went out and sought more information; and, we attacked it from an experimental point of view" he explained. This modus op-

erandi helped Moroney beat the one-in-ten odds of making it to Captain in the Medical Service Corps.

"They (promotion board) look at your whole history and your potential to work at a Captain's level," he said. But, wanting to emphasize teamwork, Moroney was quick to add, "Nobody does it alone—make Captain, that is. You make it with good people who work with you to get the job done."

Moroney graduated from St. John's University in New York City, NY with a Ph.D. in Experimental Psychology. His first duty assignments were at the Naval Aerospace Medical Institute and the Naval Aerospace Medical Research Laboratory in Pensacola, FL from September 1969 through February 1973. He proceeded to the Naval Missile Test Center until May 1975 and then to the Pacific Missile Test Center in Point Mugu, CA through January 1979. He was then ordered to the Naval Post Graduate School Monterey, CA as the Assistant Professor of the Operations Research Department until August 1982. He was most recently stationed at the Naval Air Test Center. Patuxent River, MD as a Technical Specialist on Aircrew Systems. Moroney will probably remain at NADC in his current assignment through August 1987.

It is the new captain's feeling that his promotion is the Navy's way of saying he has done a good job. "It's nice to get recognition for work we've done," Mo-

ronney said, emphasizing the recognition was not only for him but also for his family and for all the people he's worked with through the years.



Captain William F. Moroney (left) officially accepts his promotion from Captain Edward Sturm, Center Commander.

Letter to the Editor

On a rainy day they are easy to spot. It's the telltale glum look that comes from knowing an unnecessary trip to the cleaners is now required—or at the very least, some heavy shoe or boot brushing. Indeed, if they could have stopped work immediately to clean off the mud perhaps the cleaners expense for slacks or skirts could have been avoided. (If you missed the glum look, just search for mud encrusted shoes and splattered slacks.)

Have you guessed their identity yet? They are the 500 NAVAIRDEVCON employees (or thereabout) parking lot number 2 users and over 100 residents of building 125 who daily play roulette by sharing a 12 foot rocky dirt access passage with autos to parking lot number 4 (in front of building 125) or the more challenging but no less muddy foot path along Jacksonville Road in competition with bulldozers, et al. With the coming of winter weather we may look back at the present mire as the good old days.

I suppose it is to be expected that Public Works and their contractors are too engrossed in the serious job of putting together the GPS/TACAMO building—that's what they get paid for—not for considering physical comfort "niceties" to Center employees. Could you publish a choice photo (one picture is

worth, etc.) that might move those NAVAIRDEVCON offices concerned for safety or Center image to action? After all, at least a dozen or so visitors and contractors are treated daily to the same spectacle.

Name withheld

Dear Name Withheld:

We contacted LCDR Earl Smith, head of P.W. and learned that the Director of Code 40 had already notified him of the problem and a temporary walkway has been provided. Shortly the contractor will be removing the gravel from the parking lot driveway that was previously used as the primary path from Bldg. 125 to Bldg. 2.

Construction work does create a mess (see progress photo below) and P.W., says Smith, will always try to minimize the impact. He would like to be made aware of such employee concerns and respond to them as he did in this matter. He suggests you don't let matters fester and assume someone else will take care of it. We're a team and we can work together to make things habitable, while we still accomplish the big facility construction and repair effort we have going on.

Editor.



Photo by JO2 Todd Lufkin

Although a little mud may be the price of progress, as of the end of November, the TACAMO/GPS Lab stood at being 25% completed and is scheduled to open mid-summer, 1987.

If the SOC Fits

by Robert Janes

It's that time of year when many of you will be receiving invitations to holiday parties. In the past, some of the local offices of Government contractors have hosted parties or receptions and extended invitations to Center employees. Let me caution you against attending parties given by contractors with whom we do business. It is a violation of the Navy Standards of Conduct (SOC) to accept any gratuity from a defense contractor. The term "gratuity" is defined in the SOC instruction as including "any gift, favor, entertainment, hospitality, transportation, loan, any other tangible item, and any intangible benefit" provided at less than fair market value. Quite obviously, when our employees attend such parties and accept free food and drinks from defense contractors, they,

in effect, are accepting gratuities in violation of the SOC. There need be no showing that the contractor was granted some favor or preference in exchange for the gratuity. The mere acceptance of the gratuity is forbidden because of the appearance it creates.

There have been instances where contractors have encouraged attendance at these functions on the grounds that any Government employee who attended could, if he so chose, pay his full share of the cost. Even these arrangements should be avoided, for many times it proves that the company itself has contributed to defray some of the expenses, and where that is the case, it can safely be assumed that any such company expenses will show up prominently on their books. It is, therefore, a prudent rule to avoid attending any of these functions, whether or not you are told you can pay your own way.



Photo by JO2 Todd Lufkin

Captain Fred Wright, Chief Staff Officer, aided by other NADC sailors, serve birthday cake during quarters.

Navy celebrates 211th

The United States Navy commemorated its 211th birthday in October and the Naval Air Development Center celebrated with two cakes during the October 15th Quarters.

All military personnel gathered at Hangar Bay 1 for the ceremony. Captain Fred Wright, Chief Staff Officer, presented Navy Achievement Medals to AEC Paul Benn (his third) and SH1 Rodolfo Laquitan and Good Conduct Medals to HMC Leland Donnan (5th award), AXC Robert Smith (2nd award), AME1 Jeffrey

Delcamp (2nd award) and AT2 Kent Felker (2nd award).

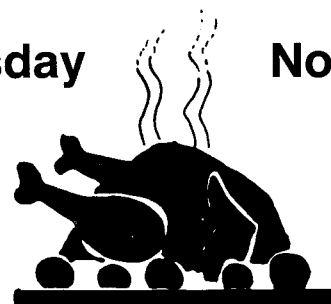
After a few brief remarks, CAPT Wright, who was joined by the Command Master Chief, AFCM Nelson Williams, cut the cakes and distributed the pieces throughout the ranks.


The 15th was designated Navy Uniform Day and all Naval Reservists were invited to wear the uniform of the day, service dress blues. Happy Birthday, Navy!

THANKSGIVING DAY

Thursday

November 27





Reflector

NAVAL AIR DEVELOPMENT CENTER WARMINSTER, PA

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Associate TD for Technology role established

by Mary Ann Brett and JO2 Todd Lufkin

If you were one of those who had not yet mastered the matrix reorganization of 1977, you have been given another chance. As we explained in last month's REFLECTOR, the Center reorganized at the beginning of this Fiscal Year.

One of the most significant changes is the addition of an Associate Technical Director for Technology, Code 01T, headed by Louis Naglak, former Director of Planning Assessment and Resources.

Why was 01T established?

Before the Navy reorganization creating the Space and Naval Warfare Systems Command, NADC responded to a Naval Air Systems Command (NAVAIR)—focused technology management. Since NAVAIR is no longer in that business, we took on the responsibility of making sure our technology was managed to meet future platform requirements.

The Technical Director (TD) was spending a sizable amount of time on keeping himself informed on major projects such as the P-3, S-3, and F-14 so he could respond to inquiries posed by immediate sponsors and up the chain of command to the Secretariat level. At the same time, the Offices of Naval Research (ONR) and Naval

Technology (ONT) expect the TD to know how his general technology base is being developed to meet platform requirements. The need for a technology staff became increasingly evident.

01T's role in the reorganization

The 01T group will serve a critical role in keeping the Center in line with its own technology goals as well with those of ONR and ONT. "We will provide the Center's technology blocks with strategic guidance," said Naglak, "guidance in meeting mission requirements. We will also serve as an external contact, an important interface with ONR and ONT and other laboratories."

The three areas of concentration in this new staff office are: Research Management, Exploratory Development, and Advanced Systems.

Research Management, 01T1

In charge of Research Management, 01T1, is Arno Witt. He is the principal scientific advisor and consultant to the Associate Technical Director for Technology and focal point for the Center's research (6.1) programs to the Chief of Naval Research (CNR). "My duties include administering the Independent Research Program (annual budget of about \$2.3 million) and the Independent Research and Development (IR/IED) and ONR University Exchange Programs. Liaison to the various ex-

ternal research laboratories and organizations in order to promote mutually beneficial programs and exchanges is one of my major functions," Witt stated.

Witt also plans on restructuring some research reviews and changing some things on a local basis. "It will be possible to talk to me throughout the year rather than at certain specific times. If a person has an interesting, worthwhile-looking idea they should be encouraged to write up a proposal," said Witt.

"Currently I'm in the midst of organizing the 01T office and trying to know all the people involved in research projects here and establish contacts in Washington. I guess you could say I'm getting my feet wet," Witt said.

Witt has been at the Center since 1963 and has received a B.A. and Masters degrees in Physics from the University of Pennsylvania and a Ph.D. in Physics from Drexel University. In May of 1985 Witt received the Naval Air Development Center 1985 Award for Scientific Achievement in the field of laser air/underwater ranging and communications.

"My main goal is to balance and

strengthen the research program for the Center; and that means hiring more research oriented people and building new research facilities," stated Witt.

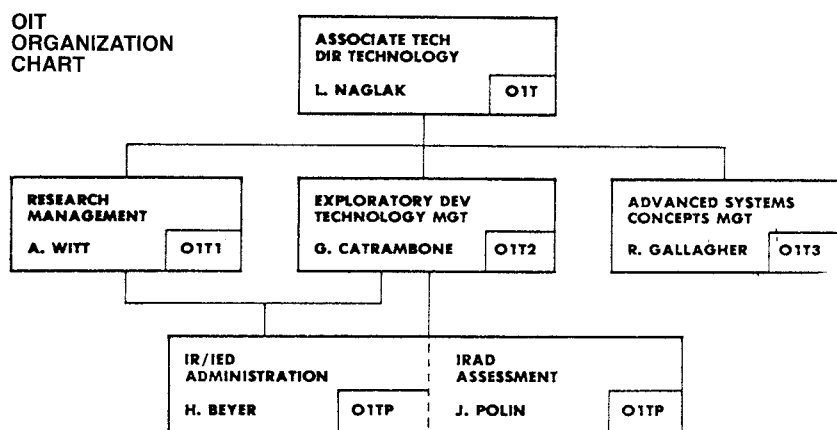
Exploratory Development, 01T2

Guiding the area of Exploratory Development, 01T2, (the largest financially of the tech base areas) is Greg Catrambone. "I assess and promote the Center's direction in technology in areas such as the ONT block programs (large blocks of money for comprehensive technological areas), the IED program and other exploratory development efforts."

01T2 also promotes the interchange of warfare requirements and technology developments between Center departments, serves as focal point for cooperation among other laboratories and encourages interchange with industry and other agencies.

In simpler terms, Exploratory Development "focuses technology to applications which address Navy needs," explained Catrambone. "A strong technology program has a sense of direction."

(continued on page 8)



01T head Louis Naglak receives correspondence from his secretary Evelyn Paiste.

Airborne sounder replaces shipboard methods

By Mary Ann Brett

The Electro-optics Development Division (EODD) of the Mission Avionics Technology Department performs laser research and development in several areas. One of their most recent accomplishments is the Hydrographic Airborne Laser Sounder (HALS) System which recently underwent successful flight testing. HALS uses a neodymium YAG laser which the EODD also developed.

Sponsored by the Defense Mapping Agency and managed by the Defense Advanced Research Projects Agency, the HALS system is designed to replace conventional methods for mapping the bottom of coastal waterways. Two of these conventional methods include deploying a ship with sonar capabilities, transmitting sound downward and waiting for a response. Another shipboard method simply lowers a lead weight on a cable and measures the distance—both lengthy, time-consuming processes.

The HALS system advantage is that it operates 500 times faster, thus saving a significant amount of time and money.

The system functions by emitting a

10-foot shaft of light, 400 times per second. The receiver has an 80 square inch aperture. It uses an elliptical scan pattern with a 265 meter swath at an altitude of 500 feet. HALS will determine depths from 2 to 60 meters with better than 1 meter accuracy at a 60 meter depth. It is capable of gathering data over a four-hour mission at a coverage rate of over 100 square kilometers/hour.

After laboratory testing, the HALS system was installed into one of the Center's P-3 aircraft during a week-long modification at Wright-Patterson Air Force Base. Modifications included installing a 36-inch wide x 42-inch long by 2-inch thick plexiglass window in the belly of the plane. A transceiver was shock mounted directly above the window and the floors were reinforced with one-inch thick plywood to support equipment racks.

HALS was field tested for a week in the clear water surrounding the NADC Key West Detachment.

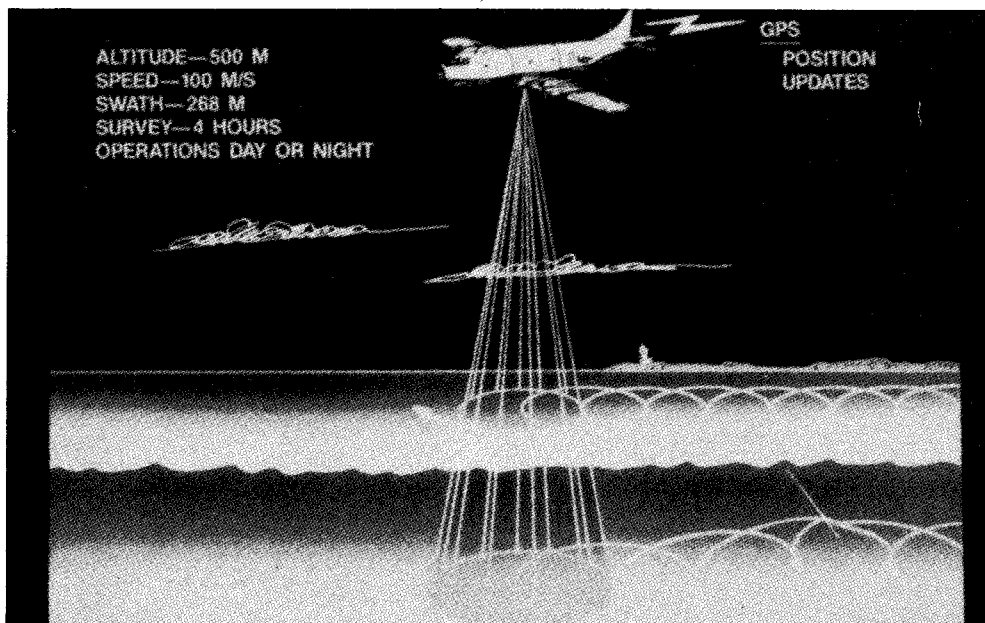
According to Carol Wilson, one of the project engineers who works on various aspects of the system including formulating scanning patterns, engineering a system simulator and deter-

mining optimum aircraft speed, "these tests were successful, the transceiver worked, we could see the bottom return on the screen and could measure the depth."

But the transition from a controlled-environment to a flying aircraft is a difficult one. "In the lab, the system sits on a stationary optical bench; in the air we have to contend with vibration,

pressure, and turbulence to say the least," said Wilson, a 1985 graduate from Drexel University. "Now we need to interface operator and system so the user can set the operating parameters through a terminal. We also need to evaluate how well the system works."

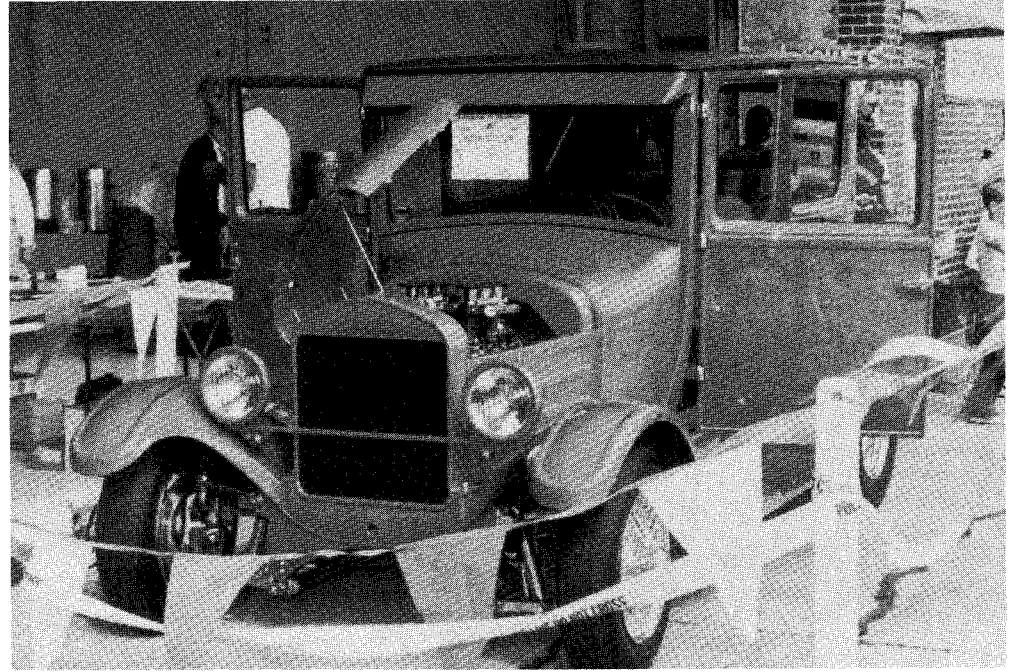
She noted, "A lot remains to be done, but, more importantly, we've proven that HALS is a workable idea."



Artists rendition of HALS system at work.

NADC hosts Warminster Classic Car Show

During Warminster's recent 275th Anniversary celebration, the Center hosted an Antique/Classic car show sponsored by Warminster's Senior Citizens Association. More than 100 cars sparkling brighter than new were displayed and spectators numbered more than 300. As a result of this combined effort, the Senior Citizens Association on behalf of Warminster will make a contribution to Navy Relief.



"Look, but don't touch" was the byword.

Photo by Mary Ann Brett

Turn-of-the-century to the Roaring 20's are represented.

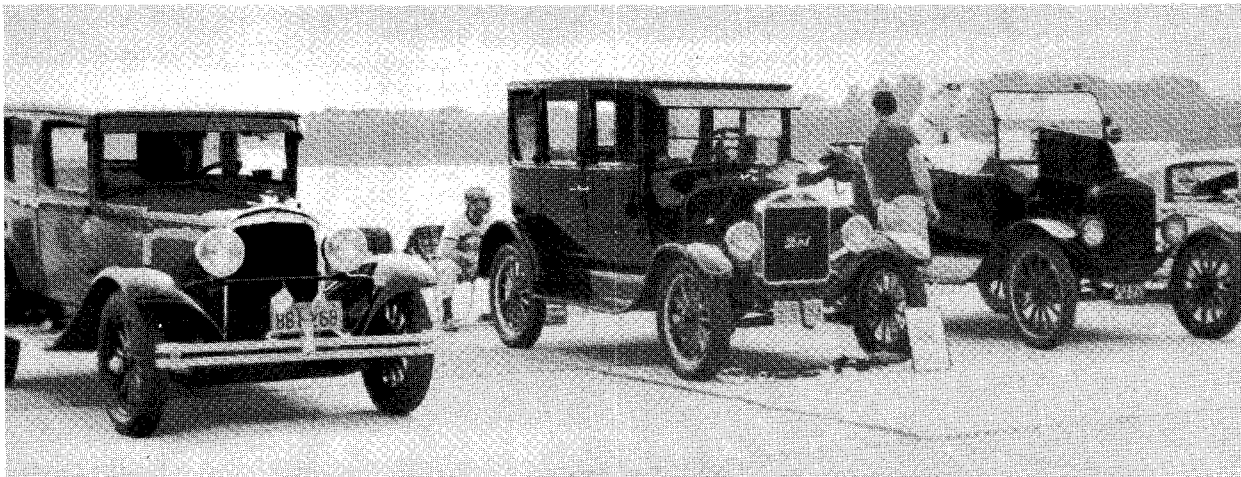


Photo by Mary Ann Brett

High performance and flashy paint jobs drew crowds.

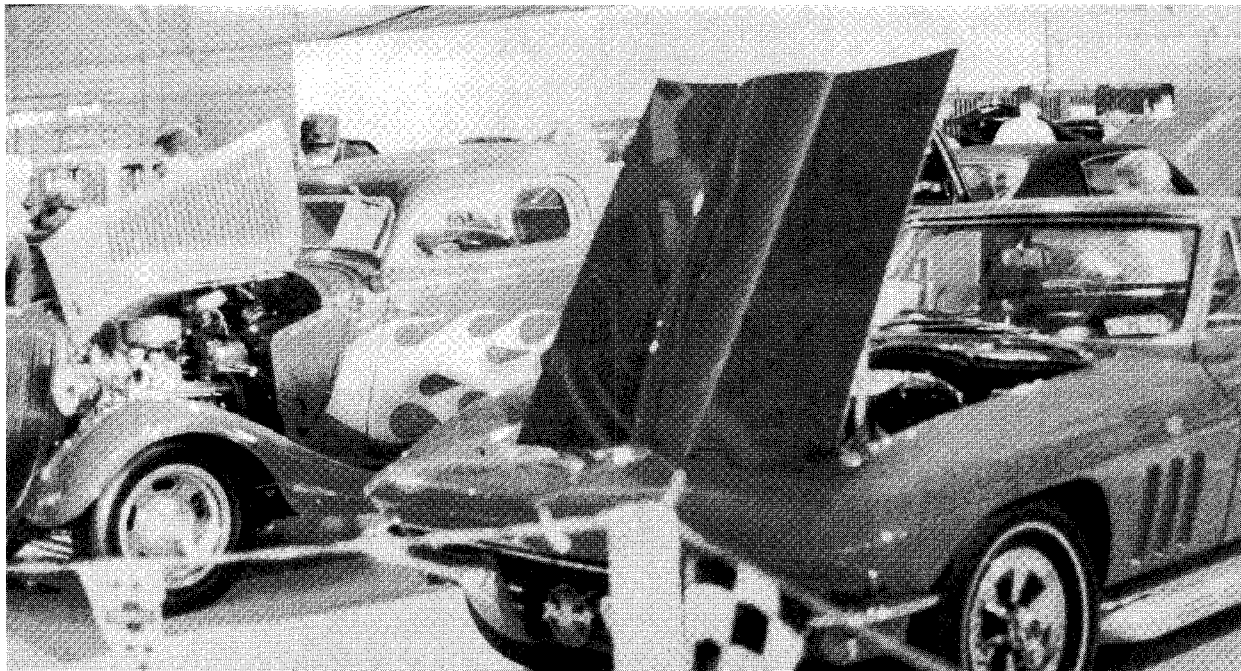


Photo by Mary Ann Brett

On this date in November

November 2 First European edition of "Stars and Stripes" newspaper published, 1942.

November 4 Some 500 Iranian "students" seize United States embassy in Teheran, 1979. They take 63 American hostages, 52 of whom remain in captivity until January 20, 1981.

November 6 John Philip Sousa's birthday, 1854. The leader of the Marine Band from 1880 to 1892, Sousa composed a number of famous marches, including "Stars and Stripes Forever" and "Semper Fidelis."

November 10 U.S. Marine Corps established, 1775.

November 11 Armistice Day. Armistice ending World War I signed at 5 a.m., between Allied and Central Powers at Compiègne, France, 1918. Hostilities officially cease at 11 a.m., the "eleventh hour." Veterans Day officially observed on November 11 after a brief trial (1971 through 1974) as a "Monday holiday."

November 17 John Peter Zenger arrested, 1734. A colonial printer and journalist who established the New York Weekly Journal, Zenger was arrested for libel, but continued to edit his newspaper from jail. His acquittal marked an important early step toward freedom of the press in America. Suez Canal opened, 1869.

November 18 Birthday of Mickey Mouse in first talking cartoon ("Steamboat Willie"), 1928.

November 19 Lincoln delivers Gettysburg Address ("Fourscore and seven years ago...") at memorial services in Gettysburg, Pa. 1863. Columbus discovers Puerto Rico on his second voyage to New World, 1493.

November 21 Jean Francois de Rozier and Marquis Francois Laurent d'Arlandes become first to fly free flight in a balloon, Paris, 1783. An interested spectator at the event: Benjamin Franklin.

November 22 President John F. Kennedy assassinated, Dallas, Tex., 1963.

November 26 President George Washington proclaims first U.S. holiday (Thanksgiving), 1789.

November 29 First Army-Navy football game, 1890. Navy wins 24-0.

Mail early before the holiday rush

The key to successful holiday mailing is to mail early and correctly. Persons sending cards and packages overseas from the continental United States should mail them on or before the following dates:

Destination	Priority Mail	Letters	Parcels	
			Airlift Space Available	Surface Mail
			*(PAL)	** (SAM)
Africa	1 Dec	1 Dec	10 Nov	3 Nov
Alaska	8 Dec	8 Dec	1 Dec	24 Nov
Hawaii	8 Dec	8 Dec		24 Nov
Australia	24 Nov	24 Nov	10 Nov	3 Nov
Caribbean/West Indies	8 Dec	8 Dec	24 Nov	17 Nov
Central and South America	24 Nov	24 Nov	15 Nov	3 Nov
Europe	5 Dec	5 Dec	24 Nov	14 Nov
Far East	5 Dec	5 Dec	24 Nov	14 Nov
Greenland	1 Dec	1 Dec	24 Nov	17 Nov
Iceland	8 Dec	8 Dec	24 Nov	17 Nov
Mid-East	28 Nov	28 Nov	3 Nov	27 Oct
South and East Asia	24 Nov	24 Nov	7 Nov	3 Nov

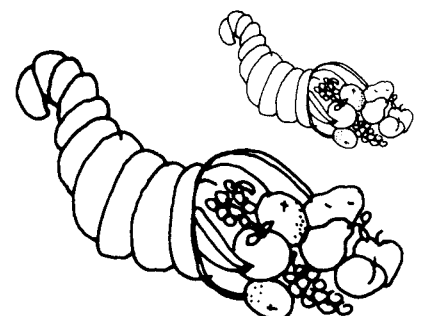
* Parcel Airlift ** Surface Airmail

Similarly, to assure the timely arrival of mail into the continental United States from overseas locations, it should be mailed to arrive at United States gateway points — New York, Miami, San Francisco and Seattle — by the following dates:

Destination	Priority	Letters	Parcels	
			Airlift Space Available	Surface Mail
			(PAL)	(SAM)
Gateway Points	12 Dec	12 Dec	8 Dec	24 Nov

Parcels will arrive at their intended destination in good shape if you follow a few simple guidelines:

- Cushion.** Make sure contents are well cushioned and there is no empty space in the box. Use crumpled newspaper around the item — including all sides, the top and the bottom.
- Don't overwrap.** Just use your carton. Brown paper and twine are not necessary. Paper can rip, and twine can become entangled in mail processing equipment.
- Seal properly.** Close your parcel with one of the three recommended types of tape — pressure-sensitive, nylon-reinforced kraft paper or glass-reinforced pressure-sensitive. Don't use cellophane tape or masking tape.
- Avoid smudges.** Use smudge-proof ink for your addressing.
- Position addresses properly.** Put the recipient's address in the lower right portion of the package and your return address in the upper left corner. And put them on only one side of the package. It's a good idea to put a slip with the address and return address inside the parcel.
- Use ZIP codes.** Be sure to include the ZIP code in both the recipient's and your address. Remember, wrong ZIP codes can delay the mail.
- Time it right.** Mail early in the month and early in the day.



Research and development awards presented

(continued from page 1)

approaching threat aircraft intends to perform an attack, surveillance, or electronic warfare mission. He accomplished his goal by first obtaining the decision-making information directly from tactical operators and warfare publications. Then he developed a cognitive process model which reasons and draws inferences from this knowledge base. Into this base he incorporated information on potential threats, goals, plans, and situation uncertainties. Ultimately, this expert plan recognition system will be verified by comparing its accuracy against operator performance with and without the use of the expert system.

Heithecker's award winning efforts were cited as providing assistance to operators in time critical decision making on a problem of extraordinary importance to future warfare.

Both his undergraduate and graduate degrees in Electronic Engineering were received from Johns Hopkins University.

"It was a great honor," said the 11-year employee on having his project selected for the award. "I was gratified for my team as well" he said, "because all five of us were responsible for the work."

McEachern of the Mission Avionics Technology Department's Acoustic

Development Division took this year's IED award for his work on "Coherent Rejection of Flow Noise."

The Navy's primary way to detect submerged submarines, is by using sonobuoys with hydrophones which pick up the sounds emitted by these submarines. However, a hydrophone's effectiveness is reduced by noise from other sources including that produced by the low velocity flow of water around the hydrophone as the sonobuoy drifts in the ocean.

McEachern developed processing techniques which reject these flow noise effects on directional hydrophones by using two and three element hydrophone arrays. His successful results are expected to improve low frequency performance in hydrophones of the type used in advanced and production sonobuoys. This improvement will reduce bearing errors by a factor of four resulting in faster target localization.

"This project was a logical follow-on to my previous work on DIFAR (directional frequency analyzing recorder) sonobuoys," said the 16-year employee. "During my advanced graduate work I became familiar with signal processing and data processing techniques in acoustics and thought they would apply here."

McEachern received his Bachelor's degree in Mechanical Engineering in

1970 from Boston's Northeastern University. He's now just a dissertation away from his Ph.D. from Penn State University, where he received his Master's degree in Engineering Science in 1980.

"I've received patent awards, but this is my first strictly technical award, I

enjoy the recognition," admitted McEachern of his selection.

During a congratulatory ceremony, Buffum cited both men for their excellent research and development efforts resulting in significant contributions to the Navy.

Retired Federal Employees visit NADC

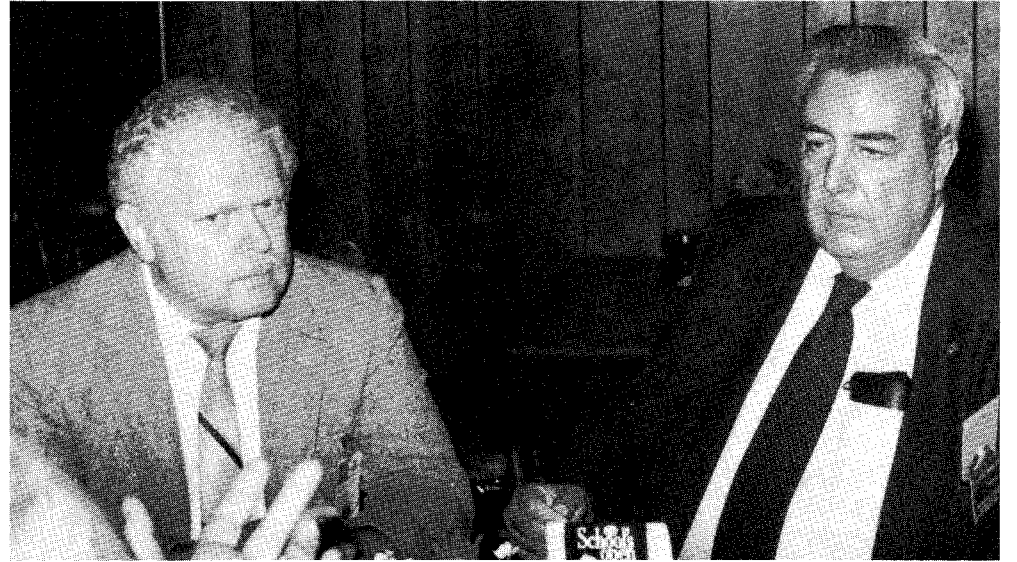


Photo by Mary Ann Brett

H.T. Steve Morrissey, President-elect of the National Association of Retired Federal Employees lunches at NADC with Paul Devlin, President of the Association of Federal Employees. The two leaders discussed potential ways of improving the bond between active and retired Federal Employees.

VIEWPOINT

This month's question is:

"If you could be anyone for a day, who would it be and why?"

Photos by JO2 Todd Lufkin



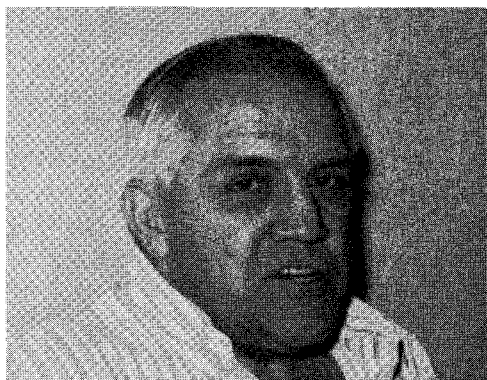
"I would like to be a certain YN3, so that I could go out and buy a knee immobilizer and tell everyone I hurt my leg playing football. Then I could have my Leading Petty Officer perform colors for me, make burn runs for me, take the POD to Repro for me, have the people who work at the Galley carry my tray to a table for me, do 'Viewpoint' for me, etc., etc."

YN1 Ron Moody, Code 042



"I wouldn't want to be anyone else even for a day. I have my health, family, friends and a wonderful fiance—who could ask for anything more."

Donna Arcangel, Code 5011



"I would like to be a mind reader, so I could search the world over for an *honest* politician."

Bill Myers, Code 703



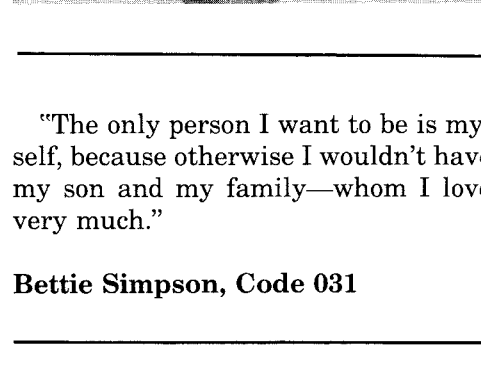
"Betty Crocker, so that I could share and distribute my joy of cooking with the world."

Joan Bilodeau, Code 40S



"Her Royal Highness, the Princess of Wales. It would be fun to be Princess 'Di' for a day and live like royalty."

Kathleen McCloskey, Code 0501



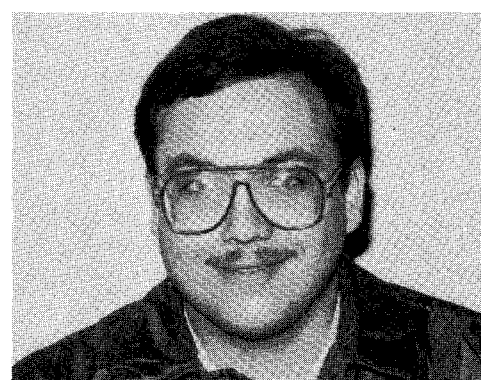
"The only person I want to be is myself, because otherwise I wouldn't have my son and my family—whom I love very much."

Bettie Simpson, Code 031



"I would like to be the oldest man in the world 500 years from now. That way I would be able to see what the world is like then and also see what the history books say about today's world."

HM3 Joseph Kailis, Code 6025



Guzzler Fall Classic features Halloween theme

by Charlie Destra

The 1986 Guzzler Fall Classic, a "best ball" championship, was won by the foursome of Tom Weiss, Steve Fleischut, Glenn Willis and Gary Marinelli in a hotly-contested match at Horsham Valley Golf Course on October 16. Each player won a trophy for his efforts in the brisk but sunny conditions.

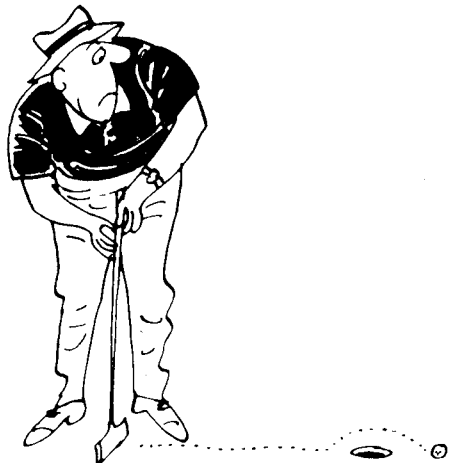
"Best ball" calls for all the golfers on a given team to tee off their shots, then play the ball that has the best position or "lie." The same procedure is continued throughout each shot and each hole.

The scores were extremely competitive among the 10 teams, with first (63) and last place (72) separated by a mere nine strokes. The winners (three under par with 15 pars and three birdies) squeaked by the team of Joe Bretton, Stan Zajdel, Pete Carroll and Rich Zielinski by one stroke. The field of 38 players was the largest ever in a Guzzler tournament.

Pete Carroll and Rick Sames won trophies for capturing the "Closest to the Pin" events. Carroll plopped his tee shot seven feet from the 130 yard, 8th hole's flagstick and Sames landed his ten feet from the cup on the 150 yard

10th hole.

The tournament featured a halloween theme this season and many of the entrants came dressed for the occasion. The "best costume" prize went hands-down to Harry Frost, who came as a female impersonator replete with black wig, red swimsuit, and pink stockings.



(Frost's attempt to tee off from the ladies tee was futile, however.)

For the first time, a contingent from another activity, the Aviation Supply Office, participated in a Guzzler tournament. The outsiders (appropriately) finished last, but to be fair, they were at a disadvantage having only three

players. Trophies with the caption "Worst Best Ballers" were awarded to the last place finishers.

Last year's Fall Classic (also a best-ball format) was won by the foursome of Ted Kopp, Jack Eyth, Rick Sames and John Bowes at Hidden Springs Golf Course.

Mixed League Bowling News

by Tom Reiter

As we reach the mid-point of the first half, the league standings and best efforts are:

A DIVISION

TEAM	CAPTAIN	HI-GAMES	
Warveyhallbangers	B. Weber	Mike Lizbinski	207
		Caroline Tierney	204
Red Winos	T. Reiter	Ernie Wykes	218
		Iris Hayslip	188
Goofers	A. Knobloch	Leo Markushewski	232
		Lorraine Reidinger	196
Big Spenders	R. Casagrand	Bob Casagrand	225
		Margie Ruzicka	151
From The Gutter	D. Williams	Rick Yeager	257
		Lorraine Williams	164
Strange Brew	J. Mitchell	Sol Fink	188
		Lynn Fratrik	165
Lane Brains	M. Thomas	Hank Lystad	223
		Ro Lystad	190
Lucky Strikes	C. Burian	Art Duhaime	232
		Mary Feeley	190
Bullshooters	T. Leahy	Steve Spadafora	204
		Eileen Cunnane	191
Spare Us	D. Morgan	Dick Coughlan	212
		Donna Morgan	211
White Winos	S. Tiley	Ron Garber	220
		Sharie Janow	209
Jerry's Kids	J. Miller	Carl Kizelkowicz	243
		Joan Miller	188

B DIVISION

Alley Cats	R. Geyer	Gene Toner	225
		Denise Beck	234
Eleventh Frame	H. Goldstein	Ted Weathers	201
		Sandy Weathers	195
Neiners	H. Catto	Mark Lind	233
		Helen Catto	157
Destroyers	L. Dunn	Ken Johnson	203
		Lorrie Dunn	207
Who Cares	J. Bowes	Steve Metcalf	257
		Barb Fleischut	181
Falcons	C. Calkins	John Olson	198
		Judy Jerdan	196
Magic Markers	N. Weinman	Larry Sicher	221
		Lois Savage	183
204 Pin Heads	L. Johnson	Jack Rush	222
		Jill Shaner	139
Screwballs	P. Tease	John Ryan	202
		Eileen Dobrowski	178
Blips	M. D'Aulerio	Matt Meer	205
		Karen Messina	169
Dynamic Duos	E. Gifford	Nick Doto	181
		Bonnie Long	157
Les Champignons	M. Troyanosky	John Harris	194
		Ann Harris	213

Team	The Field	Score
T. Weiss, S. Fleischut, G. Willis, G. Marinelli		63
J. Bretton, S. Zajdel, R. Zielinski, P. Carroll		64
J. Bowes, R. Sames, D. Whitenack, M. Janinek		66
S. Bazow, K. Birney, W. Everett, J. Schneider		67
W. Latosh, W. Mulley, J. Scott, J. Spiecker		68
K. Mergner, H. Frost, T. McGovern, T. Shork		69
C. Destra, J. Markow, B. Hamilton		70
J. Eck, P. Finnegan, M. Bubbs, L. Morris		70
J. Eyth, R. Geyer, G. Hribar, D. Krauss		71
G. Holland, R. Pierce, G. Stumpo		72

Double Eagles soar over Hackers at Championship

by Charlie Destra

The Double Eagles wrapped up the 1986 NADC Twilight Golf League Championship by beating the Hackers, 12 points to 4, at Northampton Golf Course on October 15. The Double Eagle, who won 54 holes to the Hackers' 44, were led by Phil Sapovits, Buzz Braun, and Ron Walter, who combined to win 29 holes. Mike Bell (10 holes won) and Barry Sanders (nine holes) played well for the losers.

The playoffs began with a nine-hole competition on September 24 at Bucks County Golf Course with the Aces upsetting the Brassies and the Milligans losing to the Divots in the Red Division. In the White Division, the Hackers knocked off the Duffers and the Strok-

ers outstroked the Teetoters.

The next stop was a nine-hole quarterfinal match at Northampton on October 1. The Divots edged the Aces earning the right to play the Double Eagles in the semifinals, and the Hackers overtook the Stokers, matching themselves up against the Haphazards. (The Double Eagles and Haphazards, due to their first-place finishes in their respective divisions, got byes in the first two rounds.)

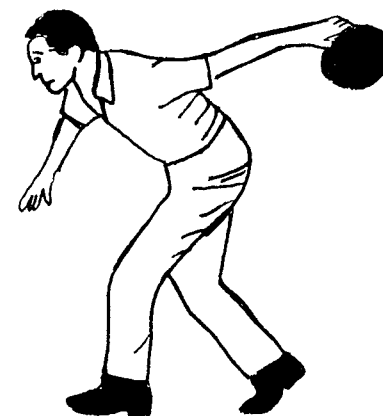
In the semifinals (October 8 at Bucks County), the Double Eagles disposed of the Divots as expected, 12 to 2. The Hackers, in a mild upset, knocked off the White Division's top-rated Haphazards, 9 to 7, setting up their championship match against the Double Eagles.

TEAM: Hackers					VS	TEAM: Double Eagles					
Player	Gross	H'cap	Net	Holes	Points	Player	Gross	H'cap	Net	Holes	Points
Barry Sanders	85	22	63	9	2	Curt Swatchik	86	8	78	3	0
Mike Bell	93	22	71	10	2	Jim Botto	90	12	78	4	0
Pat Ahern	100	24	76	6	0	Bob Lehman	85	16	69	7	2
Bob Berry	105	28	77	4	0	Buzz Brawn	83	16	67	10	2
Nelson Torres	110	34	76	6	0	Denny Baker	88	20	68	8	2
Les Bunney	118	40	78	7	0	Ron Waiter	103	26	77	10	2
Mike Malecki	139	46	93	2	0	Phil Sapovits	101	30	71	12	2
Team Totals	750	216	534	44	4	Team Totals	636	128	508	54	10
TOTAL POINTS					4	TOTAL POINTS					12

Back to back 700 series

by Tom Reiter

Steve Metcalf of the mixed league's Who Cares is on an unbelievable hot streak. On consecutive Wednesday nights, Steve first bowled a 712 series with games of 256-220-236, then the following week rolled a 728 series of 214-257-257. How many of us have struggled for our first 200? He has six in a row! Where did John Bowes find this guy? In addition to being a super bowler, he is a real nice guy and a credit to our league. Congratulations Steve.



Wellness Matters

Babies battered by booze before birth

Since 1973 when a definitive report of the effects of alcohol on fetuses was released, pregnant women have been discouraged from drinking alcohol in any form. Because science cannot yet determine beforehand what level of alcohol intake is "too much" in particular cases, many physicians recommend their patients abstain immediately before a planned conception through breast feeding.

When alcohol is consumed, it is absorbed through the intestinal wall and distributed throughout the body. During pregnancy, alcohol readily crosses the placenta and reaches the fetus in the same concentration as in the mother. Biochemical and physiological changes caused by chronic alcohol abuse can affect fetal tissue just as it affects the adult. Since the fetus is growing very rapidly, the effects appear more quickly.

A significant danger from the use of alcohol during pregnancy is fetal alcohol syndrome. This syndrome is a constellation of permanent and severe physical and mental defects caused by alcohol damage to the growing fetus. Not all of the defects are present in every child. However, the most commonly seen include: small, thin babies who do not thrive after birth even though well-nourished; facial deformities (such as widely spaced eyes; a wide, flat nose, and a narrow upper lip without a vertical groove); moderate mental retardation; hyperactivity; heart defects, and other abnormalities in body organs.

Children born of alcoholic mothers who continue to drink heavily throughout pregnancy have a nearly 50 percent chance of being born with fetal alcohol syndrome. The effects of alcohol on the fetus are detected only at birth, because

there are no tests available to determine whether an unborn baby may have fetal alcohol syndrome.

Alcohol in any form—wine, beer, or liquor—is best left out a woman's diet until after her baby has been born. There is no better time to stop drinking than when planning for a pregnancy. Otherwise, a woman should stop drinking alcohol as soon as she is aware that she is pregnant. Fetal alcohol syndrome crosses all economic and social groups and affects the wealthy just as profoundly as the poor.

It is important for pregnant women to eat properly, exercise, avoid the use of drugs, and reduce smoking. Any woman who cannot stop drinking heavily while pregnant should seek help. There are alcoholism treatment programs or Alcoholics Anonymous groups available as resources in most communities.

"Wellness Matters" is prepared by the Community Relations Department of Frankford Hospital in cooperation with health care professionals.

BOOZE & YOU

Each year, approximately 5,000 lives are lost in alcohol-related traffic accidents in which the driver is under 21. Some 20 percent of all fatal highway accidents involve drivers under 21, although this group makes up less than 10 percent of the total number of licensed drivers. For people aged 15 to 34, automobile accidents are the single greatest cause of death.

—National Highway Traffic Safety Administration

Physical fitness—a semi-annual feat

The Navy's physical fitness training . . .

The Navy's Physical Fitness Training will now be held on a semi-annual basis. Push-ups have been added to the sit-ups and mile run. Over the past three years there has been significant improvements to overall physical fitness. Of the more than 200 participants, 17 received the mark of outstanding and will receive commemorative plaques.

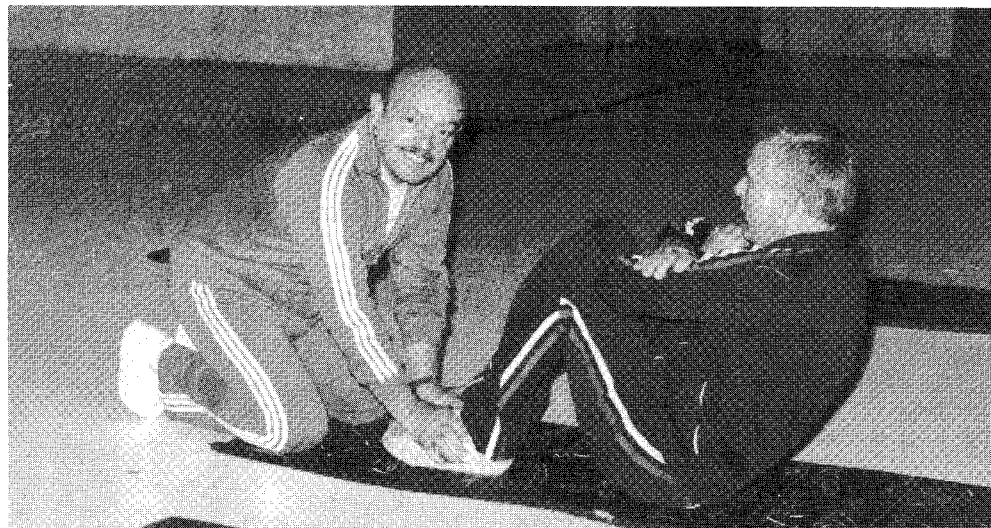


Photo by Regina Gasuk
Captain Fred Wright, Chief Staff Officer, and Captain Edward Sturm, Center Commander, demonstrate the proper method for doing Navy-regulation sit-ups.



Photo by Regina Gasuk

"On your mark, get set, GO!" The goal of the runner is to go down and back the runway (which is just a mile). However, after doing sit-ups and push-ups, just making the run in one piece is an accomplishment in itself.

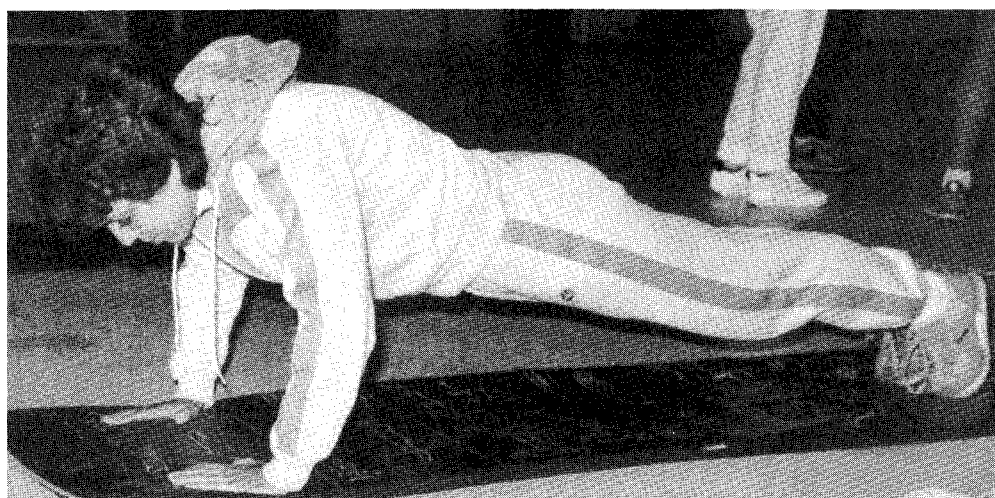


Photo by Regina Gasuk

AZ3 Brenda Denonville makes doing push-ups look easy. Denonville went on to do 78 push-ups, 98 sit-ups and ran the mile in 10:50 minutes!

Ski Club News

by Joyce Smith

Happy Holidays skiers! Come to our meeting on December 15th for the holiday festivities.

Also, the December meeting marks the close of the Great Giveaway Contest. It will be the final installment of the fun and games to determine who will win the \$100 ski trip credit.

The ski trips are filling fast so, if you want to go on any of them, sign up quickly. For a schedule of the trips, trip leaders, and current standings, check the NADC Ski Club Bulletin Board near the Credit Union.

December is also your last chance to sign up for 1986-87 membership. If you haven't signed up yet, contact Mike Drahm @ x 3383.

Join us for the GGC activities as well as some Christmas surprises we've planned for our December meeting.

Commander Salutes

LCDR Andrew Jackson (Code 10), **Carl Reitz** (Code 20); **Robert Beesburg** (Code 30); **Paul Moser** (Code 50), and **Alan Kaniss** (Code 05): For excellent briefings to the Naval Reserve Unit 0266.

AD1 Jeffery Johnson, AD1 Rodney Cook, AD1 Cardy Hughes, AD1 Stanley Meni, AD3 Troy Harden, AMS1 Paul Walski, AMH1 Lonniell Bolton, AMS2 Alonzo Tilley, AMH2 Mark Gray, AT1 Jose Barrera, AE2 Donald Peters, AE2 Stephen Cudworth (Code 82): For outstanding support provided to Oceanographic Development Squadron EIGHT.

James Locurto and Joseph Smith

(Code 70): for supporting the Navy's Quality Action Team, whose work was of benefit to the Naval Material community.

Daniel Probert and George Reeder (Code 07): for competent assistance to David Taylor Naval Ship R&D Center during their Large Scale Models Experimental Trials.

LCDR Richard Hudson (Code 30): for hospitality extended to RADM Smith and the senior members of the TAC D&E Steering Committee.

Sheldon Weisman (Code 10): for excellent contributions to the S-3 ASW Tactics Seminar at Cecil Field, Florida.

LCDR Andrew Jackson (Code 10):

for an excellent briefing to the Naval Reserve Unit 0193 on P-3 Update IV Avionics.

Thomas Weaver (Code 10): for an excellent briefing to the Naval Reserve Unit 0193 on P-3 Update III.

Charles Jackson (Code 01): for an excellent briefing to the Naval Reserve Unit 0193 on security awareness.

Donald Jurmanski (Code 07): for an excellent briefing to the Naval Reserve Unit 0193 on strategic planning and the NADC reorganization.

Michael Quinn and John Dworsky (Code 81): for outstanding assistance to Mr. Kelly, minimizing the consequences of his accident.

Gi'me your gimmicks, gadgets and giveaways

The airlines, car rental agencies and other travel-related businesses, regularly entice us with a variety of sales promotion gimmicks, gadgets, and give-aways. Unfortunately, we federal employees on official travel are not allowed to keep or use them for ourselves.

Travelers' Integrity Alert

All personnel must account for gifts, gratuities or benefits received from private sources incident to the performance of official travel. This includes promotional material given by airlines, rental car agencies, and motels such as bonus flights, reduced fare coupons, cash, merchandise, gifts, and credits toward free or reduced costs of future services or goods. When you do receive promotional material, you are accepting it on behalf of the DoD and must turn it in to the Center's Travel Administration Office (Code 0221) when you file your claim.

Bonus Tickets—If the government paid for the trip, any bonus ticket (even if it carries an expiration date and is nontransferable) must be turned over to the Center when you file your claim with Code 0221.

Mileage Credits—Travel credits based on total mileage accumulated by an individual on official government funded travel may not be factored in with personal mileage.

Promotional Gimmicks—Travelers may take advantage of free upgrading to first-class service, membership in airline clubs, check cashing and similar privileges.

Trivial Gifts—Travelers may keep complimentary pens, pencils, note pads, calendars, and other items of nominal value.

Vacating a Seat—Government employees are not expected to voluntarily give up their reserved seats if it impinges upon the performance of official duties.

You may keep payments received from a carrier for voluntarily vacating a seat on an overbooked flight and taking a later flight. However, no additional per diem may be paid as a result of the delay in the employees return. Any additional travel expenses you incur as the result of voluntarily giving up a seat are not the responsibility of the government. If in contrast to the above, you are involuntarily denied boarding on an overbooked flight, compensation for the denied seat is due the government. Therefore, if the airline pays you directly for such denied boarding, you must relinquish that payment to the Center when filing your claim with Code 0221.

It is the responsibility of each person in government service to be aware of the prescribed standards of conduct and integrity incident to the performance of official travel. The Department of Defense Inspector General has prepared the above integrity alert to increase your awareness of the potential for fraud, waste and mismanagement. When in doubt about a particular situation contact the Center Internal Review Office, X3033, for guidance.

1986 Thanksgiving Message From the President

In this Thanksgiving season, it is appropriate that we once more pause and take time to thank God for another year of peace and freedom. And as your Commander in Chief, I thank all of you who wear the uniform of our country for your role in preserving those blessings for your fellow Americans.

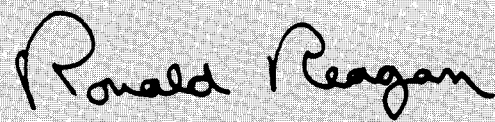
Throughout our history, Thanksgiving has found Americans grateful to God that He has steered our nation's course through trying as well as tranquil times.

Our first President, George Washington, aware of the many threats to this young nation, observed with humility the "great degree of tranquility, union, and plenty" Americans enjoyed, and made Thanksgiving the first nationally proclaimed holiday in 1789, the year of his inauguration.

Abraham Lincoln, in the midst of the dark days of the Civil War, perceived the blessings that perdured through the rage and fire of a divided nation. In spite of the devastation all about him, he saw in this country "bounties . . . of so extraordinary a nature that they cannot fail to penetrate and soften the heart," and he called on all Americans to thank the beneficent God from whom these blessings flowed.

Over the years, our nation has triumphed in many difficult contests. If we face challenges in the future I am confident that, with the help of the Almighty and with your skill and dedication, we will triumph anew.

Happy Thanksgiving to you and your families. To those of you serving on ships at sea and at isolated and dangerous posts around the globe, Nancy and I send our special thanks. God bless all of you.



Ronald Reagan

Associate TD for Technology role established

(continued from page 3)

Catrambone has been at the Center since 1970 and has a B.S. in Electrical Engineering from Case Western Reserve University and a Master's in Engineering Science from Penn State.

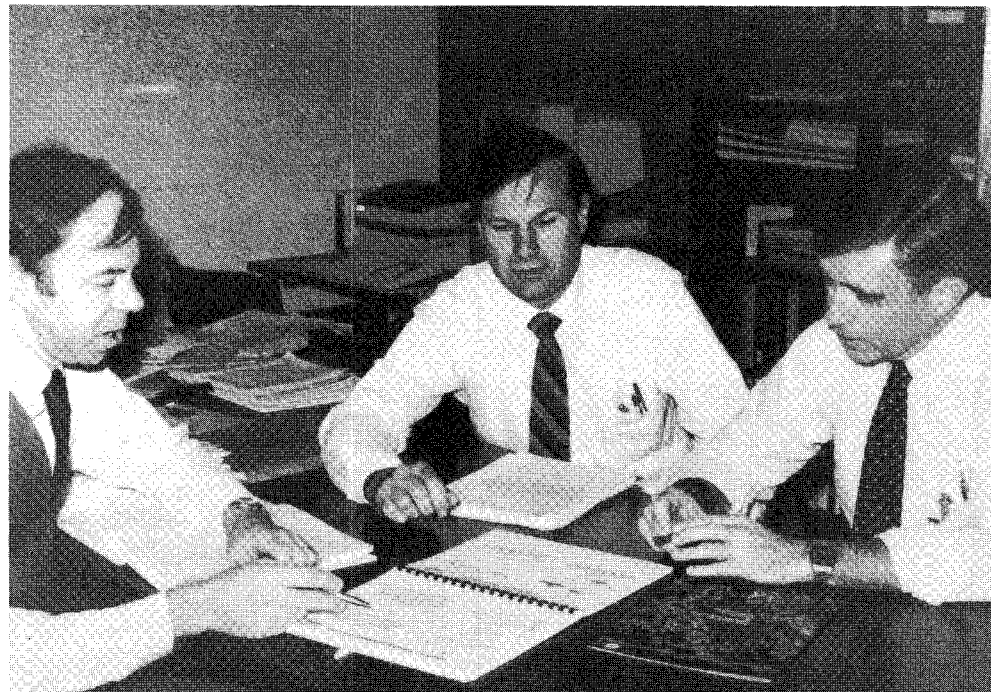
"My position is new and I'm new in the position. It is a double challenge for me to help strengthen the Center's tech base programs," stated Catrambone.

Advanced Systems, 01T3

In charge of Advanced Systems, 01T3, is Bob Gallagher. "We look to the future and study advanced concepts for systems and technology. Advanced concepts are new approaches to systems, tactics, and warfare and the counterpart to that—the technology to support the new concept," Gallagher said.

01T3 will be trying to promote/coordinate advanced concepts programs for the Center. To that end it will integrate advanced concepts across warfare areas and be supportive of technology base work by providing guidance to technologists, assisting in technology transition, providing integrated warfare needs to technologists and influencing NADC's IR/IED program.

Gallagher has been at the Center since 1964 and has a B.S. and Masters in Electronic Engineering from Northeastern University.



(L to r) Greg Catrambone, Arno Witt, and Robert Gallagher are the 01T team.

"01T3's work will be done on a cooperative basis with the Warfare and Technology community. We will not be working in a vacuum," stated Gallagher.

Goals and Rewards

The creation of a technology staff, along with the already existing Associate for Operations (formerly the As-

sociate TD), allows the TD more time to attend to other aspects of project management including new initiatives for the Center and keeping abreast of major system programs throughout the DoD.

Since we are currently being asked to justify our exploratory development dollars, to provide a 'road map' as it were, of technology applied to platform requirements, the ability to pursue particular technology, to impact aircraft requirements in a more direct way and to spin off advances in technology to meet needs, gives the Center a much better opportunity for recognition and increased funding.

"If we can expand the Center's role in technology and its system application," said Naglak, "we can create more engineering positions, provide our employees with more direct technological career paths as well as interesting and quality work."

Naglak, at the Center for 26 years, was the first to receive a long term training award—the Advanced Graduate Study Award Program to the University of Pennsylvania where he received his Master's of Science degree in Engineering Science.

"It's my opinion," said Naglak, "our reorganization and that which happened externally in the Navy offers the Center a great opportunity to work in high quality technology, research, and systems development."

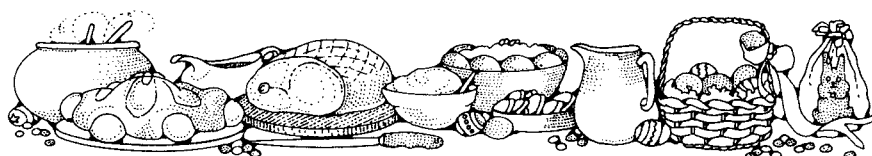




Photo by JO2 Todd Lufkin

Bottoms up!!!

As you drive down Bristol Road you may have wondered why there is an upside-down airplane on a pedestal. This is our Full Scale Aircraft Antenna Test Facility. The plane is normally right side up, but the reason it is now in this position is because it is easier to look at antenna patterns under the wings or on its belly. The transmitting antenna receives a nice view and is unhampered by the reflections that would be present if the plane were right side-up.

Defense Technical Info Center available thru NADC library

By Dora Huang

What is DTIC?

The Defense Technical Information Center (DTIC) was established as a central depository for scientific and technical documents generated by DoD and their contractors in support of RDT&E efforts and to eliminate unnecessary duplication of effort and resources. The DTIC actively acquires technical documents and provides exchange of information to DoD personnel, DoD contractors, and other U.S. Government personnel.

DTIC's information includes completed, ongoing, and future research activities. Information is contained in four data bases:

—Technical Report (TR)—the results or the progress of DoD direct efforts and DoD sponsored RDT&E efforts. Each report is assigned an accession number (AD) for ready retrieval.

Work Unit (WU)—ongoing research efforts at work unit level, both in DoD and in NASA.

—Program Summary (PS)—proposed project at task level efforts. Input was discontinued on January 1, 1983. However, the existing data base is still available, and a replacement is under consideration.

—Independent Research and Development (IR&D)—technical programs which are initiated and performed by contractors. These programs are not wholly funded by DoD. The information is considered proprietary and is available only to DoD personnel.

How to Access DTIC Data Base Through the Library

Your Scientific and Technical Library (Code 8131) has access to DTIC's data bases via an interactive terminal. We, (Code 8131), can search for the needed information and provide a bibliography complete with abstracts and/or descriptive data print out.

Currently the Library receives 95% of all DTIC TRs. We, (Code 8131), also have a sizable collection of these TRs on file.

Work Unit, Program Summary, and Independent Research and Development data can be retrieved and printed either on line or off line. We, (Code 8131), can also subscribe to any recurring program for you.

The Library has a substantial collection of the IR&D brochures. The Center's IR&D Chairman seeks engineers and scientists who are experts in their field to assist in the review of specific IR&D project brochures.

You and DTIC

As a contributor, as well as a user, you are very important to the DTIC Program. You are welcome to take advantage of the vast information resources through your Library (Code 8131). The Graphic and Editorial/Writing Branch (Code 8133) will assist you in publishing your research findings and in preparing them for submission to DTIC, as required by Regulation (SECNAVINST 3900.43).

EEO reps acknowledge departing Tech Director



Photo by JO2 Todd Lufkin

As a token of their appreciation, representatives of the Women's Career Enhancement Program presented a plaque to Technical Director Robert Buffum for his support of this effort. The program provides participants with a knowledge of Navy and Center activities, programs, procedures, and opportunities in addition to management skills and career planning strategies.

CREST Lab—a popular stop for visiting groups



Photo by JO2 Todd Lufkin

Terry Hannigan of the Naval Avionics Center tries on the simulated cockpit for size during the Northeast Region Training Directors visit to NADC.



Photo by JO2 Todd Lufkin

(L to r) Pablo Carvallo, Christopher Quanstrom and Scott McDowell of Explorer Group 690 hear about the CREST Lab from Dave Herbine (far right).

Combined Federal Campaign '87 begins



Photo by JO2 Todd Lufkin

Captain Edward Sturm makes kick-off speech.

The 1987 Combined Federal Campaign (CFC) for 1987 was recently kicked-off in the Center Auditorium by Captain Edward Sturm, Center Commander. CFC is that once-a-year opportunity for Federal Employees to provide needed support for many hu-



Maureen Marron, Chairman, 1987 Combined Federal Campaign

man care programs; at the Federal, State and local levels. This year's goal is \$97,000. Through November 28 anyone can make a cash contribution or a payroll pledge. For further information, contact your Departmental Chairperson.



Photo by James Kingston

LOCKHEED local employees, represented by Jerry Sink, made the first official 1987 Combined Federal Campaign contribution in the amount of \$325 to this year's chairperson, Maureen Marron and Center Commander Captain Edward Sturm.

Promotions

James Bryant, Lorenzo Capili, Pamela Craigie, Steven Klein, Thomas Morrison, Thomas Munyan, Carol

Newman, Eileen Ryan, Philip Shannon, Charles Williams, James Wright, Robert Zaleski.

Technical Highlights

FIRST MODEL 4.1 CV-ASW MODULE COMPLETES IN-SERVICE TRIALS

The first model 4.1 CV-ASW successfully passed in-service inspection trials on the USS ROOSEVELT (CVN-71) during the week of 6 Oct 86. This new version ASW module includes a new Navy standard display system and functional enhancements which provide significant improvements over the existing model 4.0 CV-ASW. It is planned to continue installation of the model 4.1 system on Navy aircraft carriers during scheduled overhauls through 1991.

LAMPS AIL VALIDATION COMPLETED; AOP/AMTP LIFE CYCLE SUPPORT INITIATED

The vertical flight program successfully completed system validation testing of the SH-60B Avionics Integration Laboratory (AIL) on schedule. Completion of this critical milestone permits NADC to assume life cycle support responsibility for the SH-60B Air Operational Program and the Air Maintenance Test Program as planned on 1 Oct 86.

P-3C UPDATE IV FSED RFP RELEASED

An NADC-developed RFP for a full scale engineering development (FSED) program was released by NAVAIR to the competitors from Phase I of the P-3C Update IV Avionics Program in early Oct 86. This effort will result in major improvements to the P-3C aircraft in the areas of radar, acoustic processing, data display and communications. A mid FY87 contract award is anticipated.

HELICOPTER EMERGENCY FLOTATION SYSTEM (HEFS)

A briefing on the H-46 HEFS program and the experience and technology base that exists at NADC was given to NASA personnel who visited the Center seeking technology support for

the space shuttle program.

In-house tests were conducted on samples taken from the HEFS float to evaluate the same capability.

The HEFS drawing package was received from Boeing Vertol Co. It is currently being reviewed to determine whether or not it meets level III drawing requirements.

A pre-critical design review of emergency egress, flotation and life rafts for the V-22 was held at Boeing Vertol Company on 17 Sep 86. Boeing recommended changing the specification to require only one minute flotation instead of ten minutes. NADC insisted that the ten-minute flotation requirement be retained.

PATENT APPROVAL

CAPT William Moroney received a patent for an "Automated Anthropometric Data Measurement System" (U.S. Patent 4,603,486). The device is presently being evaluated at the Naval Aerospace Medical Research Lab (NAMRL), Pensacola, FL.

UPDATE IV PHASE I AVIONICS SYSTEM

In-plant acceptance testing of the Update IV Phase I Avionics System commenced at the Boeing Aircraft Co., Seattle, WA and the Lockheed California Company, Burbank, CA. NADC, in conjunction with NAVAIRTESTCEN personnel, are cognizant of the human factors portion of the test program at each contractor's facility. Following acceptance, all equipment will be delivered to NADC for further demonstration and validation in the newly constructed UPDATE IV lab.

GETUP MODELS

A new digital simulation model was begun to study the ASW variant of the MV-22A tilt rotor with growth T406 turboshaft engines and possible changes in mission severity that affect hot section component lives. Aerody-

Welfare and Rec highlights

W & R will be hosting its annual Orphan's Christmas Party on Saturday, December 20 from 1000-1200 in the Center Cafeteria. All donations will be more than appreciated. Let's all help make a little child happy.

Look for Letterhead Contest . . . W & R is looking for a logo that best describes what W & R is all about . . . More details will be forthcoming in the December edition of the Reflector.

Do you ever dream of white sandy beaches, volcanoes, riding the curl, grass skirts and delicious luaus? Well, why dream when in June 1987 you can participate in a 10 night/11 day trip to Hawaii. We will be visiting three islands: the big island of Hawaii with its mountains, sugar plantations and fishing; Maui and its port of Lahaina, tennis, golf and water sports; and Oahu and its Waikiki Beach, Diamond Head, Pearl Harbor and non-stop night life. For more information contact Margaret Vigelis at X3067.

namics, propulsion, and stores data files are being developed and verified to complete the simulation model. The same engines are potential candidates for re-engining the P-3G aircraft. A model of this aircraft is also planned to assess the change in mission severity due to this installation.

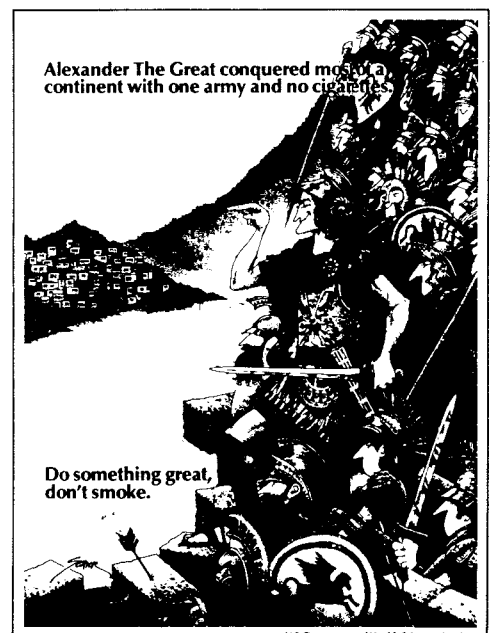
TAV-8B

The Service Release Test Program was successfully completed with a 600 knot dual ejection test. Previous tests were conducted at velocities of 0, 180, 225, 350 and 435 knots to qualify the escape system throughout the TAV-8B flight envelope. Escape system functions unique to the TAV-8B include spatial separation of the seats and occupants by interseat sequencing and divergence rockets. Canopy fracturing and canopy penetration were also successfully demonstrated throughout the program.

SYNTHETIC APERTURE RADAR (SAR)

NADC hosted the biannual SAR/SLAR Steering Committee meeting on 15-17 Oct. This DoD sponsored organization which coordinates the development and operation of SAR and Side Lobing Airborne Radar (SLAR) systems, held three days of technical discussions here between the Navy, Air Force and Army members as well as participants from the United Kingdom, Federal Republic of Germany, and a

number of US Defense contractors. NADC was complimented by the Steering Committee both for its hospitality and for a number of excellent technical papers delivered by NADC engineers and scientists. The next meeting of the SAR/SLAR steering committee will be held in the UK in the spring of 1987.





HAPPY HOLIDAYS

THE WHITE HOUSE
WASHINGTON

Christmas, 1986

TO THE MEN AND WOMEN
OF THE ARMED FORCES

As 1986 draws to a close and the holiday season fills the Earth with the spirit of peace and joy, I would like you, the men and women of the United States Armed Forces, to know of my profound thanks for all you have done to enable America to enjoy another year of freedom and peace.

Believing in miracles isn't always the fashion in our Modern Age. In a world of technological wizardry in which we too often assume that the future lies totally in our control, it is almost too much for us to accept that the course of human history could be changed so suddenly as it was by the events of that first Christmas Day. The ancient world, like our own, knew the bitter fruit of enmity between nations, and many people looked for the coming of a Messiah who would rule by temporal power. But that miraculous scene that has been the theme of countless composers, painters, and poets -- Mary and Joseph and the Christ-child in the stable at Bethlehem -- tells us by its intimacy of a different power, an inward peace, that is greater than any other.

We cannot properly see the year pass without expressing the hope once more that this message of peace and joy will someday reach all men. As members of the Armed Forces, you stand upon the parapets of that hope, keeping watch not only for the sake of your countrymen but for the people of other lands as well. For this the thanks may seldom seem to match your sacrifice. But on Christmas night the lights of a nation united in gratitude will beam, from every home and every smiling face, for the gifts of peace and freedom your service has bestowed.

Nancy and I send each of you, and your families, our warmest wishes for the Holiday Season, for joy in celebration wherever duty finds you, and for health and prosperity throughout the New Year.

God bless you, and God bless America.

Ronald Reagan

As we close out 1986—a year marked by significant changes here at the Naval Air Development Center—I would like to acknowledge the service, dedication and devotion to duty of all of you who work on Center—civilian, military, and contractor personnel alike.

It is through your efforts that we—and the entire Navy—achieve our mission. I am proud of the job you have done and I believe you should be equally proud of it.

On behalf of the entire NADC management team, I wish you and your families a safe, healthy and joyous Christmas and Hanukkah and a most happy New Year.

Edward J. Sturm
Center Commander

Holiday Message from the Secretary of Defense

As we approach one of the most significant holiday periods of the year, I want to extend my personal best wishes to every member of the Armed Forces and your families for a happy holiday season and a wonderful 1987. To those of you in uniform whose duties keep you from sharing the joys of Christmas and Hanukkah with your loved ones, I extend a special thank you.

Many of you will spend this special season longing for "Christmas past," when you were able to celebrate with family and friends. I hope you will take comfort in remembering one particular "Christmas past" when General George Washington and his ragged-but-brave citizen-soldiers crossed the freezing Delaware River to surprise and defeat the enemy, and turn the tide in the fight for independence. Their selfless sacrifice, like yours, has earned America the peace and freedom we enjoy every day of the year. There is great comfort in that.

Your commitment has allowed all Americans to enjoy a peaceful "Christmas present" and to look forward to the "Christmas future" with faith, hope, and the knowledge that America does indeed remain the land of the free and the home of the brave.

Caspar W. Weinberger
Caspar W. Weinberger

It's beginning to look a lot like Christmas



Photo by JO2 Todd Lufkin

The Officer's Wives Bake Sale is an indication that Christmas is close by. The delectable treats sold out in record time this year.



Photo by JO2 Todd Lufkin

The yearly Toys for Tots Campaign gives Center employees a chance to spread good cheer. Center Commander CAPT Edward Sturm (right), along with Major Daniel Swindell and Captain Al Keiss, Fire Dept. are some of the first to give a gift.

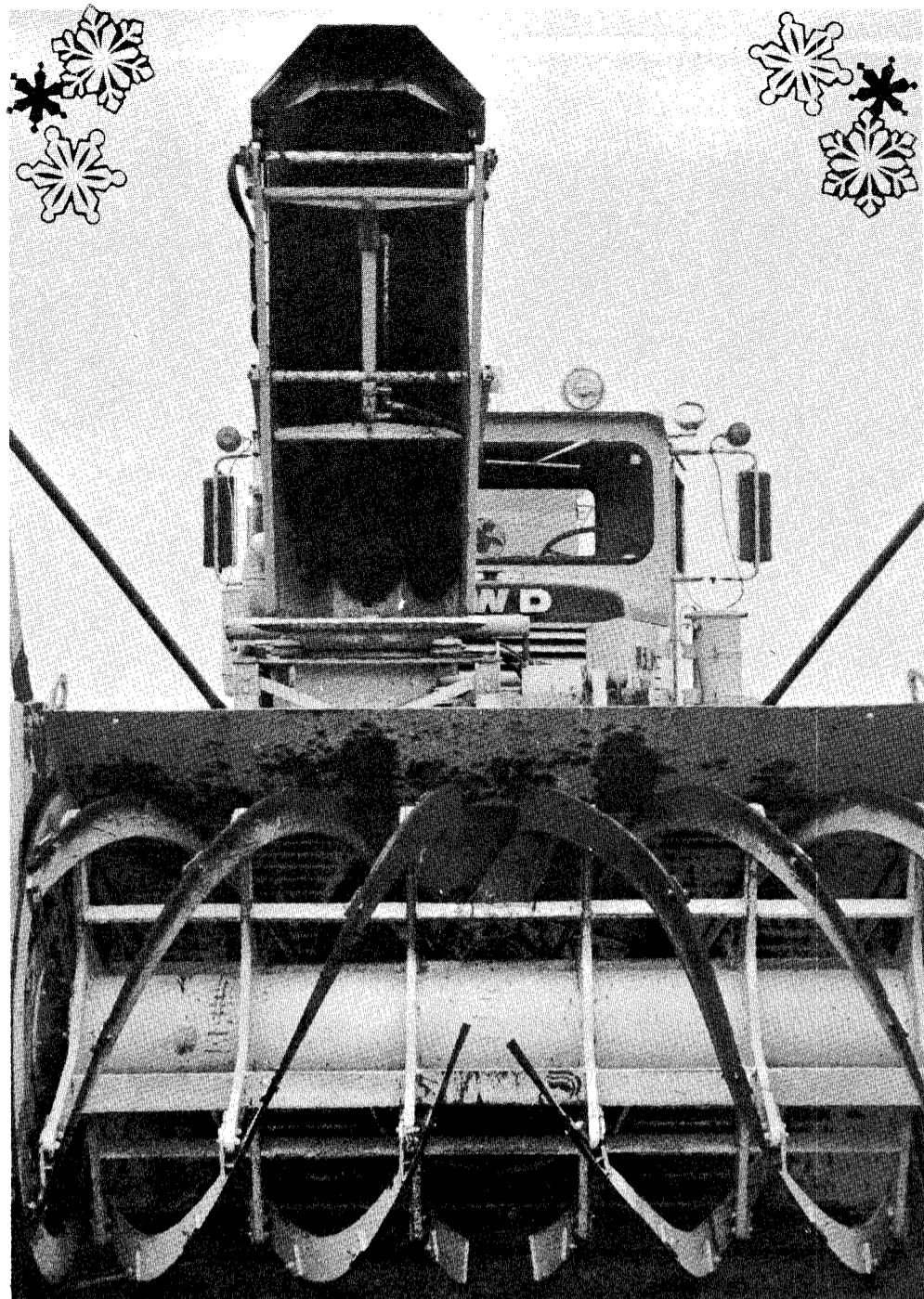


Photo by JO2 Todd Lufkin

Let it snow . . . because Public Works is ready! A fleet of snow plows is standing by at NADC just waiting for that first storm to arrive.

Integrity Alert

by Ron Kabin

There has been confusion over the years concerning participation by officers and employees of the Department Of Defense (DOD) at conferences, symposia, seminars, and similar gatherings sponsored by associations and other non-governmental entities.

Any participation by Center personnel in this type of activity that may be questionable should always be cleared through the Center's General Counsel (Code 095). The following is provided as basic guidance only:

If the participation can be considered part of your official duties, then no pay-

ment from the sponsor or other source is allowed (18 U.S.C. 209).

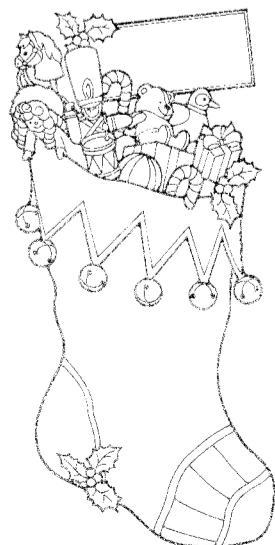
If the subject is not within your official responsibilities, if it is presented on your own time (e.g. annual leave), and if you comply with the "outside employment" rules of the Navy Standards Of Conduct Instruction, SECNAVINST 5370.2H, you may be paid for your participation.

If in doubt about a particular situation contact the Center's General Counsel (Code 095) X3000, or the Internal Review Office (Code OOR) X3033.

A special thanks to all those whose assistance make our tours, events, and visits successful. From the engineers, scientists, and technicians who share their expertise to those who work behind the scene to make things run smoothly! Civilian and military—we wish to extend to you all our wishes for a happy Holiday Season and a great New Year.

The Public Affairs Office Staff

*Jim R. Margaret V.
Mary Ann B. Todd K.L.*



Federal salaries up 3%

A 3% pay raise for military personnel and federal civilian employees goes into effect January 1, 1987. A 1.3% cost-of-living allowance for military and civilian retirees also takes effect.

The following charts show the new military and civilian pay scales:

PAY GRADE	Under 2	2	3	4	6	8	10	12	14	16	18	20	22	26
COMMISSIONED OFFICERS														
O-10	5378.10	5567.70	5567.70	5567.70	5567.70	5781.00	5781.00	5900.10	5900.10	5900.10	5900.10	5900.10	5900.10	5900.10
O-9	4766.70	4891.50	4995.60	4995.60	4995.60	5122.50	5122.50	5335.80	5335.80	5335.80	5335.80	5335.80	5335.80	5335.80
O-8	4317.30	4446.60	4552.20	4552.20	4552.20	4891.50	4891.50	5122.50	5122.50	5335.80	5335.80	5335.80	5335.80	5335.80
O-7	3587.40	3831.30	3831.30	3831.30	4002.90	4002.90	4235.10	4235.10	4446.60	4891.50	5227.80	5227.80	5227.80	5227.80
O-6	2658.90	2921.40	3112.50	3112.50	3112.50	3112.50	3112.50	3112.50	3218.10	3727.20	3917.70	4002.90	4235.10	4593.30
O-5	2126.40	2497.20	2669.70	2669.70	2669.70	2669.70	2750.70	2898.30	3092.70	3224.00	3514.80	3621.30	3747.60	3747.60
O-4	1792.50	2182.80	2328.30	2328.30	2371.50	2476.20	2645.10	2793.90	2921.40	3049.50	3133.80	3133.80	3133.80	3133.80
O-3	1665.90	1862.40	1990.80	2202.90	2308.20	2391.30	2520.60	2645.10	2710.20	2710.20	2710.20	2710.20	2710.20	2710.20
O-2	1452.60	1586.40	1905.60	1905.60	1969.80	2011.20	2011.20	2011.20	2011.20	2011.20	2011.20	2011.20	2011.20	2011.20
O-1	1260.90	1312.80	1586.40	1586.40	1586.40	1586.40	1586.40	1586.40	1586.40	1586.40	1586.40	1586.40	1586.40	1586.40
COMMISSIONED OFFICERS WITH MORE THAN 4 YEARS ACTIVE DUTY AS ENLISTED OR WARRANT OFFICER														
O-3E	0.00	0.00	0.00	2202.90	2308.20	2391.30	2520.60	2645.10	2750.70	2750.70	2750.70	2750.70	2750.70	2750.70
O-2E	0.00	0.00	0.00	1969.80	2011.20	2074.80	2182.80	2266.20	2328.30	2328.30	2328.30	2328.30	2328.30	2328.30
O-1E	0.00	0.00	0.00	1586.40	1694.70	1757.10	1820.70	1884.00	1969.80	1969.80	1969.80	1969.80	1969.80	1969.80
ENLISTED MEMBERS														
E-9	0.00	0.00	0.00	0.00	0.00	0.00	1974.00	2018.70	2064.30	2111.70	2158.80	2200.80	2316.60	2541.90
E-8	0.00	0.00	0.00	0.00	0.00	1655.70	1702.80	1747.50	1793.10	1840.20	1882.80	1929.00	2042.40	2270.10
E-7	1155.90	1247.70	1294.20	1339.20	1385.10	1429.20	1474.80	1520.70	1589.40	1634.70	1680.30	1702.20	1816.50	2042.40
E-6	994.50	1083.90	1129.20	1177.20	1221.00	1265.40	1311.90	1379.40	1422.60	1468.50	1491.00	1491.00	1491.00	1491.00
E-5	872.70	950.10	996.00	1039.50	1107.60	1152.60	1198.50	1242.60	1265.40	1265.40	1265.40	1265.40	1265.40	1265.40
E-4	814.20	859.50	909.90	980.70	1019.40	1019.40	1019.40	1019.40	1019.40	1019.40	1019.40	1019.40	1019.40	1019.40
E-3	766.80	808.80	841.50	874.80	874.80	874.80	874.80	874.80	874.80	874.80	874.80	874.80	874.80	874.80
E-2	738.00	738.00	738.00	738.00	738.00	738.00	738.00	738.00	738.00	738.00	738.00	738.00	738.00	738.00
E-1	658.20	658.20	658.20	658.20	658.20	658.20	658.20	658.20	658.20	658.20	658.20	658.20	658.20	658.20
E-1	608.40	608.40	608.40	608.40	608.40	608.40	608.40	608.40	608.40	608.40	608.40	608.40	608.40	608.40

FEDERAL PAY SCALES FOR WHITE COLLAR EMPLOYEES										
IN DOLLARS										
GS	1	2	3	4	5	7	8	9	10	
1	9,619	9,940	10,260	10,579	10,899	11,087	11,403	11,721	11,735	12,036
2	10,816	11,073	11,430	11,735	11,866	12,215	12,564	12,913	13,262	13,611
3	11,802	12,195	12,588	12,981	13,374	13,767	14,160	14,553	14,946	15,339
4	13,248	13,690	14,132	14,574	15,016	15,458	15,900	16,342	16,784	17,226
5	14,822	15,316	15,810	16,304	16,798	17,292	17,786	18,280	18,774	19,268
6	16,521	17,072	17,623	18,174	18,725	19,276	19,827	20,378	20,929	21,480
7	18,358	18,970	19,582	20,194	20,806	21,418	22,030	22,642	23,254	23,866
8	20,333	21,011	21,689	22,367	23,045	23,723	24,401	25,079	25,757	26,435
9	22,458	23,207	23,956	24,705	25,454	26,203	26,952	27,701	28,450	29,199
10	24,732	25,556	26,380	27,204	28,028	28,852	29,676	30,500	31,324	32,148
11	27,172	28,078	28,984	29,890	30,796	31,702	32,608	33,514	34,420	35,326
12	32,567	33,653	34,739	35,825	36,911	37,997	39,083	40,169	41,255	42,341
13	38,727	40,018	41,309	42,600	43,891	45,182	46,473	47,764	49,055	50,346
14	45,763	47,288	48,813	50,338	51,863	53,388	54,913	56,438	57,963	59,488
15	53,830	55,624	57,418	59,212	61,006	62,800	64,594	66,388	68,182	69,976
16	63,135	65,240	67,345	69,450	71,555	73,660	75,765	77,870	79,975	
17	73,958	76,423	78,888	81,353	83,818					
18	86,682									


Promotions

Vinod Agarivala, Loretta Dunn, Michael Hartman, Edward Henry, Alan Kaniss, Catherine Kitchenman, David Panetta, James Weikert.

Security Reminders

Badges
NAVAIRDEVCONINST 5510.13B, Chapter 15, requires that badges be worn on the upper part of the body in full view, to facilitate identification. All employees are reminded that wearing the Center Badge is mandatory while on the Center.

Library Material
Sign classified material out for your personal use only. Do not sign classified material out for a co-worker. The signature on the library card is the responsible custodian, remember—the burden is on the holder; not the recipient.



Reflector

NAVAL AIR DEVELOPMENT CENTER, WARMINSTER, PA

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Engineering Design Branch

Aircraft mods advance Center research

by Mary Ann Brett

As more and more shop space is modified for office space it may come as a surprise that a great deal of aircraft design engineering, fabrication, and installation work is still being done within the Center.

The Aircraft and Crew Systems Technology Department's (ACSTD) Design Engineering Branch (DEB), headed by Nick Sipa for the last three years, has been busy designing high value projects in support of national defense. His branch provides the design engineering, drawings, and installation management for all R&D projects installed and tested aboard NADC aircraft. "I'm fortunate to have a great group of people here," said Sipa of his nearly 40 employees. "They have various backgrounds and expertise and have fused together very well."

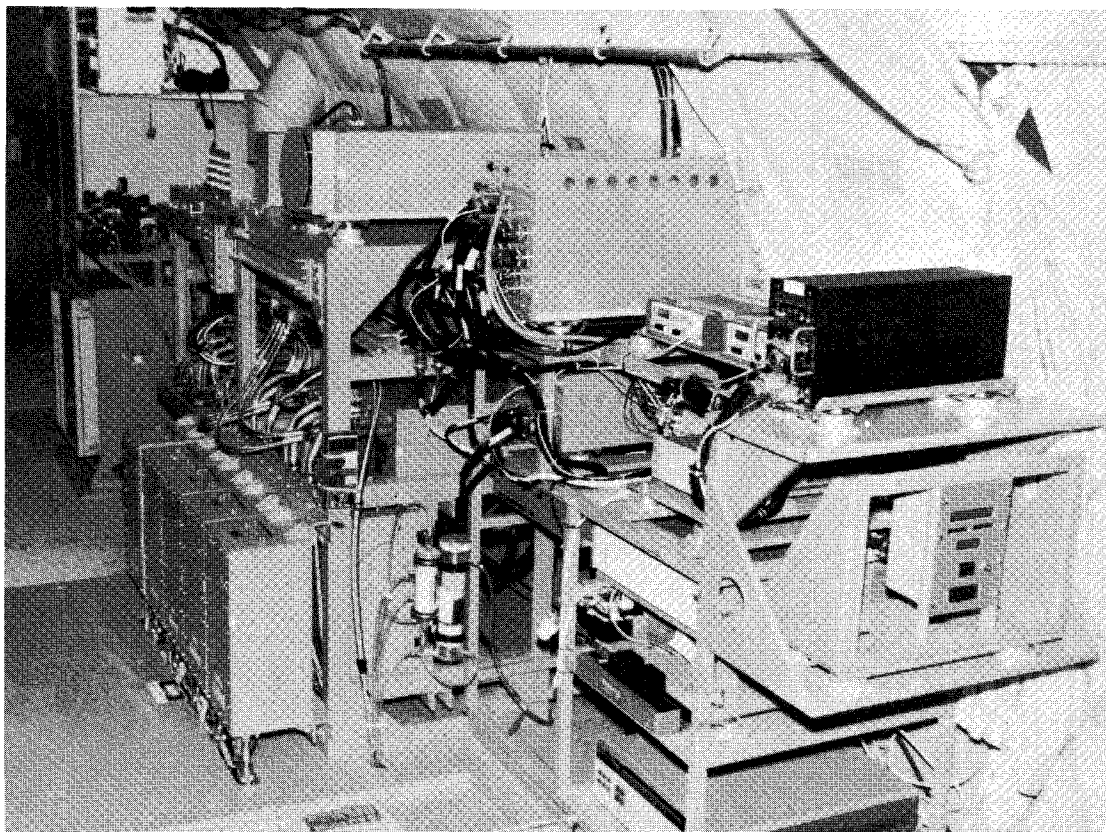
Since much of this installation and modification work is done in the hangars on the airfield side of the Center, the projects have had low visibility. However, two recent major aircraft modifications have been especially significant, greatly expanding the technological base of the Center.

Airborne Laser Research Modification

A pressing Navy problem has been communication with submerged submarines without exposing their location. This has now been effectively addressed by installing a 1500-pound, high-power laser communications system in an NADC P-3C aircraft.

Lead engineer on this effort was Dan Lorch, who has a Master's degree in Biomedical Engineering. He and electrical engineer Jerry Duley, both of ACSTD, provided preliminary designs and guided a team of engineers and designers to complete the 40 drawings required for the installation. The aircraft had to be extensively modified for a ten-square-foot, two-inch-thick window used to transmit the laser beam. All of the fabrication, electrical and mechanical installation work was done by NADC personnel in the Aircraft Installation Shop (A/C IS) of the Engineering Support Group.

"The very difficult job of fabricating



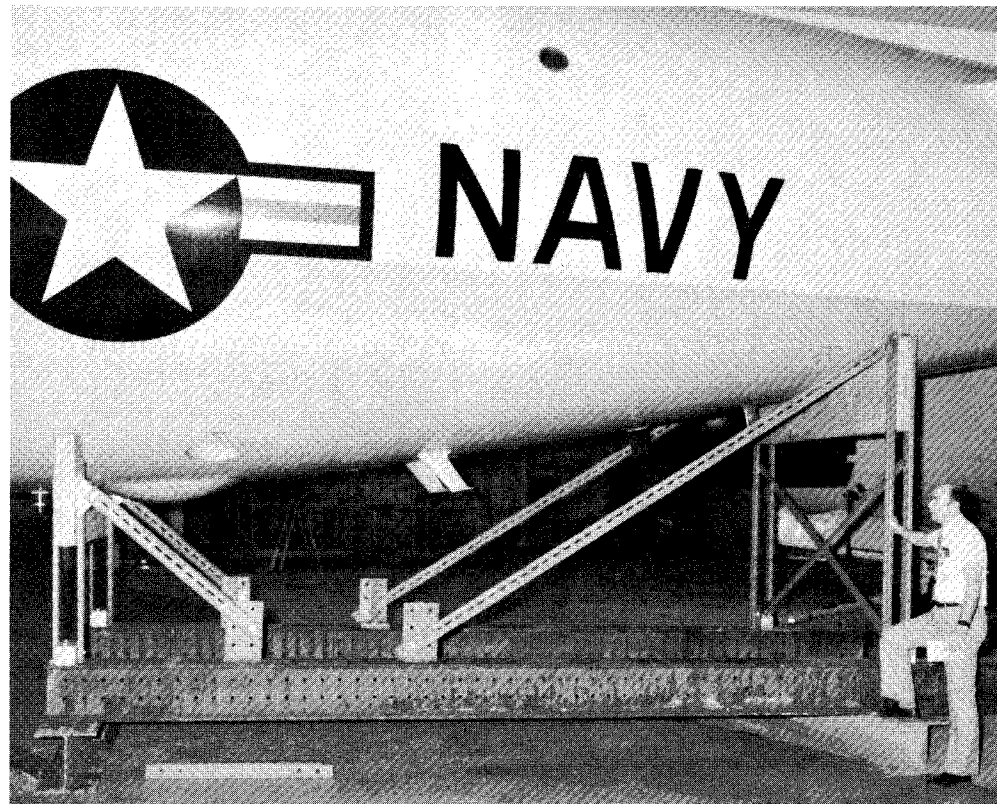
Aircraft-to-Submarine 1500—ground laser—communication system installed into the NADC P-3 aircraft by the Design Engineering Branch.



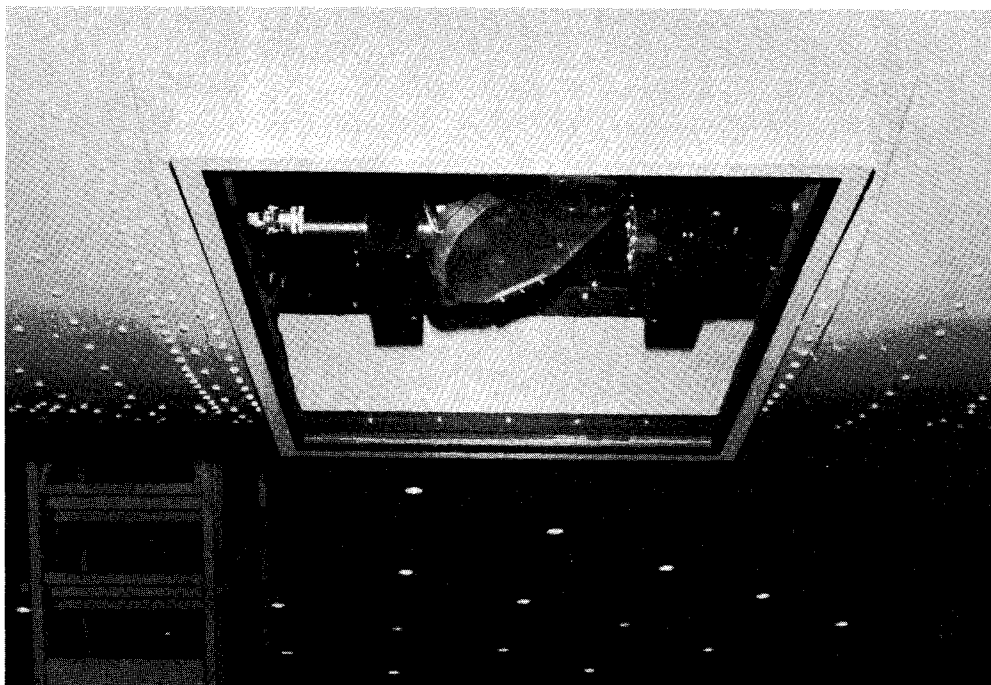
and installing the window" said Lorch, "was accomplished by Andy Schwartz and Dave Stasen." Schwartz and Stasen spent more than one thousand hours on this effort alone. Schwartz, a chief metal mechanic, explained that since the aircraft actually needed restructuring, special attention went to proper sealing and pressurization.

The same aircraft is also being utilized by the Defense Mapping Agency to obtain data on the depth of coastal waters around the world. Until now the method of determining ocean depths for coastal charts was to use a hydrographic ship to obtain sonar soundings. This method is very slow and requires a ship with all its support personnel (REFLECTOR—Nov. 86—"Laser sounder replaces shipboard methods"). Now that the DEB and A/C IS has installed this Hydrographic Laser Sounder system into the aircraft, a laser beam can be used to determine the ocean depths by measuring time delay as the beam reflects off both the water surface and the white sand bottom at a fraction of both the time and the cost.

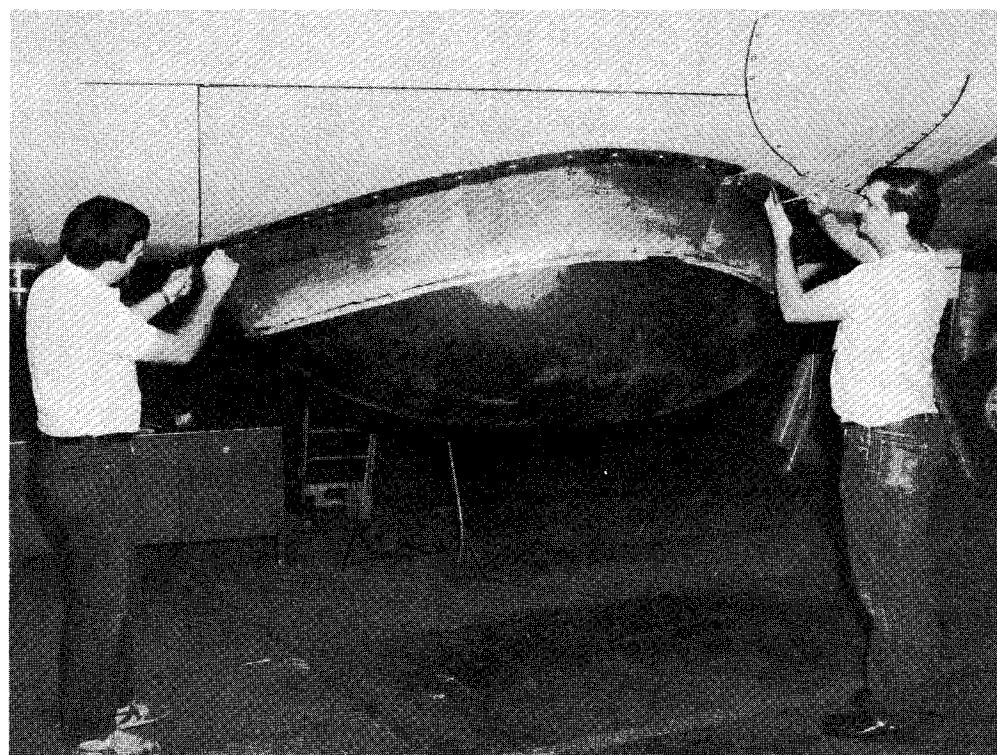
(continued on page 5)



Dan Lorch takes a good look at the P-3 tail, supported prior to installation of the synthetic aperture radar.



Laser window provides NADC with new research capability.



NADC Mechanics Bill Williams and Jim Lezoche attach SAR Radome to P-3 aircraft.

Sailor and Blue Jacket of the Quarter named

by JO2 Todd Lufkin

Sailor of the Quarter

AW1 Richard Hooper, P-3 Update IV Petty Officer, has been named as the Naval Air Development Center's Sailor of the Quarter (SOQ) for the third quarter of 1986. The 37-year-old sailor has been in the Navy for 13 years and has been at the Center for almost a year.

On being named SOQ, Hooper stated: "I was honored at being nominated Sailor of the Quarter. It made me feel even better knowing that the Chief Petty Officers on the Board felt that I was deserving of being SOQ."

This native of Coos Bay, Ore., has previously been stationed with VP-40, Moffett Field, Cal.; the Tactical Support Center, Moffett Field, Cal.; Naval Facility, Coos Head, Ore. During a four year break in service he became a journeyman carpenter and earned an Associates Degree in Business at Southwestern Oregon Community College. Economics, coupled with good memories of his prior naval service convinced him to reenlist. Prior to coming to NADC, he completed a 42-month tour with VP-48 at Moffett Field.

Hooper is also the Leading Petty Officer of VP Support Office. "I support the procurement process of future avionics systems in ASW aircraft and provide technical advice to research engineers," he said.

This SOQ takes in stride the publicity that comes with the recognition. "I don't think there is such a thing as a 'perfect' petty officer," he said. "Just because a person receives 4.0 evals doesn't mean that he is perfect. Instead he is a person who goes that extra step in meeting or exceeding expectations."

Hooper would like to see an improvement in cohesiveness among his fellow First Class Petty Officers at NADC. "You have First Class Petty Officers who have been E-6 for a long time and you have those who have just recently been advanced to E-6," he said. "I'd like to see a strengthening of the First Class Association to provide a forum for senior E-6's to share their experiences and provide leadership advice to new E-6's," stated Hooper. "There is a big difference in the responsibilities and leadership requirements between a Second and a First Class Petty Officer. However, most don't realize this until they make it. I would like the newly advanced E-6 to have the opportunity to become better prepared to assume the role of a First Class Petty Officer."



AW1 Richard Hooper

His advice to his fellow sailors is not to accept anything at face value. "If there is a situation that needs to be corrected, the Navy has ways to remedy it. Don't just complain—ACT," Hooper stated with determination.

Hooper's plans for the future include advancing as far as he can, both academically and professionally. "When I finally finish my service career, I want to start my own cabinet shop. But that's several years in the future and right now I intend to continue enjoying the day-to-day challenges of the naval service."

Hooper, his wife Jeanne, and their four children live in Chalfont and are all impressed with the beauty of Bucks County.

Blue Jacket of the Quarter

AZ3 Brenda Denonville has been named the Naval Air Development Center's Blue Jacket of the Quarter (BJQ) for the third quarter of 1986.

Denonville has been in the Navy for more than three years and at the Center since February. "I like the Warminster area," she said, "We're close to the city but at the same time, far away." Prior to her assignment to NADC, she was stationed at NAS Bermuda.

A native of Auburn, Maine, Denon-

ville recently began working as Maintenance Control Clerk. Describing her job, she said, "I work behind Maintenance Control where I keep busy doing issuing inspections and verifying Vids boards, along with many other tasks to keep Maintenance Control running smoothly. It's a good group of people to work with."

The 22-year-old sailor is pleased with her selection as BJQ. "Of course it was an honor to be chosen," she said. "I honestly felt that I deserved the honor. I try to set a good example in my work habits and my appearance. In everything I do, I always try to put forth my best efforts." She feels that the BJQ award is an excellent morale-booster and that it gives E-4 and below something to strive for. "It's good to be recognized as outstanding," Denonville said. "People need to get an occasional pat on the back."

As part of her daily regimen, Denonville does a 30-minute workout consisting of running two miles and at least 50 sit-ups and 30 push-ups. "Basically I do it because it makes me feel good," she said. "I'm a firm believer that if a person feels good, they're going to look good."

The advice she would give to her fellow females is don't be afraid of the Navy because it is male-dominated. "Go in and be who you are. People will respect you if you're yourself," Denonville said

with determination. "I tried to get some of my girlfriends back home to join, but they're afraid and that's a shame."

Denonville's plans for the future are uncertain at this time. Currently, she is working toward an Associate's Degree in Elementary Education at Bucks County Community College. After that she is giving serious thought to going into the Enlisted Commissioning Program and becoming an officer. "Right now I'm undecided about what I'm going to do," she said, "but I could picture myself as an officer or even as an instructor of some sort."



AZ3 Brenda Denonville

Commander Salutes

Janet Koch, Diane Heal, Lynda Newman (Code 09). **Christopher Veith** (Code 80). **Michael Natasi** (Code 40): For timely and helpful support to the Small Business Administration's Breakout Program.

Michael Kreszewski, David Pannetta (Code 10); **CDR Jerome Landers** (Code 30): For assistance during recent visits by Mr. Magill of General Electric.

Tor Jansen, Kenneth Bullard, Mary Conyers, Richard Espright, Anthony Degennaro, Robert Hefty, James McNamara, Vinh Nuyen, William Mawhinney, John Tyburski, Thomas Wardle, Mieczyslaw Zurko (Code 60): For exceptional technical support provided to AIR-5303 on the V-22 Aircraft Program.

Richard Chern, John Markow, Charles Destra, Cynthia Yanoff, and Edward Calvello (Code 03): For coordinating the meeting and tour for the Northeast Region Training Advisory Group.

Barbara Ward (Code 03): For efforts helpful in molding the Navy Centralized Cooperative Education Program into a workable program.

Norbert Armstrong (Code 50): For many hours of exacting preparations for the F/A-18(R) Advanced Test Bid program's flight tests.

David Bailey (Code 30): For outstanding performance in preparing the SOW for the Navy Airship Program.

Richard Erickson (Code 60): For excellent performance during the recent FAILSAFE conference.

LCDR Timothy Singer (Code 60): For an informative presentation during the COMPAT WINGSPAC Safety Conference.

Paul Reimel (Code 40): For outstanding performance resulting in the

first demonstration of VHSIC devices.

John Savage (Code 50): For diligence which proved essential in bringing together the VLAD sonobuoy working group.

Harry Reichardt (Code 50): For time and effort during the AV-8B Night Attack Dynamic Flight Simulation.

Jonathan Kaufman, Katherine Dijnaka, Suzanne Reeps, Gary Whitman (Code 60): For support during the recent cold water immersion studies on protective equipment.

Richard Chern, John Markow (Code 03): For assistance to the 79th U.S. Army Reserve Command.

CDR John Tobia, Steve Ganop, Michael Greco, Paul Meisinger (Code 40): For participation during the Battle Group Navigation Improvement Project assuring the project was successful.

Alan Victor, Anthony Mickus and Ann Lipinski (Code 30): For noteworthy participation in the Navy's 1986 Global War Game.

Sydney Oliver and Gwynn Mc-

Connell: For assisting with the survey of Gruman Aircraft Systems.

Richard Gasser (Code 50): For dedicated support of the Military Critical Technology List for the Deputy Under Secretary of Defense.

CDR John Tobia (Code 40): For outstanding performance on the Battle-group Navigation Accuracy Project.

Thomas Castaldi (Code 01A) and **Major Blaine Feltmate**: For significant contribution to the success of the Canadian Industrial/Defense Exposition.

Frances Winterer (Code 10); **Carl Reitz** (Code 20); **Maria Hura, James Weikert, Susan Coar, Richard Desipio, Robert Johnstone** (Code 30); **Richard Adams, Harry Frost, Carmen Mazza, Eleanor Vodala, Joseph Franz, Edward Deska, Michael Strizak, Gregory Holmes** (Code 60); **Randall Huckaba, John Smith** (Code 50); **Richard Lane, Robert Santmann** (Code 70): For valuable contributions to the Naval Air Systems Command in preparing the Statement of Work for the Navy Airship Program.



"I swear I'll never use musk oil again."

STAN SCHNEIDER

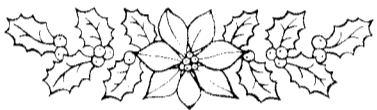
Hill named first TACAIR Systems Deputy

by Mary Ann Brett

Texas-born Commander Roger Dale Hill arrived at the Center in November to assume the role of TACAIR Systems Department Deputy. One of Hill's pri-



Commander Roger Hill



mary goals in this new position is to promote NADC's TACAIR capabilities.

"NADC does a lot of TACAIR work"; said Hill, "we handle the technical and engineering development of several major TACAIR systems. But, despite this, the Center gets very low visibility and credit in this area." With his considerable experience and numerous contacts in the TACAIR and fleet communities, Hill feels he can help improve the Center's reputation for TACAIR expertise.

Hill considers the Center's reorganization which established a TACAIR department a step in the right direction since approximately 40% of NADC's work is TACAIR related. He said, "Now that we have proper recognition on-Center, we can go for higher visibility off-Center. We've got good, hard-working, motivated people. With this new organization, we will rival anti-submarine warfare as one of the Center's major mission areas."

More aggressive marketing techniques and increased credibility are two of the techniques Hill intends to employ to accomplish TACAIR's goals. "We definitely need more interaction with fleet operators," he said. "They give us the input and statements of requirements that lead to new technology and generate work for the Center."

Another goal of Hill's is to get an FA-18 aircraft for the Center. "There's plenty of work here for an FA-18" he said. "Just like the P-3s, it would be a technology demonstrator and a risk reduction airplane for developmental purposes." Hill explained risk reduction includes directly reducing the costs associated with development. "If we can do the proper groundwork for a weapon system so it is technologically sound, it will cost a lot less in the long run."

Hill graduated from the U.S. Naval Academy in 1970. He became a naval aviator in 1972 and was assigned to VA-105 flying A-7s at Cecil Field, FL. In 1975 he became an instructor pilot at VA-174, the A-7 training squadron. During 1976 he attended Navy Test Pilot School at Patuxent River, MD. He then served as a test pilot and operations officer at the Armament Development Test Center, Eglin Air Force Base, FL. From July 1980 to August 1983 he again served as a Fleet pilot with VA-46 as Operations, Maintenance, Administrative and Safety Officer. He has made cruises on the USS TICONDEROGA, the USS AMERICA (twice), and the USS J.F. KENNEDY.

In October 1984, Hill received his Master's degree in Aeronautical Engineering from the Navy Post Graduate School, Monterey, California. His most

recent assignment as Operations Officer and Tactical Readiness Officer for Commander, Light Attack Wing, U.S. Pacific Fleet, is what Hill considers the best preparation for his assignment here.

"I had a lot of job opportunities to consider," Hill said, "but NADC sold itself. Here I saw unlimited potential for good work that will benefit the fleet and I wanted to be part of it."

Hill and his wife Diana are making their new home at NADC's Quarters "B" for the next few years. She is already involved in Officers' Wives Club activities.



Aircraft modifications advance Center research

(continued from page 3)

Multipurpose Synthetic Aperture Radar Modification

The latest technology in radar systems is called Synthetic Aperture Radar. When coupled with computer analysis, it provides picture-quality imaging of the earth and water surface. NADC and other agencies have needed an aircraft equipped with this radar to do additional exploratory research. This capability is potentially of great value in the analysis of ocean currents

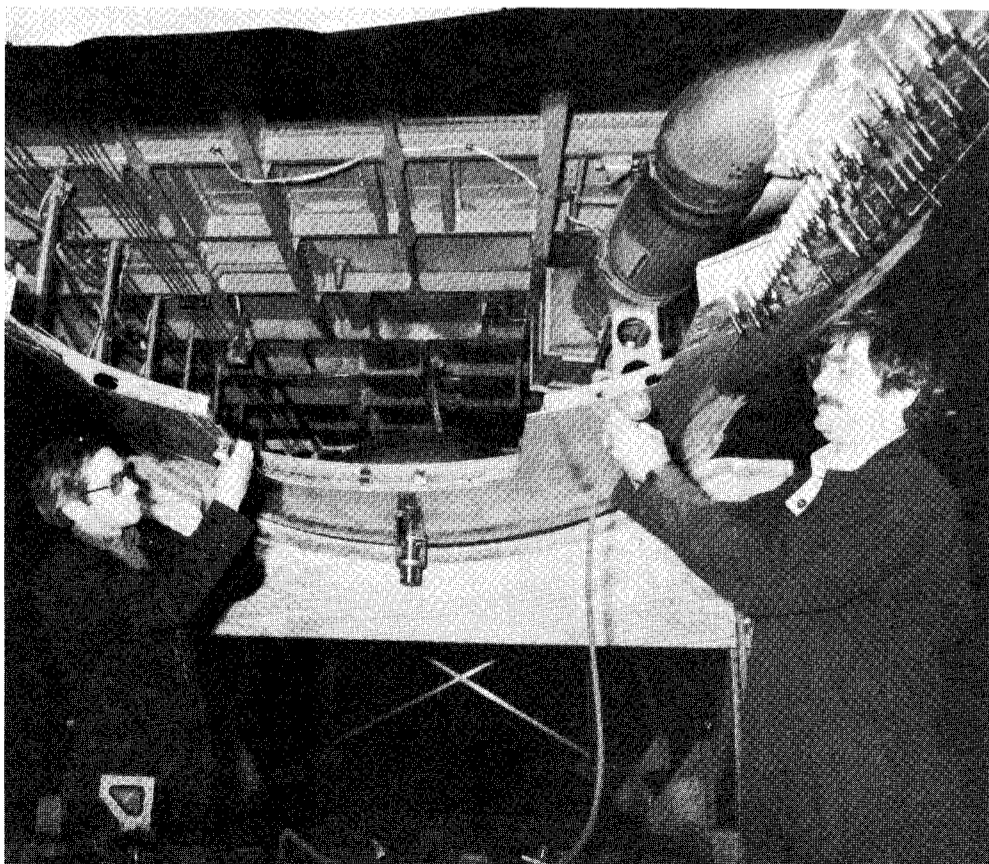
for understanding the formation of beaches and for determining surface wind patterns and ocean temperature differences for weather prediction.

To install this system, a very large opening had to be provided in the belly of a P-3A aircraft to hold the complex radar antenna system. The antenna also had to be enclosed with a large radome. Since more than 50 square feet of the aircraft skin was removed, the entire tail section of the P-3 had to be supported while NADC mechanics installed the internal framing.

One of these mechanics was Dennis Bellevue, an aircraft sheet metal model maker whose been at the Center for 11 years. "What we did was unique," said Bellevue. "Bill Williams, Jim Lezoech and I surgically removed critical structural support ribs from the aircraft. That made it imperative for the antenna box to have the same structural properties." In the process, they stripped the plane of nearly 2000 pounds of outdated sensor equipment creating space for more than 2000 pounds of avionics equipment. This equipment is housed in universal racks

(another EDB innovation) so it can easily be removed and replaced with other equipment as necessary.

"The massive mechanical and electrical modifications done to this aircraft make it the most extensive design/installation done at the Center in the past 25 years," said Lorch. "This aircraft is a test bed for NADC and other agencies to explore a variety of radar equipment and computer analysis. His enthusiasm was evident when he said this modified aircraft would prove to be an important asset as the Center seeks to expand its field of research and development."



Dennis Bellevue and Bill Williams prepare aircraft prior to installing SAR antenna box and Radome.

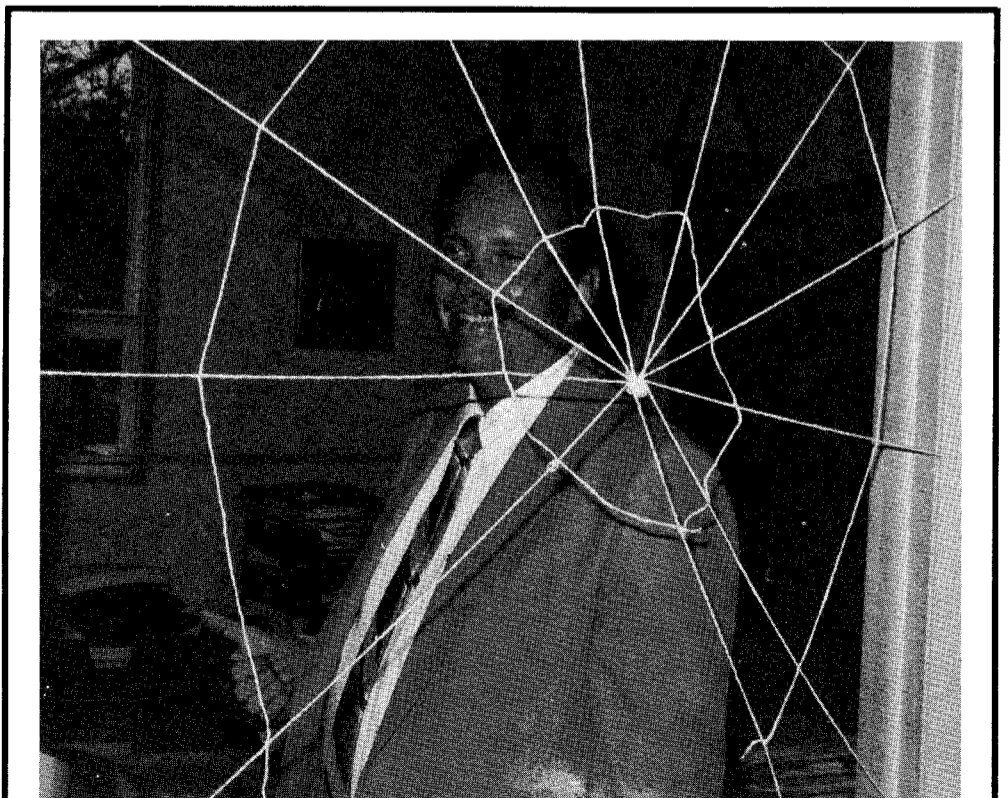


Photo by JO2 Todd Lufkin

Al Hellman's friends from Code 60 didn't forget him during his extended travel and leave in New Zealand and Fiji. The cob web made it clear nobody had done his work.

Welfare and Recreation is for everyone

by JO2 Todd Lufkin

Without ever realizing it, you may have used the services of this NADC organization. In fact, you may never have paid any dues, but you're still considered a member. What is this group? It's the NADC Welfare and Recreation Association (W&R).

"Everyone at the Naval Air Development Center is a member," explained Len Roach, Welfare and Recreation Chairman, "civilians and military alike. The mission of Welfare and Recreation is to support government employees and their families."

W&R is open to suggestions and ideas from everyone at NADC. "Maybe we can handle it, maybe we can't . . . but we'll listen," says Roach. "We have to be open to everyone, but that doesn't mean that everyone will take advantage of us. If one group comes to us with a proposal for a microwave oven for their office we'll listen. But the overall question has to be, will it benefit the few or the many? Remember too, W&R can only do so much and we try to do all we can with the limited amount of resources we have."

The most well known W&R asset is its little store next to the credit union. "We have a limited amount of NADC shirts, sweatshirts, film and videotape that is marked up only 10 percent. We stock several thousand dollars worth of convenience items that a Center employee can buy without ever leaving the Center," said Roach, "and we guarantee the customer is always right." However, the W&R store is best known for its photo developing service. "We deal with four to five thousand dollars a month for photo services," he said. "We offer convenience and the prints or slides are back in just a couple of days."

A new item being offered is business cards. "We only make a dollar on each order, so we are very competitive with the outside," stated Roach.

The W&R store is not without its problems. One is a lack of space; and the other is the fact that the personnel who work there are volunteers, as are all members of Welfare and Recreation. "Everyone connected with W&R is an NADC employee and has job responsibilities. We can only give so much of our time to W&R. People need to realize that we don't just do W&R work all day



Photo by JO2 Todd Lufkin

Carl Plantarick serves another satisfied customer in the W&R store.

long," stated Roach. "There is so much we could do, but the question is 'can we handle it with the people and the time we have?'" he said.

However, Welfare and Recreation isn't just limited to its store. "We have two primary activities that we take great pride in," said Roach. "The first is the annual Employee Picnic at Dorney Park; the second is the Orphan's Christmas Party. The picnic runs W&R about eight thousand dollars and all the orphans from Christ's Home and Bethanna House are given a \$20 gift they pick from a Christmas catalog and which is then presented to them by Santa Claus."

W&R also offers interest-free loans for hardship cases and in unusual circumstances makes outright grants of food or money. It provides medical assistance in the form of loaned beds, canes and walkers to NADC employees and their families; sends flowers to the deceased. Support is available to any club on NADC needing financial assistance above and beyond what they get from normal dues. Sports clubs may get money for equipment or the computer club for software. Technically these items belong to W&R and are available to anyone on Center. But then these clubs may be asked to provide assistance during the Christmas party or ice cream sale.

Cruises and tours are coordinated by Margaret Vigelis and Colleen Richardson; and W&R acts as the middle man for other social activities.

"Last year we started offering group rates for ski tickets and sold over \$25 thousand. We can get good deals from the companies because we represent a lot of people. This is another area where W&R doesn't make a cent. It's just a service we offer and will probably do it again this year," Roach explained. W&R also sells discount movie tickets (buying at least 500 a month) and tickets to the Eagles and Flyers games as well as the Philadelphia zoo. "CPD volunteered to handle the tickets for us because they were open all day long and could accommodate anyone's time," he stated, "but the ski tickets can only be purchased at the W&R store because of the paperwork."

W&R also sponsors the periodic blood drives and gives out the discount cafeteria tickets to those people who do-

nate blood. "This was my idea and it's a way to pat people on the back. The end result is that the entire community benefits from the deal," said the W&R Chairman.

Welfare and Recreation is governed by a Board of Directors. In addition to Chairman Roach, there is a Vice Chairman (Michael Cannon); Secretary (Joan Kopper) and a Treasurer (Louis Rakszawski), all of whom are elected by the Board, not by Center employees. They are joined by Ervin Rothermel (union rep), HMC David Becker (military rep), Neil Abramson (CPD rep), Carl Plantarick (Assistance), Margaret Vigelis (Recreation) and Janet Wild (at-large). "We meet every other Thursday for one hour at the W&R store and discuss business," said Roach. "Anyone is free to attend the meetings, with or without their ideas and suggestions. We're only as good as the input we receive."

Welfare and Rec receives its money from the W&R store and from its annual membership drive and art sale. "Last quarter we conducted nearly \$100 thousand worth of business," he stated. Roach stressed the fact that W&R was audited like other businesses and that it was important that their books balance.

"W&R's goal is to continue what we're currently doing to the best of our ability. However, government is changing so rapidly every day and people are getting out of volunteerism. This just makes the job harder," Roach sadly stated.



Technical Highlights

P-3C SYSTEM TEST PROGRAM S4.5 RECEIVES FLEET CERTIFICATION

P-3C System Test Program S4.5 was issued Fleet Certification approval after successfully completing Phase II of NTE testing at NAVAIRTESTCEN. This software is a combination of corrections supporting SASP and non-SASP aircraft which will allow the in-flight technician to more efficiently and accurately run status checks on SASP, the ARM/ORDD system, LOC, DATA-LINK and OMEGA. Fleet release of the S4.5 program is expected in late January 1987.

NIGHT VISION GOGGLE (NVG) EJECTION SAFETY

The TAV-8B contingency assets were used to conduct NVG ejection tests. Two dual ejection tests occurred at the NAVWPNCEN SNORT at speeds of 0 and 500 knots. Three different NVG configurations were used on the test dummies as follows:

- 0, AFT — Releasable CATSEYES
- 0, FWD — Fixed CATSEYES
- 500, AFT — Releasable CATSEYES
- 500, FWD — Advanced Helmet Integrated Display System

All testing has been completed and analysis is underway.

ENHANCED FIGHTER MANEUVERABILITY, PHASE I

A project entitled "Enhanced Fighter Maneuverability (EFM), Phase I" was conducted on the Dynamic Flight Simulator between 3 Nov and 10 Nov 86. The project utilized 3 test pilots from NASA-Dryden, Rockwell International, and Messerschmitt-Bolkow-Blohm who "flew" a modified F-14A aircraft simulation with thrust vectored post-stall maneuvering capabilities. The study represented a significant new utilization of the DFS to model advanced aircraft designs and predict pilot/control system performance in previously unexplored flight regimes. The results of the study will be used to identify future NADC simulation efforts in support of the Navy/DARPA EFM program.

NACES FLOTATION PLATFORM

DT-IIA Tests successfully performed. Cold water protection tests were performed at RAF Institute of Aviation Medicine, Farnborough, England, on 4 to 8 April 1986. Rough water testing was performed 12 November 1986, at Robert Gordon's Institute of Technology, Aberdeen Scotland. The raft successfully met all the NACES requirements pertaining to these tests.

It's MAGIC!



Photo by JO2 Todd Lufkin

Alan Kaniss (right) describes the Computer Department hardware and function to members of the Mid-Atlantic Government Information Council (MAGIC) during their visit and tour.

Sports

Airomatics take volleyball title in Fall Championship

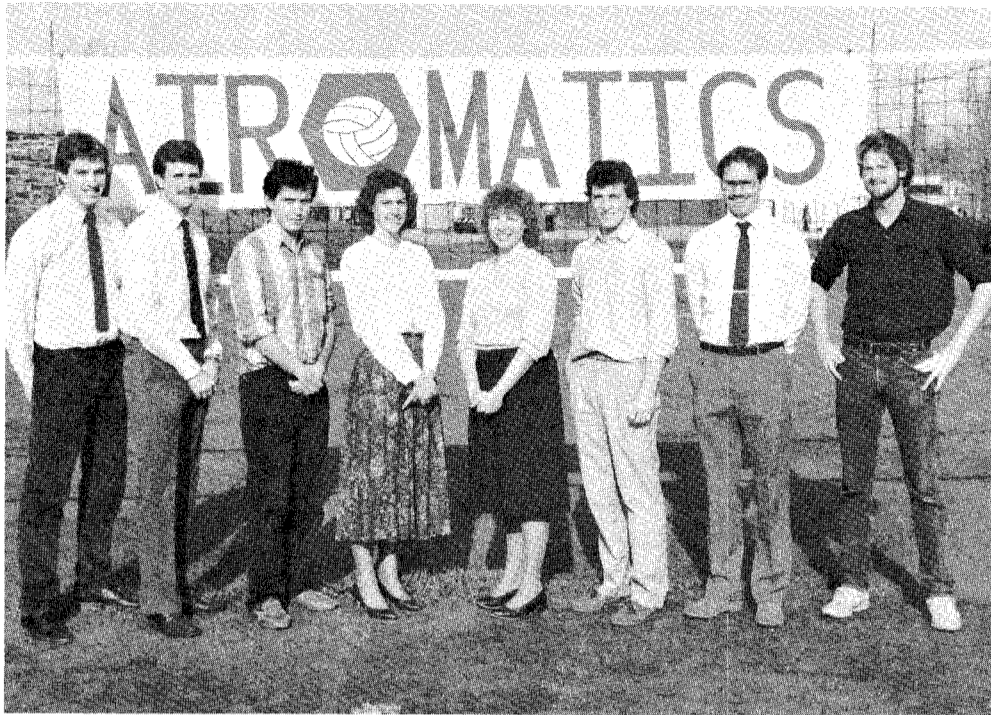


Photo by J02 Todd Lufkin

Team members: (L to r)—Mike Janinek (1014), Jim Campana (5052), Bob Mulins (5052), Mary Lentz (SEMCOR), Dorie Reilly (409B), John Whalm (5052), Jack Reilly (6062), Tom McGovern (6011), (not shown—Bill Birmingham (5052), Eillen Beans (5052) and Dennis Turner (5052)) all contributed to taking the Fall Volleyball Championship. Congratulations!

Bowling news

by Tom Reiter

Winners of our annual Turkey Shoot were Carl Kizelowicz and Stephanie Hall. Carl's 245 and Stephanie's 225 earned them gift certificates for Genuardi's. First half champions will be decided on Knockdown Night—1 January.

Ski news

by Joyce Smith

The NADC Ski Club would like to wish warm Seasons Greetings and a happy, prosperous New Year to everyone.

The first of the scheduled ski trips will be coming up on January 16, 1987. The trip is a three day venture going to Jay Peak in Vermont. Time to start getting prepared!

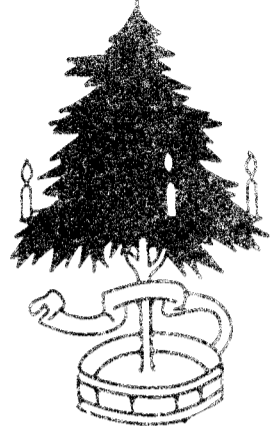
December's meeting included carol singing and homebaked Christmas cookies to get us in the holiday spirit. The last competitive game was played for the Great Giveaway Contest. The winner of the Grand Prize will be announced in the January edition of the *Ski Bee*.

The Ski Club meeting for January will be held on the fourth Monday, due to the ski trip to Jay Peak. So, come out for the meeting on the 26th and hear all about the trip from those who went.

Don't Let



Ignite Your Holidays



- Purchase only UL listed outdoor/indoor lights.
- Check and discard frayed strings of lights.
- Don't overload electrical circuits.
- Use flame-resistant decorations.
- Select a fresh live tree or non-flammable labeled artificial tree.



VIEWPOINT

This month's question is:

"Besides your two front teeth, what do you want for Christmas?"

Photos by J02 Todd Lufkin



"A 20% pay increase to pay for the joys of giving!"

Cathy Burian, Code 8132

"Materially, not much. I just want to be with my family and friends, see a beautiful snow covering and hope that my turkey comes out nice and juicy. To me, that would be 'just ducky.'"

Joyce Shields, Code 10P



"Good health, lots of wealth and a great bottle of bourbon to sip on when I don't get the second one."

CDR Wayne Savage, Code 1S



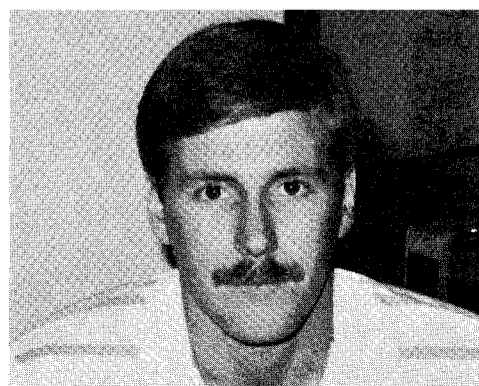
"For people to know the *true* meaning of Christmas."

AT1 Earl Getch, Code 098



"I have already received the greatest gift of all—my new baby granddaughter, Julia!"

Dotty Dugan, Code 043



"Some shiny new car keys in my stocking would be nice."

Rosemary Dominic, Code 0211



"My family home, snow for my skis, and a Vanna White doll."

Jeff Tolle, Code 045

Small Business demo held

The U.S. Small Business Administration (SBA) Procurement Center Representative for the Breakout program, Vincent Rice in cooperation with NADC, held a small business demonstration in Hangar No. 1 on November 20th. All employees were invited to see the latest in computer software and hardware from the Future Net Division of Data I/O Corporation.

Dennis Evans and Richard Pierpont representatives of Future Net, were

demonstrating their Unisite 40 (a universal programmer), the DASH schematic capture workstation, the SILICON Development System for the gate array and standard cell design and other engineering workstation related products all day.

Several of their programmers are already in use at the Center. Future Net has more than 6000 workstations installed.

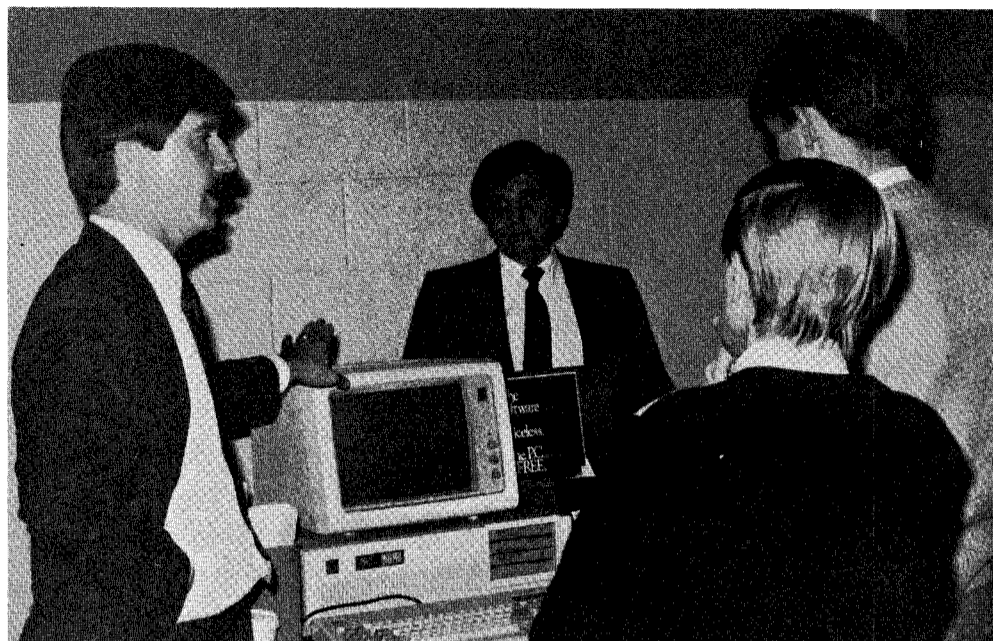


Photo by JO2 Todd Lufkin

(Left) Dennis Evans of Future Net Division Data I/O Corp. and Vincent Rice (center back) of the Small Business Administration during the recent demo.

If the SOC Fits

by Robert James

SECNAVINST 5370.2H, entitled "Standards of Conduct and Government Ethics," is the primary Navy instruction in the area of Standards of Conduct (SOC). This instruction is available in General Files (Extension 2763), 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 me on Extension 3000.

One of the enclosures to the SOC instruction, entitled the "Bedrock Standards of Conduct," 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,

—Impeding 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, acquire or retain any financial interest which results in a conflict between your private interest and the public interest of the United States related to your duties.

3. Do not engage in any activity that might result in or reasonably be expected to create the appearance of a conflict of interest.

4. Do not accept gratuities from defense contractors.

5. Do not use your official position to influence any person to provide any private benefit.

6. Do not use your inside information to further a private gain.

7. Do not use your rank, title, or position for commercial purposes.

8. Avoid outside employment or activity that is incompatible with your duties or that may bring discredit to the Navy.

9. Never take or use Government property or services for other than officially approved purposes.

10. With limited exceptions described in the instruction, do not give gifts to your superiors or accept them from your subordinates.

11. Conduct no official business with persons whose participation in the transaction would be in violation of law.

12. Seek ways to promote efficiency and economy in Government operation and public confidence in its integrity.



NADC surpasses \$100 M In Small Business contracts for FY86

FY 1986 was a good year for small business at the Center. Through the cooperation and commitment of both technical and procurement personnel we exceeded our overall Small Business goal, awarding 36% of the dollar value of direct purchases (\$101,276K) to small business firms.

The performance of the Center was also particularly noteworthy in the areas of women-owned business (\$2041K in awards), direct awards to disadvantaged business firms (\$5000K) and R&D awards to small business firms (44% of total R&D awards).

The following FY 87 Center goals have been established:

Small Business	35% of total purchasing
Set Aside	\$48M

8A	\$6.5M
Direct Disadvantaged	\$5M
Women Owned	\$2.1M
R&D	38% of R&D dollars

This year Congress has placed particular emphasis on contracts with disadvantaged business firms, including awards made via Section 8(a) of the Small Business Act. Under 8(a) procedures we can award contracts directly to qualified disadvantaged businesses without synopsis, competition, or sole source justification. This year DOD is developing initiatives which will also give the Center credit for awards to Historically Black Colleges and Universities.

Information or assistance on any of these programs is available from the Small Business Office (ext. 7132 or 2456).



On This Date : (December)

December 1 Civil Air Patrol established, 1941.

December 2 The Monroe Doctrine enunciated by President James Monroe, 1823; "...In the wars of the European powers in matters relating to themselves we have never taken any part...we should consider any attempt on their part to expand their system to any part of our hemisphere as dangerous to our peace and safety..."

December 5 Prohibition repealed, 1933.

December 6 First military observatory—U.S. Naval Observatory in Washington, D.C.—established, 1830.

December 7 Japanese attack Pearl Harbor, and President Franklin D. Roosevelt orders mobilization, 1941.

December 8 U.S. declares war on Japan, 1941.

December 14 South Pole discovered, 1911.

December 15 First 10 amendments to the U.S. Constitution (known as the Bill of Rights) ratified, 1791.

December 16 Boston Tea Party. Patriots dump nearly 350 chests of tea into Boston Harbor, 1773, an act considered by some as the most important event leading to the American Revolution.

December 17 Orville and Wilbur Wright achieve first successful powered flight at Kitty Hawk, N.C., 1903.

December 18 Thirteenth Amendment, which abolished slavery, proclaimed, 1865.

December 20 Louisiana Purchase Day. U.S. buys more than one million square miles of land from the French for about \$20 a square mile, 1803.

December 21 Medal of Honor established, 1861. Pilgrims land at Plymouth Rock, 1620. Apollo 8 mission launched from Cape Kennedy, Fla., 1968. Astronauts Frank Borman, James Lovell and William Anders become first men to orbit the moon.

December 23 Federal Reserve System—nation's central bank—established, 1913.

December 25 Christmas. George Washington crosses the Delaware River, 1776, leading to a victory at Trenton, N.J., a turning point in the American Revolution.

December 27 John C. Calhoun resigns the office of Vice President in disagreement with President Andrew Jackson, 1832. He was the first person to ever resign from that office.

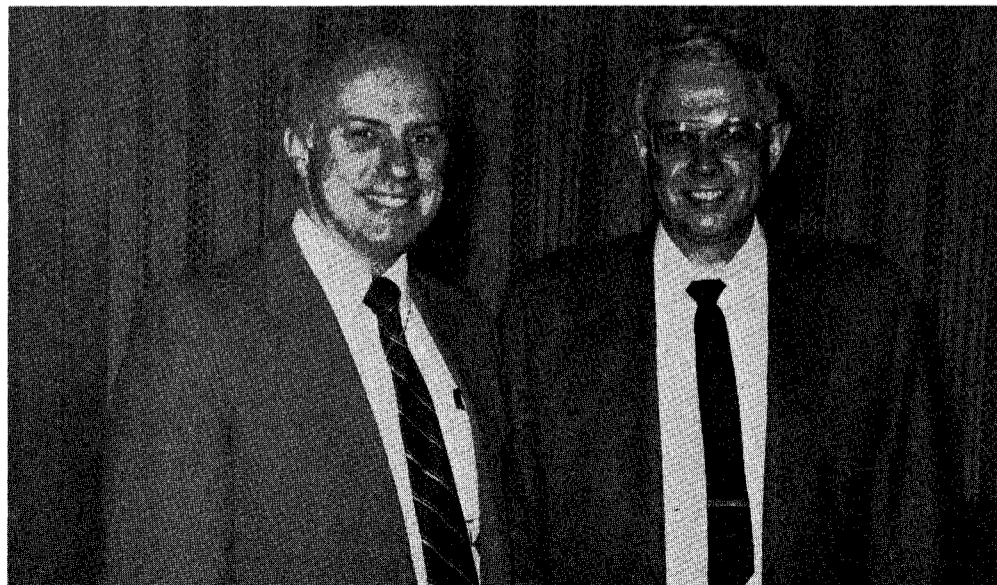


Photo by JO2 Todd Lufkin

Thomas Castaldi (left), Acting Technical Director and Dr. William Howard, Technical Director, Naval Space Command explored the possibility of mutual exchange of information and assistance during Dr. Howard's visit to NADC on 2 December.