



The Reflector

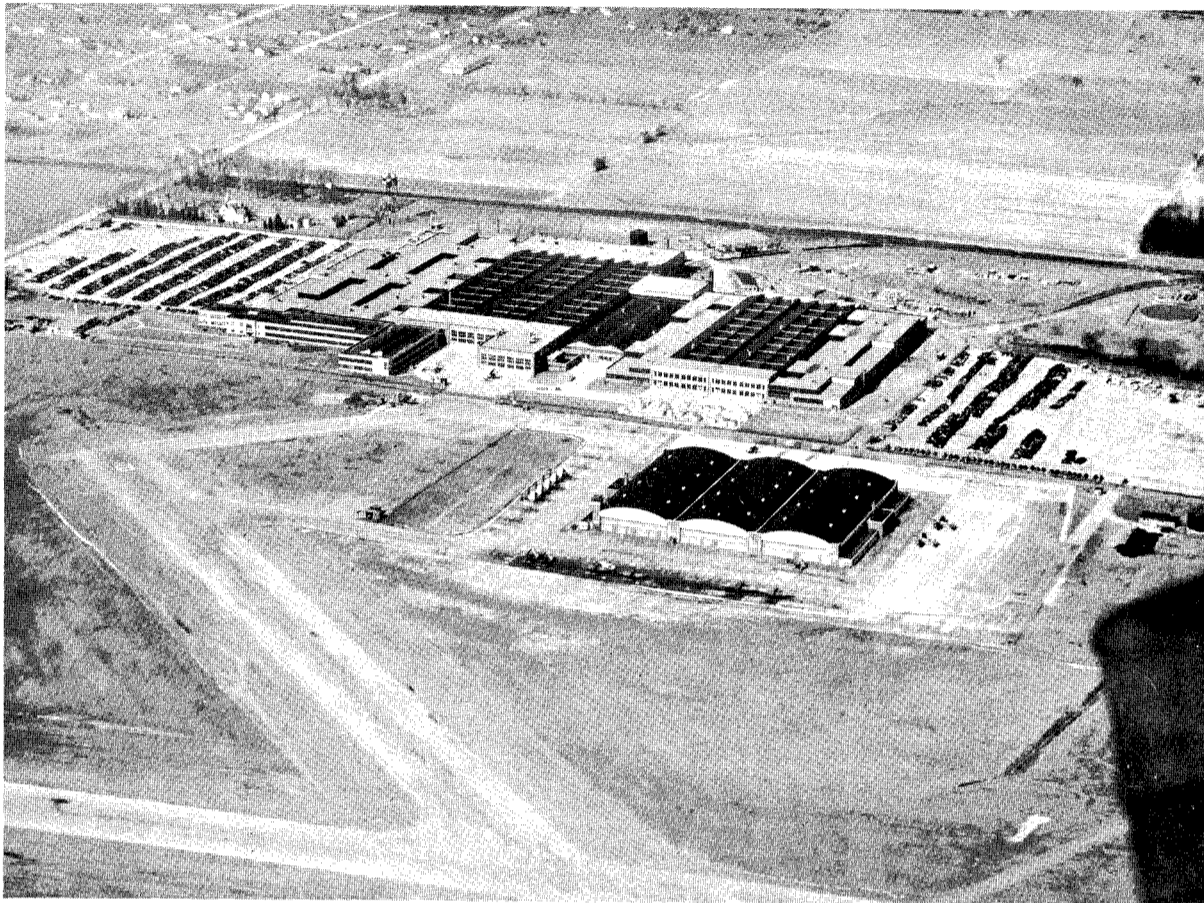
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January, 1984

1944 • "Building Naval Aviation's Future for 40 Years" • 1984

"Forty Years of History" From Brewster to NADC



The Brewster Aeronautical Corporation shown from the air in March 1944, just four months before it became the home of the Naval Air Modification Unit.—Official Brewster Aeronautical Corp. Photograph.

This article was edited from a report entitled "The History of the Naval Air Development Center" prepared in 1982 by Thomas Misa and Ed Todd, graduate students in the Department of History and Sociology of Science at the University of Pennsylvania.

Anniversaries provide a good opportunity to examine both the past and present and to look to the future. And so the Reflector will take the opportunity this year provides to do just that.

This issue begins "before the beginning" as it were, with the story of this plant's founder and constructor, the Brewster Aeronautical Corporation.

When the Naval Air Modification Unit (NAMU) first opened its doors at the Johnsville plant in 1944 to make prototype modifications on Navy aircraft, there were three laboratories on the 370 acre property and 2,200 employees including 450 military members. Today the mission of NAMU's successor has been modified and expanded. The land occupied has more than doubled and although externally the buildings remain virtually the same, internally the facilities have evolved into a modern, well equipped research laboratory. "With approximately the same number of employees, along with a significant amount of additional support from its contractors, this Center is today involved in hundreds of different projects, many of which will have a significant impact on the future of Naval Aviation."

The residents of Johnsville, Pennsylvania, enthusiastically greeted the announcement on January 23, 1941, of plans for the local construction of a multi-million-dollar aircraft factory. The Brewster Aeronautical Corporation had already purchased 370 acres of farmland at a cost of \$2 million, and quickly began a crash program to complete construction of the new facility by July. Little existed near the site except the Friends' Meeting House on Street Road, and so the plan promised to bring "the largest industrial boom in the history of Bucks County."

Brewster designed the new Johnsville plant to complement and extend the capabilities of its two other factories, and it shipped plane parts produced at its plants in Long Island City, N.Y., and Newark, N.J., to
(continued on Page 3)



Helistat Structure Passes Static Test

The Helistat Program has successfully completed its first major milestone. Static tests on the interconnecting structure (ICS) verified the structural integrity of the truss like device which will support four H-34 helicopters. Work can now proceed on the installation of engines in the H-34's and subsequent quad rotor tests.

The Center is the technical monitor for this U.S. Forest Service Program. The Heli-Stat is a feasibility demonstrator vehicle designed to demonstrate the concept of harvesting timber using a heavy lift aerial system. Static lift is provided by a helium filled aerostat which is 343 feet long, 75 feet in diameter, with a volume of one million cubic feet. The four helicopters will provide basic payload and maneuvering capabilities. To accomplish this the helicopters have been modified by removing the tail rotors and connecting a 13 foot "pusher" propeller to the rear of each helicopter. The control system will include a command pilot in the left rear helicopter with control of all four helicopters. Each other cockpit will have a flight engineer.

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Lou Berman, NADC Helistat Program Manager and Charles Mills, Director of Air Buoyant Vehicles for the Piasecki Aircraft Corporation inspect the massive interconnecting structure which supports four H-3 helicopters.

VIP Visit Pays Off

On 10 February 1983, RADM Jerry O. Tuttle, then Commander of Carrier Group Eight, visited the Naval Air Development Center to tour its facilities and to specifically discuss advances in ASW capabilities, crew equipment and sensors.

One of the sensors demonstrated to RADM Tuttle by the Sensors & Avionics Technology

Directorate was a thermal imaging device that the Reconnaissance and Surveillance Branch was developing to improve the night and adverse weather capabilities of Navy helicopters during surface surveillance and search and rescue missions. The sensor, the AN/TAS-6 Thermal Imaging System, was demonstrated to
(continued on Page 5)



Mr. Don Furmanski and Mr. John Williamson, SATD, demonstrating the AN/TAS-6 Thermal Imaging System.

Naval Training Equipment Center Technical Director Named Director of Navy Laboratories

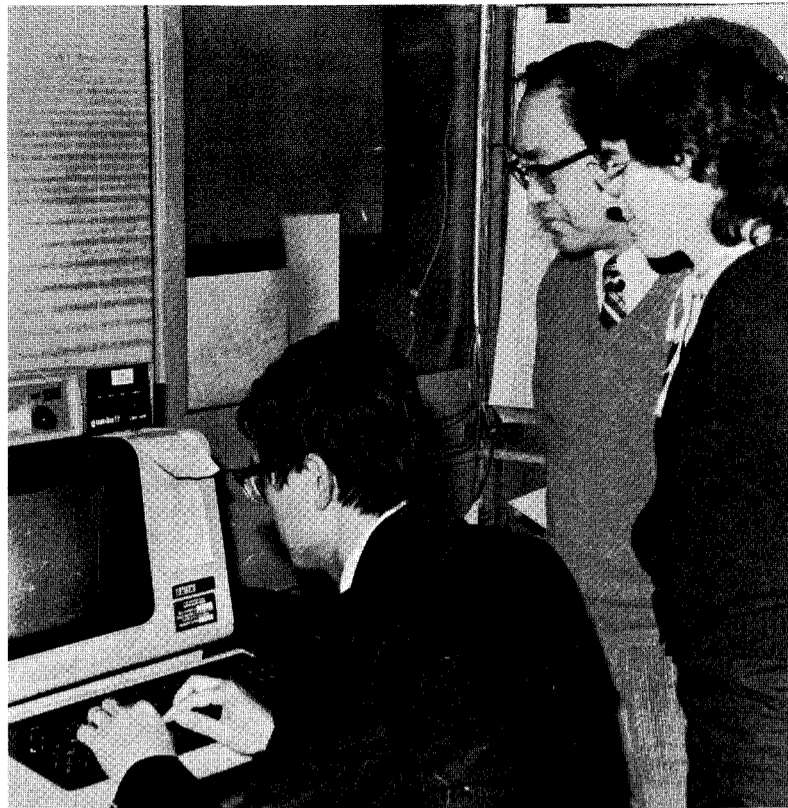
Mr. Gary W. Morton has been named as the new Director of Navy Laboratories, MAT-05L. Morton has been the Technical Director of the Naval Training Equipment Center in Orlando, Florida since April 1982.

Mr. Morton began his federal career with the FAA as a communications and radar systems engineer in 1962 and in 1965 moved to the Naval Training Equipment Center where, among other positions, he was the in-plant project engineer for the TA-4J Operational trainer at the Goodyear Aerospace Corporation.

Following assignments in

NTEC's Washington Liaison Office and as Deputy Command Administrator, Mr. Morton transferred to the staff of the Chief of Naval Education and Training Support where he was named Director of Training Material and where he received the Navy Superior Civilian Service Award, the second highest civilian award in the Navy.

In 1978, Mr. Morton returned to the Naval Training Equipment Center as head of the Sea/Land Warfare Systems Division and later served as Director of Engineering before being named Technical Director in 1982.



Dr. Roger Lee (seated), Dr. Samuel Lin and Miss Carmen Owens viewing Ada program in operation.

Helistat Program (cont'd)

Mr. Lou Berman, Program Manager at the Center explained, "The Forest Service is interested in harvesting timber in forest areas where road construction is either environmentally unacceptable or impractical." Current helicopters are limited in both payload and reach capabilities. "The Heli-Stat," Berman added, "could open up almost 20 million acres of presently inaccessible National Forest land with the po-

tential for yielding 2 billion board feet of timber annually without the need for access roads."

The Heli-Stat has been estimated to have an economic reach of one to six miles with a payload capacity of some 25 tons, approximately the load of a highway logging truck.

First flight tests for the Heli-Stat are scheduled for July 1985.

Testing to Begin for Voice Command System

As a result of 10 years of Voice Recognition and Synthesis research at the Center, the capability now exists for a pilot to both talk and listen to his aircraft according to Dr. Norman Warner, NADC Voice Program Manager. The results of NADC's research have been incorporated into a prototype Voice Controlled Interactive Device produced by Lear Seigler Incorporated. The prototype will have the capability of controlling a number of aircraft functions by a pilot's voice command.

This revolutionary concept will be evaluated at the Naval Air Test Center beginning in February aboard an F/A-18 Hornet to prove the feasibility and utility of using such a system in fighter and attack air-

craft.

"Using the system, a pilot will be able to request and receive navigation data by voice, perform pre-flight and landing checklists, get fuel and weapon system status reports, and make weapons system programming changes," Warner said.

Pilots should feel comfortable using VCID since it uses the common jargon of Navy pilots and since pilots participated in the development of the system's vocabulary. The advantage offered by the VCID is that it could reduce the pilots workload. "The benefits could be substantial, particularly in cases of low-level flight, when a pilot must pay more attention to what is going on outside the cockpit," Warner said.

The cost of military computer software development and maintenance is an important problem with the Department of Defense. In order to combat the rising costs of computer software the DOD has investigated all aspects of software technology. The Ada programming language is a step in this direction.

After eight years the American National Standards Institute (ANSI) and the DOD have standardized the Ada programming language (ANSI/MIL-STD-1815A, 1983). To become a national standard the Ada programming language had to run through many ANSI tests which took months. After it passed and produced all the precise results it was supposed to produce, that version of the compiler was certified since it exactly met the requirements of the language. The name Ada is in honor of Augusta Ada Byron (1815-1851), daughter of the poet Lord Byron. She was a mathematician and protegee of Charles Babbage who invented one of the first early computing devices and because of her suggestion that his machines could be programmed much like a Jacquard loom, she is considered the world's first programmer.

The Navy's Ada support envi-

ronment is to be completed by 1986. Here at the Center, we wanted to get some hands-on experience, learn just what Ada can do, see if it's easy to learn, and determine if it can actually solve the type of problems we have here. Mr. William Pohle, a branch head within the Advanced Software Technology Division of the Software and Computer Directorate proposed the benchmarking of Ada to the Center as an Internal Exploratory Development (IED) Work Unit. The Center accepted the proposal and launched a two year (83-84) IED project under the direction of Dr. Roger Lee aided by Dr. Samuel Lin and Miss Carmel Owens. A major task of this project, according to Dr. Lee is to actually develop and implement some representative Navy avionic systems utilizing an available Ada support environment and investigate the system performance.

Dr. Lee said that included in the development are requirements specifications, system analysis and design, detailed program design, Ada program coding, unit test and integration testing. Dr. Lee said, "Ada involves more than a programming language, but a programming support environment as well. None of these support environments are

available yet through the military, however a handful of private companies have produced Ada support environments.

"A simulated version of LAMPS Avionics Operational Program (AOP) was specified as an illustrative Ada programming benchmark," said Dr. Lee. He went on to say that the selection of LAMPS AOP was made because it is a good representative Navy avionics application that was originally designed and implemented here at NAVAIRDEVCCEN. A TELESOFT Ada compiler and support environment for developing the system was used.

"The simulation is believed to be the first Navy avionics application program developed using Ada here at the Center," commented Dr. Lee. "Among the documentation generated for this simulation are the Requirements Specification, the Program Design, and the Program Coding. Included in the documentation is the investigation of the Ada language features, a demonstration of the usage of these features, identification of the problem areas, and description of some programming guidelines. In addition, the three person team produced an estimated 3000 lines of source code and thorough comments."

Ada is the latest official standard language. It is a very capable language and programs in their early stages must plan to use Ada. The Center will run real-time experiments to determine Ada's capability in military real-time, rapid-response situations. The idea is to eventually install Ada on our Central Computer System using a certified version of an Ada compiler for use by Center employees and contractors.

In conclusion, Dr. Lee comments, "Ada is rich in the language features. It can be used, not only for a programming language, but also for a program design language. It is not hard to learn to program in Ada, especially for people who know PASCAL. However, to use Ada to its fullest, experience and learning from others are needed. It is certain that when Ada is used to its fullest, the software so developed will greatly improve the software readability, portability, reliability and maintainability due to its unique style and features."

The NADC RECIPE REVIEW

Beef Stroganoff

This month's recipe is provided by the Macke Corporation, Robert Green, NADC Cafeteria Manager.

Submit your recipe entries to Mr. Green in care of the Cafeteria. One winner will be selected each month. Winners receive a \$50 bond from the Food Services Board.

1½ lbs. Tenderloin (trimmed)—Trim off fat, cut into cubes
½ lb. Sliced Onions
6 oz. 1 can. Sliced Mushrooms
1 Clove Sliced Fresh Garlic
4 ozs. Butter or Margarine
½ qt. Beef Stock
8 oz. Sour Cream
½ pt. Chili Sauce
½ tsp. Pepper Ground
½ cup All Purpose Flour

Take meat, onions, mushrooms, garlic and brown.
Mix well—Beef stock, sour cream and chili sauce.
Place all of the above in a baking pan.
Mix well all purpose flour and pepper add to baking pan.
Stir all the above in baking pan and cook for one (1) hour at 325°.
Serve over white rice.

LOOK FOR THIS RECIPE TO BE SERVED IN THE NADC CAFETERIA

— Cut here for file card —

The Reflector

Naval Air Development Center

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Forty Years of History (continued)

Johnsville for final assembly. The newly-created Defense Plant Corporation subsidized the \$8 million cost of the new facility and leased the factory to Brewster for \$1 per year. With contracts approaching \$110 million from the U.S. Navy, Great Britain, and the Netherlands, Brewster's future looked bright.

A carriage manufacturer of long standing, Brewster began expanding rapidly in the late 1930's by moving into aircraft engineering and production just as war-time demands took off. Employing only 40 people in 1932, Brewster expanded its payroll to 20,000 by 1943. In the 1930's Brewster made parts for Grumman Aircraft Engineering, but built no planes of its own until 1938 when it developed two planes for the Navy; the F1A-1, a carrier-based fighter, and the SBA-1, a two-seat dive bomber. An improved version of the fighter, the F2A-2, was sold to England, and nicknamed the "Buffalo" by the R.A.F.

A small number of Buffalos were first sent to Britain in the summer of 1940 during the Battle of Britain, but the British soon discovered to their dismay that with armor and ammunition the Buffalo could manage only 270 mph at 6,000 feet. This performance sharply contrasted with the projected figure of 313 mph at 13,000 feet. When the British Admiral Cunningham was offered Buffalos in early 1941 for Mediterranean service, he chose instead to use World-War-I-vintage Gladiator biplanes. Nor did the Buffalos serve the American Navy well. In the Battle of Midway during the initial American attack thirteen of the twenty Brewster planes were shot down, and only two of the planes ever flew again.

In early 1942 Brewster ran into difficulty. Shortly after Pearl Harbor, Brewster had announced the "Buccaneer," a new dive bomber to be built wholly at Johnsville. The first Buccaneers were to roll off the assembly line by mid-February 1942, but production difficulties plagued the firm. When Brewster failed to deliver a single new dive bomber, President Roosevelt directed the Secretary of the Navy, Frank Knox, to take immediate control of the firm. Captain George C. Westervelt assumed command of the Brewster complex on April 21 and reported that "dissatisfaction with management" had caused the takeover.

Explanations for the production failures varied greatly. Senator Harry F. Byrd asserted that the Long Island City plant was operating at 40 percent of capacity, and he charged that labor slowdowns had caused Brewster's ills. R.J. Thomas, a member of the War Labor Board and President of the United Automobile Workers (UAW), al-

leged that "aliens" were managing the firm, and requested an F.B.I. investigation. The plant officials at Johnsville blamed their delays on subcontractors who failed to deliver critical parts and on the Navy's many design changes. In April of 1942 the *Hatboro Spirit* editorialized: "For months people of the community . . . have been asking each other the question — 'What's the matter with Brewster; why are they not producing?'"

The events soon took an unexpected turn when the *Philadelphia Record* exposed a complicated profit-skimming scheme that it asserted had crippled Brewster. The "mysterious Miranda brothers," Alfred and Ignateo, along with their associate F. William Zelcher, had set up three shadow corporations that controlled not only the sale of parts to Brewster, but also the firm's lucrative exports. From November 1939 to June 1941 the three men had siphoned off an alleged \$5.5 million from the firm. During the same period stockholders had received only \$290,000 in dividends and had filed a suit against Brewster's board chairman, James Work, for redress. Most damning to the firm was that the Mirandas had spent twelve months of the twenty-month period either in Federal jail or on parole for smuggling arms to Bolivia in 1939, in violation of the Neutrality Act.

The Navy reinstated private management to Brewster one month after the Navy takeover. The company's officials had resigned, and the Navy installed a new board of directors, headed by veteran aircraft engineer C.A. Van Dusen. In early 1943, a three-man panel headed by Van Dusen took control of the Brewster stock held by Work, Zelcher, and the Mirandas (amounting to 27 percent of the total stock). Still failing to produce planes on schedule, on May 17, 1943, Brewster again received a new set of directors, headed by Henry J. Kaiser, "the West coast shipbuilding genius." Ex-Westinghouse executive Frederick Riebel, who had been acting as production trouble-shooter for the Navy at Brewster, was elevated to president. Although Kaiser immediately launched a campaign to improve the firm's performance, Brewster remained behind its production schedule.

In addition to suffering under ineffectual management, Brewster was mired in labor difficulties. The War Labor Board reported in late 1942 that a work "slowdown" was impeding Brewster's production. On August 24, 1943, a four-day strike began after a month of controversy over the classification of employees assigned to guard the plant. The guards, members of both the UAW and the Coast Guard Reserve, had conflicting

loyalties; when four guards were arrested for disregarding Coast Guard orders the rest of the employees walked out. After a total of 39 people were arrested, the UAW demanded withdrawal of the 200 regular Coast Guardsmen that had been moved in. The striking workers, and particularly the local's contentious head, Thomas de Lorenzo, drew public wrath for betraying the war effort. A letter to the editor of the *Doylestown Intelligencer* exhorted: "Citizens! Awake! dare to demand that these strikers choose between the United States flag and their gangster leaders. Demand that our government clamp down on these saboteurs and traitors . . ." The War Labor Board demanded the workers return to work "unconditionally," and production soon began again.

Shortage of materials also ailed Brewster. Hangars were built with wooden beams due to wartime shortages of steel. Senator Harry S. Truman investigated the firm in September 1943 and found conditions "extremely bad." Two hundred mechanics had petitioned to be released to find work elsewhere, but had been refused; 24 plane motors had sat unused for a month because the necessary mounting bolts were not available. To compound matters, an allegation of sabotage surfaced in October when it became known that seven employees had been fired at the Navy's behest in the spring of 1942 on charges of subversive activity.

In November 1943 the questionable past of the testy union leader Lorenzo was uncovered during his testimony before a Congressional committee. He had employed a half dozen aliases, "when they came in handy," and had falsified several official documents, including his 1940 tax return. Re-elected for his fourth term as president of Local 365 in February 1944, Lorenzo nevertheless faced serious problems. In March he was indicted by a Federal Grand Jury for doctoring his application to the War Labor Board, and in August he was fined \$500 and sentenced to 30 days in Federal jail.

By early 1944 Brewster's prospects were grim. The *Doylestown Intelligencer* reported that Kaiser's reforms had boosted production by 350 percent, cut man hours per plane from 32,000 to 13,000 and decreased the payroll by one-third. Nevertheless, on May 19, four days after Kaiser left Brewster, the Navy cancelled the remaining half of Brewster's contract for the manufacture of Vought Corsairs — virtually the firm's entire business. Navy officials announced three reasons for the decision, and admitted that the firm was bearing the brunt of a \$180 million cutback in the purchase of fighters. With 12,000

employees, Brewster held the smallest of the three major Corsair contracts. The two largest contractors, United Aircraft and Goodyear Aircraft, retained their orders. Second, Brewster had no other Navy contracts, and "no other work of importance to the war effort." Finally, Brewster's unit production costs exceeded those of United and Goodyear, despite Kaiser's improvements.

To protest the Navy's decision, the Johnsville workers began a "stay in" on May 31 that lasted two days. The workers continued plane assembly and set a production record of eight planes in one day. Upset over the loss of jobs, and what was feared to be a prelude to the national chaos that would occur with demobilization, the union called for the establishment of an Office of War Demobilization and Post-War Adjustment.

While Brewster moved into the manufacture of pots, pans, and suitcases, the Navy took full control of the Johnsville plant. Initially, Captain S.J. Zeigler coordinated the conversion of the factory into an aircraft engineering and modification center under the direction of the Philadelphia Navy Yard's Naval Air Material Center.

Naval Air Modification Unit 1943-1945

The establishment in 1943 of the Naval Air Modification Unit (NAMU) at the Philadelphia Naval Yard reflected a decision by the War Department to separate aircraft production from modification. To speed delivery to the armed services, planes were mass produced and then, at a separate facility, design modifications were added to produce the "latest" model for war duty. The Modification Branch of the Naval Aircraft Factory (NAF), Philadelphia, modified the Factory's assembled planes, but the two functions of production and modification turned out to fit poorly in the same organization. Hence when the NAF was expanded into the Naval Air Material Center (NAMC) on July 20, 1943, the Modification Branch was reconstituted separately as the Naval Air Modification Unit.

During its first year of operation NAMU moved between different buildings in the NAMC complex while its personnel wrestled with an influx of projects. The availability of the million square foot Brewster plant, twenty miles north of Philadelphia, promised relief from crowded facilities, and shortly after it took possession of the Johnsville facility in July 1944, the Navy transferred NAMU there under the command of Captain Ralph S. Barnaby.

A Salute to the Volunteers for Navy Relief

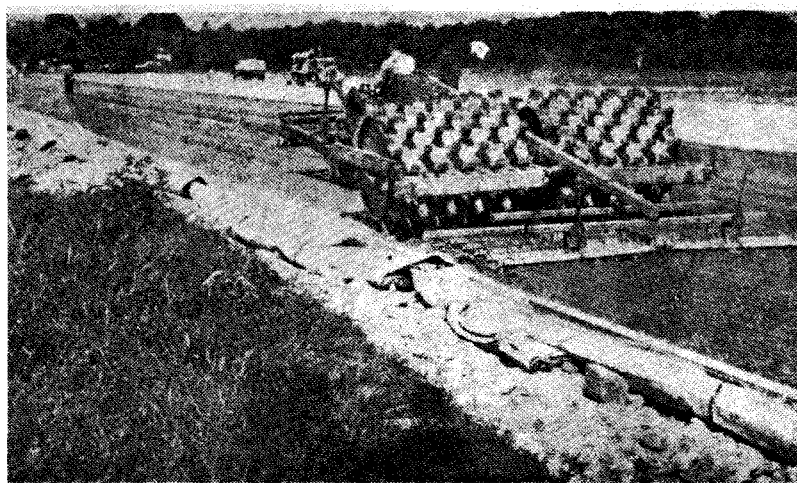
In a salute to volunteers and in recognition of the vital contributions they make throughout society, the President of the United States has designated the period beginning on May 1, 1983 and ending on April 30, 1984 as the National Year of Voluntarism. In describing voluntarism as a cornerstone of the American way of life and part of our American heritage, President Reagan stated that this has been a country in which neighbor has always lent a hand to neighbor, and families have banded together to help one another in times of adversity. He stressed the need for an increased commitment to voluntary service and for developing more volunteer leaders.

During this National Year of Voluntarism, Navy and Marine Corps communities throughout the world salute all Navy Relief volunteers who have been carrying out the Society's motto of "Taking Care of Our Own" for eighty years. Always willing to give of themselves and of their time to help others, Navy Relief volunteers have over the years "lent a helping hand" to literally millions of Sailors, Marines and their dependents. During 1983 alone, Navy Relief volunteers will have aided over 200,000 service members and their families, as well as thousands of retirees, widows, widowers and orphans. Their compassion and dedication to doing whatever is necessary to relieve hardship, respond to an emergency, and provide solace in time of need has become the hallmark of their service to the Navy and Marine Corps communities in which they live.

Here in Philadelphia Navy Relief volunteers respond to the needs of the Naval community by providing financial assistance to help meet emergencies, relieve hardship, and take care of unexpected expenses. They also operate a Thrift Shop, prepare with loving care layettes of baby clothes as gifts to help younger enlisted families meet the initial expenses of a new borne, and operate a children's waiting room at the hospital.

Navy Relief needs the participation as volunteers of all good people who are willing to commit themselves to what the President calls "a cornerstone of the American way of life and part of our American heritage" by giving a small amount of their time to help others. Join the rolls of Navy Relief and become part of a group of wonderful people who care, by calling the Philadelphia Navy Relief office, telephone number 468-2448, now.





Top Left: Brewster Airport began to take shape in mid-July 1941. Top soil was scraped from runway areas and roof was being placed on what is now building 2. Top Right: Workers spread cement over the soil prior to

start of mixing operations. Bottom Left: Special roller compacts material from bottom up. Bottom Right: Power roller compacts the final half inch of surfacing.

Brewster Airfield Constructed in Only 4 Months

When the Brewster Aeronautical Corporation, in order to cope with a rapidly increasing backlog of orders for Buffalo fighters and Buccaneer and Bermuda dive-bombers, found it necessary to expand further and construct a new 500,000 square foot assembly plant, time was of the essence. It was early in 1941 and in addition to the construction of a factory building, there also had to be built a runway of sufficient size to provide for the testing of the aircraft that would roll off the assembly lines when the plant was placed in operation. Even during those days, the building of an airport at an accelerated rate was an extremely costly venture. A year was not considered an unwarranted length of time in which to construct a fair sized airfield. James Work, Chairman of the Brewster Aeronautical Corporation, reflected in an article appearing in the November 1941 edition of AERO EQUIPMENT DIGEST that, "Brewster could not wait that long. The airport had to be completed at the same time as the factory, or sooner, if possible." This factor, consequently, was an important element in the selection of the site for the proposed plant. "After surveying several possible locations," said Work in AERO EQUIPMENT DIGEST, "a 372 acre tract at Johnsville was chosen for the plant. This tract was relatively flat and was located on the 360 foot contour line, the highest contour within a radius of 10 miles."

Approximately 300 acres of this tract, bounded rectangularly by four roads was selected for the airfield. "The site was just about ideal for the purpose

for which it was bought," said Work, "as the movement of only about 160,000 cubic yards of earth was required to obtain the proper grades." "Beyond this, however," he continued, "there arose the same costly and time consuming problems generally encountered in the building of any airport with paved runways until we decided to investigate the possibilities of substituting soil-cement for the conventional macadam or concrete pavement."

The new process which consisted of mixing a low percentage of cement with the soil and subjecting the mixture to special processing offered the promise of significant cost savings and reduced construction time. The process had been used once by the US Air Force but information on its durability under heavy traffic conditions was meager. Engineering promises of satisfactory performance for 10 years convinced Work that Brewster should be the "guinea pig" among aviation manufacturers. The decision to proceed with soil-cement runways was made and construction began on June 2, 1941. Less than 5 months from the time grading was started, three runways, each paved for 2800 to 3000 feet had been completed. "Not only had the airport been built," recollected Work, "in what on the basis of past performance was an unbelievably short space of time, but the anticipated savings in cost had been fully realized." "It was a source of satisfaction to us," he continued, "that between the time we decided to go ahead with soil-cement and the time the runways were laid, we received reports from the Air

Force which fully justified our confidence as to their durability."

Actual construction started with the stripping of topsoil from the area to be graded. If top soil were mixed with sub-soil in grading and filling, perfect compaction would be impossible as the top-soil, containing a high percentage of organic material would eventually decompose causing voids and erosion ditches. All top-soil stripped from the graded areas was placed in storage piles and later replaced uniformly over all areas excavated or filled between or adjacent to the runways. In this replaced top soil, when all grading had been completed, was sown a carload of the finest grass seed to ensure that the airport eventually would have the appearance of a huge lawn transversed by the runways. A number of Bucks County farmers were employed for this purpose. The mixing of the cement with the soil was the work of a special machine known as a rotary tiller, a battery of five being employed for this work.

Once the cement was distributed over the sand and gravel, work proceeded on a 24-hour a day basis to speed up construction and avoid the checkerboard appearance which would be produced by interruption of work on a runway, allowing one portion to harden before the whole runway was completed. To carry out this night work, the contractor used batteries of flood lights mounted on portable fixtures which brightly illuminated the entire runway. The laying of the runways was accomplished with amazing speed, only eight 24-hour work

days being required from start to finish.

In the summer of 1941, James Work was proud to predict that, "when the first BUCCANEER and BERMUDA dive-bomber rolls off the line at the Johnsville plant this fall, it will find the Brewster airport, just across the road waiting to receive it. This airport we feel is another construction miracle performed under the stimulation of the national defense program, an airport built in four months at less than 50% of the normal cost of a field with hard surfaced runways."

Public Affairs Seeks Historical Records

In reviewing the history of the Naval Air Development Center, it is immediately obvious that since the beginning there was little organized effort to capture and preserve important episodes or events. Some Brewster files, copies of the *Reflector* and its predecessor the NADC News, and a few other scattered files and reports virtually are all that have been identified and saved.

During the research for the preparation of a report on NADC's history in 1982, it was discovered that personal collections of papers and photographs often provided the best documentation available on many subjects.

The *Reflector* would welcome the opportunity to review, and if appropriate preserve, any material of historical significance.

Aviation Explorers

This year the Naval Air Development Center is sponsoring Aviation Explorer Scout Post 690 under the direction of LCDR Stu Schreckengast. He is being assisted by AWAN Robert M. Flanagan and AW2 William F. Dearie.

The Explorer Scout Post is comprised of youths in the community with an interest in aviation. Currently there are 20 scouts ranging in age from 14 to 21 years old. The purpose of this program is to orient high school students with the different job opportunities that are available within the different branches of Aviation. The program also hopes to expose these youths to a broader view of all the different facets of Aviation.

LCDR Schreckengast plans to utilize the Flying Club and their aircraft for general aviation flying orientation and some introductory flights. He hopes to invite representatives from aircraft manufacturing companies to speak to the scouts about the aerospace industry. Local airline representatives will be invited to talk about the pilot, aircrew and ground crew personnel aspect of Aviation. FAA representatives will be invited to speak to the scouts concerning the responsibilities and opportunities in the field of air traffic control. Lastly, some of the scouts have expressed an interest in the restoration of antique aircraft and will be afforded the opportunity to work with personnel involved in the Brewster Restoration project here at the Center on Saturday afternoons.

LCDR Schreckengast has planned two field trips: one to Rheinbeck Aerodrome in New York and the other to Silver Hill Aero Museum in Maryland. If there is enough interest expressed, the National Aerospace Museum in Washington, DC is another field trip possibility.

LCDR Schreckengast comments that he is just there to provide direction; that the program should be designed by the scouts so they can get as much from it as they want. LCDR Schreckengast hopes to establish a Student Supervisory Board so that the scouts will really be designing and working their own program.

"Aviation Exploring is the young-adult division of the Boy Scouts of America," said LCDR Schreckengast. "Explorers are young men and women aged 14 through 20 who are actively participating in Aviation activities. NADC's Explorer Post offers a variety of career and recreational programs to this group."



Toastmasters Want You

by Arthur Horbach

Ever been called on in public to speak? Make a technical presentation (program review)? Chair a symposium session?

Toastmasters International offers guidance on how to do this effectively, and, equally important, on what not to do.

Improve slide presentations, for personal as well as professional use!

Overcome in-front-of-group-nervousness!

Get direct and immediate feedback on your presentations!

Develop a capability for on-the-spot responses to detailed and thought-provoking questions!

Learn how to effectively use a podium and a microphone!

All of the above are concerns of the NADC-sponsored chapter of Toastmasters International. At first glance one may feel that one is really not interested in becoming a speaker — that's for politicians, professors and preachers. But Toastmasters goes far beyond that. The techniques of speaking before small, as well as large audiences, are not necessarily obvious; but with training, even the most reticent can become a relaxed and confident speaker.

Each meeting consists of several prepared speeches of about five minutes in duration. Specific goals and objectives are being sought by the speaker each time. Following that, ex-

perienced speakers provide two minutes of positive feedback and constructive criticism.

Another significant activity, designed to teach "thinking on one's feet," is what is known as Table Topics. A question is asked, and someone is selected to deliver an appropriate response. The responder has no way of knowing in advance who will be called, nor what the topic will be. Several Table Topics questions are asked, in order to increase participation.

Variety and spice are added to the meeting by the jokemaster, who is required to provide an appropriately humorous joke (most of us would be hard pressed to tell a funny, non off-color joke), and by the grammarian, who selects a word-of-the-day (usually something quite obscure) which everyone is required to use at least once during the meeting. The grammarian also has the responsibility of keeping speakers honest, by counting the number of "ahs" used by each speaker, and by keeping track of all grammatical errors.

All attendees enjoy the meetings. The Table Topics are fun, the speakers are interesting, and people get to know their colleagues much better.

Fundamental principles of speaking are learned quickly, and may be put to use immediately. How many of us can emcee a luncheon, can offer an effective toast — or even feel comfortable about leading a group in saying grace at a meal.

Give Toastmasters a try!

The rewards are surprising!

CA Studies

The Uniformed Messenger Service (Mail Delivery) function has been retained in-house after competition with the private sector. The decision to retain the function in-house, which is subject to review and concurrence by the Chief of Naval Operations, was made on 16 December 1983. The decision to keep the function in-house was based on a firm fixed price contract comparison which indicated that government performance is more cost effective.

Medical Records

ARE YOUR MEDICAL RECORDS UP TO DATE? Dependent and retired personnel's health records that are not used for a period of two or more years are sent to the Federal Records Center in St. Louis, Missouri where they are put in storage.

All beneficiaries who believe they may fall in this category should stop by the Branch Clinic, Willow Grove, and have their health records updated with this year's color code. This will allow record office personnel to easily identify all active health records. All health records that fall in this category must be updated prior to 31 January 1984.

Don't wait until it's too late, make sure your records are up-to-date.

VIP Visits Pays Off

(continued)

RADM Tuttle by Mr. Don Furmanski.

RADM Tuttle was impressed enough with his trip to the Center that when he was reassigned as Commander of Carrier Task Force 60 in the Mediterranean and was confronted with certain night operation problems, he contacted NAVAIRDEVCCEN through the Science Advisor at NAVAIRLANT for support.

Soon afterward, Mr. Furmanski and Mr. John Williamson of the Reconnaissance and Surveillance Branch were on their way to the Med to demonstrate the TAS-6 sensor to personnel on the USS INDEPENDENCE, USS GUAM, and USS CLARK.

Furmanski and Williamson met with RADM Tuttle almost immediately when they arrived on board the USS INDEPENDENCE on 4 December 1983. They discussed the system, its performance and the fact that NAVAIRDEVCCEN added a photo capability to the IR sensor. RADM Tuttle was impressed with the equipment that the NAVAIRDEVCCEN personnel had with them, including three IR sensors and two hand-held stabilizer sensors and directed NAVAIR-

DEVCCEN personnel to familiarize CTF-60 personnel with the capabilities of the sensors.

Aboard the INDEPENDENCE, the TAS-6 was demonstrated from the Admiral's bridge in a surface-to-surface and surface-to-air surveillance mode. The sensor was also demonstrated to the entire crew of HS-15 (H-3 helos).

Enthusiastic crewmen required only minimum training to familiarize themselves with the equipment. It was the first time they were able to identify and classify a ship without having to get within ranges that are considered antagonistic. On the H-3, the TAS-6 was first mounted at the forward, port side, personnel door. This turned out to be a crowded, awkward area for operation. The starboard, cargo door provided much more room and a greater field of regard. The TAS-6 was mounted from the overhead by a two-sling and shock-cord arrangement that was considered acceptable to the crew.

While on the INDEPENDENCE, NAVAIRDEVCCEN personnel had an opportunity to discuss TARPS (Tactical Air Reconnaissance Pod System).

RADM Tuttle is very satisfied with the TARPS information. In fact, TARPS seems to be a celebrity on board the ship because it is the main source of reconnaissance information. "KA-99 photos are everywhere," Furmanski reported.

Center personnel were cautious to point out that this use of the TAS-6 aboard a helicopter is a "band-aid" approach for introducing an IR sensor into the HS and HSL communities. While on the trip Center personnel demonstrated the system to representatives of ships company, ground forces, and four helo communities (Marine Corps CH-46, Navy UH-1, HS and HSL).

When asked to sum up his feelings about the trip, Furmanski said, "The whole evolution, from RADM Tuttle's visit, to the generation of a program to get the fleet what they need is quite an experience. It demonstrates NAVAIRDEVCCEN's capability and Mr. Buffum's and Captain Anderson's willingness to support the fleet and put NAVAIRDEVCCEN on the line where there is a lot of visibility. I hope I can be involved in similar situations again."

Technical Highlights

PRESIDENTIAL HELICOPTERS RECEIVE NEW CENTER INSPECTION DEVICE

The NAVAIRDEVCCEN has provided HMX-1, with a specially configured eddy current probe to inspect aft gear box lugs on the CH-53 helicopter.

Due to some recent problems, the Navy requires that these parts be inspected after every 50 flight hours. The inspection, which previously required 8 hours, can now be accomplished in less than one hour without removing paint, with greater sensitivity, thus enhancing HMX-1's Presidential support mission.

Fleet introduction of this new equipment and procedure is anticipated in the second quarter of FY-84.

JOINT TACTICAL INFORMATION DISTRIBUTION SYSTEM (JTIDS) ADAPTIVE ARRAY SYSTEM

An Adaptive Array Antenna System that will provide JTIDS an enhanced Anti-Jam (A/J) capability has been developed by NAVAIRDEVCCEN. Flight tests of this system were conducted at NAVAIRDEVCCEN throughout the fall of 1983. For the feasibility demonstration, the system was installed on a NAVAIRDEVCCEN P-3A that was instrumented with an in-house design and fabricated high-speed/high-capacity automatic data acquisition system. A preliminary examination of the data indicates that the system performs as designed and will provide JTIDS increased A/J capability.

S3-A PROGRAM RECEIVES APPROVAL

The S3-A Operational Software Program designated as Fleet Issue 4.0.3, which recently completed both its Technical Evaluation and Operational Evaluation testing, has been approved for issue to the Fleet. This marks the second program issue completed and delivered by this Center as Software Support Activity.

DIPPING SONAR PREPARED FOR TECHEVAL

An Engineering Development Model of the AN/AQS-13F helicopter dipping sonar, was recently tested by the Naval Air Development Center. The improved version, intended for use on the SH-60F helicopter, will provide increased detection range, improved operational flexibility and weight reduction.

MicroFASP DELIVERED TO NAVAL COASTAL SYSTEMS CENTER

The Software and Computer Directorate of the NAVAIRDEVCCEN delivered a Microprocessor Software Development System, known as the MicroFASP, to the Naval Coastal Systems Center (NCSC) in Panama City, Florida. The system also functions as a remote node to the NAVAIRDEVCCEN Central Computer System (CCS) which allows the user to access the Facility for Automated Software Production (FASP) system resident on the CCS for the development, test, and maintenance of military computer software. This system may eventually evolve into a full-blown node on the Navy Star Network with a high-speed satellite communications link.

Security Reminders

- BADGES**—NAVAIRDEVCCENINST 5510.13B, Chapter 15, requires that all badges be worn on the upper part of the body in full view, to facilitate identification. All employees are reminded the wearing of Center Badge is mandatory while on Center. Failure to display the Center badge may constitute a security violation which is punishable by reprimand or suspension.
- GOVERNMENT PROPERTY**—Personnel who have signed for custody of Government Property are responsible for the maintenance, safekeeping, and accountability of the property. When property is discovered missing, lost, or stolen, the custodian will attempt to locate the property through search of adjacent areas and inquiry among co-workers. If items cannot be located within one (1) hour the Security Officer must be notified. Custodial responsibility for the receipt and protection of government property is addressed in SECNAVINST 5500.4D and NAVAIRDEVCCENINST 5510.13B, Chapter 16.

Commander Salutes

Mr. Ray Satterfield, Mr. Ross Barcklow, and Mr. Robert Larr all of the Presentation and Information Division, for their award winning entry in the Special Television Program or News Segment Covering a One-Time Event category of CHINFO's 1983 Merit Award Competition.

Mr. Donald J. Spry of the Sensors and Avionics Technology Directorate for his outstanding contribution to the

success of the AN/AQA-7(V) DIFAR Program.

Mr. John Price also of Sensors and Avionics Technology Directorate for support rendered to the 91st Tactical Reconnaissance Squadron during operation Urgent Fury.

Patrolman Gary Kelly and Earl Hancock of the Security Division for exceptionally professional performance in protecting the welfare of Shenandoah Woods residents.

Super Safety Offers Winter Driving Tips

by Mike Masington

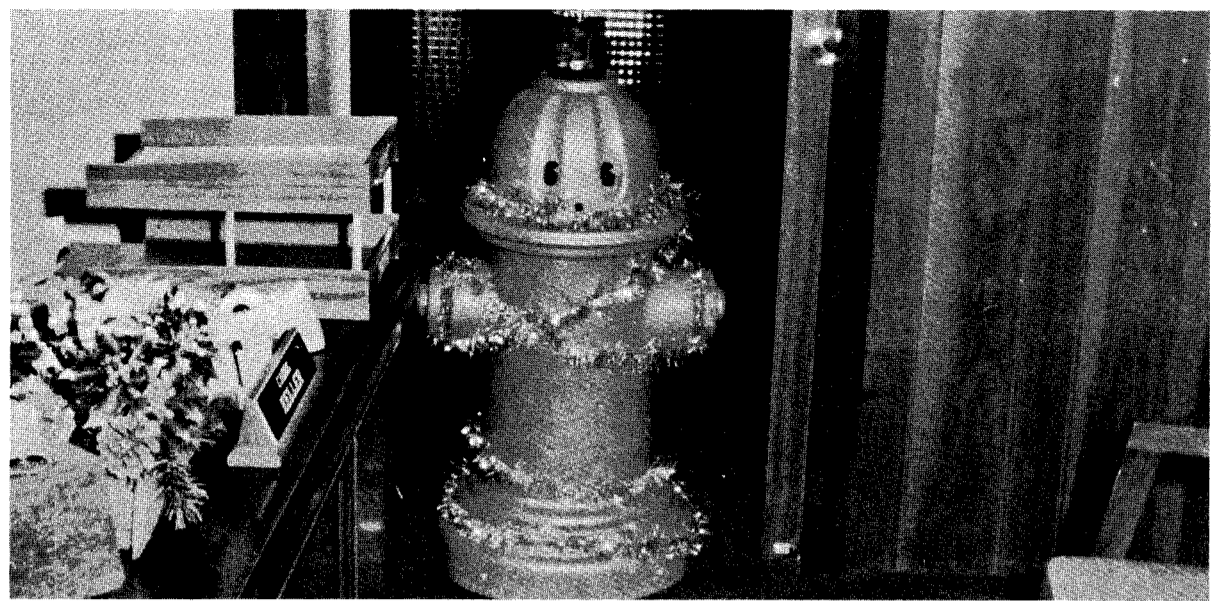
Rodney Radial, former charisma coach for James Watt and original model for the Cabbage Patch Kids, was preparing to travel to work in a blinding snowstorm. Unfortunately for Rodney (but fortunately for our story), the dupable driver had been talking to that dastardly demon of deleterious driving, Baron Tod von Hazard, who had assured his intended victim that only wimps and quiche eaters took precautions before driving in winter weather, and that any "real man" could handle it. Bolstered by the Baron's boisterous bravado, a wrongly reassured Rodney sped off with a feeling of invincibility. The nefarious noble smiled malevolently as he watched his pliable pupil slide and skid along the icy road, but another observer was not so amused. Super Safety, the wonder of winter wayfarers, watched Rodney's "progress" apprehensively.

Eventually, Radial's venerable Vega couldn't hold the road any longer. It shifted onto a shoulder, glanced off a guardrail, did a nifty 360, careened around a culvert and butted an abutment before finally mangling a mailbox. Super rushed over just as Rodney climbed shaken but luckily unhurt from the wreckage. "What happened?", rambled the rattled Radial.

"I'll tell you what happened," seethed the simmering Safety. "You just succeeded in disregarding every rule of safe winter driving. Take your tires for example. You've got radials on the front and bias snow tires

on the rear. Mixing tires like that can seriously effect the handling of your vehicle, especially under icy conditions. Also, anytime you drive in winter, make sure your entire windshield, back and side windows and outside mirror are free of ice and snow. That peephole you scraped on your windshield reduces your field of vision at a time when you need maximum vision the most. In addition, when you're driving on slippery roads, reduce your speed accordingly, and keep alert to anticipate traffic problems and hazards before you get to them. If you must brake, apply a steady force until you feel the brakes starting to lock, then get off the brakes until the wheels are rolling free again. With disc brakes, this procedure will allow you to stop safely without skidding. Should a skid occur anyway, remain calm, get off the brake, and steer gently in the direction the rear end is moving being careful not to oversteer. Finally, it's always a good idea to keep your headlights on in bad weather. This allows you to see and be seen more easily." The now repentent Rodney nodded meekly in assent.

Meanwhile von Hazard, realizing that his latest machination had misfired, jumped into his waiting limousine and sped off in disgust. Unfortunately, he fell victim to his own bad advice, skidded on a patch of ice, and wound up in a frozen duck pond. The battered Baron was soon evacuated to a hospital for



"Sparky," the Fire Department's new mechanical fire plug emerges from his first official meeting with Captain Anderson. Sparky will be used by the Fire Department for many training lectures and demonstrations concerning first aid, fire prevention and survival.

treatment of minor injuries sustained after being attacked by an enraged black and white beagle wearing a stocking cap, who claimed he was playing hockey on the pond when the accident occurred. Police verified his story after questioning a small bird named Woodstock, who had been tending goal at the time.

NADC Welcomes New Employees To The Center

Daniel L. Carbo, James E. Green, Jose R. Llanos, Philip T. Shannon, Jr., Alexander Stevenson, Erminia M. Tinari, John M.L. Reeves, Marguerite V. Hoefling, Suzanne M. McNellis, James C. Papacostas, Joseph E. Camaioni, John T. Oakley, Carla S. Mackey, Rosemary C. Abramson, Wayne C. Everett, Carl D. Myers, Mandhir Singh Dulai, Rodney B. Hall, Michelle A. Martin, Alan S. Krum, D. Scott Kee, Thomas J. Murphy, Abraham Meth, Samuel Yosen, Philip R. Nelson, Myron Anton, John W. Parker III, David L. Gauntt, William J. Green, Kenneth G. Bullard, Chi Tung, Jerome W. Duley, Carlos A. Cordova, John J. Reilly, Sharon Miller, William R. Belmont, John E. Reiter, John M. Scott, Jeremy L. Torr, James T. Dahling, Raymond J. Ginkiewicz, Lewis H. Trautz, Pilar M. Prabhu, John W. Floyd, Margaret E. Michalka, Susan L. Schopfel.

Congratulations on Promotions

Nancy L. Jackson, Rhea M. Koncz, Patricia A. Mallory, Colleen P. Perkins, Regina E. Rodak, Janice L. Suessenguth, Gale E. Gartling, Charles A. Kita, Joseph A. Orosz III, Wayne C. Everett, Daniel F. Flynn, Michael A. Lanier, Thomas W. McHugh, Ky T. Nguyen, Claire W. Bayer, Eileen M. Beans, Robert Chin, Colleen T. Craggs, Elaine T. Irwin, George F. Logue, Katherine L. Madison, Robert P. Mullins, Michelle A. Rampson, Richard E. Adams, David M. Herbine, Paul E. Ondeck, Nicholas J. Sipa, Jr., Thomas E. Gould, Stephen R. Pfeiffer, Albert R. Ferkel, Sr., Carlo A. Allodoli, Carl I. Campbell, Alexis M. DeLeon, Carol B. Smiley.

New Titles

The Library continuously receives new publications and periodicals of interest to both professional and non-professional employees of the Center. Some of these publications are ordered for personnel with a specific interest in the topic. Many of these have been returned to the library and are now available for general distribution. There are numerous new periodicals including "Defense Science 2001+," "Personal Computing," and "Popular Computing."

On the topic of Microcomputers the library now has on its shelf copies of "IBM's Personal Computer," by DeVoney, "Interfacing to S-100/IEEE 696 Microcomputers," by Libes, "Microcomputer Architecture and Programming," by Wakery, "Programming the IBM Personal Computer, BASIC," by Graham and "Your IBM Personal Computer: Use, Application and BASIC," by Cortesi.

Of interest on Microprocessors, "Microprocessors Operating Systems, Volumes 1 and 2," "Microprocessor Systems and Their Applications to Signal Processing," "Microprocessors and Logic Design," and "16-bit Microprocessor Systems" are available.

Cash in hand— A thing of the past?

By Mary Ann Brett

On 21 November 1983, a Treasury Department proposal appeared in the FEDERAL REGISTER requiring that payment of salaries to all federal employees be made directly into banks and other financial institutions by way of electronic funds transfer (EFT). The proposal also requests that the Treasury Department be authorized to limit the number of allotments per payment.

Although this method of pay distribution has been encouraged and available since December 1979, NADC Comptroller personnel estimate that only 40 percent of the Center's 2400 employees utilize it and that if applied across the board, sorting and distribution costs could be cut by \$113K. When compared to the 74,000,000 annual payments made by the Treasury, increased usage of EFT would result in a substantial reduction of payroll costs. The proposal will be implemented one year after the effective date of its legislation by Congress. However, a CNM representative estimates implementation not sooner than late 1985.

A special waiver from EFT may be granted if an employee demonstrates a compelling need for the payment to be made by conventional means, or because the employee has no bank account. Such a "compelling need" request would have to be approved by "the head of the agency ... and the Secretary of the Treasury ..." One attractive inducement, according to NADC Credit Union personnel, is that effective 16 January 1984 anyone utilizing EFT in making payment on a Credit Union loan, will be afforded a 3 percent discount on the interest rate. Although CNM and CNO representatives indicate that implementing this proposal might result in further extending the time it takes for employees to receive their pay, NADC Comptroller personnel don't foresee any distinct disadvantages to EFT.

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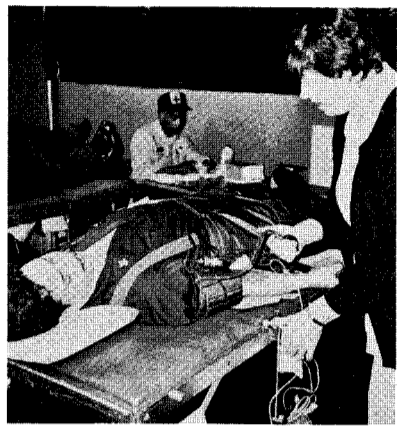
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Reflector

Naval Air Development Center, Warminster, PA
1944 • "Building Naval Aviation's Future for 40 Years" • 1984

Volume 28
Number 2
Feb. 1984



Gift of life

Page 3.



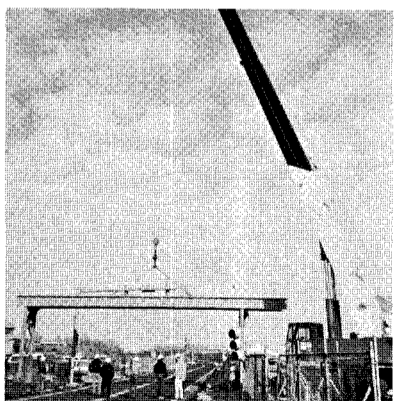
Follow the light

Page 4.



Designing women

Page 5.



Abridged road

Page 6.

BLACK History Month



Harriet Tubman leading raid by Union Soldiers

"There was one of two things I had a right to, liberty, or death; if I could not have one, I would have the other; for no man should take me alive; I should fight for my liberty as long as my strength lasted, and when the time came for me to go, the Lord would let them take me."

Black women in defense of America

Prior to the 20th century, U.S. military services tended to rely exclusively upon men as combatants and for other military service. Individual women, on occasion, served in military assignments and even in combat. But it was not until the 1900s that significant numbers of women served in our Armed Forces.

While a lack of historical material from the 1700s and 1800s resulted in sparse recognition of women in general and black women in particular during those years, some significant contributions have been documented.

American Revolution (1775-1783)

Throughout America's earliest struggle for independence, women played significant, if little known or acknowledged, roles. In traditional roles, colonial women wove cloth for uniforms and flags, made bandages, melted their pewter ware for musket balls and cared for wounded soldiers in their homes.

Black women undoubtedly performed in many, if not all, of these activities. Their contributions, however, were only occasionally noted or recorded by diarists or other writers.

The Civil War (1861-1865)

When war erupted in April 1861, both black and white women immediately formed groups and committees to raise funds for the support of volunteer regiments, to make bandages and medical dressings, to sew uniforms and flags, and to send food and other articles to troops at the front. As the war progressed, relief societies were formed to

Continued on page 3.

From Brewster to NADC (continued)

This is the second in a series of articles edited from a report entitled "The History of the Naval Air Development Center" prepared in 1982 by Thomas Misa and Ed Todd from the Department of History and Sociology of Science at the University of Pennsylvania.

Naval Air Modification Unit Moves to Johnsville

During 1943, its first year of operation, the Naval Air Modification Unit (NAMU) moved between different buildings in the Naval Air Material Center complex located in the Philadel-

phia Naval Shipyard. The availability of the million square foot Brewster plant, twenty miles north of Philadelphia, promised relief from crowded facilities, and shortly after it took possession of the Johnsville facility in July 1944, the Navy transferred NAMU to Bucks County under the command of Captain Ralph S. Barnaby.

The move to Johnsville coincided with an expanded mission for NAMU. Its new tasks were to develop special weapons, to do prototype modifications for aircraft, and to perform quantity conversion of war planes. NAMU became a leader in adapting radar to Navy

planes, including the TBF/TBN, PV, PBY, F4U, PB4Y, and SB2C. Some modification work concerned the installation of improved armaments and communications equipment, or involved prototyping, but most resulted from requests by the Bureau of Aeronautics to make changes based on Fleet performance. Since many of NAMU's employees had little experience with prototyping work, having been production workers at Brewster, a retraining program was conducted by the Training Division of NAMC. In the

Continued on page 2.

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FIRST CLASS

Kingston is new editor of REFLECTOR

James Seton Kingston is the new editor of the *NADC REFLECTOR*. He comes to NADC from the 79th U.S. Army Reserve Command, NAS, Willow Grove where he served as Public Affairs Officer for 2½ years.

Jim Kingston has been in the public relations, advertising, and publishing field for more than 20 years and has held a variety of management positions both with advertising/PR agencies and with corporate public relations staffs. He was also editor and publisher of *FOOD INDUSTRY JOURNAL*, a regional trade newspaper for six years.

While with the Army Reserve Command, Kingston also edited their newspaper, the *SHIELD*, which received several Army journalism/photojournalism awards.

An active, drilling Army Reservist, Kingston is affiliated with the 2072d USAR School in Philadelphia as a Battalion Training Management Systems (BTMS) instructor.

Kingston holds both an associate degree and bachelor's degree from the University of the State of New York where he was recently elected a trustee of the Alumni Association. He also attended Temple University and teaches part-time at the Ambler Campus in the journalism department. At the same time, he is actively pursuing a master's degree in Business Administration from Central Michigan University.

Married for 31 years, Kingston and his wife Mary have two children: Suzanne, a doctor at Northwestern Medical Center in Chicago; and David, a Cadet at the U.S. Military Academy at West Point.

To fill his spare time, Kingston is an Assistant Scoutmaster, NRA Rifle Instructor, PAO of a Civil Air Patrol Squadron, and a free-lance writer.

You'll know when this dyed-in-the-wool PR man is around when you see his car in our parking lot. His license tag says: "PR-MAN".



James S. Kingston

(Photo by Al Shanks)

Forty Years of History (continued)

Continued from page 1.

fourteen months between its move to Johnsville and the surrender of Japan, NAMU modified, repaired or experimented with over 1,370 service aircraft. Under a tight veil of secrecy, NAMU also conducted special weapons work, with such colorful project name as Pelican, Little Joe, Gargoyle, Glomb, and Glimp. NAMU engineers coordinated their activities with the National Defense Research Committee and the Special Weapons Experimental Tactical Test Unit, and combined many elements of modern war technology to develop new guided missiles and drone targets. Experimental glider work was also important, due to Captain Barnaby's experience and interest in the field of gliders.

The physical resources of the Center grew rapidly in the early 1950's. Several new facilities were constructed. The centrifuge was constructed in FY 49 at a cost of \$2.4 million. New Development and test facilities for AEEL, AAL, and EDL were added in FY 51 at a cost of \$2.6 million. Runway expansions in FY 52 and FY 56 cost \$1.7 million and

construction of a Computer facility in FY 53 totaled \$232,000.00.

During the 1950's, NADC operated as a collection of independent laboratories. Many of the laboratories had their own support services, including technical writing staffs and libraries. Relatively independent of Center control, the laboratories or parts thereof developed direct connections with the related technical sections of the Bureau of Aeronautics or in the case of the Aviation Medical Acceleration Laboratory, of the Bureau of Medicine. Future issues of the Reflector will elaborate on the development of the first laboratories at NADC.

NAVAL AIR DEVELOPMENT CENTER

Between the end of the war and the beginning of the 1950's, the Naval Air Modification Unit underwent a series of changes that fragmented its technical effort. The loosely-structured but integrated NAMU was replaced by an autonomous grouping of R&D laboratories, in which control passed from the commanding officer to the laboratories and related sections of the

Bureau of Aeronautics. After the war NAMU concentrated on research and development and no longer performed aircraft "modification." Therefore the Bureau of Aeronautics changed the name from NAMU to the Naval Air Development Station (NADS), under the command of the Fourth Naval District Commandant and the managerial control of the Bureau of Aeronautics. Then, on August 1, 1949, NADS was redesignated the Naval Air Development Center (NADC).

The decentralization of the technical effort of NADS began in December 1947, when the Bureau of Aeronautics designated distinct missions for the Station's three laboratories: Aviation Armament Laboratory, Aeronautical Electronic and Electrical Laboratory, and Pilotless Aircraft Development Laboratory. When the Station's Central Planning Office was disbanded in February 1948, its functions were transferred to the various laboratories and departments. At about the same time the Bureau of Aeronautics moved several Navy R&D laboratories located along the East coast to Johnsville. In June 1948 the Naval Air Material Lab-

oratory in Philadelphia was disbanded and its functions were reassigned to Johnsville. In August the Aeronautical Electrical Section was transferred from the Naval Research Laboratory (NRL) to Johnsville, and in the spring of 1949 the NRL Field Station, Boston, under Dr. Harry Krutter, moved to NADS, as did the Special Project Unit CAST. The mission of NADS was also expanded to include the newly-formed Aviation Medical Acceleration Laboratory.

The personnel profile changed significantly in the 1940's and 1950's. The change from modification to R&D required the retraining of many workers. On August 1, 1947, the full-time professional staff stood at 902, but one year later slipped to 532. Due to an extensive recruiting effort and the transfer of laboratories to NADC, the Center's staff grew to 1002 by June 1949. Johnsville's professional staff increased since a different mix of talents were acquired for R&D. The 1950's saw a slow, steady growth in personnel, and by 1958 the civilian complement was 1670 and the military complement was 470.

New publishing schedule for REFLECTOR

Effective 1 March, the *REFLECTOR* will go in a new publishing schedule. Closing date for copy and other materials for the newspaper will be the 1st of each month (except, of course, when the 1st falls on a weekend or holiday).

The *REFLECTOR* will be delivered for distribution on the third Thursday of each month.

In between the closing date and the delivery date, we have to edit and rewrite copy, send copy and photos to the printer, layout the pages and get it all back to the printer to go to press. In order to accomplish all that and keep on our work schedule as well at the printer's, we will have to adhere very strictly to that 1st of the month closing date.

Electronic funds transfer... (a clarification)

In the January 1984 issue of the *REFLECTOR*, we ran a story on page 6 which discussed the direct deposit of salary checks by use of Electronic Funds Transfer (EFT).

Because we received some calls of concern and maybe even a little confusion, let us try to set the record straight.

First of all, the EFT program is only a proposal, not a law or regulation. It will require more consideration before any action is taken to put it into effect. The program is presently available on a voluntary basis. You may, if you wish, have your paycheck deposited directly to

your account...but you are not required to do so.

Also, to clarify the Credit Union loan rate discount program as discussed in the same article: The Credit Union allows a 3% discount from loans if you have your net paycheck directly deposited to your account—not just the amount of your loan. If you don't wish to have your paycheck deposited, but still want to take advantage of the 3% discount, you may deposit \$1000.00 in your share account for the full term of the loan.

Calling Public Affairs?...

If you're calling Public Affairs, you'll get faster and better service if you make note of these numbers:

Public Affairs Officer — Joe Cody	1032
Editor, REFLECTOR — Jim Kingston	3067
Tours, Field Activities — Jeannie Beans	2290



Volume 28
Number 2
Feb. 1984

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.

Views and opinions expressed in this publication are not necessarily those of the Department of Defense.

It is printed commercially with appropriated funds in accordance with the provision of NAVPUBINST 5600.42 August 1979.

The *REFLECTOR* is a subscriber to the American Forces Press Services.

All correspondence should be addressed to Editor, *REFLECTOR*, Code 091, Naval Air Development Center, Warminster, PA 18974 (441-3067).

Commander, NADC	CAPT James B. Anderson
Technical Director	Robert S. Buffum
Public Affairs Officer	Joseph P. Cody
Editor	James S. Kingston

Gause named deputy EEO officer



Kathleen M. Gause

(Photo by Al Shanks)

Kathleen M. Gause has been selected Deputy Equal Employment Opportunity Officer for NADC. Prior to this appointment, she was a Personnel Classification and Staffing Specialist.

A career government employee, Gause started here at NADC as a GS-3/4 clerk-steno 17 years ago. She rose to the position of Management Assistant before changing over to the personnel upward mobility career ladder.

Gause attended Bucks County Community College and received an associate degree in business administration, then went on to Rider College to get a Bachelor of Science degree in management and organizational be-

havior.

Active in women's and EEO organizations, Gause received the "Outstanding Woman of the Year Award" for 1981-82 while attending Rider College. In addition, she has served as chairperson of the Women's Advisory Committee, Federal Women's Program, NADC, during which time she received a special EEO award. She has been a member of Federally Employed Women (FEW) Buxmont Chapter for five years and received a personal achievement award from that organization.

Gause has three children ages 14, 10 and 1. She is married to NADC Aerospace Engineer, Lee Gause.

EEO committee seeks chairperson

The Center EEO Committee is looking for a candidate to succeed their current chairperson, M. DiPasquo. Minimum qualifications include the ability to interact effectively with all levels of management, employees, and employee groups; the ability to preside over monthly committee meetings; and the ability to administer the committee's advisory functions. Duties are as listed in NADCINST 12713.5.

Please forward any capable nominees via memorandum to the Deputy EEO Officer, K. Gause, Code 0301 not later than 1 March 1984.

Black women in defense of America

Continued from page 1.

aid widows of soldiers killed in the war, to care for refugees and to reunite families separated by the war.

Over 180,000 black men served in the Union Army and black women provided their sole support in addition to working in the more publicized efforts which aided white troops.

One prominent black woman during the Civil War period was **Harriet Tubman**, who was born a slave in 1823. In the late 1840s, she escaped alone to Delaware and Philadelphia where she worked during the next 10 years as a "conductor" in the Underground Railroad. She made approximately 19 trips into the South and led nearly 300 slaves to freedom in the North and Canada.

World War I (1914-1918)

From 1901 to 1917, when the buildup for World War I began, the Army Nurse Corps remained small. Nurses were generally restricted to large permanent hospitals. The American Red Cross remained the largest employer of nurses for disaster relief and other emergency services. Nurses enrolled in the Red Cross also constituted a reserve for the Army Nurse Corps.

Throughout this period, there was still a limited number of black nurses. In 1909, the National Association of Colored Graduate Nurses (NACGN) was founded to work for professional recognition of black nurses and to improve the entry and training of black nursing students into nursing schools throughout the country.

In September, 1918, two months before the signing of the Armistice, the Army accepted black women into its Nurse Corps for the first time.

World War II (1941-1945)

World War II provided the first opportunity for significant numbers of black women to serve in the military.

On May 14, 1942, President Roosevelt signed Public Law 554 creating the Women's Army Auxiliary Corps (WAAC). In planning for the WAAC, the War Department announced to Congress that it would accept black WAAC officers and enlisted members up to 10% of the Corps; a figure similarly used for black men in the military.

Of the first class of 440 WAAC officer candidates, 40 were black. Blacks constituted approximately six percent of the total WAAC strength in the period 1943-1946. The Navy did not accept

black women into its women's auxiliary, the WAVES, until 1945, when it took only 72 black enlisted women and two black officers.

In addition to service in the Women's Army Corps, black women served in the Nurse Corps in each of the military services. By 1943 there were 160 black nurses commissioned in the Army and as late as mid-1944 they were employed in hospitals at four Army Stations. In July, 1944, the Army announced that it would accept black nurses without regard to numbers.

Post-World War II

In June 1948, Congress passed the Women's Armed Forces Integration Act which gave to all military women permanent status in the regular and reserve components. Service for women, however, remained voluntary as they were not subject to the draft.

Almost one-third of all military women during the Korean Conflict were nurses. Black women served in both the Nurse Corps and Medical Services Corps of each service, but in limited numbers.

With the outbreak of the Vietnam War in 1965, increased numbers of women volunteered for duty. In 1967

the 2 percent ceiling was lifted and more military specialties were opened to women.

During the 1970s, the first women were appointed to general officer positions. In September 1979, **Hazel Winifred Johnson** became the first black woman general officer.

Black Women in the '70s & 80's.

When all the volunteer force was created in the 1970s, additional career fields were opened to women so that approximately 90 percent of all military occupational specifications could be filled by women. Movement of women into these nontraditional jobs was enhanced by the disestablishment of the WAC in April 1978. This reflected the continuing integration of women into military activities and gave them a broader role in the national defense effort.

Throughout American history, black women have served this country with pride, valor and distinction. Often unheralded and with many difficulties to overcome, they rightfully take place with the men and women of other races who, together, make up America's Armed Forces.

BLACK History Month February 1984

February has been designated as Black History Month. Numerous celebrations are published in the daily newspapers. We have listed just a few.

AFRO-AMERICAN ACTIVITIES

Afro-American Historical & Cultural Museum—7th & Arch Streets, 574-0380

Library Company of Philadelphia, 1314 Locust Street, 546-3181

Rare Afro-Americana—an exhibit of 100 books, pamphlets, and prints covering Blacks in Africa, West Indies and the United States.

Feb. 12—1:00 p.m. Story Hour of Black American Tales.

Feb. 26—1:30 p.m. Film "Ashes and Embers" a film relating the struggles of a Black Vietnam veteran.

The Hahn Gallery—8439 Germantown Avenue, 247-8439

Feb. 9-29—Special exhibit of the work of James Van Der Zee, the self-taught internationally known, Black photographer.

Central Library—19th & Vine—Main Gallery—Great Black Americans—an exhibit of original portraits and narrative story panels of over 45 outstanding Black men and women in American History.

Hahnemann University Hospital—Blacks in Medicine—an exhibit highlighting the contributions of Blacks to medicine, focusing on Philadelphians and Hahnemann graduates.

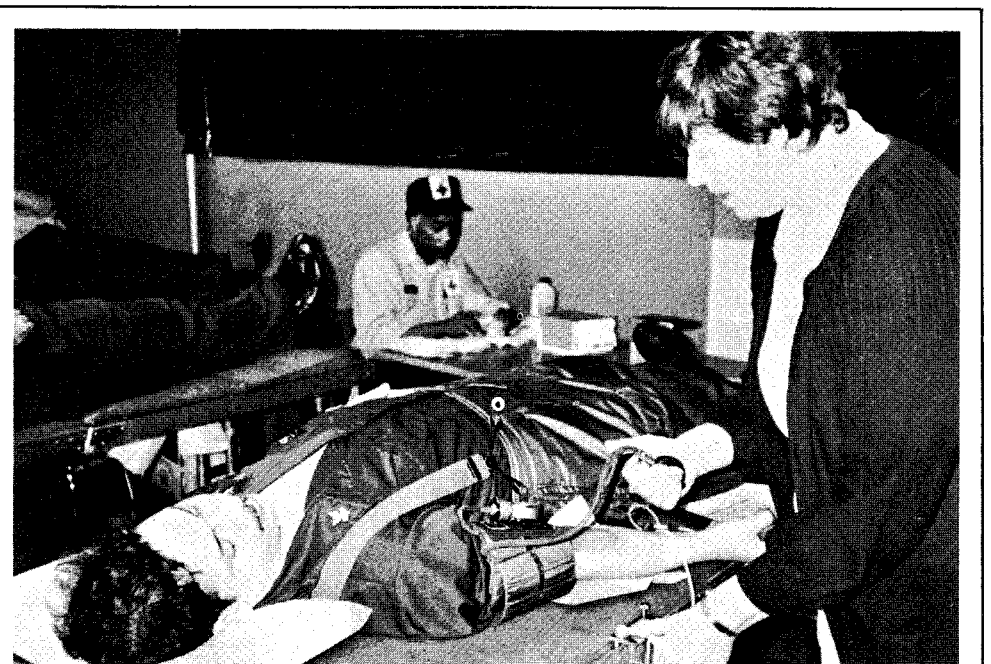
University Museum, 33rd & Spruce Sts., 222-7777.

Arthur Hall Afro-American Dance Ensemble

EEO to hold awards luncheon

Each year awards for achievement in EEO are presented to recipients who have demonstrated superior accomplishments in fostering EEO.

This year the awards will be presented at a luncheon to be held on 15 March 1984 in the NADC Executive Dining Room. The guest speakers will be Doris Gottlieb and Frank Wells, Jr., from PRIME (Philadelphia Regional Introduction for Minorities to Engineering) a program in which NAVAIR-DEVCON is participating.



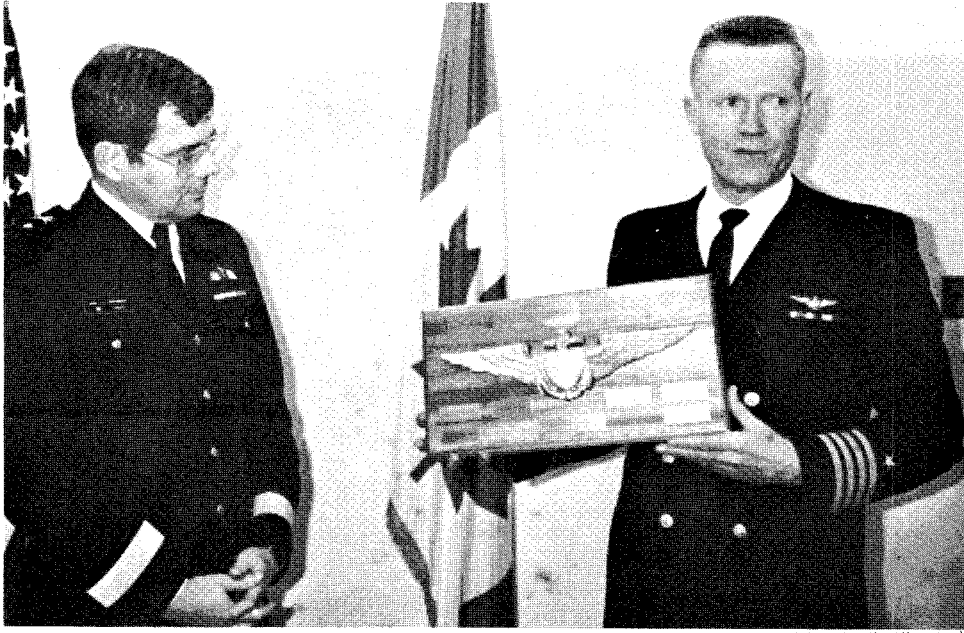
(Photo by Jim Kingston)

AMS2 William Reese of Airframes prepares to give the gift of life—a pint of his blood—with the assistance of Red Cross nurse Frannie Brown.

Red Cross Bloodmobile gets 175 donors

Center personnel turned out in response to another Red Cross Bloodmobile drive held here on Wednesday, 1 February. A total of 175 donors took advantage of the opportunity to help themselves and their fellow employees by contributing a little time and one

pint of blood. Blood drives are conducted at the center three times a year and much assistance and support is given by the Navy Wives Club. The next date for the Bloodmobile to be here is 6 June.



(Photo by Jim Kingston)

Canadian Air Attache visits

Brigadier General Jean Veronneau, Canadian Air Attache receives a plaque from NADC commander, CAPT James B. Anderson. General Veronneau's visit was part of the Canadian Forces aerospace systems course tour here.



CAPT Tom Schneider renders the hand salute and the traditional "Sir, I relieve you." to his predecessor as he takes command of NADC Warminster 0193.

NAVAL AIR DEVELOPMENT CENTER WELFARE AND RECREATION ASSOCIATION

SPRING INTO SUMMER, 1984

LONGWOOD GARDENS - SATURDAY, MAY 5th Spend a delightful day in the beautiful gardens at Longwood and tour Philips Mushroom Place and Museum. Dinner is included at Longwood Inn. \$30 includes transportation, admission and dinner. Call Mary on X3016

WALT DISNEY WORLD/EPCOT CENTER - THURSDAY, MAY 24th thru MONDAY, MAY 28th This five-day vacation includes airfare on a regularly scheduled airline, four nights hotel accommodations at the brand new Kon-Tiki Hotel which is one mile from the entrance to Walt Disney World, rental car for your entire stay, Polynesian Luau and show at your hotel, hotel taxes, tip and tax at Luau. \$358 per person dbl occupancy, \$332 trpl occupancy. Up to two children under 12 years of age sharing a room with two adults, pay only \$149. Children over 12 through 17, \$215. The Kon-Tiki Hotel has a huge game room with all the latest electronic games, a large pool, the Aloha Lounge. Call Ida on X2451.

SMITHSONIAN INSTITUTION - SATURDAY, JUNE 9th By popular request, we're going to do this again. Enjoy the various museums of the Smithsonian complex, then relax with a delightful dinner at Hogates. \$29 Call Mary on X3016.

DORNEY PARK - SATURDAY, 14 JULY Our annual NAVAIRDEVCON picnic will be held on the above date. Tickets will be sold at the Credit Union Office at a later date to be announced in the Daily Log.

MONTREAL/QUEBEC - SIX DAYS, FRIDAY, AUGUST 24th thru WEDNESDAY, AUGUST 29th Includes two breakfasts, two dinners, two guided tours of Montreal and Quebec. \$365 dbl occupancy, \$340 trpl, \$320 quad. For further information on the itinerary and for reservations call Ida on X2451.

Welcome Aboard! to these new employees

Name	Position
Timothy J. Armstrong	Construction Inspector
Sing Cheung Chow	Computer Scientist
Thomas F. Giampa	Computer Scientist
Martha J. Harazim	Supply Clerk
John Harrison	Electronic Engineer
James S. Kingston	Public Affairs Specialist
Miriam E. Lentz	Clerk-Typist
Dorothy Littley	Management Assistant
Richard P. Micklos	Aerospace Engineer
Tracy Mosley	Procurement Clerk
Annamary McCann	Mathematician
Joan M. Reimel	Clerk-Typist
Samir K. Sarkar	Electronics Engineer
Ralph Seckel	Operations Research Analyst
Sandra E. Schwartz	Procurement Clerk
Irene Simmons	Computer Scientist
Steven J. Thoman	Mechanical Engineer
David E. Torr	Communications Equip. Operator
Maryanne B. Walsh	Personnel Staff & Class Specialist
Patricia C. Wenclawiak	Clerk-Typist
Elsie M. Worobe	Clerk-Typist

Schneider takes command of NADC Warminster 0193

Captain Tom Schneider assumed command of NADC Warminster 0193 from Captain Harry Cannon during a change of command ceremony at the Naval Air Development Center on October 15, 1983. Schneider praised Cannon's "outstanding leadership" and spoke of 0193's new direction of providing technical management to Naval Air Systems Command projects.

Captain Schneider served seven years on active duty prior to affiliating with the Naval Reserve at NAS Willow Grove. He served in both VP and VR squadrons before joining the Naval Air Systems Command Reserve Program. His active duty for training (ACTDUTRA) periods have included engineering and technical management assignments with NAVAIRSYSCOM and CNAVMAT in Washington, D.C.,

NARF, Norfolk, Va., and NADC Warminster. His extensive background as Aeronautical Engineering Duty Officer in the Air Systems Program includes previous leadership roles as Commanding Officer of WEPSYS 0293 and VTU 0493.

NADC Warminster 0193 is an Air Systems Program reserve unit whose primary mission is to provide the Naval Air Development Center with trained select reserve personnel who, in the event of mobilization, will be immediately ready to augment the Center's normal work force and function in their assigned billets. In addition, the unit works on a multitude of diverse projects for NAVAIR, OPNAV, and other DOD organizations who can use the technical expertise provided by NADC 0193.



(Photo by Jim Kingston)

Science students tour laser lab

Mike Rankin of the Laser Lab points out the unique properties of lasers to a group of science students from the Bucks County Intermediate Unit.

Commander Salutes

Name	Dept.	For	Name	Dept.	For
John H. Price	Sensors & Avionics	Fine support rendered to 91st Tactical Reconnaissance Squadron during operation URGENT FURY.		Various departments and directorates	NAVAIR VMX EVALUATORS Technical Feasibility & Risk
Steven T. McComas	Software & Computer	Excellent support to NAVAIR S-3 Program Office during NSTEP assignment.	J. Cyrus		Propulsion
Thomas E. Willey	Planning Assessment Resources	Excellent support provided to Director of Naval Labs in long range R&D planning.	S. Filarsky		Crew Station Design
Richard DeFrancesco	Software & Computer	Commendable dedication and service in support of the AQH-4 modification program.	M. Herskovitz		Mission Performance/Weights
Jack Hirsh	Software & Computer	Dedicated support of AQH-4 tape recorder modification program.	G. Holmes		Crew Station Design
Robert F. Swierczynski	PAR	Outstanding support to Director of Navy Labs in long range planning for R&D Centers.	R.S. Mejzak		Processing Architecture
Paul M. Moser	Sensor & Avionics	Outstanding contribution to the Technical Cooperation Program, Subgroup J, Technical Panel 5 on Assisted Vision.	T. Milhous		Armament Systems
Frederick A. Barker	Systems	Outstanding support of the Aerial Tanker Study provided to OP-05.	K. Miller		Escape Systems
Ted Kopp	Command Projects	Outstanding support to the Fleet as Project Engineer.	W.T. Miller		Systems Engineering
Ralph Collins, John Mikulich, Curry Colket, Joe Sabatini, Alden Dupont, Jim Davis, Al Canavo, AWCS C.T. Kaiser, AWC C. Moss	Software & Computer	Outstanding support to the Fleet Software Support Project — P-3C.	R. Nave		Flying Qualities/Carrier Suitability
			P. Savaitz	Various departments and directorates	Reliability and Maintainability
			E.G. Smith		Comm/Nav/Indent.
			J.P. Triolo		Electrical Power
			J. Columbo		
					Evaluation Support
			R. Belliveau		Mission Effectiveness
			G. Catrambone		Radar
			K. Foulke		Survivability/Vulnerability
			D. Gordon		Avionics
			J. McGlynn		Avionics
			A. Piranian		Flight Controls
			A. Scotese		Structures
			G. Seidel		Structures

Civilian employees PCS moves entitlement changed

Changes are in the works for regulations governing relocation expenses for federal civilian employees. But because amending the actual regulations takes time, civilian employees executing permanent change of station moves should take special steps to retain moving expense receipts for the next few months.

The Continuing Appropriations Act passed in November 1983 included the following amendments to the statutory authority for reimbursement of civilian employee relocation expense:

- Increased the household goods weight limitation to 18,000 pounds; however, this allowance will be limited to 13,500 pounds for Department of Defense employees because of a Defense Appropriations Act provision.

- Temporary quarters subsistence expense allowance time increased to an automatic 60 days with an additional 60 days possible.

- Increased the reimbursement limit for sale of a house to 10 percent of the sale price or \$15,000, whichever is less, and increased the reimbursement for purchase of a house to 5 percent of the purchase price or \$7,500, whichever is less. Beginning Oct. 1 of each year, re-

imbursements for the sale or purchase of a house will increase by the percentage of the consumer price index.

- Eliminated the 20 cents a mile mobile home allowance limit.

- Provided for reimbursement to employees who are taxed on relocation reimbursements.

- Provided that agencies may contract with private relocation companies for service.

While these new provisions were effective on the date of the enactment—Nov. 14, 1983—the Department of Defense cannot implement the changes until the General Services Administration amends Federal Travel Regulations. Government civilians won't lose any money on the delay, though.

Civilian employees executing PCS moves should retain copies of all moving expense receipts. Once the regulations are implemented by GSA, employees can then file supplemental claims for the expense covered by the regulation change. In the interim, Joint Travel Regulations, volume 2 entitlements should continue to be used until further advice is received concerning the new provisions.

Looking for an honest man?

Look no farther than Richard Chambers of Reliability & Maintainability Branch who recently found \$100 in an NADC phone booth. A dime or quarter in the coin return slot may be one thing when deciding to pocket lost change, but a hundred bucks is something else.

Chambers decided to try to find the rightful owner. He left a cryptically-

worded note which only the loser would be able to understand.

Denise Beck from Supply understood it. She had returned in somewhat of a panic to look for her lost \$100 in the phone booth and found Chambers' note.

Beck found her honest man...and her money.



(Photo by Al Shanks)

Poster contest winners chosen

Winners in the NADC annual Christmas poster contest held for the benefit of the orphans of Bethanna and Christ Homes proudly show their entries. Barbara Kempf and Lucy Green, Code 60, took third place; Susan Casagrand, Code 90, was the first place winner; and Norma Mittauer, Code 044, was second.

The NADC RECIPE REVIEW

Cheeseburger Pie

This month's recipe is provided by Claire W. Bayer, (504M, X3184), who will receive a \$50 Bond from the Food Service Board. The recipe will also be served in the NADC cafeteria. Submit your recipes to Mr. Robert Green, Cafeteria Manager. One winner will be selected each month.

1 pound ground beef	1 cup milk
4 ounces Sharp cheddar, grated	2 eggs
diced onion	½ cup Bisquick
oregano	9 in. pie pan

Brown ground beef with diced onion and oregano.

Drain off excess grease and fluids.

Spread drained beef on bottom of pie pan.

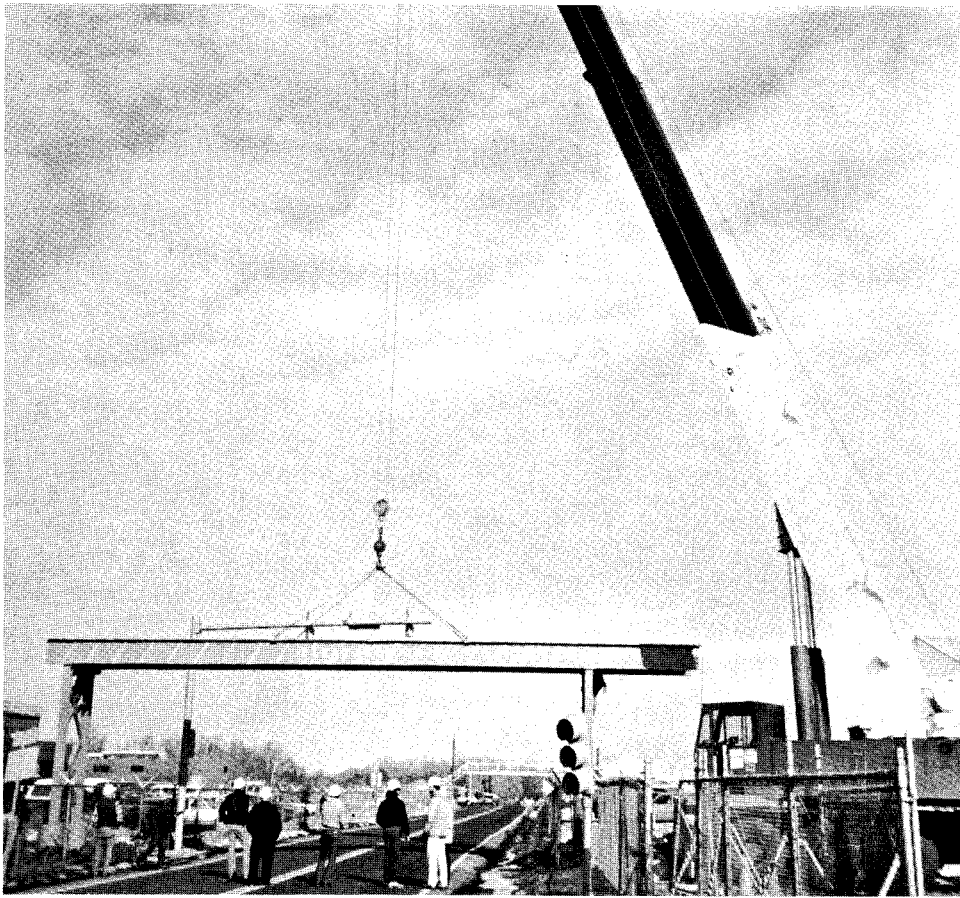
Sprinkle grated cheddar over beef.

Next, mix 1 cup of milk, 2 eggs, and ½ cup of Bisquick and pour mixture over beef and cheese.

Place in pre-heated 350° oven and bake for ½ hour.

LOOK FOR THIS RECIPE TO BE SERVED IN THE NADC CAFETERIA

— Cut here for file card —



A bridge over troubled...traffic

A second pedestrian bridge has been put in place over Jacksonville Road at Gate 30. This affords Center personnel an additional safe cross-over on this heavily trafficked road. The other pedestrian bridge is located near Gate 12.

Not only does this new bridge serve the interests of employees, but those motorists as well who use Jacksonville

Road. With this second bridge in place, there will be fewer interruptions of vehicular traffic.

On Wednesday, 25 January, traffic was detoured for several hours while the bridge deck was put in place and secured. The township had been given advance notice as had police, fire, ambulance and school authorities.

Technical Highlights

NEW CLEANING COMPOUNDS FOR CAMOUFLAGED AIRCRAFT:

Most Navy squadrons of tactical aircraft have encountered serious cleaning problems on aircraft which have been converted to the new camouflage tactical paint scheme (TPS). While bootmarks, smudges and grimy soils are relatively easy to remove from glossy paints, the new TPS coatings are dull, flat finishes which often cannot be cleaned with even the best heavy-duty solvent emulsion cleaners. NADC has found that when powdered rubber is added to thixotropic cleaning compounds, the rubber particles behave like tiny erasers and virtually eliminate ground-in dirt. This process would eliminate the need for abrasive cleaners which polish the TPS coating and reduce its camouflage effect. During recent field tests at NAS, Oceana, two products formulated using the rubber particle concept, performed successfully when used as spot cleaners on previously "uncleanable" areas.

F/A-18(R) PROTOTYPE PALLET COMPLETE:

The Naval Air Development Center has completed fabrication of the prototype F/A-18(R) reconnaissance pallet including the physical and electrical integration of the photographic sensors. The integrated system will be capable of modularly replacing the nose-mounted gun installation to provide advanced reconnaissance capabilities on any F/A-18 aircraft. The system is now available for flight testing.

GRAPHITE/BISMALEMIDE COMPOSITE FUSELAGE STRUCTURAL DEVELOPMENT PROGRAM:

Fabrication of a graphite/bismaleimide composite material fuselage section has been successfully completed. The section, constructed with stringers, "J" section frames, skin and a reinforced access-door cut-out was integrally molded in a single cure process. Graphite/bismaleimide fuselage structures which are capable of withstanding hot and wet operating environments are needed for future naval VA/VF aircraft.

OCEANOGRAPHIC SYSTEMS PROGRAM:

The integration and dockside and at sea techeval/opeval of the FY 83 oceanographic systems program (OSP) system configuration update were successfully completed aboard the USNS BOWDITCH. This OSP system update consists of major changes to the velocity data processing hardware and software as well as the integration of a new doppler sonar velocity system. In addition, the update includes the integration of an automated track keeping system will permit the ship to maintain a constant track by automatically correcting ship's heading. This new configuration represents a significant improvement in OSP system operation, performance, and reliability.

Super Safety offers sniffing, sneezing, coughing, aching tips

by Mike Masington

Bronk Kitus, former player-coach of the U.S. Olympic Snowman Building Team, and gold medalist in the 50-meter, light heavyweight, freestyle, obscene snow sculpture competition, was suffering from a severe head cold. With the defense of his Olympic title only a few days away, Bronk knew he had to find a sniffing, sneezing, coughing, aching, stuffy-head-so-he-could-rest-medicine. With this in mind he stopped off at the local drugstore and bought some aspirin. He also purchased seven brands of cold tablets, two types of time-release capsules, three bottles of cough syrup, five boxes of throat lozengers, and fourteen packs of cough drops in assorted flavors including asparagus ripple and cauliflower fudge.

Dragging his bulging bag of balms, Kitus decided to stop at the local state store, and pick up a bottle of spirits to speed his recuperation. As he was paying for his pineapple brandy, the congested Kitus bumped into his old friend, that master of self-administered medication, Super Safety. Super (who had taken a moment off from his constant vigilance to pick up a bottle of Old Mulenose which he planned to sip later while contemplating the centerfold from Occupational Hazards Magazine) addressed the ailing athlete.

"Bronk, how have you been?" asked our hero. "Oh, not so hot, Super," croaked the chronically coughing Kitus. "My event comes up in a week, and I've got this lousy cold. As you know, you've got to be in perfect shape to build an olympic-quality obscene snow sculpture, so I've got to get better."

"What are you taking for it?" queried the scion of safety. "These," Bronk responded as he opened his bag. Super nearly contracted a critical coronary as he counted the cold-curing cornucopia.

"You're planning to take all those?" he asked in disbelief. "Sure," answered the overdosed Olympian, "I figure these should kill this cold in no time."

"That's not all they'll kill, Bronk," countered his concerned companion. "Just because they're sold without a prescription doesn't mean that cold remedies can't be dangerous. They should never be taken in combination or in excessive amounts. Read and follow the directions on the package carefully, and if you experience any serious side effects, stop using them immediately. If your symptoms continue for several days, see your doctor. Also, sometimes cold remedies will cover up the signs of a more serious illness, so be careful. Finally," he said eyeing Bronk's brandy bottle, "never consume any kind of alcohol while using cold medications. Mixing the two can lead to serious complications and even death."

Well, the rest is history now. Bronk followed Super's advice and safely recovered from his cold. As you are probably aware, he went on to the Olympics and in spite of stiff competition from Russia's Ivan Pornogrovich, again captured first place in the 50 meter, light heavyweight, freestyle, obscene snow sculpture event. In fact his entry was so outstanding that not only did he win the gold medal, but he was also arrested by the Yugoslavian police for attempting to corrupt the morals of a nation and excessively lewd use of snow without sufficient redeeming social value.

Security Reminders

Transmission of SECRET

The most frequently asked question about transmission of Secret material is, "How can we get it from here to there overnight?" One thing for sure is that you cannot use any of those well-advertised overnight carriers. They are *not* "qualified carriers authorized to transport Secret material via a Protective Security Service (PSS) under the Defense Industrial Security Program" (to quote paragraph 12-102 of the Security Manual). Federal Express used to be in the program but is no longer.

U.S. Postal Service Express Mail is not the same as Registered Mail, so you

can't use that service. (Besides, you cannot use Express Mail unless you get permission from the Office of the Chief of Naval Operations or Commandant of the Marine Corps.)

So, the answer to the question is, when it absolutely positively has to get there overnight, you'll probably have to take it there yourself.

When we got the above information from Military Traffic Management Command, we also found out it has two area commands — Eastern in Bayonne, NJ and Western in Oakland, CA. Each maintains the list of carriers qualified to transport classified material. You should call the command serving your area when you need routing information for classified shipments.

Center promoted 36 in January

Bilal A. Alam, Rose Mary Alexander, James D. Betlyon, Michael D. Blankenship, Richard H. Clapp, Lisa J. Cowles, Lorraine A. Dalrymple, John G. Eschuk, David G. Fenton, Philip C. Franco, Kathleen M. Gause, Campbell Henderson, Deana K. Hudson, Robert E. Imbrogno, Matthew J. Lamb, Charles E. Mayers, Jr., Dean S. Mondelellat, Carla J. Murphy, Paul P.

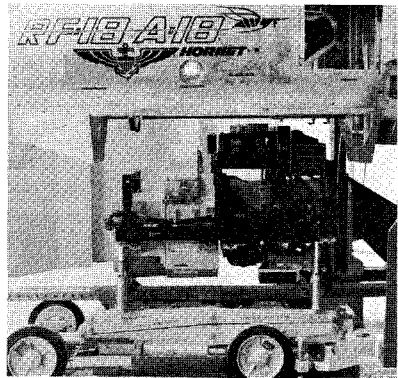
McGee, Jr., William O. Nuss, Gerald J. O'Hara, Scott D. Perry, Timothy A. Pletcher, Michael R. Poli, John M. Popek, Vera C. Robbins, Michael Schneckner, Edward J. Seibert, Lester C. Smith, Jr., Patrick M. Sweeney, John J. Toner, Ronald E. Trabocco, Margaret S. Vigelis, Barbara A. Ward, Fredrick C. Weist, William R. Winkeler.



Reflector

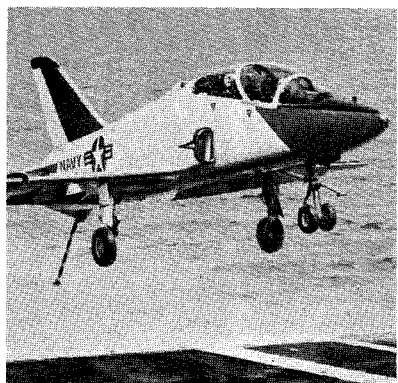
Naval Air Development Center, Warminster, PA
1944 • "Building Naval Aviation's Future for 40 Years" • 1984

Volume 28
Number 3
March 1984



Hornets Nest

Page 2.



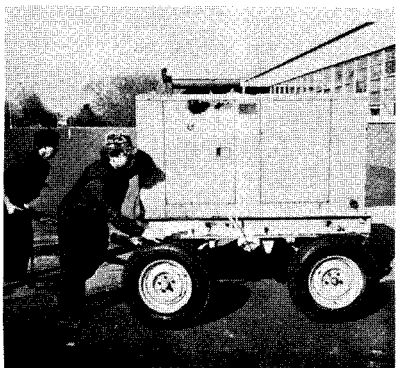
Hawk to perch

Page 3.



Pair of snippers

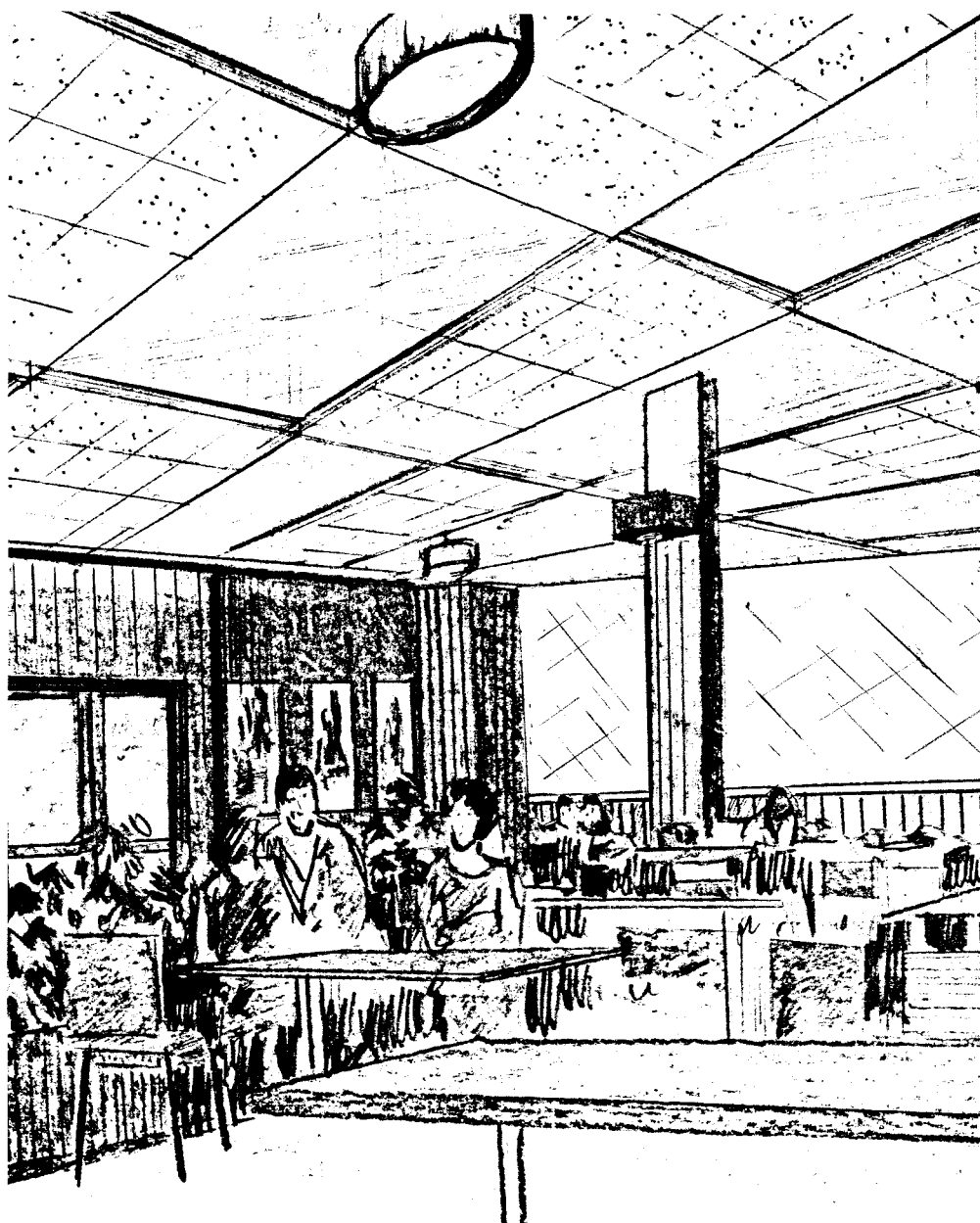
Page 4.



Power to the people

Page 4.

Cafeteria gets major face-lift



Architect's rendering of the finished product of the major renovation now under way in the NADC cafeteria.

Cafeteria cashiers were asked the same question countless times on 15 February: "What are they doing to the cafeteria?" Patrons asked this question as they saw plywood walls being erected and more than half the cafeteria seating area disappear.

Well, what's happening is a renovation that will last up to seven months and bring about some surprising and very pleasant changes. What will emerge from all the hammering, sawing, and other construction sights and sounds will be a comfortably air-conditioned cafeteria. Not only air-conditioned, but with a new lowered ceiling, new lighting, attractively panelled walls, and a cushion-tone tiled floor.

The net result of these changes will be not only a comfortable, attractive atmosphere but a more wholesome, clean, and healthful one besides. The installation of air-conditioning will do away with noisy fans which also blew things around and kicked up dust and debris. The ceiling, walls and floors will absorb or otherwise lessen the noise levels from people and equipment. New lighting will improve the overall ambience and make it easier to read your newspaper, the REFLECTOR, or that report that's due right after lunch.

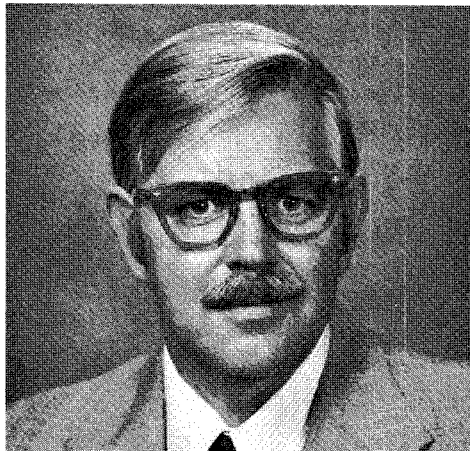
But ... as the TV commercials say ... that's not all! You'll also be getting a new lobby entrance especially equipped with an automatic treadle sliding door to accommodate handicapped patrons. Topping off the new entrance will be a sign announcing that you're now entering the "NADC Cafeteria." The sign will resemble that currently seen over the credit union.

Another added attraction will be greenery in the form of live plants throughout the dining area as well as hanging plants over the cashier stations.

According to the Food Service Board, these changes will greatly improve the quality of your dining atmosphere, reduce the noise level, and contribute to your enjoyment of the already fine quality food and food service being provided by Bob Green and his staff.

The board notes that because this construction is Center-funded, no food service funds are being diverted to this purpose. In addition, the board expects that these improved dining conditions will not only contribute to maintaining the current level of support, but should also attract many new patrons. It's your continued and growing support that

Continued on page 4.



Two new directorate appointments

As the REFLECTOR goes to press, two appointments to directorates have taken place. Robert Becker (left), presently director of PAR, has been named director of Aircraft & Crew Systems Technology, replacing Dino Mancinelli, who will retire in May. Jerry Guarini (right), currently head of Advanced Weapons Systems and the Center Design Team, will become Director of PAR, replacing Becker. Details in the April issue.

DEPARTMENT OF THE NAVY

NAVAL AIR DEVELOPMENT CENTER
WARMINSTER, PENNSYLVANIA 18974

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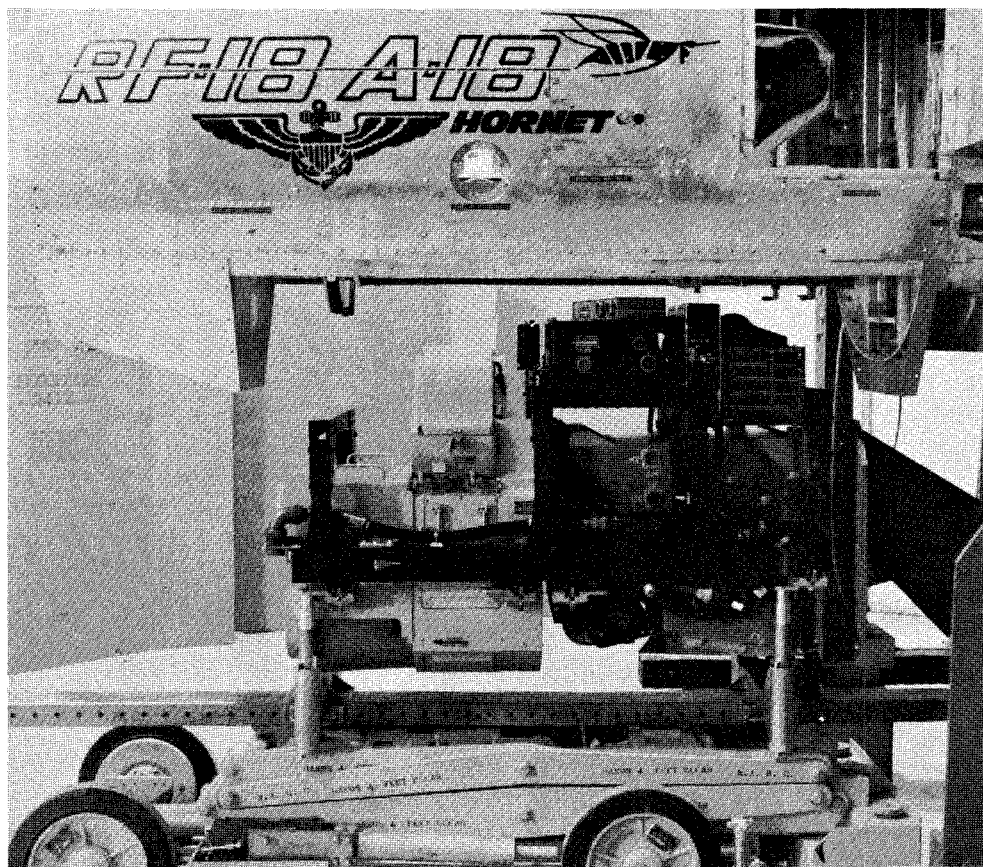


FIRST CLASS

J. BARTON

3021

F/A-18 reconnaissance pallet developed here



Prototype F/A-18 reconnaissance pallet rests on its ground handling dolly in the laboratory. It is in position under a mock-up of an F/A-18 nose section where it will replace the main gun for reconnaissance capability.

As we reported briefly in last month's "Technical Highlights," NADC completed the prototype of a reconnaissance pallet for the F/A-18. The prototype has already been shipped out to McDonnell Aircraft who will modify an F/A-18 aircraft to accept the package.

The need for such a reconnaissance version of the F/A-18 arose from the limitations of current aircraft. Existing reconnaissance planes must fly directly over the target—unarmed—in order to get required coverage. This, of course, leaves the aircraft open to anti-aircraft ground fire. The alternatives are to fly higher and/or take pictures from a stand-off range (an angle). In addition, a need exists to be able to carry out recon missions both day and night, and in all kinds of weather. The F-14—the current recon aircraft—cannot do all these things. Utilizing the new NADC-developed pallet, the F/A-18(R) plans to be all these things rolled up in one.

The F/A-18 was selected to perform this multiple role rather than the F-14, because the F-14's primary mission is air defense, not reconnaissance. This move will allow the F-14's to resume that mission. In addition, the F/A-18 will serve both the Navy and Marines,

thus giving the recon capability to both services in one aircraft.

NADC designed and fabricated the prototype, including integration of the electronics, photographic and electro-optical sensors. This integrated system is able to modularly replace the main nose-mounted gun giving advanced reconnaissance capabilities to any F/A-18 aircraft. NADC and NAEC jointly developed the ground-handling equipment required to load and unload the pallet.

The next phase is for McDonnell Aircraft Company to perform the integration of the NADC-delivered pallet and sensors into the F/A-18 airframe, that is, to provision the aircraft to accept the pallet. The schedule calls for the system to be available for flight testing late in FY-84.

The flight testing will complete an initial phase in the overall development of this system and will officially make the F/A-18 a reconnaissance aircraft. Its designation will be F/A-18(R).

The next goal will be to increase the capability of the aircraft to a highly-survivable, all-weather, real-time reconnaissance system.

(JK)

Super Safety proposes practices to prevent poisonings

by Mike Masington

Leo Lindane, winner of the North Bayonne Boy George look-alike contest and man voted most likely to have all the wrong stuff, planned to tackle some minor chores at home on his day off. He decided to start by refinishing that gorgeous, genuine antique, Louis XIV, hand-carved potty chair he had picked up for only \$874.95 at the Cosa Nostra Auction Gallery. (Although the chair was constructed of flake board and labelled "Made in Bangladesh," Nunzio, the chief auctioneer, had assured him that both it and the .357 magnum he was wearing were, in fact, authentic.) The crafty craftsman began the project in his tiny, laundryroom workshop by applying a thick coating of commercial paint stripper to remove the old finish. As he waited for the stripper to do its work, he poured the stain he planned to use (Mangy Squirrel Walnut, Shade #27) into an old Dr. Pepper bottle so it would be easier to work with.

Before long, the woozy workman realized that either the stripper vapors

had given him a severe migraine, or the entire 2nd Armored Division was holding maneuvers in his head. Finally, the hurting handyman fled in search of an aspirin to relieve his throbbing head. The huge family medicine cabinet looked like a mismanaged Merck, Sharp & Dohme garage sale, so Leo spent 15 minutes rummaging through prescriptions from 1953, old containers of Banish and Straino, and bottle after bottle of strange looking pills of dubious parentage before he found the aspirin.

At this point the phone rang and the harried homeowner hurried off to answer the call, leaving the chemical collection on the bathroom sink. As luck would have it, a few minutes later Leo's rambunctious three-year-old, Linus, wandered in and was immediately attracted to the prodigious pile of pills. Just as he began to munch on a can of Dr. Faschnatt's Hoof & Mouth Powder, the potentially perilous predicament was precluded by the providential personal appearance of that peerless proponent of poison prevention, Super Safety.

"Leo!" he screamed as he yanked the lethal can from the terrified toddler's teeth. Linus' perplexed parent ran into the room and was confronted by the hooded hazard hater. "Leo," he began, "don't you realize that little kids will eat or drink practically anything? Things like drugs and cleaning products should always be kept in child-proof containers and located well out of reach. Also, over age medicines or any chemicals you no longer need should be properly discarded on a regular basis. In addition, never keep unlabeled containers around or transfer chemicals into a container that may be easily misidentified."

"Finally," concluded the caped crusader, "Anytime you're working with paint strippers, thinners or solvents be sure you have sufficient ventilation. That headache you had was just an early warning sign of a more

serious problem. You also have to remember that this kind of work must be done away from such ignition sources as furnace units and hot water heaters. Otherwise, you may suddenly find yourself located in Newark, Cincinnati and Terre Haute... simultaneously!"

The now repentant repairman turned and said, "Gosh, Super, I never realized how dangerous this is. I promise to get rid of all this junk and store the rest properly, and I'll finish my furniture stripping out in the fresh air."

Super glanced quickly at the workbench and noticed that the stripper had not only removed the finish, but had very effectively reduced the "antique" to a molten, brown blob vaguely resembling eight day old chocolate pudding. "Ah, Leo," he began, "I don't think there's any rush to finish that chair today."

REFLECTOR seeks stringers

What's a *stringer*? It could be someone who strings you along! In journalism (in newspaper talk), a stringer is a part-time correspondent covering a local area for a newspaper.

Since we, in PAO, can't be everywhere and know everything that's going on on Center, we can use your

help. If you can string a sentence together, maybe you can string for us. It's a good opportunity to get coverage for your directorate, division, branch or whatever subdivision you represent... both military and civilian.

If you're interested, call Jim Kingston, X3067.

Technical Highlights

S-3 Program Improves Navigation Capability

The S-3 Program delivered new software for testing which corrects the plotting of latitude and longitude coordinates as positions on the TACCO display. The software solves a fleet problem which has impeded the full use of the Geographic Navigation display since the delivery of the S-3A aircraft. The problem, which required modification of the basic display coordinate system, was most evident when entering positions in the high latitudes or in simulation.

Techeval of Inertial Navigation System with Embedded Processor Initiated.

The Electrically Suspended Gyro Navigator (ESGN), developed by NAVAIRDEVCCEN, has been installed

aboard the USS SALT LAKE CITY, SSN 716 and the TECHEVAL phase has been initiated. The ESGN, AN/WSN-3A(V)2, developed for the Navy's attack submarine (SSN) fleet, is a dual channel inertial navigation system which was designed to operate independently of an external shipboard computer system.

Laser Protective Spectacles

Approximately 195 pairs of Laser Protective Spectacles adapted for Navy use by NAVAIRDEVCCEN Vision Laboratory were shipped to various Navy and Marine Corps activities and directly to the Fleet. These spectacles are used by aircrews for protection against damage which might result from exposure to the neodymium laser and represent the initial Fleet distribution of these protective spectacles.



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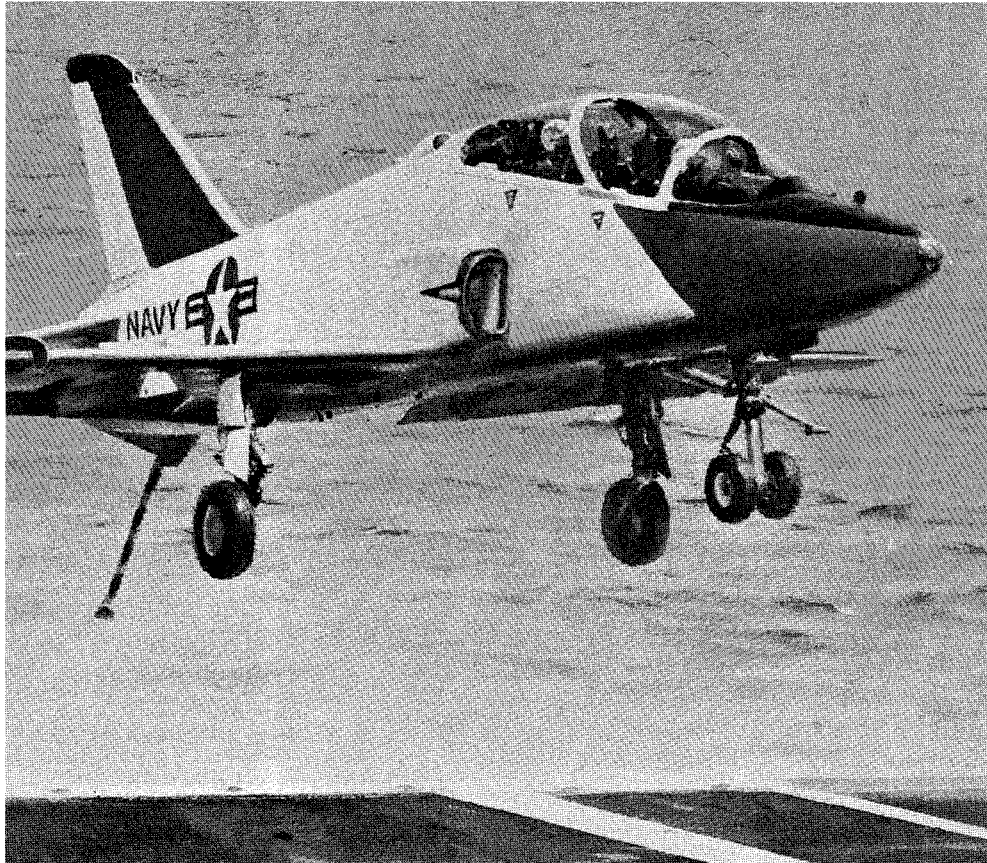
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Commander, NADC CAPT James B. Anderson
Technical Director Robert S. Buffum
Public Affairs Officer Joseph P. Cody
Editor James S. Kingston



The Navy's newest aviation trainer - McDonnell Douglas' T-45 TS "Hawk" makes a carrier landing. A full-scale mock up will be at the Center for one-day.

"Hawk" to perch here for 1-day stay

It looks like the real thing ... but it's actually a full scale fiberglass mock up of the Navy's newest aviation trainer—the McDonnell Douglas T-45 TS Hawk.

The Hawk mock-up will be on display for one day only, Monday, 2 April 1984 in Hangar Bay #1, Building 2 from 0800 to 1600. The full-scale engineering model is complete with virtually every feature except the ability to fly. Accompanying the model are a series of display panels showing the many features

of this new trainer. In addition, there will be a video entitled "The Fighting Hawk" running continuously during the show. Douglas Aircraft personnel will also be on site to answer questions.

This new trainer will replace both the T-2C and TA-4J aircraft currently being used in Naval Air Training.

For additional information, contact Jeannie Beans, X-2290 or Larry Lehman, X-1824.

Promotions for 38 in February

Arlene M. Anderer, John F. Andujar, David L. Baddorf, Ronald H. Beliveau, Lauren L. Bronikowski, Joseph L. Caristo, Stephen P. Cloak, Busey S. Cottier, Mary K. Daley, Richard H. Dalrymple, Michael L. Draham, James L. Ferris, Jr., Robert C. Ginn, Gregory J. Humphrey, Bridgette D. James, David F. Lam, Joan C. Marano, Lanie Mears, Robert J. Merchant, Albert J. McGlynn,

Ronald D. Nicol, Ying L. Nip, Daniel Ng, Thomas D. Nguyen, Ross A. Osborn, Dean T. Perrong, Joseph Przybylowski, William L. Schork, Mark E. Silbert, John W. Strobel, John W. Supp, Jr., Mary L. Sutter, Mark A. Thomas, Erminia M. Tinari, Marjorie A. Trush, Timothy P. Woolverton, Brian J. Wynne, Stanley J. Zugay, Jr.

Last redbird hits the dust

Special congratulations to all NAVAIRDEVCON employees involved with the QF-4B aerial target development program for their outstanding and invaluable QF-4B engineering support. QF-4B target Bu No. 149434, the last of the original twelve redbirds and the oldest F-4 in active Navy inventory, died with her boots on during her ninth

unmanned flight on 19 January 1984. Since delivery of the first QF-4B in 1972 these twelve target aircraft flew a total of 58 unmanned operations. The QF-4B has been an outstanding program which has provided the Navy with a realistic threat simulator for the test and evaluation of weapon systems during their development cycle.

Security Reminders

Handcarrying

All hand-carried classified materials must first be routed through the Security Classification Office (Code 0441) before being carried off the Center. Material classified "Confidential" will then be processed through the Mailroom (Code 04122) and "Secret" material through the Center Secret Custodian (Code 04124).

Safeguarding personal property

Employees who keep personal property in their work spaces are reminded that they are responsible for safeguarding those items. If they have either sentimental or monetary value, they should be locked up when you leave.

Lock Control

Keyless door locks—known as 'cipher' locks—will be procured from and installed by the Public Works Department (Code 83) only and must be key-by-pass type which meets PW's standards. Although requests for installation of keyless locks will be made to Public Works, the request must first be OK'd by the Security Department (Code 044). Installation of these locks is limited to doors to special laboratory or work areas where there is high usage by authorized personnel. Keyless locks are not for use on general office areas nor to augment existing locking devices.

W&R goes Phanatic

Date	Day	Sec.	Opponent	Applicable Promotion	Cost per seat
May 5	Sat.	264	Cincinnati	Group Night	\$ 6
June 8	Fri.	629	Pittsburgh	Twi-Night Doubleheader	\$ 6
July 7	Sat.	612	Atlanta	Barbecue Apron Day (All fans 15 and over)	\$ 6
Aug. 12	Sun.	302	St. Louis	Use of Picnic Area — Wristwatch Day (Children 14 and under) Use of Picnic Area —	\$ 7
Aug. 25	Sat.	302	Los Angeles	Hall of Fame Day	\$ 7
Sept. 14	Fri.	269	Montreal	Group Night	\$ 6
Sept. 28	Fri.	400*	Pittsburgh	*Bullpen Room Closed Circuit TV Replays Free Program and Mug	\$11

Join the NADC Welfare and Recreation Association to see the 1984 Phillies play at Veterans Stadium. Quantity limited to 50 seats per game. First Come First Serve Basis. Payment in full required upon reservation.

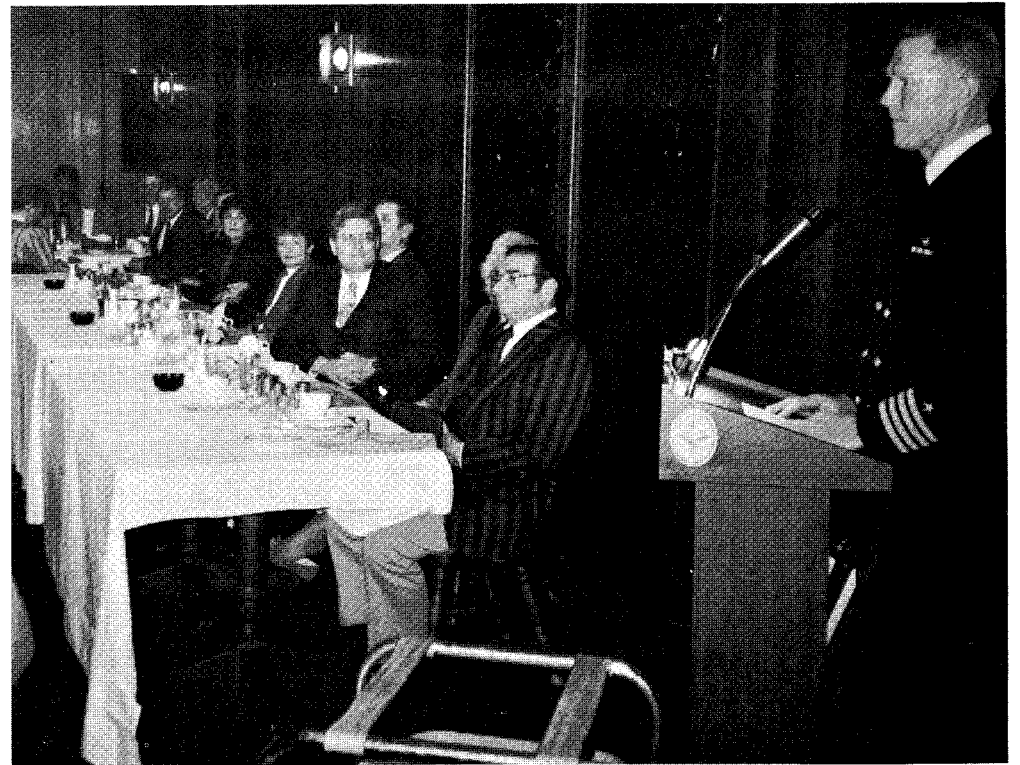
No Transportation provided.

For additional information or reservations contact Karl Geist X1332.

Military night with the Flyers

NADC W&R has 100 tickets to see the Philadelphia Flyers play the Washington Capitals on Sunday April 1st at 7:05 P.M. the tickets cost \$8.50 at the box office but W&R is providing them to you at the cost of \$3.00 each on a first-come, first-served basis.

Interested people should contact: Karl Geist X1332.



Navy League holds annual meeting

CAPT James B. Anderson, NADC Commander, addresses the annual dinner meeting of the Delaware Valley Chapter of the Navy League. Nearly 100 members and guests travelled to NADC for the event.

(Photo by Jim Kingston)

The NADC RECIPE REVIEW

Beef Stroganoff

This month's recipe is provided by Teeny Lacher (Code 10, X2312) who will receive a \$50 bond from the Food Service Board. The recipe will also be served in the NADC cafeteria. Submit your recipes to Mr. Robert Green, Cafeteria Manager. One winner will be selected each month.

1 cup tomato sauce (8 oz. can)	¼ cup butter or margarine	1½ tsp. salt
1 beef bouillon cube	1½ lbs. beef, round, sirloin or tenderloin, cut into thin strips	1 tsp. Worcestershire sauce
1 cup boiling water	1 small clove garlic	2 cups chopped onions
1 cup sour cream		½ lb. mushrooms, sliced

Preheat pan to 350°. Melt butter or margarine and brown meat. Add next 5 ingredients and cook until onions are transparent, about 5 minutes. Reduce heat to 210-220°F. and add remaining ingredients, except sour cream. Cover; close vent, cook until beef is fork tender, about 40 minutes. Add sour cream and serve on buttered and seasoned hot noodles. Yield: 4 to 6 servings.

LOOK FOR THIS RECIPE TO BE SERVED IN THE NADC CAFETERIA

Cut here for file card



Snip!... Mini-mart reopens

MCPOC Eldon Cain and Alice Edwards, Activity Manager, join CAPT James Anderson in cutting the ribbon officially re-opening the Mini-Mart in the Shenandoah Woods housing area.

TARPS development completed

With the recent transfer of engineering responsibilities for the Tactical Airborne Reconnaissance Pod System (TARPS), to a field activity, the NADC development and production support efforts for this program have come to a close.

According to COMO William J. Finneran, assistant commander for systems and engineering, at Naval Air Systems Command, the center began development of the TARPS under severe technical and operational concerns back in January 1976. Operating with minimal funding, we managed to build a pod for concept validation,

demonstrating TARPS both ashore and afloat. Finneran noted that the exceptional imagery and reliability from the state-of-the-art sensors did much to allay the fleet's concern over a pod-mounted system. He went on to say that the full-scale engineering development of TARPS and the subsequent transition to a production facility were accomplished ahead of schedule and for less than one-fifth the preliminary industry cost quotes.

He closed his remarks by adding: "... to your TARPS team and the members of the center, my warmest regards and a hearty well done!"

Welcome Aboard! to these new employees

Name	Position
Jocelyn M. Alston	Mechanical Engineer
Charles H. Carik	Electronics Engineer
Donald L. Hammond	Guard
Noreen A. Harcar	Travel Clerk
Harry J. Heinzl	Operations Research Analyst
Paul G. Krebs	Electronics Engineer
Mary E. Kuna	Clerk-Typist
Diana L. Mulley	Clerk-Typist
Gregory A. Pisch	Operations Research Analyst
Mark T. Polo	Electronics Worker
William J. Schmitt	Operations Research Analyst
Robert H. Walter	Electronics Engineer
Steven Youngblood	Computer Scientist

Worker Trainees

Donna Arcangel	Clerk-Typist
Erna Caskie	Clerk-Typist
Carmen Castro	Clerk-Typist
Honorado Castro	Clerk-Typist
Juliana Dancha	Clerk-Typist
Clara Leeds	Clerk-Typist
Charlesann Newman	Clerk-Typist
Tonya Sams	Clerk-Typist
Loraine Siron	Clerk-Typist

Commander Salutes

Name	Activity	For
John J. Keane	Sensors & Avionics	Outstanding performance in support of Navy's Rapidly Deployable Surveillance Systems Program.
Micaela S. DiPasquo	Communication Navigation	Outstanding contribution to the E-6A Development Program Including Preliminary Design Review.
Dean S. Nathans	Communication Navigation	Outstanding contribution to the E-6A Development Program including Preliminary Design Review.
LCDR Stewart Schreckengast	PAR	Serving as pallbearer and rendering honors at funeral services for LCDR Ligato.
LT David Gleisner	Aircraft & Crew Systems	Serving as pallbearer and rendering honors at funeral services for LCDR Ligato.
LT Alfred Manzi	Command Projects	Serving as pallbearer and rendering honors at funeral services for LCDR Ligato.
ENS Stephen Case	Aircraft Department	Serving as pallbearer and rendering honors at funeral services for LCDR Ligato.
ENS Stephen Olevnik	Admin	Serving as pallbearer and rendering honors at funeral services for LCDR Ligato.
ENS Louis Shipper	PAR	Serving as pallbearer and rendering honors at funeral services for LCDR Ligato.
ATC Kenneth Dayton	PAR	Serving as pallbearer and rendering honors at funeral services for LCDR Ligato.
AMH2 Larry Goheen	Aircraft Department	Serving as pallbearer and rendering honors at funeral services for LCDR Ligato.
AX2 Robert Collette	Command Projects	Serving as pallbearer and rendering honors at funeral services for LCDR Ligato.
AN.Steven Lawrence	Aircraft Department	Serving as pallbearer and rendering honors at funeral services for LCDR Ligato.
AO2 Timothy Roupe	Aircraft Department	Serving as pallbearer and rendering honors at funeral services for LCDR Ligato.
AE2 Charles Chertz	Aircraft Department	Serving as pallbearer and rendering honors at funeral services for LCDR Ligato.

Cafeteria gets face lift

Continued from page 1.

makes it possible for the board to pursue its policy of subsidizing the monthly specials and sponsoring the Recipe of the Month Contest—a regular feature in the REFLECTOR. Additionally, the board will, in accordance with Navy operating policies, be able to contribute to the Center's Welfare & Recreation Fund, thus further helping to improve employee morale and work environment.

Meanwhile, how do we cope with the temporary inconvenience? A couple of steps have been taken to help you. First of all, you may make reservations to use the NADC Dining Room if you don't want to take your chances with the noon crunch for the remaining seating in the cafeteria. If your usual lunch period is

now more crowded, you may want to stagger your time by 15 minutes or so. By then the initial crowd should begin to thin out. Another option is to use the expanded cart service. And finally, you may opt for take-out service and enjoy the familiar surroundings of your desk or other work area ... or maybe somebody else's desk if you're prone to spilling things.

As of 15 February, the renovation schedule looks like this:

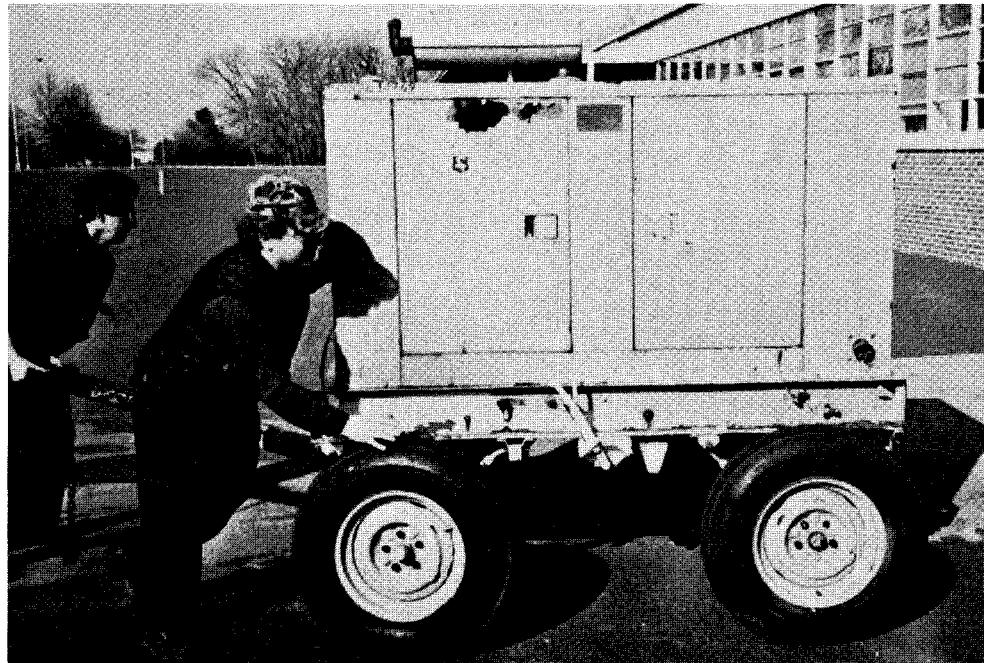
Left side of cafeteria—70 days.

Right side of cafeteria (including major construction for upstairs dining room expansion)—130 days.

Traffic area (cash registers)—10 days.

Keep in mind that when it's all done, it will have been well worth the wait and the temporary inconvenience.

(JK)



Push!... generator goes on loan

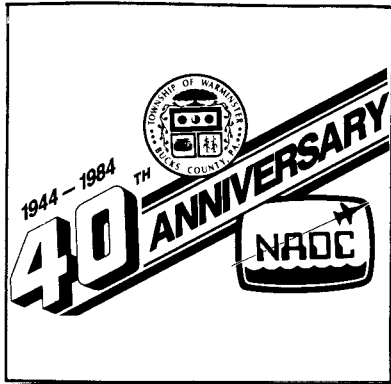
Transportation department workers Richard Capaldi and Joseph Mayo push and guide an NADC portable electric generator into the old William Tennant High School building. The generator will give power to the gymnasium to allow the township to use the facility for both adult and youth programs.



Reflector

Naval Air Development Center, Warminster, PA
1944 • "Building Naval Aviation's Future for 40 Years" • 1984

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April 1984



Anniversary party
Page 3.



Host with the most
Page 4.

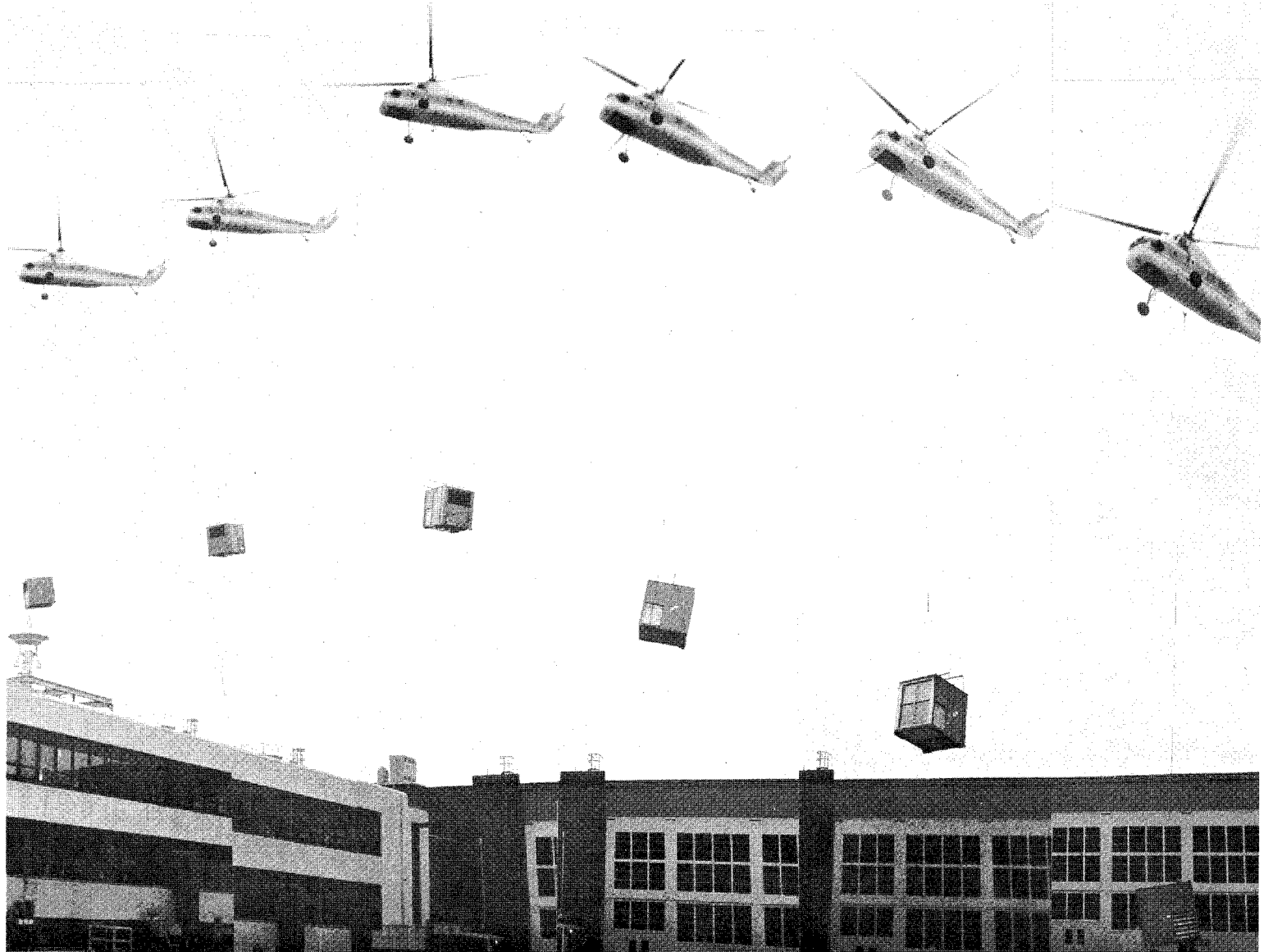


Annual EEO awards
Page 5.



Sailor of the year
Page 6.

New air-conditioning unit gets air-lifted



Able to leap tall buildings in a single bound! Carson's Helicopters Inc. of Perkasio, PA air lifts one of two new air-conditioning units onto the roof of Building #1. The two new high efficiency units are replacing seven old units as part of an ongoing upgrading program. The unit weighs in excess of two tons.

(Photo by Jim Kingston)

From Brewster to NADC (continued)

This is the third in a series of articles edited from a report entitled "The History of the Naval Air Development Center" prepared in 1982 by Thomas Misa and Ed Todd from the Department of History and Sociology of Science at the University of Pennsylvania.

The physical resources of the Center grew rapidly in the early 1950's. Several new facilities were constructed during that period including the Human Centrifuge in FY-49 for \$2.4 million, the Development and Test Facilities for AEEL, AAL, EDL in FY-51 for \$2.6 million, a Runway Extension for Jet Operations in FY-52 for \$1.66 million and again in FY-56 for \$.3 million, and Computer Room Construction in FY-53 for \$.23 million.

During the 1950's, NADC operated as a collection of independent laboratories. Many of the laboratories had their own

support services, including technical writing staffs and libraries. The laboratories or parts thereof developed direct connections with the related technical sections of the Bureau of Aeronautics, or, in the case of the Aviation Medical Acceleration Laboratory, of the Bureau of Medicine. The Bureau-Center relationship was a "parent-child" one, and what follows is an account of several of these children. **Aeronautical Computer Laboratory (ACL)**

Computer work began in 1947-1948 when the Center purchased two new Reeves Instrument analog computers. These "REAC" units were the outcome of the Navy's "winds" program, which began in 1946 to develop a series of computers. The Reeves' project "Cyclone" employed available technology to construct a computer as soon as possible, while RCA carried out Project

"Typhoon" at its Laboratories in Princeton, N.J., to develop the ultimate computer using state-of-the-art technology.

After designing and building the Typhoon computer, RCA reconsidered its connection to the Navy and decided to rid itself of Typhoon. In August 1950, Harold Tremblay, an NADC electrical engineer who had worked with the Reeves firm on REAC, and George Cafrey began training on the Typhoon in preparation for its move to NADC. A hybrid analog-digital machine, Typhoon consisted of an F-shaped complex of some 50,000 tubes that occupied floor space of nearly 10,000 square feet. It was not until the spring of 1952 that the transfer of Typhoon to NADC was completed.

NADC organized a Computer Unit in July 1950 and soon reorganized it as the Analytical and Computer Department

Continued on page 6

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FIRST CLASS

J. BARTON

3021

VADM Busey outlines his expectations for NAVAIR

I think it is appropriate for a new Commander when taking the helm to state his goals and spell out in some detail his concerns and expectations. That is the purpose of this letter—to outline what I intend to accomplish during my tenure, how I envision us proceeding, and why I believe it is critical that we succeed.

It should come as no news to you that NAVAIR's mission has grown increasingly difficult during the past ten years. Our adversaries have succeeded in upgrading the technical sophistication of their military forces while continuing to build their numerical superiority. The Fleet, in responding to this threat, has had to assume an expanded role in securing our interest aboard. Significant state-of-the-art advances in science and technology have emerged at an unprecedented rate, while the management of defense acquisition, under mounting public scrutiny, has become more and more complex and demanding. The capability and readiness of the Fleet's air weapon systems have never been more crucial nor more challenging to achieve.

Overall the Command has been remarkably successful in meeting this challenge, offsetting adverse trends with the dedication of its people and the basic soundness of its management strategy. That success, however, has come at a severe cost to us as an organization. The prolonged practice of doing

more with less has progressively strained and undermined our capabilities, and it is my strong conviction that we face a critical turning point.

If we continue along this path, over-extending our resources, tolerating inefficiencies, and postponing necessary innovations, our ability to respond effectively to the needs of the Fleet will seriously deteriorate. Until now we have always been able to get the job done somehow, but the job has gotten so large and so complex that our management systems will not be able to keep pace much longer. I believe change for its own sake is wasteful. However, in our present circumstances, rationally conceived and implemented change is not merely in order; it is imperative.

The question is where we can best focus our energies. Four aspects of the way we do our business are of particular concern to me.

Expertise

First, the steady erosion of our technical expertise and growing dependence on contractors to perform key management functions. This process has led to a mortgaging of our long term capability as an organization and an abdication of our responsibilities as agents of the Fleet.

Discipline

Second, the lack of effective corporate level planning, decision-making,

assessment, and policy formulation. No organization with the breadth and diversity of NAVAIR can possibly function effectively with a well designed, efficient corporate management system.

Integration

Third, better integration of headquarters, field activities and labs in an effective corporate team. I believe we have too often in the past squandered valuable resources through haphazard, arbitrary workload decisions and too often failed to recognize our activities as full fledged corporate partners.

Responsiveness

And fourth, the need for more realistic and responsive attitude toward our role within the larger arena of naval aviation. It is counterproductive to pretend that the legitimate direction and oversight functions of those within our superior hierarchy are intrusive to our work.

I believe that these are fundamental issues and that our future as an organization hinges on resolving them successfully.

To accomplish this will require a concerted effort on all of our parts. It will require a willingness to set aside convenient but inefficient ways of doing business, to adopt a corporate outlook on our work, and to bite the bullet when necessary to secure long-term benefits. I



VADM J. B. Busey

know that it will not be easy, but I believe that the hard work ahead will not grind us down as we have the frustrations and disappointments of the past but rather will strengthen and expand our capacity to meet the dynamic challenges that lie ahead.

Important new initiatives are already under way and more will certainly follow. They have my full support, but to succeed they must have your full support as well — your talent, your commitment, your leadership. And that is precisely what I expect.

J. B. Busey
Vice Admiral, USN

Editorial Comment

"The buck stops here"

Harry Truman made famous the sign "The Buck Stops Here," but that stop is not limited to the oval office. There are a lot of "Buck Stops," not the least of which is the editorial desk of any newspaper — even the REFLECTOR.

The final authority and responsibility lies at the end of the pencil in the editor's hand for everything that appears in print in any publication. It is at the point where his pencil meets the paper that decisions whether to go or no-go are made. It is where experience and gut-feeling come into play in striking or keeping words, phrases, or whole segments of copy.

If a writer or columnist submits a story containing remarks, words, inferences that may be of a sensitive nature, it's the editor's job to recognize these sensitivities and either call them to the attention of the author or strike or rewrite them out. Sometimes they get by. If they do ... and, if they pluck a sensitive nerve in a reader, the editor can't pass the buck to the author — The Buck Stops Here!

I've already stopped two bucks and offer no excuses. What I do offer is — hopefully — not to have to stop any more.

Editor

Readers voice concern over column

The REFLECTOR has received letters from Richard Imhof and John DeMatteo voicing objections to wording appearing in the last two "Super Safety" columns by Mike Masington. In the first one, Mike referred to an imaginary Olympic event: the obscene snow sculpture and in the March issue to the "Cosa Nostra Auction Gallery." The editor acknowledges and the editor apologizes. These are the kinds of sen-

sitivities referred to in "The Buck Stops Here."

Masington's imaginative character "Super Safety" is intended to provide a humorous or tongue-in-cheek approach to an otherwise dull topic. I'd like to see "Super Safety" continue to grace these pages with his unique approach to bringing home the message of safety on the job, at home or wherever ... with sensitivity.

Editor

We must be doing something right

Editor:

I have noticed a change, a complete change in the REFLECTOR starting with the February 1984 issue and now again with the current March issue. It is excellent. I wanted to let you know before, but the pressure of the day came first. Now that the March issue is out and confirms what was initiated in Feb-

ruary, I look forward to future issues.

The articles are extremely well written without being too technical. The format is excellent. This is definitely a step forward and is appreciated by many of my co-workers in 845.

Recent issues reflect highly on your office and staff. Keep up this fine work — it is welcome.

John D. Scott

Now, you sound off

By Jim Kingston

You've had a chance to see my first couple of issues of the NADC REFLECTOR and have some idea of who I am and where I'm coming from. Now, I'd like to extend an open invitation to everyone to let me know how you feel about what you see and read in *your* newspaper. I stress the word *your* because I only edit it. The publication is not written for my pleasure or to satisfy my ego. It's for you, the NADC employee—the reader. If it doesn't serve you, then I haven't done my job.

The only way to know whether or not

you're satisfied with what you see and read is to hear from you. So, Sound Off!

"Sound Off!" will be run every issue so long as at least one reader has something to say: a praise or a complaint, an observation or a comment, a point of view, or whatever moves you.

Send your comments to: Editor, NADC REFLECTOR, Code 091. If you're writing from outside the Center, add: NADC, Warminster, PA 18974.

Because of space limitations, we may have to edit copy to fit. Also, all letters must carry a signature, although we will withhold your name if you request.

One feature looks like shopping list


Editor:

Commander Salutes presentation (Feb 84 issue) reads more like a supply department shopping list, at least to me it does.

Donald Romberger

It read like that to me, too! We're trying to make it look better. Thanks.

Editor.



NADC

Reflector

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1944 • Building Naval Aviation's Future for 40 Years • 1984

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Public Affairs Officer	Joseph P. Cody
Editor	James S. Kingston
Assistant Editor	Mary Ann Brett



CAPT Harry D. Cannon, USNR, (right) receives congratulations and a plaque from CAPT D. Thomas May, CO of NAS Willow Grove. Cannon was recognized by NAVAIR for his performance and leadership of NADC Reserve Unit 0193 and for their achievements in mobilization readiness and training. He is currently the CO of a newly-formed NADC Unit 0293.

(Photo by PH1 Silvio Scotti)

Cannon receives NAVAIR honors

Captain Harry D. Cannon, Commanding Officer of NADC Support Unit 0293 was recently honored with a plaque and letter of appreciation from the Commander, Naval Air Systems Command. Cannon received the award in recognition of his outstanding performance and leadership in directing the efforts of his previous command — NADC 0193 — in mobilization readiness and training in support of NAVAIR and NADC missions.

Cannon stated that although he may have provided the leadership, the recognition for performance really belongs to the Center and the reservists. He said that the support received from all the Center personnel — both civilian and military — has been outstanding. He also noted that the cooperation and assistance that has been provided from the top on down is the real reason the unit has been successful in making this example of Total Force Navy work.

Technical Highlights

Passive Wing Array Ground Test Initiated

Ground testing of the Passive Wing Array (PWA) has begun. The ground test PWA system consists of linear yagi array antennas and receiver modules mounted in the leading edges of both left and right E-2 outerwing panels. The wing panels are mounted on towers approximately 17 feet high, with data collection and control equipment installed in a nearby trailer. The testing is being conducted on an Electronic Counter Countermeasures (ECCM) range specially constructed for this purpose. The ground test will demonstrate the capability of the PWA to adaptively form deep, narrow antenna pattern nulls in the direction of jamming sources. This capability, when applied to the E-2C, will permit it to detect targets in the presence of jamming, and therefore efficiently vector limited Task Force defensive resources in heavy ECCM environments.

Correlation Velocity Sensor (CVS) Development

Flight tests of a 6.2 exploratory development program model of a CVS built by Singer-Kearfott, were completed on board NAVAIRDEVCE's CH-53 helicopter. The tests included cruise and maneuvering flights over

land and sea. Preliminary assessment of the data shows that the CVS performs as well as the Doppler Radar during straight and level flights over land. This development also promises to provide velocity information over smooth sea states where doppler sensors fail to operate.

Aircraft energy R&D program offers significant fuel savings

The Center has completed an aircraft fuel conservation study and forwarded on to NAVAIR for implementation, recommendations which will result in a saving of over 700K barrels of fuel or almost \$40 million by 1990. Projected figures are based on six specific recommendations involving such as P-3, A-6, and C-130 airframe changes; J-52 engine efficiency improvements; and F/A 18 flap/aileron changes.

Fastener technology benefits A-3 service life

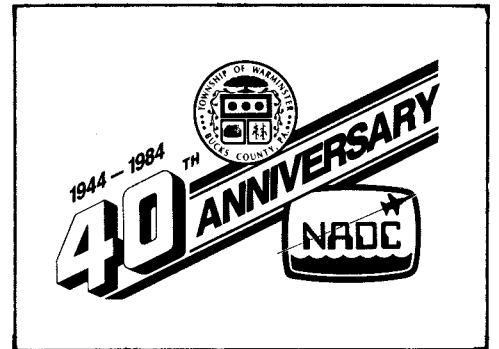
The structural fatigue service life of the A-3 Skywarrior aircraft will be increased by 80 percent because of improved individual aircraft fatigue life tracking and structural life extending modifications from interference fit fastener technology developed by the Center. This approach will be beneficial to all the Navy's fleet of older aircraft.

Huge 40th anniversary celebration planned

Working in cooperation with the community, NAVAIRDEVCE is planning the largest celebration in its history, to take place here on Armed Forces Day, 19 May 1984.

The 40th Anniversary celebration is being conducted jointly with Warminster Township, NADC's home for the past 40 years. Events will take place on NADC property and in the community as well. There will be no air show type events.

Foremost among the day's activities will be the 1st Annual Warminster hot air balloon classic. The first lift off of the gigantic hot air balloons will take place as early as 0800. Access to the balloon classic will be separate from the general admission area. The gates to NADC will open at 1000 and allow visitors to see many of the Center's labs as well as a



Special 40th anniversary logo

static display of current and vintage aircraft.

The labs and display areas will remain open until 1600. After that, there will continue to be entertainment on the field side followed at dusk by a fireworks display to rival the 4th of July.

The tentative schedule looks like this:

Armed Forces Day Celebration 40th Anniversary 19 May 1984

0800 — 0900
1000 — 1600
1000 — 1600
1000 — 1730
1030 — 1100
1100 — 1200
1145 — 1215
1245 — 1300
1300 — 1315
1315 — 1345
1330 — 1400
1400 — 1500
1500 — 1530
1530 — 1630
1730 — 2030
2030 — 2130

Warminster Hot Air Balloon Classic
NADC Laboratory Display
NADC Static Aircraft Display
Hot Air Balloon Display
Seat Ejection Demo
R/C Model Aircraft
Seat Ejection Demo
Army Band
Remarks (NADC/Township)
Army Band
Seat Ejection Demo
Warminster Symphony
Hot Air Balloon Classic #2
R/C Aircraft
Entertainment
Fireworks Exhibit

Grass cutting tips or... tell me mower

by Mike Masington

Spring is here. The birds are chirping, the flowers are blooming, and (bad news for some of us) the grass is growing and therefore needs mowing. Every year this routine chore causes some 130,000 injuries, 50,000 emergency room visits, and 3,500 amputations. But are these injuries inevitable? A study of these accidents reveals that most people understand the hazards associated with lawn mowers, but fail to take them seriously. By following the recommendations below, lawn mowing can become a safer (although not necessarily pleasant) task:

1. Prepare your lawn by removing rocks, sticks, and wires that may have accumulated over the winter. Remember, an object ejected by a power mower can reach speeds of 200 mph over short distances.

2. Be sure the grass is fairly dry before mowing. Wet grass can cause the operator to slip, and it also clogs the discharge chute tempting the absent-minded operator to use a hand to clear the obstruction.

3. Youngsters often want to help with yard work, but lawn mowers are not toys. Keep children and pets out of harm's way. When a youngster is mature enough to mow the lawn, take the time to explain safe operating procedures, then supervise to ensure these procedures are observed.

4. Some serious thought should be given to personal protective equipment when using your mower. Wear sturdy

shoes (safety shoes if available) and close-fitting slacks. Some eye and hearing protection isn't a bad idea either.

5. Mow across a slope when using a hand-guided mower. In case you or the mower should slip, this maneuver keeps you away from the blades. On the other hand, riding mowers must be driven up and down slopes for stability.

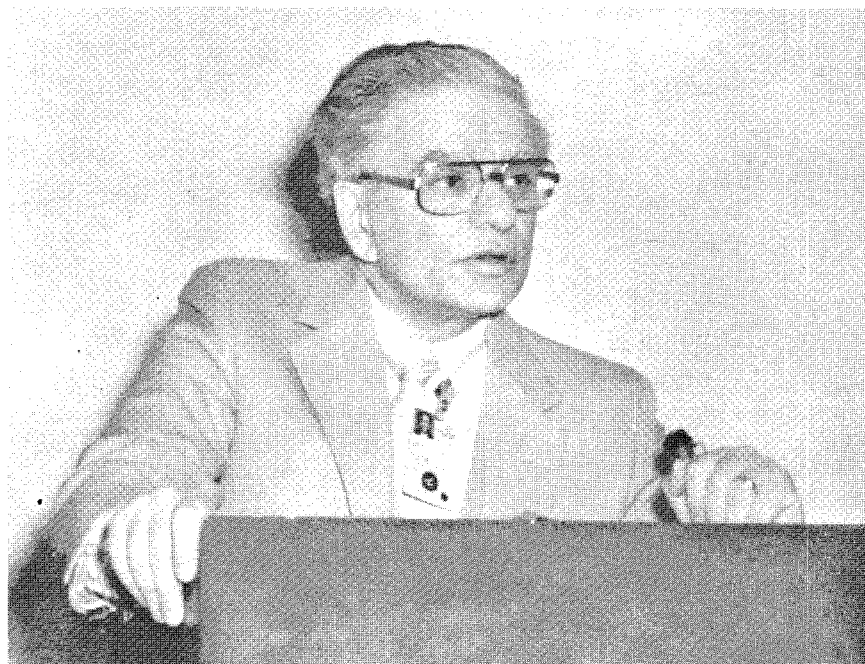
6. Never refuel a mower while it is running or when the engine is hot. Lawnmower engines operate at a temperature hot enough to ignite gasoline vapors. Take a break or perform some other yard chore while the mower cools down. Also, never fuel a mower indoors, since the fuel vapors may be ignited by a spark from a hot water heater or some other overlooked source of ignition commonly found in a garage.

7. When using an electric mower, be very careful not to run over the cord or entangle it in the blades. If this does happen, leave the mower immediately and disconnect the cord from the power outlet before attempting to disentangle the cord.

8. If you have to make adjustments or repairs to a gasoline-powered mower, not only shut it off, but also disconnect the sparkplug wire and let the mower cool down. This prevents the possibility of the mower self-starting.

9. One final item involves safety devices. In the past few years particularly, new mowers have been equipped with devices to prevent serious injuries. This equipment is effective only if it is left intact. Don't remove or modify it!

NAVAIRDEVCCEN hosts navigation technology review



Bob Leonard addresses opening session of Navigation Technology Review held at NAVAIRDEVCCEN.

(Photo by Kenny Smith)

On 20-21 March 1984 NAVAIRDEVCCEN coordinated a review of Exploratory Development (6.2) Navigation Technology for NAVMAT. The meeting, attended by almost 150 persons from DOD and industry, is one of a series of reviews covering the Command and Control Program Element under the control of Dr. Sherman Gee, ONT. Other topics will include communications, artificial intelligence and information handling, and the series is planned to be repeated every two years.

The reviews are intended to enable participants in the 6.2 programs to become more familiar with current progress and to subject their on-going work to mutually beneficial peer review. To that end there was a general feeling expressed that fertile ground had been provided to stimulate innovative ideas

and concepts.

A highlight of the meeting was the Navigation Requirements session in which DOD Perspectives were presented by Dr. John MacCallum, OUSDR&E, and requirements were described by CAPT B. Allen, OP 351 for Surface Ships and CAPT R. Urice OP 224 for submarines. Air Traffic and Controller requirements were also addressed.

NAVAIRDEVCCEN navigation work covering aircraft, submarines and surface ships was described in papers presented by Messrs. R. Tafel, M. May, F. Karwacki, J. Drelick and S. Cheney of CNTD. The meeting was coordinated by the CNTD team of R. Leonards, J. Drelick and H. Schoenfeld, the latter also chairing the Navigational Aids Session.



Navigation Technology Review held in the Center auditorium at NAVARIDEVCCEN drew almost 150 participants from throughout the Department of Defense as well as industry. Seen here are many of those who attended as they await the opening session.

(Photo by Kenny Smith)

Navy Relief fund raising campaign kicks off 4 May

The 1984 Navy Relief Fund Raising Campaign will be conducted from 4 May to 6 June 1984. NADC's Fund Drive Chairman is CDR Milton W. Weaver. Deputy Chairman is LCDR Michael J. Dougherty.

Navy Relief will be the beneficiary of two major functions already scheduled to take place here. The first is the annual Cavalcade of Corvettes which is to be held 5/6 May. The other is the Armed Forces Day/40th Anniversary celebration to take place on 19 May.

Navy Relief is not a modern-day phenomenon. In fact it goes back 80 years.

Eight decades ago, on January 23, 1904, fifteen Navy men, wives and civilians, all volunteers, met to devise a better way of providing for the needs of widows and orphans than "passing the hat." At their disposal was the Navy's \$9,000 proceeds of the 1903 West Point-Annapolis Football Game authorized by President Theodore Roosevelt to be used to offset financial hardship to

sea service widows. Thus, the Navy Relief Society was born.

Initial assistance was limited to grants to indigent widows and orphans. The advent of World War I with its large increase in Naval Service personnel and equally large loss of life, saw policy expanded to include interest free loans made to families awaiting receipt of government quarters allowances, as well as loans made to widows awaiting Congressionally funded death benefits.

Money for this needed service was provided by solicitation of direct contributions from the active duty population, and by the generous efforts of many civilian friends.

During the depression years, Navy Relief's efforts were concentrated towards helping military families adjust to the lower standard of living dictated by a 15% general pay cut ordered in 1933. Payment for hospitalization of dependent wives and children was an additional high budget item. No Navy medical care for dependents was au-

thorized until 1936, and then no funding for the purchase of medical equipment needed for the care of women and children was sanctioned until 1943. During these decades Society funds were used to endow beds in civilian hospitals, and after 1936, to purchase hospital equipment for dependent wards in Naval hospitals. The advent of the NRS Visiting Nurse service also served to fill gaps in the Navy medical care system.

After the bombing of Pearl Harbor, Society growth also exploded. Financial assistance ballooned from \$.5 Million to \$5 Million per year in direct loans and grants. It was not until 1978 that financial assistance again topped that level.

Fortunately, Navy Relief's coffers were filled by the public-spirited cooperation of the National Citizen's Committee, chaired by Clarence Dillon, a prominent New York financier. This committee solicited donations from individuals, such as Joe Louis, who in 1942 donated his entire \$65,200 heavy-weight title purse to Navy Relief,

to enable the Navy Relief Society to finance the inevitable drain on its resources.

Today's Navy Relief Society is proud to carry on this 80-year tradition of helping the Navy and Marine Corps to take care of their own. The Society continues to be a private, non-profit organization, supported by the contributions of past and present Sailors and Marines, and their civilian friends. Its primary mission is to provide temporary assistance to Sea Service families to overcome emergency situations. The more than 3,200 volunteers who staff the 176 Auxiliaries, Branches, Offices and shipboard programs spread throughout the world, still follow the tradition of the original fifteen volunteers, that of providing compassionate, responsive and constructive service to those in need.

On its 80th anniversary, Navy Relief stands ready to be an anchor to windward, the place for Marines and Sailors to turn when in trouble.

EEO holds 11th annual recognition luncheon



John A. Monastra, Jr. of Software and Computer Directorate accepts EEO award from Kathy Gause.

(Photo by Kenny Smith)



Kathy Gause, DEEOO presents EEO award to Dr. Lloyd C. Bobb.

(Photo by Kenny Smith)



Accepting the EEO award on behalf of the Aircraft & Crew Systems Directorate is Dino Mancinelli, director.

(Photo by Kenny Smith)



Jean B. Drelick of the Sensors & Avionics Technology Directorate receives her EEO award from DEEOO Kathy Gause.

(Photo by Kenny Smith)



Representing Public Works, Joe Clay accepts the EEO award.

(Photo by Kenny Smith)

Security Reminders

Reproduction of classified material

All requests for reproduction of classified material will be approved by the Security Department Code 0441. A Reprographic Request, NPPSBO NADC-5604/1 will accompany each request. The request will then be taken to Navy Publication and Printing Service Branch Office Code 90 for reproduction. Use of all other duplicating equipment for reproducing classified material is prohibited.

Declassifying Barlock Cabinets

1. Remove all classified contents.
2. Remove custodian label from inside the cabinet.
3. Remove security container number from the outside of cabinet.

4. Affix a new label on outside of cabinet that reads "Contents are Unclassified".
5. Neutralize combination padlock back to manufacturer's original combination, and deliver the padlock to department's administrative assistant.
6. Send a memo to department's administrative assistant and to whomever else in the department keeps security container records, notifying them of the declassification of the barlock cabinet.
7. Send a memo to Security Division to adjust their records.
8. Remove security container from after hours checklist.
9. If the declassified container still needs to be locked, use a key padlock.

Center promoted 31 in March

Joseph J. Armstrong, Jr., Patricia Beach, Joseph E. Bebey, Franz Bohn, Joseph P. Cammarota, Jr., Jaime Clavell, Joseph A. Dillon, Paul A. Ehrenfeuchter, Frances J. Gray, Janice Hammond, Marguerite V. Hoefling, Barbara J. Kempf, Thomas J. Kreppel, Mary J. Mullen, William S. Mueller,

Kevin M. McGinley, Mary E. Odowd, John E. Passfeld, Carol M. Pemrick, Kevin J. Platz, Joy O. Risko, Sandra E. Schwartz, Mark J. Sewell, Irving S. Schaffer, Peter T. Shaw, Fred Shocket, Martha E. Snyderwine, Joseph A. Stamato, Pearl I. Steinbuch, Ricardo Ulvano, John A. Williamson, Jr.

The NADC RECIPE REVIEW

Beyer's Black Pepper Steak

This month's recipe is provided by Hank Beyer (Code 7012, X1182) who will receive a \$50 Bond from the Food Service Board. This recipe will also be served in the NADC Cafeteria. Submit your recipes to Mr. Robert Green, Cafeteria Manager. One winner will be selected each month.

- | | |
|----------------------------------|--|
| 6 finger steaks (chicken steaks) | fresh ground pepper |
| 3/4 cup of butter or margarine | 1/4 cup corn starch, or as much as needed. |
| 1/2 pkg. instant onion soup | |

Sprinkle steaks liberally with freshly ground pepper on both sides and let sit for at least one half hour. Melt butter in a deep frying pan and bring to a simmer. Add steaks and continue simmering until steaks are done to your liking, approximately 20 minutes for medium-rare. When steaks are done, remove and add 1/2 pkg. of instant onion soup to the remaining butter. Add corn starch, after liquifying with water, and thicken butter and soup mixture to form a gravy. Pour gravy over steaks and serve. For additional flavoring, an ounce and a half of brandy can be added while preparing the gravy.



LOOK FOR THIS RECIPE TO BE SERVED IN THE NADC CAFETERIA

— Cut here for file card —

Roberson chosen S-O-Y



ADI Donell Roberson

Aviation Machinists Mate First Class Donell Roberson has been selected as NADC's Sailor of the Year. Roberson "has made numerous contributions essential to the Center's safe and efficient execution of its mission. His experience and knowledge of the Naval Aviation

community is vast and he has built an impressive record of outstanding sustained superior performance in two key billets at the Center. As quality assurance representative, he rewrote existing procedure on oil consumption records, updated the engine efficiency maintenance instruction, developed and implemented a quality assurance spot check program. He personally discovered an improper part listed in the IPB for the CH-53 helicopter and submitted a hazardous material report. His strong leadership as power plants branch supervisor motivated assigned personnel to rally around his direction to reduce aircraft discrepancies significantly increased aircraft availability. Petty Officer Roberson's unparalleled technical expertise and personal initiative led to a significant reduction in aircraft "down time" and maintenance related discrepancies. His contributions have been paramount in maintaining maximum aircraft availability for project testing and evaluation. Petty Officer Roberson's contributions toward research and development while at NADC will have a positive and constructive effect on the U.S. Navy's fleet readiness for years to come."

Conte wins Sonntag Award

Alfeo A. Conte, Jr. has been named the winner of the American Society of Lubricating Engineers (ASLE) Al Sonntag Award for 1984.

Conte is a chemist in the Aero Materials Division of the Aircraft and Crew Systems Directorate. The award, sponsored by ASLE, is given for what the Awards Committee considers to be the best technical paper on solid lubricants published in the Society's referred journals during the previous year.

Conte's award-winning paper enti-

led: "Graphite Intercalation Compounds as Solid Lubricants," which was published in ASLE TRANSACTIONS April 1983 issue, is based on work performed under the Center's Independent Research program.

His research showed that layered compounds of graphite can be more effective solid lubricants than "ordinary" graphite and molybdenum disulfide. The award will be presented to Conte at the Society's annual meeting in Chicago during the week of 6-11 May 1984.

Beneficial suggestion awards

Davidson, James J., ACSTD, "Easy Efficiency Improvement in Heating Unit Control", \$80 Award

Bello, Robert C., ACSTD, "Department 60 Doors", \$100 Award

Eyth, Jacob, ACSTD, "Bookshelves in NADC Heads", \$25 Award

Fisher, Stephen G., TSD, "Automatic Lighting of Apparatus Room", \$25 Award

Nicol, Ronald, PW, -Hankinson, John E., PW, "Inspection Windows for Pump Couplings", \$30 Award Each

Hogarth, William, PW, -Griffith, Richard, PW, "Energy Savings by Using Switching Relays", \$50 Award Each

Giordano, Samuel, PW, "AC 583 Modification", \$25 Award

Schaeffer, Daniel, PW, "Energy Conservation (Fuel Oil)", \$40 Award

Rowland, Richard, PW, "Installation of Floor Drains in Men's and Women's

Room", \$100 Award

Nicol, Ronald, PW, "Positive Stops for DO ALL Band Saw", \$25 Award

Hogarth, William G., PW, "Accustat", \$130 Award

Schmieder, Robert F., CNTD, "Towel Dispenser Removal", \$25 Award

Simonds, Patrick C., E6, AC Dept., "Magazine Area Firebreak Paving", \$25 Award

Edwards, Norman, LT., PAR, "Paper, Recycling Bins", \$234 Award

Schmieder, Robert F., "Fire Safety Exit", \$50 Award

Largent, Earle, -Hankinson, John, PW, "Install Toilet Plastic Liners (Water Savers) in Each Toilet on the Base", \$180 Award Each

West, Walter, PW, "Install Lexan Tri Guard Clear Corner Protectors", \$100 Award

Reiter, John E., TSD, "Arm Band", \$35 Award.

Commander Salutes

Name	Activity	For
Mark H. Zehner	Software & Computer	Outstanding support NAVAIRSYSCOM on the Navy's Air Common Acoustic Processing Program.
Thomas L. Stover	Sensors & Avionics	Outstanding support NAVAIRSYSCOM on the Navy's Air Common Acoustic Processing Program.
Anthony T. Lee	Software & Computer	Outstanding support NAVAIRSYSCOM on the Navy's Air Common Acoustic Processing Program.

Cody named Command Administration Officer

Joseph P. Cody, NADC Public Affairs Officer for the past eight years, has been selected to head the Command Administration Office, a position presently filled by CDR Ronald Monkres. Monkres will be departing in mid-May for a new assignment. Cody, a graduate of St. Joseph's University and Cornell University Graduate School of Business and Public Administration has experience in virtually every area of Command Administration. He is a Lieutenant Commander in the Naval Reserve Intelligence Program and has served as that reserve unit's Public Information Officer, Security Officer, and Administration Officer. Cody approaches this

new assignment with an open mind. At the top of Cody's priority list is understanding the Command Administration operation, including touring the facilities during all three shifts. Second and third shift personnel such as guards and communications equipment operators, although less visible, have legitimate concerns which need an equal amount of management attention according to Cody. He also feels that a civilian manager coupled with a military deputy, LT Scott Wood, will lend the organization stability, corporate memory and continuity as well as military expertise — the best of both worlds. (MAB)

Brewster

Continued from page 1

(ACD). The civilian supervisor of the ACD was Professor William H. Boghossian, from the Moore School of Electrical Engineering at the University of Pennsylvania. The ACD's two divisions provided a large scale analog computer facility for Department of Defense use. The ACD's Systems Engineering Division conducted long-range research studies of the effectiveness of air weapons systems and the vulnerability of aircraft. In June 1955, the Division was removed from the ACD and became the core of the Air Warfare Research Department (AWRD), which developed many advanced weapons concepts, and carried out studies of the Fleet Ballistic Missile, the CORVUS missile, and the EAGLE missile, an early version of the Phoenix. The Computer Division carried out theoretical studies and simulations of aircraft and guided missile designs. With the departure of the Systems Division, the Computer Division became the Aeronautical Computer Laboratory. In the late 1950's the Typhoon was broken down into components called "Gales," and finally, in 1968, the Typhoon was completely dismantled. Five analog computers replaced Typhoon and provided twice its capacity.

Engineering Development and Services Department (EDSD)

The Pilotless Aircraft Development Laboratory (PADL) was the pioneer activity at the time of the establishment of NADC; its responsibilities included the design and development of pilotless aircraft and target drones. In 1950 its mission was expanded, and PADL was renamed the Engineering Development and Services Department. When its shop facilities were transferred in 1958, the EDSD became the Engineering Development Department, with a diverse

mission. Through the 1950's with a staff of 400, the EDSD—known as Everybody Does Something Different—worked on ground and airborne instrumentation and control systems and other aircraft development projects.

Aeronautical Electronics and Electrical Laboratory (AEEL)

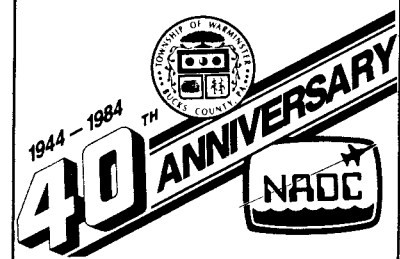
The AEEL was the second original laboratory that comprised NADC. A shortage of technical personnel due to the demands of the Korean War and a recognition that too many organizational barriers existed within AEEL prompted an organizational streamlining of the AEEL under Technical Director Dr. Harry Krutter in 1950. To centralize control of the Laboratory's 400 personnel and six divisions—undersea warfare, control and guidance, radar, electrical, radio, and technical services—the Program Officer's power and responsibilities were increased. Moving personnel to match project demands continued to be a difficulty that was addressed by organizational changes, as can be seen in the reorganization of the Control and Guidance Division in 1954. In January its Analysis Branch was split into the Physics and Systems Analysis Branches, but in July the two Branches were again recombined as the Analysis Branch.

Antisubmarine warfare work was a major part of the AEEL. To promote undersea warfare work, AEEL created in April 1958 two new divisions, Sonar and Special Methods. These two divisions formed the core of the Antisubmarine Warfare Laboratory organized in the fall of 1958.

Next time the REFLECTOR will discuss the beginnings of the Aircraft Armament Laboratory (AAL), the Aviation Medical Acceleration Laboratory (AMAL), the Aeronautical Instruments Laboratory (AIL), and the Aeronautical Photographic Experimental Laboratory (APEL).

Welcome Aboard! to these new employees

Name	Position
Ronald B. Galvelis	Operations Research Analyst
Richard Meyers	Operations Research Analyst
Joseph J. Perkowski	Electronics Engineer
Andrew M. Shaw	Machinist
Sheila Little	Clerk-Typist
Darliese Scott	Clerk



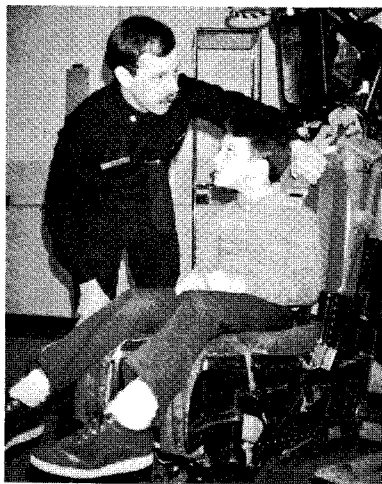
REFLECTOR

Naval Air Development Center, Warminster, PA
 1944 • "Building Naval Aviation's Future for 40 Years" • 1984

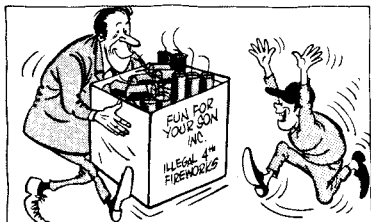
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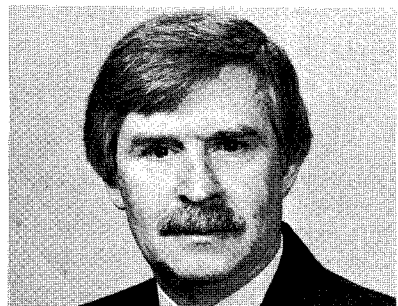
What's up, Doc?
Page 3.



Play it safe
Page 5.

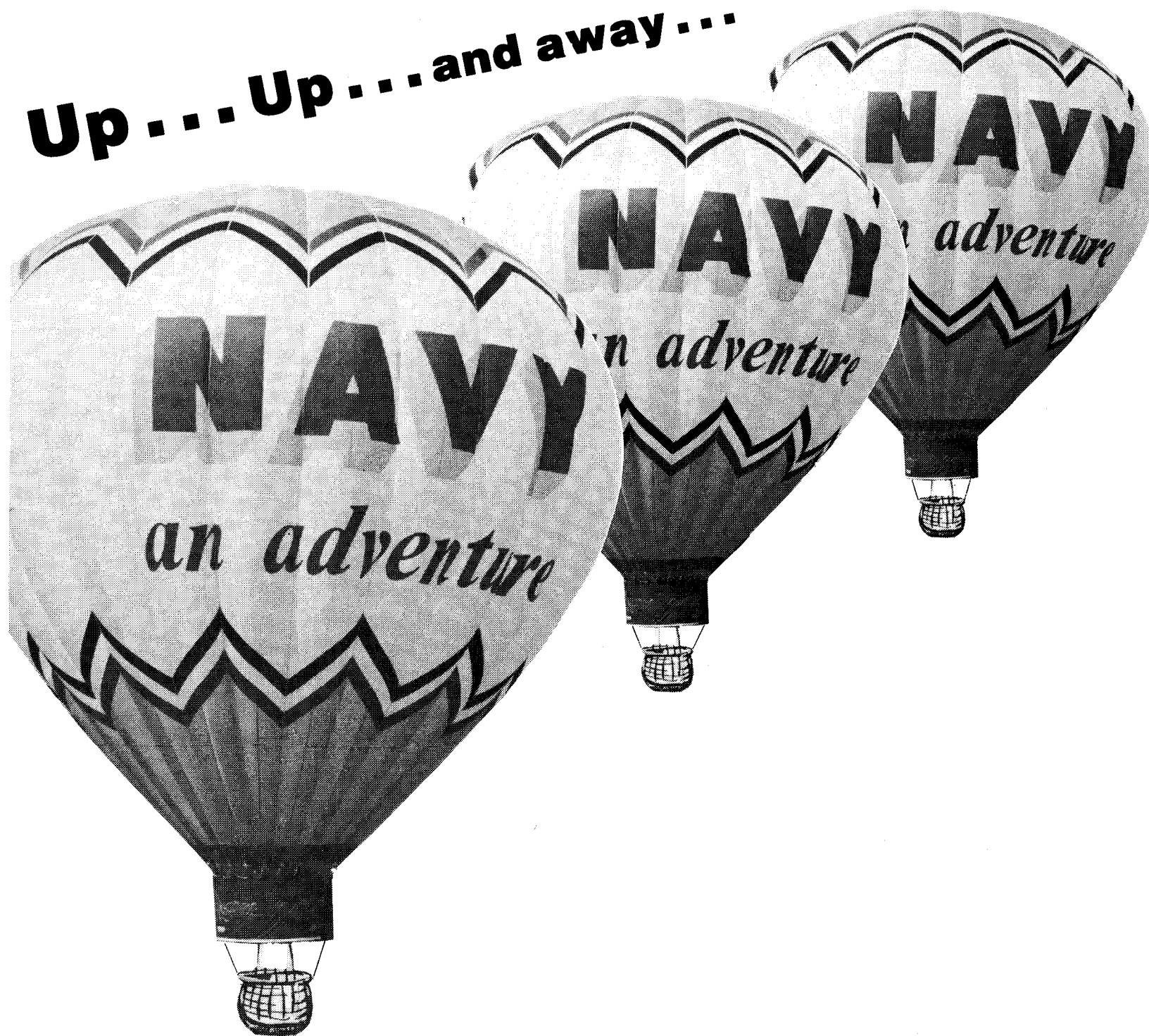


Almost perfect
Page 6.



EEO chairman
Page 6.

Up... Up... and away...



... in our beautiful balloons! That's what visitors and guests at our 40th Anniversary / Armed Forces Day Open House will see. The first balloons lift off at 0800. In the afternoon at 1500 a second lift off will take place so, if you miss the early one, you'll get a second chance.

To our Guests:

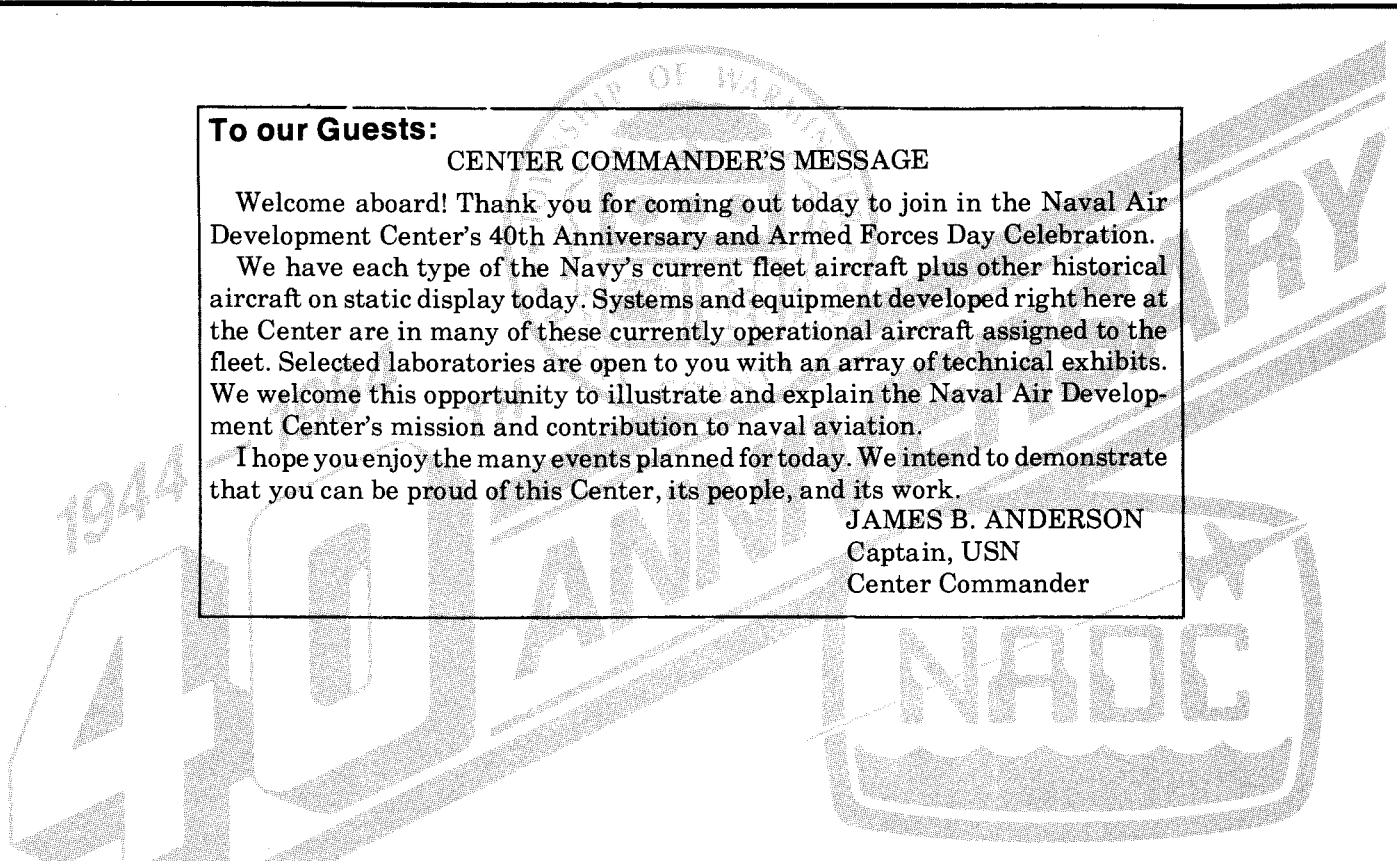
CENTER COMMANDER'S MESSAGE

Welcome aboard! Thank you for coming out today to join in the Naval Air Development Center's 40th Anniversary and Armed Forces Day Celebration.

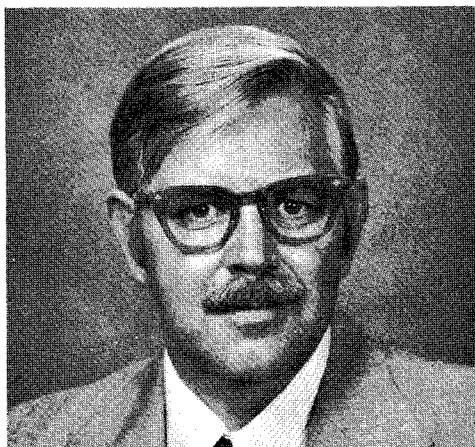
We have each type of the Navy's current fleet aircraft plus other historical aircraft on static display today. Systems and equipment developed right here at the Center are in many of these currently operational aircraft assigned to the fleet. Selected laboratories are open to you with an array of technical exhibits. We welcome this opportunity to illustrate and explain the Naval Air Development Center's mission and contribution to naval aviation.

I hope you enjoy the many events planned for today. We intend to demonstrate that you can be proud of this Center, its people, and its work.

JAMES B. ANDERSON
 Captain, USN
 Center Commander



Becker/Guarini selected new directors



Robert N. Becker
Director, ACSTD



Jerry F. Guarini
Director, PAR

Robert N. Becker, Director of Planning, Assessment and Resources (PAR) Directorate since July 1982, will replace Dino Mancinelli as Director of the Aircraft and Crew Systems Technology Directorate (ACSTD) in May-June timeframe when Mancinelli retires. Jerry F. Guarini, Program Manager of Advanced Weapons Systems has been named to replace Becker as Director of PAR.

Becker sees ACSTD as having a strong technology base effectively managed by dedicated and innovative people. The Directorate makes efficient and effective use of its most important resource, its people, according to Becker. It also has historically provided highly effective products to the Fleet, and Becker plans to continue that trend. He is enthusiastic about the existing creative environment that lets personnel develop and use their talents to the fullest and wants to continue efforts to improve this environment. His top priority is to maintain and heighten ACSTD's expertise and position as the leader in the many areas of advanced aircraft and crew system technologies. Becker advocates full utilization of the directorate's capabilities and technologies on all applicable Center efforts and plans to heighten its involvement in advanced aircraft weapons systems acquisition programs.

Jerry Guarini established the Center Design Team which eventually merged with the Advanced Concepts/Weapons Group in 1979. He moves to PAR with its 18 years of technology experience in the Sensors and Avionics area; the last 12 years in weapons systems engineering. Guarini feels that as a participant in the Congressional Legis Fellows program, he has gained invaluable insight into the Congressional process and its specific impact on the DoD budget. He sees more of an anticipatory role for PAR — in a manner consistent with its title: P — Plan the direction in which the Center's efforts should be concentrated; A — Assess continually the Center's status and make the necessary adjustments to remain consistent with desired goals; R — Resources with regard to personnel, facilities and funding matters to provide for efficient Center performance. Guarini sees a need for closer working relationship with the Center's Block Managers and technologists as an essential step in integrating the planning, assessment and resources for the future of NADC. As Guarini views it, PAR's value to the Center can be measured by the accuracy of the advice and recommendations it provides to the Center Commander, Technical Director, and the Center Management Group. (MAB)

Kingston tagged our "PR-MAN"

In February we introduced James S. Kingston to you as the new *REFLECTOR* editor. This month we are re-introducing him as NADC's Public Affairs Officer replacing Joseph P. Cody.

Kingston, already impressing our readers with his obvious journalistic talents, will now put his extensive, 20-year public relations background and "PR-MAN" license tag to even better use as — what else! (MAB)

Sound off

Editor:

I would like to see Sports coverage in the Reflector. There are many Intramural Leagues competing here; Softball, Volleyball, Bowling, Golf, etc. Either a Sports Editor should be solicited or each League's Secretary could provide Sport News each month.

Tom Reiter

(Editorial Reply:)

You're right! It is that season. What we need is input from the teams, schedules, and the like. We'll provide the necessary space, if you all will provide the information. Any takers?

Editor

EEO

Sexual harassment — everyone's problem

To leaders:

- Read and understand the policies and regulations so that you know what sexual harassment is.

- Be knowledgeable of the harassment that exists. Offenders will not commit harassment in your office. Get out into areas where females work and see what goes on. Ask women, unobtrusively, whether they are being harassed. Remember, though, if women have harassment complaints and you don't do anything about it, they will stop telling you.

- Enforce the standards. Units do well in those things that the leaders pay attention to. If no one is looking around the unit area from 1800 to 0600 hours, you are only doing half the job.

- Educate and inform all people about sexual harassment. Commanders Calls and unit classes are good ways to inform your people exactly what is and is not permitted. A lot of people simply are not aware.

- Activities such as clubs and theaters should be policed. When no one is held responsible for decorum and order, there will not be much. If women do not

use an activity, it is possibly due to harassment.

To women:

- In the duty environment, assert yourself and do not allow male superiors, peers or subordinates to call you "Honey," "Baby," etc. Do not allow men to put their arm around your shoulder when talking to you or treat you in any way they would not treat a male.

- Report incidents of sexual harassment. Judgment should be used in this area, especially if you feel the man is not intending to harass you. Setting him straight with words directly to the point will stop most problems. If the harasser is your superior who may not take kindly to your rebuke, or if someone in the chain of command tries to tell you "That's the way it is," persist in reporting your complaint. It is not going to be easy, but harassment will not stop if you do not do anything about it.

- Use common sense. Wearing provocative clothing in public and using foul language will only provoke harassment regardless of whether you are in a civilian or military environment.

- Act as a motivated, competent professional at all times. If your co-workers feel you are pulling your share of the load, you will get more respect and less harassment. Don't ask for help when you don't need it. Remember, males who don't pull their fair share also receive some form of verbal harassment.

To males:

- The majority of males will not become involved in the sexual harassment of military females, family members, or civilian women. Unfortunately, this is not true in every case. A real man is not some kind of "macho" stud with a four-letter vocabulary and a lot of notches on his belt. Instead, he is a professional who knows how to do his job, takes care of his responsibilities and equipment, looks out for the people he works with and treats others without prejudice.

- Watch what you say or, if you're in charge, what your subordinates say. What you may mean as a compliment to a woman may not be received the same way. Also, keep your "toughest-guy-in-the-valley" talk for when you're in the valley.

When you and two or three of your

buddies stand outside the female barracks and talk filthy to a female who's on her way home from a hard day's work and minding her own business, don't expect to be respected. When you're at PT and someone falls behind — male or female — give them a hand or an encouraging word. They will help you when you need it and, tough as you are, you will need it sometime.

- Watch what you do with your hands. Save your affection for your wife or girlfriend. If she is in the military save it for off-duty.

Not only may it be unwelcome but, if you're a leader, your subordinates, both male and female, will think she is receiving favoritism on the job and at promotion time.

- The worst and most inexcusable type of person is the one who takes advantage of his or her position as a superior to coerce favors or improprieties from subordinates.

Credit: LTC Jon W. Blades, ODCSPER, Leadership Division, Human Resources Development Directorate.

"All-Volunteer" leaves our vocabulary

It's official. The term "All-Volunteer" will no longer be used to describe U.S. military forces.

This change in terminology was announced by Secretary of Defense Caspar W. Weinberger at a recent conference on military personnel needs and resources for the future.

Referring to the period since January 1973 (when the draft was abolished) as an experiment in obtaining military manpower through voluntary means, the Secretary termed the experiment a success and said it was over.

"We know now that an All-Volunteer Force can succeed. And we know what it

takes to make it succeed," the Secretary said, stressing the continuing need for "... the will, the perseverance — and the commitment to quality."

From now on, he said, the voluntary nature of military service will remain implicit, and men and women in uniform will be referred to as simply "the Armed Forces, and the finest Armed Forces this country has ever known."

Discontinuation of the term "All-Volunteer" and its variations applies to all elements of the Department of Defense and the Military Departments when describing U.S. Armed Forces.



Volume 28
Number 5
May 1984

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.

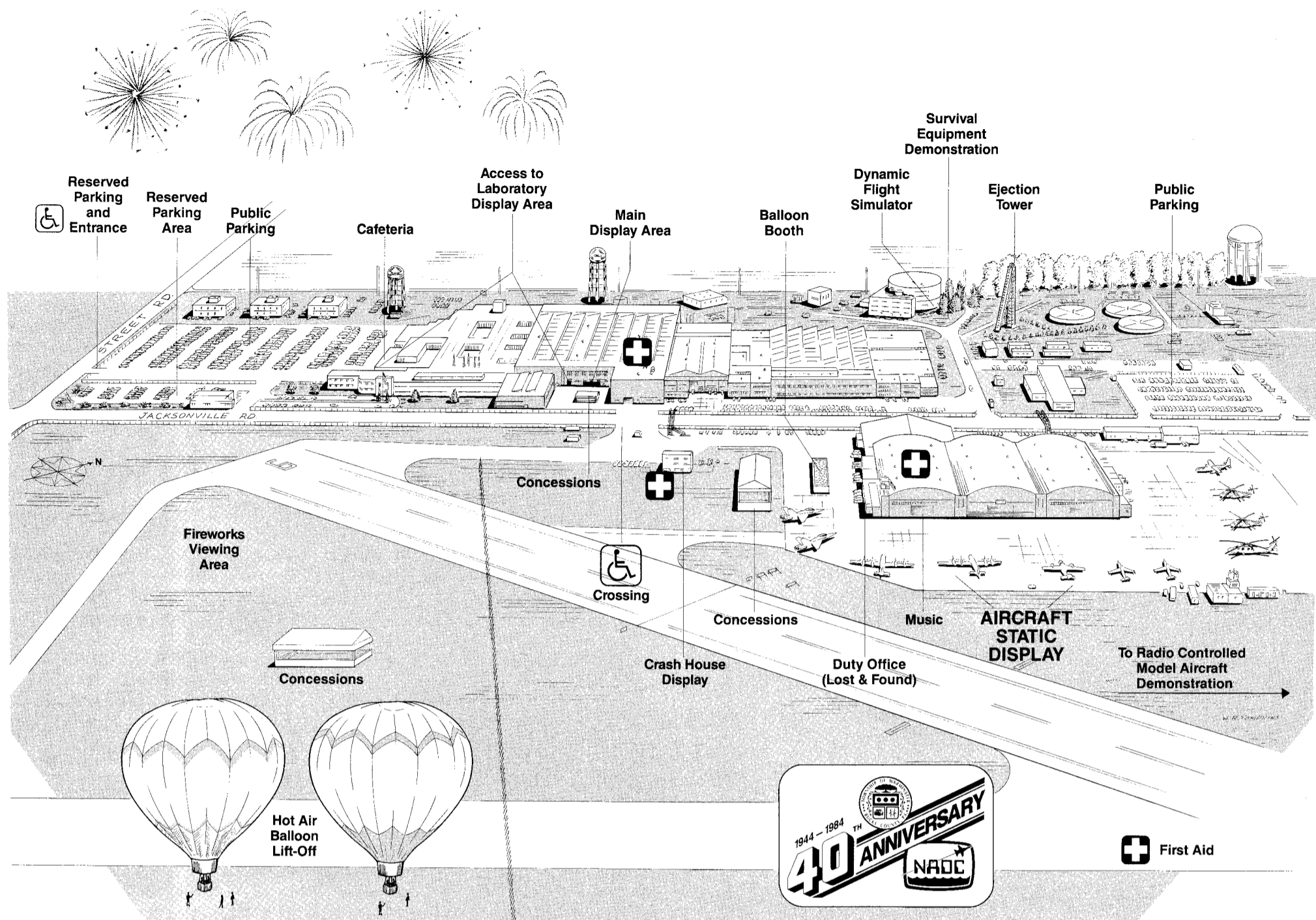
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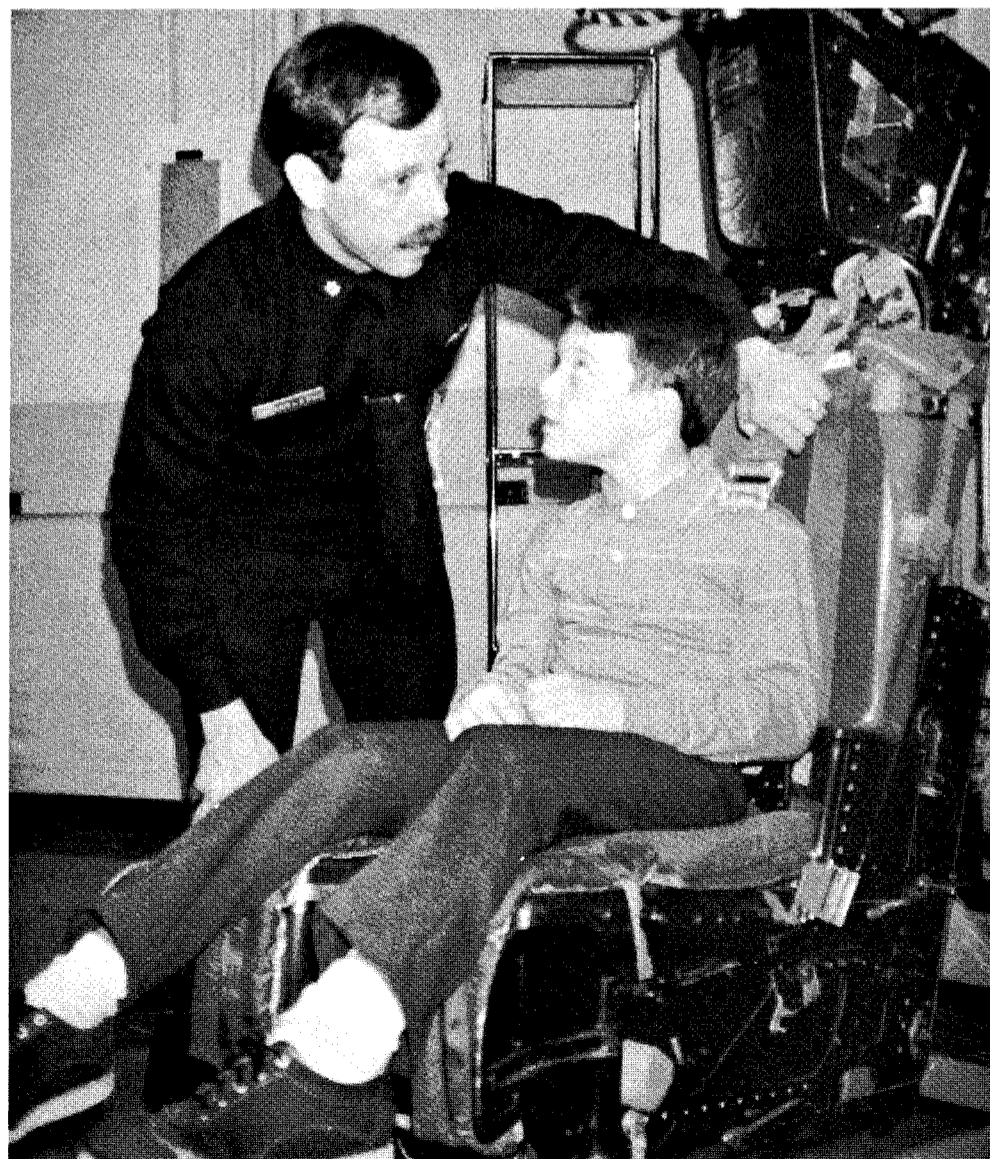
Commander, NADC CAPT James B. Anderson
Technical Director Robert S. Buffum
Public Affairs Officer and Editor James S. Kingston
Assistant Editor Mary Ann Brett



General overview of the Naval Air Development Center showing the location of areas of interest to all visitors and guests who will be joining us in celebrating our 40th Anniversary, Saturday, 19 May 1984.

Open House Schedule of events

NADC	TIME	WARMINSTER TWP
Hot Air Balloon Lift Off #1	0800-0830	Hot Air Balloon Lift Off #1
Laboratory Tours, Static Display of Aircraft	1000-1600	
Balloon Display and Tethered Rides	1000-1730	Balloon Display and Tethered Rides
	1000-2300	Amusements (6-8 Rides)
	1000-1800	Helicopter Rides
Ejection Seat Demonstration	1030-1100	
Radio Controlled Aircraft Demonstration	1100-1200	
Ejection Seat Demonstration	1145-1215	
NADC Chorus	1200-1230	
Army Band	1245-1300	
Official Opening Remarks	1300-1315	Official Opening Remarks
Army Band	1315-1345	
Warminster Symphony	1400-1500	Warminster Symphony
Hot Air Balloon Lift Off #2	1500-1530	Hot Air Balloon Lift Off #2
Radio Controlled Aircraft Demonstration	1530-1600	Square Dancing
Concert by "Friends Reunion"	1800-1930	Concert by "Friends Reunion"
Concert by "Nostalgia"	1930-2100	Concert by "Nostalgia"
Fireworks	2130-Close	Fireworks



Lt. Cmdr. Leland Mills, flight surgeon at the Center, demonstrates to Brian Beans of Warminster how pilots are strapped into an ejection seat. Demonstrations of the ejection seat test tower will be among the many events scheduled during the Center's 40th Anniversary/Armed Forces Day celebration, Saturday, May 19th.

(photo by Jim Kingston)

Where are our former CO's?

CAPT James B. Anderson, NADC's 18th Center Commander, will be relieved by CAPT Edward J. Sturm on 19 July 1984. Sturm is presently the Commanding Officer of the Naval Air Propulsion Center, Trenton, NJ. Anderson will continue his career at the Naval Air Systems Command (AIR-03) in Washington, DC. Of Anderson's 17 predecessors, all retired from the military and 11 are alive, well, and engaged in interesting activities.

Former NADC Commanders

(Retired from US Navy) Period Served

(Retired from US Navy)	Period Served	Present Status
CAPT P. L. Dudley	28 JUN 79- 26 AUG 81	Navy Systems Growth Manager at Boeing Aerospace, Seattle, WA
CAPT C. M. Rigsbee	17 JUN 76- 27 JUN 79	President, Analytics Disciplines, Inc., VA
RADM G. M. Yowell	14 JUN 74- 17 JUN 76	Naval Technology Manager at Titan Systems, Inc., San Diego, CA
CAPT H. B. McCaulley	29 JUL 71- 14 JUN 74	Consultant in VA area
CAPT F. W. Ewald	31 OCT 68- 29 JUL 71	Deceased
CAPT B. L. Towle	24 AUG 66- 31 OCT 68	Air Program Manager at the Naval Ocean Systems Center, San Diego, CA
CAPT A. C. Benjes	30 JUL 65- 24 AUG 66	Retired from second career in aerospace field; residing in Camarillo, CA
CAPT A. E. Paddock	29 AUG 62- 30 JUL 65	Retired from Univ of PA; residing in Radnor, PA
CAPT H. L. Leon	4 SEP 59- 29 AUG 62	Field Representative for General Business Services in South Bay CA area
RADM E. E. Fawkes	31 AUG 56- 11 AUG 59	Retired from Grumman Industries; residing in Arlington, VA
CAPT J. A. Haley	24 MAY 54- 31 AUG 56	Deceased
CAPT C. J. Pflingstag	31 MAR 53- 24 MAY 54	Deceased
RADM R. S. Hatcher	9 OCT 51- 31 MAR 53	Retired from Santa Catalina School for Girls as Chairman of Math Dept; residing in Monterey, CA
RADM S. B. Spangler	23 JUL 50- 18 AUG 51	Deceased
CAPT E. W. Rounds	10 JUL 47- 30 JUN 50	Deceased
CAPT C. E. Kirkbride	1 NOV 46- 10 JUL 47	Deceased
CAPT R. S. Barnaby	20 JUL 43- 1 NOV 46	NADC's oldest living CO is active at the age of 91; residing in Phila. area

(mab)

Exhibits & demonstrations

The Command Project Directorate will present a variety of laboratory and audio-visual displays that depict major developments in Naval Aviation.

VP Program. This laboratory which provides hardware and software for the P-3C, "Orion" will be open to the public. Visitors will be able to see the computers and displays in operation and operate some of the systems.

CV-ASWM Program. The Carrier Based Anti-Submarine Warfare Module laboratory will be open for tours. A 20-minute movie will be shown every hour and visitors will be able to play computer games on the displays.

VS Program. There will be a display outside of the VS Laboratory which illustrates the major areas of hardware and software support for the S-3 "Viking" aircraft. Visitors will be able to purchase souvenir "S-3 Viking" shirts in front of the static display Viking aircraft.

TACAIR Program. Two movies will be shown in the TACAIR laboratory

conference room throughout the day; "Sea Legs" and an animated "No Points for Second Place."

LAMPS Program. The laboratory for Light Airborne Multi Purpose System support will present a continuous running videotape in the Lamps Conference Room describing the LAMPS MARK III weapons system.

TAS-6—Demonstration of a Portable Thermal Imaging Device recently made available to U.S. Naval Forces for night observation and reconnaissance.

Optical and Laser Technology—Exhibition of Fiber Optical Hardware, Laser Communication Devices, and Laser Generated Holograms.

Microwave Technology—Scale model of an Anechoic Chamber which is used in determining the radar cross section of a scale model aircraft. Also displayed are over 200 model aircraft spanning the WWI era through the present day.

Acoustic Processing Technology—Demonstration of the proces-

sing of recorded ocean noise and its analysis. Also included is a Submarine-Hunt Video Game.

Hydrophone and Sonobouy Technology—Open laboratory water tank demonstrations of Hydrophones Sonobouys, and Sonar Transducers. Several static displays of test equipment and acoustic hardware are included.

Navy Technology Display—Depicting development can be of benefit to both the public and private sector alike. These developments will include:

- Mini-Boat
- Corrosion Preventive Coatings
- Water Displacing Paint
- All-Weather Coat
- NOMEX Fire-Retardant Uniform

The Dynamic Flight Simulator (Human Centrifuge) will be on display. This is the largest and most versatile centrifuge in the world capable of generating up to 40 G's.

Ejection Seat Tower will be in operation for several demonstrations throughout the day. This 150-foot tower simulates dynamic ejection conditions with both live subjects and anthropomorphic dummies.

Horizontal Accelerator Facility is a crash simulator. Its primary purpose is to produce acceleration profiles which represent the environments to which man and his equipment are exposed.

On the lawn outside of Building 70, there will be several exhibitions. Among them are life support equipment, raft displays, and flare shots.

George Tsaparas Development Laboratory contains an airframe mockup which can be reconfigured to simulate any aircraft. An A-7 cockpit will be displayed.

Crewstation Evaluation Facility is used primarily for man-machine integration technology. There will be a voice control of CRTs on display.

An operative **Pocket-Size Aircraft Performance Advisory Computer** used to decrease mission fuel usage will

be on display with associated computer hardware. There will also be a microscope with materials specimens available for inspection.

T-58 Cutaway Engine Model will be displayed. Also, a General Electric display on various engines will be available.

See stress become visible through photoelastic analysis in the **Structures Test Lab** area. Also composite structures and repair concepts will be demonstrated.

Vandal is an anti-ship missile target used to evaluate ship defense systems. The target is capable of flying in excess of Mach 2.0 at altitudes of 300 feet up to 60,000 feet.

Holographic Display showing a three dimensional view of various objects through the use of a laser beam and a hologram of the objects.

Display showing the difference in pictures definition between a "high resolution" TV screen and the standard commercial TV screen.

Static Display showing various display components developed by the Navy such as Heads Up Displays, Helmet Mounted Displays and Night Vision Goggles.

Computer Demonstration of tactical warfare computer programs.

Video Tape "No Points for Second Place" (Navy fighter a/c capabilities—past and present)

"Frontiers in Communication and Navigation" Display illustrates our role in the research and development of communication and navigation technology aboard submarines, ships and aircraft. Feature attractions include exact scale models of a Naval Fleet including an aircraft carrier, cruiser, destroyer, and submarines communicating with aircraft. Also, vintage and futuristic communication and navigation equipment will be shown comparing the past, present, and future systems.

Open House benefits Navy Relief

The Navy Relief Society Fund Drive 1984 officially opened May 4, and will conclude June 6. During the 32 day period Naval and Marine Corps Bases around the world will hold a variety of events to raise funds for the Society.

Last year the Society aided 79,000 Naval and Marine Corps personnel with loans of \$19.4 million and grants of \$1 million. An additional 62,000 personnel received non-financial services.

\$540,000 went to Navy Relief Visiting Nurse Programs to provide over 50,000 home visits to help convalescents and to instruct new mothers in infant care. \$340,000 was used to provide

9,200 layettes for newborn babies of servicemembers in the junior pay grades and others with tight budgets. \$113,000 went to the maintenance of Children's Waiting Rooms in eight hospitals which provide care for children while their parents receive medical treatment.

And so, when in the next 32 days you are asked to register a charitable allotment of as little as \$1 monthly to the Society, remember what the Society did in 1983 for your buddy or your shipmate, or perhaps you, and support the 1984 Navy Relief Fund Drive.

NOTICE TO VISITORS

All persons granted access to this facility are considered invited guests of the commander. As such, visitors are subject to the following conditions:

While on board the Naval Air Development Center, visitors shall not engage in:

1. Demonstrations, active or passive.
2. Political activities.
3. Pamphleteering.
4. Speech-making.
5. Placard/banner displays.
6. Other activities which are considered to be incompatible with or inimical to security; disruptive of planned events; a threat to loyalty, discipline, or morale of personnel (military or civilian).

The Commander, NADC, reserves the right to withdraw his authorization to visit from any person(s) violating these conditions.

By authority of Section 1382, Title 18, U.S. Code, such persons may be escorted from this facility and ordered not to re-enter: Violation of this law is punishable under Section 797, Title 50, U.S. Code by a \$5000. fine or imprisonment for 1 year, or both.

Fireworks . . . You'll get a bang out of this

by Mike Masington

The fantasia of sight and sound known as fireworks has held an attraction for people ever since pyrotechnics first came into use. Originally used as weapons and a means of illuminating the battlefield, they soon became a popular part of many major celebrations. Today, in their various forms — and, supposedly, according to the degree of danger — fireworks are restricted, banned, and regulated into a confusing legal mess, which only the most dedicated fireworks bootlegger is able to understand.

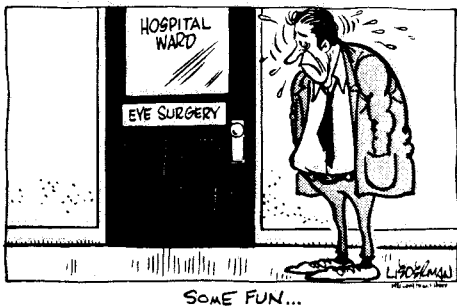
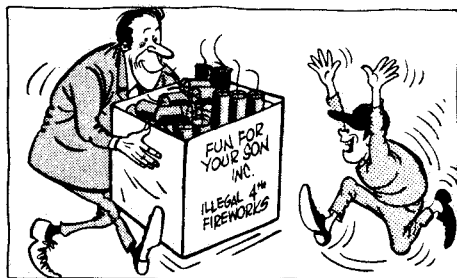
Depending on the state in which you live, you may be free to blast off any pyrotechnic device you can get your hands on (which also may get your hands off). Or, as in Pennsylvania, legally, you must be satisfied watching a small stick fizzle, spark, and sputter for a few fleeting seconds.

In spite of increasingly stringent federal and state regulations, approximately 10,000 people (6,000 of them being children) are seriously injured by

fireworks every year. While federal law forbids the interstate transportation of the most hazardous (Class B) fireworks, and Pennsylvania law prohibits their non-commercial use, we all know people who circumvent these laws. Some find a blackmarket connection selling fireworks. Others go to a state where they can be brought legally, or ask a well-meaning friend to bring some with them when they come to visit. Youngsters can even send for mail order shipments of some fireworks or their components. Suffice it to say that, legal or not, fireworks and their hazards are a fact of life.

The most common (Class C) fireworks are not included in federal regulations, and are generally available locally. However, in one study of injury-producing fireworks incidents, 42 percent of the injuries were caused by these comparatively harmless Class C devices, and the worst offender in this class was the seemingly innocent sparkler. Although most people assume the sparkler poses no real threat, this device has caused severe burns, blindness, clothing fires and even death. The sulfur-coated wire of a sparkler can reach temperatures ranging up to 2,000°F, and even the afterglow can cause injuries to curious children as well as adults.

During the summer months we have several holidays that traditionally have included the use of fireworks. Keep in mind that these items are not toys, but explosive or fast-burning devices. In their original form they were weapons of war, and their basic nature hasn't changed. Kids are particularly vulnerable and ill-equipped to handle the attractive dangers of these potentially deadly playthings, so as a responsible adult you must take a realistic approach in warning your children about the hazards.



New titles in library

Following is a partial list of books recently added to the Technical Information Branch. Visit or call your library at x2541 to inquire about these books.

Acoustics

"Acoustical oceanography: principles and applications" C. S. Clay

"Fundamentals of acoustics"

"Fundamentals of ocean acoustics" L.M. Brekhovskikh

"Underwater acoustics and signal processing: Proceedings of the NATO Advanced Study Institute held at Kollokole, Copenhagen, Denmark, August 18-29, 1980"

Chemistry

"Encyclopedia of chemical electrode potentials" M.S. Antelman

"Handbook of chemical property estimation methods: Environmental behavior of organic compounds" W.J. Lyman

"Hazardous materials spills handbook"

"Inorganic chemistry, a modern introduction" T. Moeller

"Intercalation chemistry"

"NIOSH/OSHA pocket guide to chemical hazards"

Security Reminders

Badges

NAVAIRDEVCEININST 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.

Classified Mail to FPO/APO Addresses

Classified material, Confidential or Secret only, to be sent through the U.S.

Postal Service to FPO/APO addresses must be sent via REGISTERED MAIL. Para 12-103 OPNAVINST 5510.1F applies.

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.

Commander Salutes

Name	Dept.	For
AMCS Joseph C. Lamere, USN	Aircraft Department	His assistance in the establishment & maintenance of educational programs for enlisted personnel on board the NADC.
Nancy MacMeekin	Sensors and Avionics Technology Directorate	Outstanding performance as the Deputy Block Program Manager of the Surface & Aerospace Target Surveillance Program
Richard M. Coughlan Albert M. Bates Charles T. Bogle Edward J. Cotilla David G. Fenton Joseph M. McCandless Wayne H. Sandford, Jr.	Sensors and Avionics Technology Directorate	Outstanding technical support during the initiation & implementation of the Low Cost Sonobuoy Program
Leonid J. Markushewski	Aircraft & Crew Systems Technology Directorate	Significant achievement in the area of cost control for external fuel tanks & aerial refueling stores.
Harry J. Ubele	Command Projects Directorate	Outstanding support during the development of the E-6A Weapons Systems.
Thomas F. Rothstein	Software & Computer Directorate	Outstanding performance during a 9-month assignment to the Imbedded Computer Program Office at Headquarters, NAVMAT.

Technical Highlights

SSN Navigation System Technical Evaluation

Under the technical direction of NADC, the Electro-Staticly Suspended Gyro Navigator (ESGN) system with embedded processor has successfully completed TECHEVAL aboard SSN-716. Results of the TECHEVAL which indicate that ESGN navigation performance greatly exceeded accuracy requirements have been reported to the NAVSEA Certification Board. It is expected that COMOPTEVFOR will initiate OPEVAL by the end of April.

F-14A/Dynamic Flight Simulator Validated

A milestone in the extensive development of the F-14 configured Dynamic Flight Simulator was achieved during the first half of this month with its successful demonstration in a full dynamic,

pilot-controlled mode. Five F-14 pilots, including one who had experienced a fully developed F-14 flat spin flew the centrifuge-based DFS through a wide range of flight maneuvers, including spin. All commented on the degree of realism achieved by this unique simulator and its potential as a problem-solving tool.

JVX Simulation

The first in a series of three piloted simulations of the JVX to be conducted at NASA Ames Research Center was completed on 13 April. The objective of this simulation was to evaluate both the NJVX aircraft flying qualities and the controller configurations being considered for use on the JVX. The evaluation was conducted by the Bell-Boeing and Navy team. Preliminary results indicate that the JVX could be flown adequately with the controller configurations evaluated.

The NADC RECIPE REVIEW

Sweet and Sour Burger

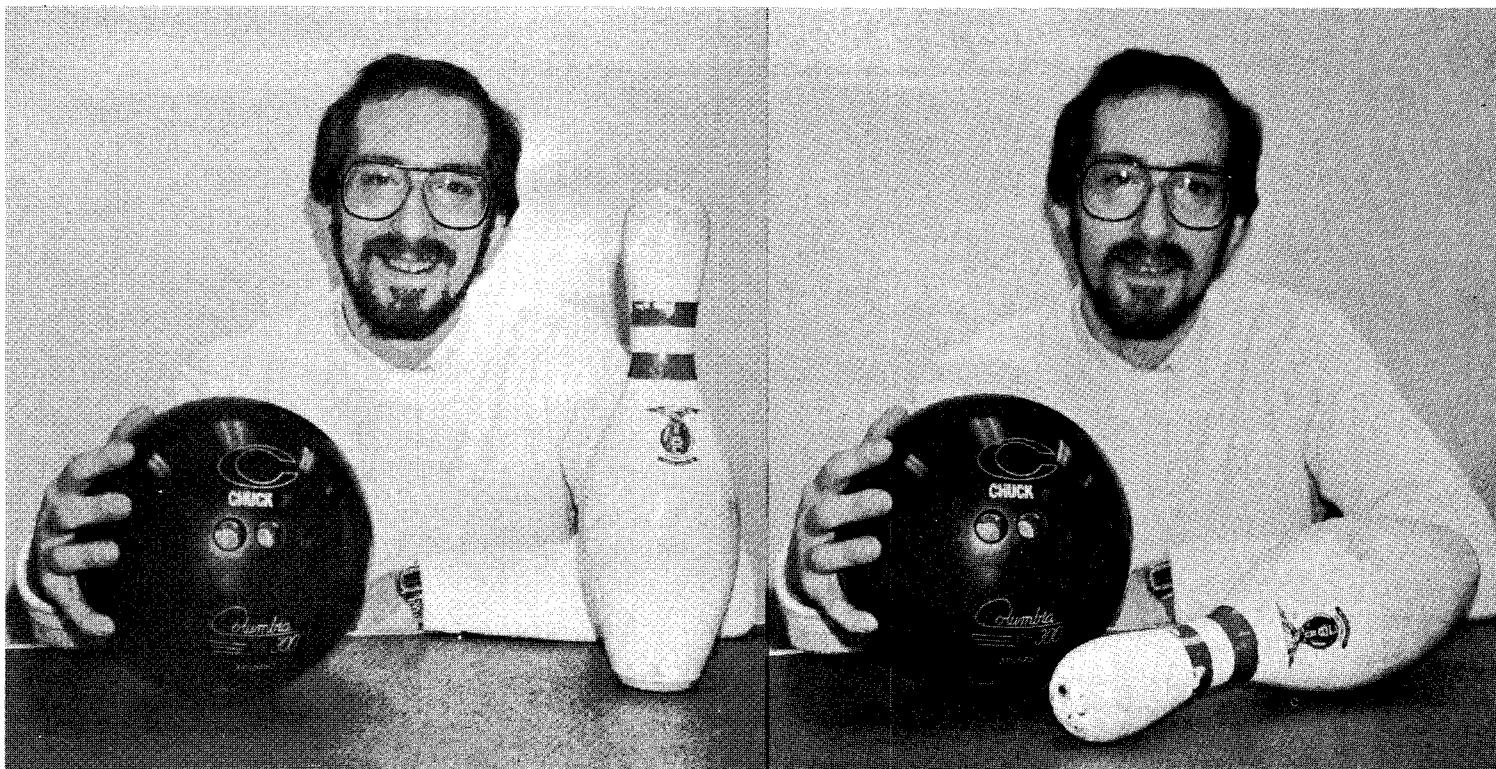
This month's recipe is provided by Julie Dancha (Code 845614, X1734) who will receive a \$50 Bond from the Food Service Board. This recipe will also be served in the NADC Cafeteria. Submit your recipes to Mr. Robert Green, Cafeteria Manager. One winner will be selected each month.

- | | |
|--------------------------------------|-------------------------------------|
| 1 envelope onion soup mix | 1/4 cup water |
| 1 egg | 1-1/2 lbs. ground meat |
| 1 cup sauerkraut drained and chopped | 1/2 cup whole berry cranberry sauce |
| 1/4 cup chili sauce | 1/4 cup water |
| 3 Tbls brown sugar | 6 enriched rolls |

Combine onion soup, 1/4 cup water and egg. Let stand five minutes. Add ground meat, mix thoroughly, shape into six patties. Combine sauerkraut, cranberry sauce, chili sauce, 1/4 cup water and brown sugar. Mix well, simmer 20 minutes. Split rolls and serve.

LOOK FOR THIS RECIPE TO BE SERVED IN THE NADC CAFETERIA





Almost perfect... that's the mixed emotions reaction of Charlie Hegedus, a chemical engineer in ACSTD's Aero materials division, and avid bowler. Hegedus, bowling with NADC's Men's Bowling League scored a 299... an almost perfect game. Here he is with the only pin that didn't fall that night. If fell for our camera (with a little push from Charlie).

(photo by Jim Kingston)

Promotions for 36 in April

Christianna L. Andersen, Jeanne M. Birrane, Reynolds E. Brooks, Annamarie Burke, Joseph Cameron, III, Joseph P. Cody, Jr., Kathleen Drager, Benjamin Drexler, Regina D. Eichert, Holly B. Ewan, Eric W. Fanjoy, Joseph G. Gabriel, John V. Gambale, Elizabeth M. Goehring, Octavia G. Gray, Ellen E. Hayes, Edward J. Hill, Gary L. Hoffman, David R. Keyser, Brian P. McElvaney, Thomas J. McGovern, Donald H. Meadows, Joan V. Miller, Theodore W. Morrison, William J. Palmer, Elizabeth R. Randazzo, Edwin L. Rosenzweig, Sandra E. Schwartz, Lynn S. Scott, Robert M. Seltzer, Michael J. Sortino, Veronica P. Szpanka, John M. Tate, A. Thomas Weaver and Rhonda A. Vaughan. One name withheld on request.

Welfare & Recreation news

A six-day trip to Montreal and Quebec is being sponsored by the Welfare and Recreation Association on August 24th through 29th. The cost of \$358 per person double occupancy and \$332 triple occupancy includes transportation, hotels, four meals, two guided tours, taxes and tips. The deluxe motorcoach transportation will leave from the Center's parking lot. The trip will include a fascinating tour of Montreal. You'll have a chance to compare the city's old and new aspects, and its rich French and English heritages. You'll stay at the Hotel du Parc for two nights and dinner and entertainment is planned at the Vieux Munich.

On our way to Quebec we will drive along the scenic St. Lawrence Seaway. We will enjoy a full sightseeing tour of the historic walled city of Quebec and have a festive dinner in Old Quebec. Accommodations for two nights are at Loew's Le Concorde. While in Quebec we can visit the famous shrine of Ste. Anne de Beaupre and view beautiful Montmorency Falls. On our way back home on day five we can see the beautiful Lake Placid region (the site of the 1980 Winter Olympics), and spend the night at the Ramada Inn in Lake Placid. On day six we head for home in comfort. Call Ida on x2451 for reservations.

A four-day Labor Day "Cruise to Nowhere" aboard the newly refurbished S.S. Galileo, a 28,000 gross tonnage ocean liner will leave from Philadelphia on September 1st. This trip includes all meals, entertainment and accommodations with private bath at a cost of \$335 per person double occupancy. Triple occupancy available upon request. The international crew is your assurance of great food and good service. The entertainment is geared to keep you happy throughout the entire cruise. This short sailing will make you a confirmed "cruiser". Call Ida on x2451 for more information and reservations.

NADC W&R is going to the Circus. Ringling Brothers — Barnum and Bailey's 100th Anniversary. The day is Saturday, 9 June at 11:00 AM. The cost is \$7.50 per seat. A limited number of tickets are available. Make your reservations with Employee Relations Division, X3079 or Karl Geist, X1332.

Annual Dorney Park Picnic. The date is Saturday, 14 July 1984 in Green Groves 2-7. Admission is free with ticket stub. All day ride pass (12 noon to closing) \$6.00 per person. Children four years or younger will be charged only \$4.00 for the all day ride pass. All day ride passes will sell for \$8.00 in the NADC grove on the 14th so plan to buy your passes ahead of time. This year we have a fabulous Food Plan Menu. You won't have to bring a thing from home — just come and enjoy. Thanks to a generous subsidy from the Food Service Board, the following menu is available for \$3.00 per person. Children four years old or younger will be charged only \$1.50. It will be available 1 PM to 6 PM.

- | | |
|-------------------------|------------------------|
| Char-broiled Hamburgers | Grilled Hot Dogs |
| Beef Bar-b-que | Home-style Baked Beans |
| Potato Salad | Honey-dipped Chicken |
| Cole Slaw | Chips and Pretzels |
| | 3 oz Dixies |

Beverage Service—12 Noon to 6 PM — All you can drink — includes: Birch Beer, Orange Drink and Beer. Parking will cost you \$.25 per car. Tickets will be available at a later date to be announced.

PHILLIES REMINDER

The next upcoming dates for the Phillies tickets are:
 Friday, June 8, 5:35 PM — Twi-night Doubleheader vs the Pittsburgh Pirates, Section 629, Price: \$6 per seat.
 Saturday, July 7, 2:15 PM — Barbeque Apron vs the Atlanta Braves, Section 612, Price: \$6 per seat.
 Contact Karl Geist, X1332 for reservations.

W&R Celebrates NADCs 40th Anniversary by offering:

- | | |
|------------------------|----------|
| NADC Sweatshirts | — \$8 |
| NADC T-Shirts | — \$4 |
| NADC Hats | — \$4 |
| NADC Mugs (Blue) | — \$3.50 |
| Anniversary T-Shirts | — \$4 |
| Anniversary Key Chains | — \$1 |
| Anniversary Mugs | — \$3 |

These items will be available from 10:00 AM through 6:00 PM at two locations (W&R Office and Hangar 4) on 19 May as well as the W&R Office on Mondays, Wednesdays, Fridays, and paydays.

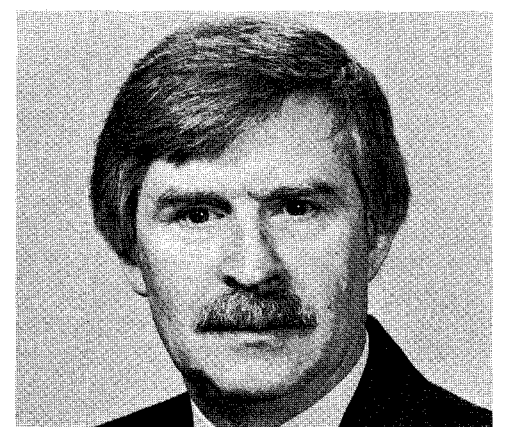
Welcome Aboard! to these new permanent employees

Name	Position
Antoinette C. Arbel	Clerk-Typist
James G. Atkins	Computer Scientist
Nicole M. Ciaudelli	Supply Clerk
William F. Clark	Sheet Metal Mechanic Helper
Lucrezia Colantonio	Clerk-Typist
Maria A. Depasquantonio	Electronics Engineer
Philip W. Dietz	Mechanical Engineer
Diane E. Erdman	Clerk-Typist
George E. Gibbons	Electronics Engineer
Tsung Yao Hsu	Mathematician
Robert G. Janes	General Attorney
Alkis Koutsouroubas	Electronics Engineer
Joseph L. Lindinger	Electronics Engineer
Carol M. Majer	Clerk-Typist
Kenneth L. Melvin	Electronics Engineer
Trong Van Nguyen	Electronics Engineer
Robert W. Simms	Electronics Engineer
Chester E. Terry	Electronics Engineer
Roseanne Wehrs	Clerk-Typist

Bellew chosen EEO Chairman

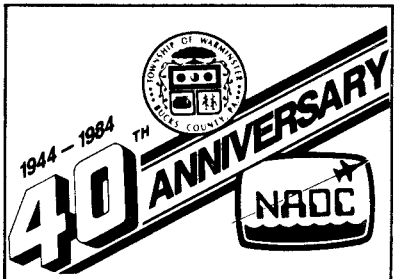
Ira Bellew, an Electronics Engineer from the Software and Computer Directorate, has been selected to serve as the EEO Committee Chairperson. Becoming involved with the EEO program just seems like a "natural thing" to do, says Bellew. I enjoy being involved with people and feeling that I have contributed something.

Bellew hopes to see the EEO office become the most vibrant Center organization, involved in administrative, social, and counselling activities. One of his goals is to make maximum utilization of the many resources and services within the EEO Committee Charter. Another goal, says Bellew, is to improve Center morale by demonstrating to Center em-



Ira Bellew

ployees that "insuring the rights of minorities and women in turn ensures the rights of all at NADC." (MAB)



REFLECTOR

Naval Air Development Center, Warminster, PA

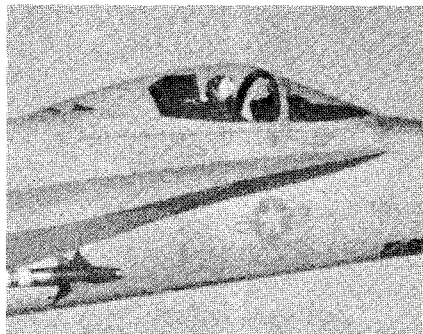
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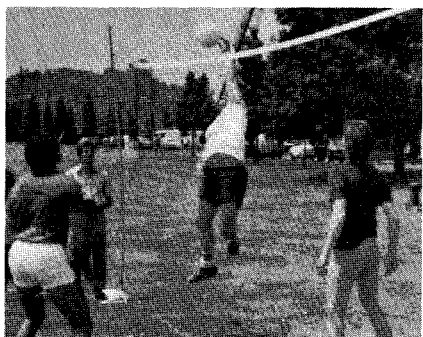
Opportunity Knocks

Page 2.



Hornet nests here

Page 3.



Up, up and over

Page 4.



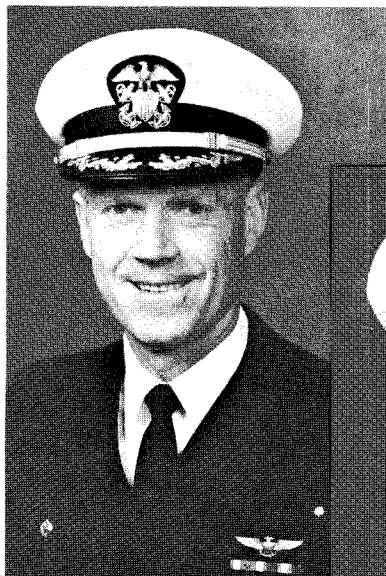
Life-saving suit

Page 6.



Code on the road

Page 6.



The command of NADC will change for the 17th time as CAPT James B. Anderson appears to diminish above and CAPT Edward J. Sturm comes to the fore.

Change of Command

CAPT Edward J. Sturm will replace CAPT James B. Anderson as NADC's Center Commander during change of command ceremonies to be held 19 July.

Navy regulations require that there be a formal turnover of responsibility from the outgoing commanding officer to the incoming commanding officer. These change of command ceremonies will be held in hangar bay 1, building 4, at 1330.

Sturm comes to NADC after a tour of duty at the Naval Air Propulsion Center in Trenton, NJ. Prior to his service at NADC, Sturm also served as NADC's Deputy Director of the Aircraft and Crew Systems Directorate for three years.

"It's good to be back on the Center," Sturm said. "I know first hand from my most recent experience about the fine resource the Center has in you, the talented people who work here.

"I am also aware of how important the work we do is to the present and future ability of our Navy to perform its mission," he said. "I am looking forward to working with each and every one of you as we all contribute our part toward the accomplishment of our important work. Our challenge is to be as responsive to the needs of the Navy and as effective and efficient as we can as we go about that work."

In addition to his tours at NADC and NADC, Sturm spent four years in the Propulsion Division of the Naval Air Systems Command, three years as the power plants Class Desk Officer on the staff of the Commander Naval Air Force Atlantic Fleet, and three years as the Engineering and Quality Officer at the Naval Air Rework Facility.

In addition, Sturm completed naval flight officer training and served in Patrol Squadron ONE. Sturm has also received his doctorate in aeronautical

engineering from the Naval Postgraduate School.

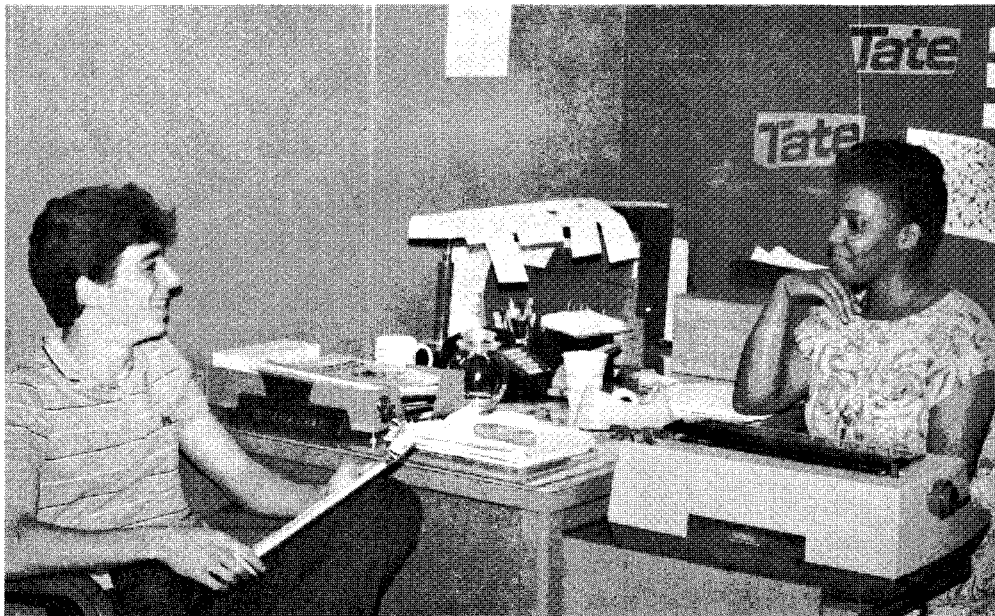
Anderson leaves NADC after three years as the Center's Commander. After departing NADC, Anderson will be rotated to the Naval Air Systems Command as the Assistant Commander for Research and Technology. (See related story).

Anderson came to NADC after serving in a variety of positions. He was the Air Material and Engineering Officer of the staff of the Commander Naval Air Force Atlantic Fleet, Director of the Air Vehicle Division of NAVAIR and Commanding Officer of the Naval Research Branch Office in Pasadena.

Besides these assignments, Anderson has been the aeronautical engineering officer for a variety of new weapons systems. Like Sturm, Anderson also received a doctoral degree in aeronautical engineering from the Naval Postgraduate School.

An opportunity for Octavia

Worker-trainee program gives hope and a future



Paul Scelsi interviews successful worker-trainee, Octavia Gray. (Photo by Regina Beans)

Editor's Note: Paul Scelsi is employed as a clerk typist in the Material Division of the Supply Department. He is part of the Center's Summer Employment Program. In the fall he will continue as a Communications major at Temple University.

By Paul Scelsi

Obtaining full-time employment with the government may be a dream that seems unreachable. Such was the case for Octavia Gray, a clerk-typist in the Employee Development Division of the Civilian Personnel Office.

Through the Worker-Trainee Program, Gray came to NADC as a temporary employee, a slot she was glad to fill. "I always wanted to work for the government because of the security and the benefits," Gray, 25, said. "My fa-

ther worked for the government and seemed to be doing fine so I wanted to follow in his steps."

The program that provided Gray with the opportunity to work at NADC, is one designed to hire low skilled-disadvantaged persons and provide them with training and advancement opportunities. In Gray's case, opportunity was the main consideration.

After graduating from Abington High School in 1977, Gray kept busy doing housecleaning work. One year later she went to Montgomery County Opportunity Industrialization Center (OIC) where she learned the clerical skills necessary for office work.

Another feature of the OIC is to set students up with jobs in businesses or firms. Unfortunately, Gray could not

get in any door. Three years later, after working as a merchandise clerk in a department store, Gray was picked up by the NADC Worker-Trainee Program.

"I had given up all hope. The OIC was trying but they could not find me a job," Gray said. "I had been laid off and was actually in the unemployment line when my father told me that I would be working at NADC. My typing teacher at OIC had heard of the Worker-Trainee Program and sent my name to NADC along with a letter of recommendation."

From there she went one way—upward. Gray went from temporary status to permanent; from a GS-1 to a GS-4. She took full advantage of the open door. She started in the Personnel Services Division of the Civilian Personnel Department on 9 February 1981, under Doug Lundberg.

"Octavia made a lot of progress. She came to us as a hard worker. Part of the reason she came to the CPD was a combination of need and challenge. She filled both roles well," Lundberg said.

Along with work, training is also provided under the Worker-Trainee Program. Gray was spending time in class as well as at the desk. "I was taking classes in typing and English at NADC provided by Bucks County Community College, she said. "The classes really came in handy because I was rusty and out of practice."

Gradually Gray climbed the ladder. After spending time under Lundberg's supervision, it was time for her to move onward where she was needed even more.

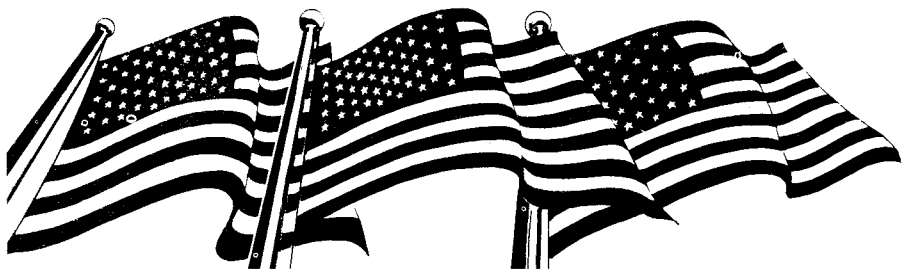
"There just came a time for her to move on to a position where she was needed elsewhere," Lundberg said. "They needed her help in the Employee Development Division."

Richard Chern, head of The Employment Development Division, said that Gray came to them at a very critical time. "Our office, which handles the recruitment of college graduates in the field of science and engineering, had just recruited 200 grads," he said. "It wasn't a matter of just giving her busy work. There was an urgent need for her to help out with all of the paperwork connected with the recruiting process."

To top off all her success, Gray received an award from Chern for sustained superior performance. "She is a super, super employee. Very quiet, but good," Chern said. "From the time she comes in at 6:30 a.m. she never stops working. No breaks, no conversations; she is a machine."

Kathleen Gause, the Deputy Equal Employment Opportunity Officer, said that the program is invaluable. "If there wasn't a Worker-Trainee program, Octavia might not have had an entrance into the Center," she said. "The program allows entrance into the government for people who might not have had a chance otherwise. It has opened the door for low skilled and disadvantaged people."

Octavia Gray is one of 17 graduates from the Worker-Trainee Program. Her story is a special one. Hard work, hope and the Worker-Trainee program all played a vital role in a dream come true.



Where do all the flags go on the 5th of July?

By Jim Kingston

Hundreds, thousands . . . Perhaps even hundreds of thousands . . . get packed away until next 4th of July! Why?

Maybe it's because we're afraid of being called 'flag-wavers'; maybe it's because 'everyone knows we're patriotic without our having to fly a flag'; maybe it's because we feel uncomfortable or awkward being one of the few — or even the only one — on our block to display the flag; then, maybe it's because we just don't care!

Oh, we care, all right! We care when some other nation raises so much as a word against us or our great national symbol. We care when Iranian 'students' haul our flag down from our embassy and burn it; carry garbage in it. We care when one of our own revolts and takes his dissatisfaction out on our banner. Suddenly, we want to wave the flag, we want to be the first on our block to fly it. Also, suddenly, we forget how busy we are fighting each other. We lose our hatred, our bigotry, our status consciousness. We have no time for racial, religious, or social intoler-

ances. Now, we're All-American Americans. We take up the flag, rally in front of it, rally in back of it, rally all around it! We unite in an 'all for one and one for all' effort that would make the Three Musketeers look like casual acquaintances.

Aren't these just such times? Times when no nation on earth is really safe from one type of aggression or another. Times when men, struggling to free themselves from oppression, are knocked down, shot down, and shackled while the so-called 'free world' looks on. Times when the very foundations of our own nation are in jeopardy. Times when our flag is ready to be carried to the ends of the earth to support other men who, like our forefathers, are oppressed, downtrodden, seeking liberty and freedom. Times when we all might do well to exhibit just a little more good, old Americanism.

Then before you pack your flag away on the 5th, remember there are 364 more occasions to fly it before next July 4th. And don't put the spirit away with the flag, but carry it in your heart all year round.

NADC Explorer Scout Post seeks leaders and members

In November 1983, LCDR Stu Schreckengast was appointed advisor to Explorer Post 690 (Aviation). Since then, Schreckengast and his 28 scouts have seen and done some interesting things. They include visiting the Aerospace Museum in Washington, DC; touring the Philadelphia International Airport Control Tower, receiving briefs from the airline personnel and air traffic controllers; and flying in several of NADC's Flying Club aircraft. In the planning stage is a visit to the USS ORISKANY, a decommissioned aircraft carrier docked in New York.

On 31 July 1984, NADC Explorer

Post 690 (Aviation) and Post 202 (Computer) will meet in the IVB Building on Street Road at 7:30 PM. This meeting is to solicit new members, organize future events and answer questions about the explorer program.

These posts need experienced adult assistance as well as younger members. Scouts range in age from 14 to 21. All current and prospective members are requested to attend.

If you are interested but unable to attend, please contact Schreckengast on x1105. NAS Willow Grove is also starting an Explorer Post—contact Bob Long on x6084.



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Public Affairs Officer	James S. Kingston
Editor	Regina Beans
Assistant Editor	Mary Ann Brett
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Anderson reflects: Sees NADC employees as the key

Upon his departure from NADC, CAPT James B. Anderson reflected upon his tenure as Center Commander during the past three years.

NADC compiled a long list of accomplishments during the time he was at the Center, Anderson said. The Center, for example, has delivered new mission software to the P-3 and S-3 fleet. Center personnel have delivered and installed CV-ASW (aircraft carrier antisubmarine warfare module) equipment in 12 vessels, two of these modules during the last three years.

The design and fabrication of the F/A-18(R) reconnaissance pallet were also completed during Anderson's tenure as Center Commander.

"This development shows that we can transform good ideas to hardware," Anderson said. "And I'm confident that the reconnaissance pallet will be just as effective as the TARPS pod."

Other NADC accomplishments include the strengthening of NADC's position in TACAIR and improving responsiveness to NADC's major customer, the Naval Air Systems Command. This improved responsiveness came about without NADC sacrificing its responsibility to be an honest broker, Anderson said.

"We need to continue that trend," he said. "In the future I foresee greater reliance by NAVAIR headquarters on its support field activities, including NADC."

The Center has also recently undertaken a significant systems engineering support effort for NAVAIR, Anderson said. This is an effort that will be of increasing importance in the future.

The Center has also embarked on an ambitious facilities improvement program, Anderson said. This facilities improvement program is designed to upgrade office spaces and improve the exterior appearance of the Center.

Additionally, during the past several years, Center personnel working in N-STEP and NSAP assignments and as fleet science advisors have "enhanced the image of the Center and have improved the Center's effectiveness in support of its sponsors and our ultimate customer—the fleet," Anderson said.

Anderson also noted the importance of efforts to continue to strengthen re-

lations with the community.

"The important thing is that 2,500 people work here and also live in this area," he said. "It is necessary that the community understand that what we do here is important to the Navy and to the nation."

"We as an organization and member of the community have to help improve community life. The Navy needs all of us to give our best shot each day, and we can't do that without strong community support."

Anderson also noted that his tenure as commander has been a challenging one, but that the "people at the Center are uniformly outstanding and professional. This was apparent to me when I first visited the Center in March 1981."

"This same impression remains and has been strengthened during the last three years."

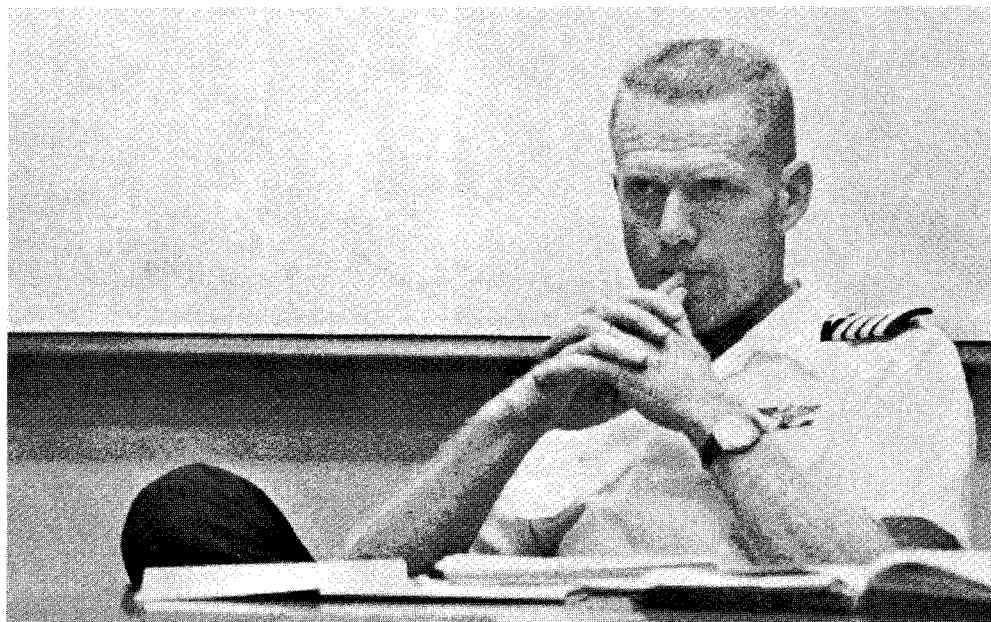
After completing his tour as NADC's commander, Anderson will assume the duties of the Assistant Commander for Research and Technology at NAVAIR (AIR-03). In that capacity, he will be responsible for naval aviation and research technology programs, which will result in his having a continuing relationship with NADC.

This job will entail articulating research and technology programs and needs to the Office of the Chief of Naval Operations, Office of Naval Technology, the Department of Defense and Congress.

In his new position, Anderson said he would be able to take with him the knowledge that NADC can be relied upon to get the job done successfully.

As Assistant Commander for Research and Technology, Anderson will be in a position where his responsibilities will be more completely of a technical program nature. His responsibilities at the Center have been much broader. For example, there was the responsibility of the maintenance and upkeep of a major military installation.

"The challenge will be different at NAVAIR," he said, "but here you're closer to where the work is done and that's enjoyable." (CER)



CAPT James B. Anderson

"FAILSAFE" brings fleet expertise to NADC's life support programs

The life support equipment fleet liaison officers of the Aircraft and Crew Systems Technology Directorate, are currently embarked in an effort to involve fleet personnel in the process of developing aviation life support systems.

Involving fleet representatives in the development process has several benefits, according to CDR Gary Smith, who is one of the fleet liaison officers in the Life Support Equipment Division. By gaining the hands-on expertise of members of the fleet, many of the problems that would arise with a system in actual fleet use are avoided. This has required a shift in the focus of the efforts by the three NADC fleet liaisons—Smith, LCDR Dana Place and LCDR William Little.

"Historically, the function of the life support equipment liaison office was to be more of a troubleshooter," Smith said. "What we've tried to do for about the past two and a half years is to get involved with the fleet in the development process—to go from troubleshooters to trouble preventers."

Besides preventing future problems, this interaction with the fleet provides an opportunity for the fleet representatives to help introduce and indoctrinate other maintenance personnel and aircrews in the proper use and maintenance of the equipment. This is especially important since pilots and aircrews are only required to undergo

formal training with life support equipment about every four years, Smith said.

Funding for this effort is from the Naval Air Systems Command through the Fleet Air Indoctrination/Liaison Survival Aircrew Flight Equipment, or FAILSAFE, program. The FAILSAFE program was created to ensure the proper introduction and indoctrination of new or modified articles of aviation life support equipment and systems.

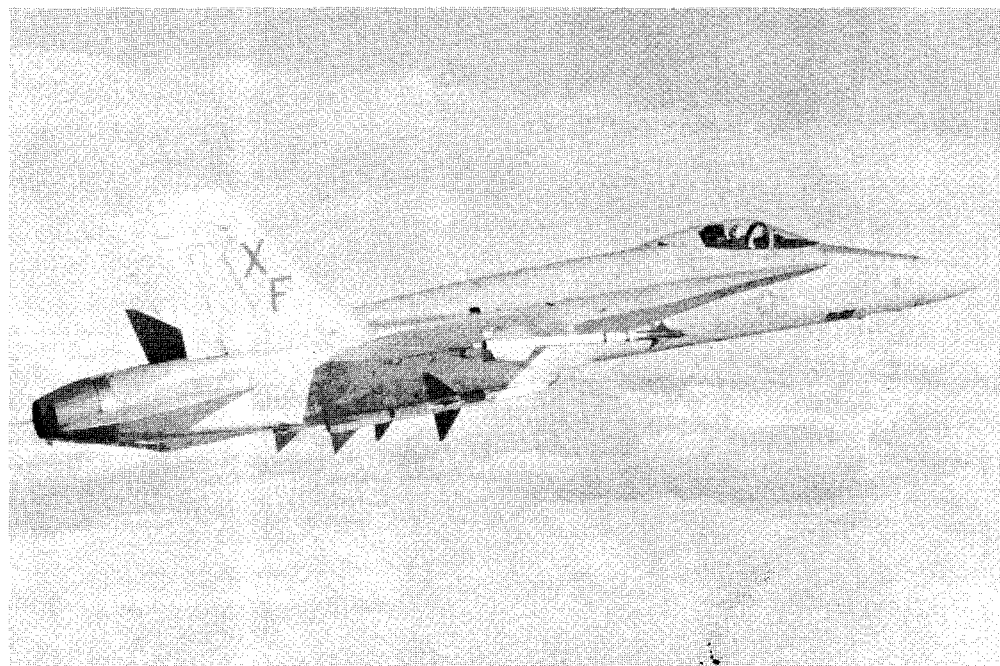
Much of the FAILSAFE program is coordinated through NADC, since the vast majority of life support systems used by Navy aircrews are developed at NADC. However, the Naval Weapons Center, located at China Lake, is also involved in the program since NWC develops parachutes and restraint systems.

NADC's fleet liaisons, then, use the FAILSAFE program, which is implemented through the Navy's Aviation Physiologists stationed throughout the world, as a way of bringing fleet representatives into the developmental process. These representatives, called Tiger teams, are brought to NADC for regularly scheduled workshops.

At these workshops, the fleet Tiger teams and the engineers have the opportunity to discuss the maintenance plan, potential problems and unique circumstances that might be encountered in the fleet environment, Smith

(Continued on page 6)

NADC-developed reconnaissance pod due here on test-bed F/A-18



Joint NADC/MCAIR efforts will be on display during the scheduled visit of an F/A-18 Hornet to the Center on 21 August.

Center engineers will have the opportunity to assess and fine tune their handiwork as it will be integrated into a specially equipped F/A-18 Hornet airplane that is tentatively scheduled to be at NADC on 21 August. The airplane will lay over at the Center en route from the McDonnell Aircraft Company, St. Louis, MO to the Naval Air Test Center, Patuxent River, MD. There, the F/A-18 will undergo flight testing to evaluate its NADC/MCAIR third mission-reconnaissance.

Since 1980 the Center and MCAIR have been designing and integrating combinations of photographic sensors and an infra-red sensor to be carried in the modified nose gun bay of the F/A-18 to provide a reconnaissance capability. This capability will allow the airplane to become the Navy's primary organic tactical recon-

naissance aircraft. Designated the F/A-18(R) it will replace most of the currently flying F-14/TARPS (Tactical Air Reconnaissance Pod System) aircraft.

Center engineers conceived of the idea of a triple mission-fighter, attack, recce-F/A-18 by adding internally carried recce sensors in the present gun bay compartment. The NADC designed recce pallet, mounts, windows and interfacing electronics, along with the modified GFE sensors will provide the ability for the airplane to perform strike or air superiority missions simultaneously with the reconnaissance mission.

A modest amount of fine tuning is expected to be done at the Center prior to clearing the airplane to begin flight testing.



(Photo by Jim Kingston)

The Epsilons spike one over the net to the SH's during a volleyball league game at NADC.

Volleyball: A Center lunchtime staple

By Betty Anne Mauger

There are several familiar and unmistakable ways to mark the presence of summer at NADC. A noticeable increase in jogger traffic usually coincides with the increase in temperatures. Parking lots become strangely empty after lunch on Fridays when many leave to get an early jump on their vacations. And now, the solid "thump" of a volleyball serve adds to the sounds of summer on the Center.

The NADC Mixed Volleyball League kicked-off its second season Monday, June 11. The league, which began last year as a spinoff of the Navy Relief Superstars Competition, originally had only eight teams. This year, the league has almost doubled in size with 14 teams registered.

With the growth from infancy to its two-year toddler stage, the league has experienced several changes in organization and management. For instance, according to league president, CDR Walter M. Teichgraber, rules and regulations have been re-written to parallel those used by the United States Volleyball Association. "Since volleyball seems to be catching on here at NADC, I think it appropriate that we all learn to play the game as it was meant to be played," Teichgraber said.

Because of the increase of teams, this year's season is expected to continue

until the end of August. Each team will play one match, which consists of three 15-point games, against each of the other 13 teams. Every game played counts in the league standings.

As long as the weather cooperates, two matches are scheduled daily to be played on the field between the Centrifuge building and building 3. Any additional match is played every Friday. All games are required to begin promptly at 11:50.

The league is open to all military and civilian personnel currently employed at NADC, their spouses, and contractor personnel assigned to the Center.

Mid-day volleyball has, in a very short time, become a summer staple at the Center. But no sport is ever complete without some cheering fans to boost their favorite team to victory. The league invites everyone to come and watch the games. It's a great way to turn your lunch into a picnic.

Standings as of the 9 July 84:

1. Grabbers - W.M. Teichgraber
2. Jammers - Robert J. Skalamera
3. Network - Sigmund G. Rafalik
4. Renegades - Stephan R. Bazow

Note: Not all teams have played the same number of games. Placement in the standings is determined by the percentage of games won and by total points scored.

Mixed bowling highlights

By Tom Reiter

The Wednesday Night Mixed Bowling League held their awards banquet on 15 June. Team trophies were presented to the league champions, the Falcons, represented by Steve Jerdan, Ted Calkins, John Olson, Mark Lind, Wayne Jerdan, June Olson, Carole Calkins, Patti Dynan and Judy Jerdan.

Runners-up awards went to the Goofers (captain Al Knobloch) and the Neiners (captain John Vincent).

Individual highlights of the season included: Hank Lystad's 724 series and 192 average. Debbie Erney's sweep of three categories, high average (168), high series (585) and high single (231) and Jim Mitchell's 277 was the league's

high single.

In the "A" division, Rick Yeager and Al Knobloch battled for high average honors with Yeager edging Knobloch 181.3 to 181.0 and both tying for high single with 253 games. Caroline Tierney's 158 average was tops among the women.

In the high series category, Glen McKee was the best with a 665 while Lorraine Reidinger and Nelda McMullen tied with 557's. Ann Hoyt's 234 was the female high game of the year. Larry Sicher bowled three games and Mary Braknis duplicated the triplicate with three 134's.

The new season starts 5 September.

Men's softball leaders share home advantage

By Charles Destra

The regular softball season is over and the playoffs are here. At press time, the Misfits and Granfalloon were leading their respective divisions. If it continues that way, they'll both capture the home field advantage throughout the playoffs, which is nothing more than getting to bat last instead of first. However, these two teams seem to be clear favorites because of their superior personnel.

The Misfits are likely to win it all this year. They played in the tougher division (5 of the 6 teams made the playoffs versus 3 of the 6 in the other division), have a balanced hitting attack, and boast two hard throwing pitchers. They're led by Greg Geydet (.649 AVE., 8 HRs), who helps the team with his hitting, fielding and pitching.

The Granfalloon, similarly, has no weaknesses. The defending champs' strong points aren't just hitting (Ed Swiski, 13 HRs, 35 RBIs) and pitching (three quality starters) but also experience and character. Their confident attitude can buoy them to victory.

Knocking on the door, as usual, will be the Guzzlers. Their hitting is improved, their defense is exceptional, and they look as though they may have found the missing ingredient that could finally get them over the hump. That man is Joe Spieker (.545 AVE., .714 OB), whose presence in the lineup has further stabilized the batting order. Also, they have had little turnover in recent years, and play extremely well together.

The 8th Inning, a team that can score a lot of runs, and the scrappy Rebels have an outside chance of winning. The Rebels have a lot of spunk and always put up a good fight.

The Rebels basically have the same type of personnel as the other new team to the league, the Nightriders. But the Rebels grew together sooner and matured faster.

The Nightriders did come on during the last half of the season (0-4 start,

5-10 at press time) and will improve next year. Jamie Clavell (.600 AVE.) and Nelson Torres (.638 AVE.) have been pillars of consistency for the team this year.

The Bearcats, Druids, and Ballbusters will have to play above their games to win it all. The Bearcats did not play well during the last half of the season and do not have the momentum right now. Nick Onorato (.581 AVE.) and Age Hribar (24 RBIs) can make it tough on the opposition, however. The Druids are feisty, but will give up some runs and the Ballbusters (Walt Teichgraber, .420 AVE.) lack power and would likely succumb to tough pitching.

Teams, other than the Nightriders, that failed to earn a playoff bid are the Phantoms (4-10), the Renegades (4-10) and Agent Orange (0-14). The Phantoms' top producer was Mike Deshield (.525 AVE.). The Renegades (Joel Wexler, .464 AVE.) faced growing pains due to having a lot of new players. Agent Orange was plagued by personnel problems during the year and never got on track.

All-Star highlights

The Men's Softball All-Star game last month was an uneventful 6-0 drubbing by Division 1 over Division 2. The big star for Bill Vaughn's Division 1 squad was Age Hribar of the Bearcats, who belted the game-winning hit, a three-run blast in the first inning. The Nightrider's Kevin Platz made a diving stop at second base in the fifth inning that saved the shutout for the Misfits' pitching tandem of Ron Lang and Greg Heydet.

Tom Weiss' potent Division 2 lineup never really got going, which drove home just how first-rate the Misfits' pitchers are. They combined to give up only nine hits in the nine-inning yawner.



(Photo by Jim Kingston)

Zig's Follies, a "serious" threat, as they win the Center Superstars tournament. l. to r. (top row) K. Koper, J. Bebey, T. Weiss; (mid row) S. Rafalik, L. Howarth, C. Riemer, L. Coar; (bottom row) A. DeGennaro, M. Snyderwine, A. McNamara.

As the World turns

NADC volunteer moves Heaven and Earth for students

When McDonald Elementary School's planetarium was in need of repair, they first contacted the company that manufactured it. The company no longer made or serviced the model owned by the school.

The planet earth and all the stars were virtually fixed in space until Howard Krumboltz, a NADC retiree

and member of the Technical Volunteer Service, arrived on the scene. The planetarium at McDonald School, which is located in Warminster, is valued at \$250,000 and is used by all the students of the elementary school as well as students from other schools in the area.

Krumboltz was able to repair the

damaged motor, which is one of three motors that drives this unique teaching device.

The Technical Volunteer Service at the Center is headed by Jerry Bortman of the Planning Assessment Resources Dept. and Carol Wolfe, who is assigned to NADC under the Intergovernmental Personnel Act. Over two dozen Center employees and retirees are involved in this program which provides free assistance to local governments and community agencies. Basically, Bortman's and Wolfe's responsibility is to coordinate the Center employees and retirees with the requests that come in from outside.

Stu Lee is the volunteer coordinator and works very closely with NADC staff. His expertise lies in his ability to identify the technical problems involved and match up the problem with the capabilities of the volunteers.

Krumboltz was also called on when the Warminster Police Department had radio interference problems in their communications system. Once again he was able to pinpoint the problem and suggest a solution. The Center Commander received a special note of thanks from the township for his assistance and the assistance of the Technical Volunteer Program.

When Krumboltz is not busy with community emergencies, he occupies his time with such projects as assisting state troopers in designing and building a small robot which will be used in

public safety programs with local school districts.

He is currently in the process of testing a new wireless FM microphone device that will be attached to a fireman's oxygen face mask. This device is being designed to provide improved communication among the firemen.

Bortman and Wolfe think this program has already produced some significant contributions to the local community. "I am personally impressed with the responsiveness and special talents that exist among the Center volunteers and retirees," commented Bortman.

"It is both enjoyable and exciting to work with these very interested and cooperative individuals," said Wolfe. Bortman said he believes NADC is just touching the tip of the iceberg where the capabilities of the volunteers and retirees are concerned.

In a Center such as NADC where a substantial amount of the work has a long range future impact, it is very gratifying to see a program such as the Technical Volunteer Service bring immediate satisfaction in so many instances of need.

The TVS, however, is not intended to compete with private enterprise. Most requests are of a short-term consultative nature. The TVS is always looking for volunteers. For information contact Jerry Bortman and Carol Wolfe on 441-2033/1670.

Commander Salutes

Name	Dept.	For
Evelyn Doll Richard Lipperini Philip Horne Anthony Jannetti	Comptroller	For contributing to the success of the Navy Internal Review training program.
Frederick Pappalardi Steven Dunham Michael Chudoba	Communication Navigation Technology Directorate	For contributing to the ability of the USNS BOWDITCH and the Naval Oceanographic Office to meet their high priority fleet requirements.
Albert McGlynn William Miller Gregory Catrambone	Systems Directorate Sensors & Avionics Technology Directorate	For their timely and credible evaluations and comparisons for the Blue Ribbon Oversight Committee on Strike aircraft.
William Miller Gregory Catrambone	Systems Directorate Sensors & Avionics Technology Directorate	For valuable assistance to NAVAIR which led to the timely release of the A-6E Upgrade contract to Grumman.
William Bogdan	Software & Computer Directorate	
ATC Timothy Koller AMS2 Charles Jenkins PRAN Russell Wren MS2 Donald Quinn AC2 Brandon Bentley HM2 Kenneth Swanson AD2 Richard Willers ADAA John Riddle AEAN Jeffrey Baxter AT2 Robert Collette AME2 Radel Henry AX2 David Vollmer	Various directorates	For participating in a funeral detail as the Naval Military Personnel Command representatives.
CDR Milton Weaver Elizabeth Bednarzik Jane Whiteman MAJ James Keane LT Scott Wood LCDR Michael Dougherty LT Richard Knowski Betty Anne Mauger Marguerite Hoefling Carrie Garner	Engineering Support Group Comptroller Staff Assistants Command Admin Command Projects Systems Directorate Software & Computer Directorate	For participating in and ensuring the success of the 1984 Navy Relief Campaign.
HM2 Lisa Butler-Johnson LT Tommy Klepper	Systems Directorate Planning Assessment Resources	
ATCS William Pesek AMEC A. Cross Tom Davis	Aircraft Department Technical Services Department	

The innumerable personnel, throughout the Center for contributing their time and efforts to NADC's 40th Anniversary and Armed Forces Day celebration. Their dedication and professionalism was evident to all who visited the Center.

Technical Highlights

Forward Looking Infrared (FLIR) Development

A cost proposal has been sent to the US Coast Guard in response to a request for technical support in the design of a FLIR for use on the Coast Guard's new HH-65A helicopter. Earlier successful development of an Active Gated Television (AGTV) for the Coast Guard by NADC provided the confidence needed to bring the Coast Guard to NADC with the FLIR program. Design and fabrication of pre-production models will be accomplished on a competitively awarded contract using specification to be developed by NADC.

New Material For Field Repair Of Composites

Ambient storage materials for composite repair which have been developed by NADC are being transitioned to depot field activities for verification/demonstration testing. The Naval Air Rework Facility, Cherry Point, NC is the initial facility to receive the instructions and materials to perform these composite repairs. These new repair materials eliminate the need for freezers. They also simplify the composite field repair process.

H1/H2 External Fuel Tank

NADC has designed, prototyped and tested a 100-gallon crash-tolerant external fuel tank that is compatible with both the AH-IT and SH-2F helicopters. A data package, which contains Level III production drawings and quality assurance provisions, is being used in a Naval Air Systems Command solicitation to competitively procure 100-gallon external fuel tanks for SH-2F helicopters. In-house capabilities enabled NADC to design, prototype and test the tank, and prepare a data package in 12 months so that the tanks could be procured and delivered as government furnished equipment to Kaman Aircraft to mesh with SH-2F deliveries. A future solicitation will be used to procure tanks for AH-IT and SH-2F spares.

The NADC RECIPE REVIEW

Baked Sole

This month's recipe is provided by Norma Mittauer (Code 0441, X1031) who will receive a \$50 Bond from the Food Service Board. This recipe will also be served in the NADC Cafeteria. Submit your recipes to Mr. Robert Green, Cafeteria Manager. One winner will be selected each month.

- | | |
|-------------------------------------|--|
| 2 pounds fillet of sole or flounder | 1 tablespoon lemon juice |
| 1 teaspoon salt | 1 teaspoon Worcestershire sauce |
| 1 package frozen asparagus spears | 2 tablespoons Parmesan cheese, grated |
| 1 can cream of celery soup | 2 tablespoons toasted, slivered almonds. |

Salt and pepper fillets. Cook asparagus as directed on package. Place 2-3 asparagus spears on each fillet and wrap the fish around the asparagus to form a "roll-up". Place in well-greased baking dish. Combine celery soup, lemon juice and Worcestershire sauce. Pour over the fish roll-ups. Sprinkle with cheese and almonds. Bake in 350° F oven for 20 minutes or until fish flakes.

LOOK FOR THIS RECIPE TO BE SERVED IN THE NADC CAFETERIA



Cut here for file card



The CWU-60/P quick-donning anti-exposure suit, soon to be introduced to the Fleet, is an example of the Life Support Equipment Division's work supported by the FAILSAFE program.

FAILSAFE program

(Continued from page 3)

said. Representatives from the Atlantic fleet, Pacific fleet and CNATRA (Chief of Naval Air Training) are included in these workshops.

In addition, the program is coordinated with the Naval Air Engineering Center at Lakehurst since NAEC trains the Navy's parachute riggers, who are responsible for the maintenance of the life support systems. Efforts are also coordinated with the Chief of Naval Education and Training to ensure that when aircrews undergo their training that the latest equipment and procedures are used for the training.

NADC's liaison office also coordinates with the Operation, Test and Evaluation Force. By working with OPTEVFOR, NADC provides information and background on the equipment that permits the most knowledgeable appraisal of the equipment during operational evaluation.

On occasion, the effort to properly evaluate these life support systems involves taking the equipment to the fleet. For example, anti-exposure suits were tested by the air crews aboard the USS KENNEDY and the USS INDEPENDENCE in 1982 and 1983. The feedback has been valuable in terms of design and maintenance of the suits in an operational setting.

A number of life support systems have been introduced by the fleet through this FAILSAFE program. These include the FLU-8/P, a salt water activated inflatable life pre-

server and a laser eye protection visor, which is designed to protect aircrew personnel from the lasers used for target ranging and designating. This visor is being sent to the fleet this summer.

Other systems scheduled to be introduced through this program in the next year or so include: anti-exposure suits for helicopter and P-3 crews, underwater breathing gear for use in ditched helicopters, the AR-5 biological-chemical warfare mask, a miniature life raft designed to be worn by aircrew personnel, and the helicopter emergency egress lighting (HEEL) system. Major and minor modifications to existing equipment will also be introduced through the FAILSAFE program.

"The fleet liaison office works through the FAILSAFE framework," Smith said. "This makes it very flexible—you can get information to and from anywhere in the fleet." (CER)

Dr. Chisum honored by national science group

On 28 May 1984, the Council of the American Association for the Advancement of Science (AAAS) elected Dr. Gloria Chisum as a fellow of the Association. Chisum of the Aircraft and Crew Systems Technology Directorate, was one of 269 in the United States to be honored in this fashion during the AAAS Annual Meeting in New York City 24-29 May.

The AAAS, formed in 1848, is the

Keeping your cool good for your body

By Mike Masington

During the summer months, we spend millions of dollars on artificial means of reducing the effects of heat on our bodies. The body itself, however, usually takes very effective care of its own temperature regulation by increasing blood flow and by perspiring, both of which speed heat loss from the body to maintain its core temperature at safe levels.

Generally, this process and a little common sense are all that is needed to prevent a heat stress illness. In hot weather, however, if we fail to acclimatize ourselves, overexert, neglect the replacement of lost fluids and salt, or use alcohol excessively, we become increasingly vulnerable to one or more of the heat related illnesses. Below are some of the more common of these illnesses along with some information about their causes and treatment.

Heat exhaustion is a fairly common reaction to excessive heat, and is characterized by weakness, fatigue, nausea, moist clammy skin and pale complexion. It is caused by an intake of water inadequate to compensate for loss of fluids through sweating. First aid treatment includes removing the victim to a cooler environment and having him or her lie down with feet raised. The victim's clothing should be loosened, and sips of cool salt water should be administered.

Heat cramps occur when salt is lost from the body. If the concentration falls below a certain level, voluntary muscles, especially those in the legs and abdomen, begin to cramp. Treatment consists of simply exerting pressure on or massaging the cramped muscles to relieve the spasms, and giving sips of

cool salt water.

Heat stroke is by far the most serious of the heat related illnesses, and occurs when the temperature of the body reaches a level where continued functioning of some vital tissue is endangered. In this condition, the body's ability to regulate its own temperature has failed completely, and immediate external action is needed. The primary symptoms of heat stroke are: hot, dry, skin with a red, mottled appearance, body temperatures of 106° F or higher, and mental confusion, delirium or loss of consciousness.

First aid efforts should be directed toward immediate measures to cool the body quickly by application of or immersion in cool (not cold) water. Take care, however, to prevent over chilling the victim once his or her temperature is reduced below 102° F. Remember, every case of heat stroke should be considered a medical emergency, and competent medical help should be obtained as soon as possible.

While the summer months are a time for outdoor activities, make sure you work yourself into them gradually. Be particularly conscious of any warning signs your body may give you, and adjust your activity accordingly.

Stop every so often to replenish your system's supply of water, and steer clear of any alcoholic beverages. That cold beer or gin and tonic may feel like just the thing you need, but the alcohol they contain may circumvent the body's natural cooling system.

Finally, the elderly, small children, chronic invalids, overweight persons and alcoholics are particularly susceptible to heat reactions. If you or a member of your family fits one of these categories, be especially careful.

Navy Relief exceeds goal

The Center's Navy Relief campaign raised \$10,500 this year, surpassing its target goal of \$10,000, according to CDR Milton Weaver, chairman of this year's campaign.

The primary fundraiser this year was the raffle of a Caribbean cruise for two. Two thousand dollars, however, was also donated to Navy Relief from the proceeds of the Cavalcade of Corvettes, which the Center hosted in May.

Winners this year of the Navy Relief raffle were: J. Dahams, a Navy League representative, who won the Caribbean cruise, AE2 Fraleigh, who won the Orlando fling; Clyde Jackson, who won a \$200 gift certificate from

Bloomington's; Paul Cahill, who won a \$200 gift certificate from Abraham and Strauss; and AD3 Ilniski, who won a video recorder.

From funds raised, the Navy Relief Society provides interest-free loans and grants to Navy and Marine Corps personnel who are in need. These loans and grants are also available to Navy and Marine Corps retirees, dependents, widows and orphans.

During the past year, the Willow Grove Branch of the Navy Relief Society, which also handles requests from NADC personnel, made 197 loans totaling almost \$71,000 and made eight grants totaling about \$2,400.

leading general scientific organization in the United States. It currently has some 136,000 individual members and about 285 affiliated scientific societies and academies of science.

The Association defines a fellow as "a member whose efforts on behalf of the advancement of science or its applications are scientifically or socially distinguished." The Psychology Section Committee of the Association nomi-

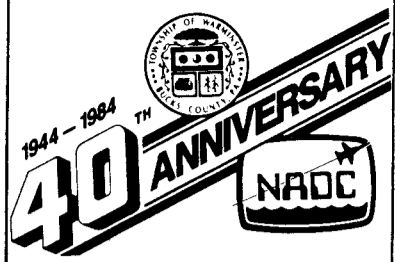
nated Chisum "for contributions to experimental psychology particularly research on human vision."

Already an American Psychological Association Fellow and an Aerospace Medical Association Fellow, Chisum said she was surprised as well as honored by her selection. She said it was probably her overall record as opposed to any one accomplishment that gained this recognition for her. (MAB)



Car 84S—Where are you? Liz Bednarzik, secretary in Code 84 for some 19 years now, decided it was time to take her code on the road, too.

(Photo by Regina Beans)



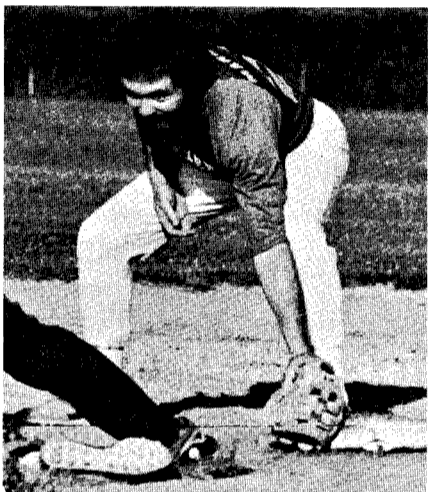
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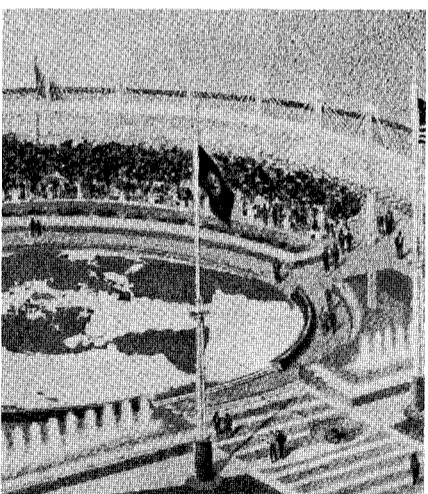
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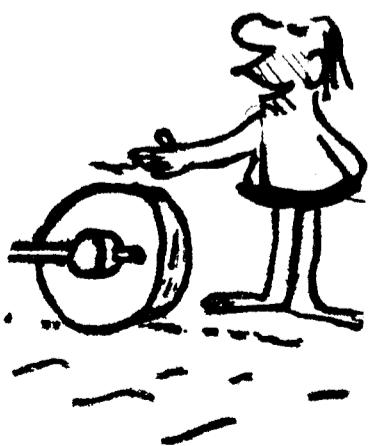
Goals for NADC
See page 2.



"You're out!"
See page 4.



New Navy Memorial
See page 6.



Fall of the Caveman
See page 6.

Women in the Navy

They're here to stay

Familiar to all of us here at NADC are the white uniforms of NADC's military personnel. Usually, white trousers and dixie cups make up the enlisted military uniform. However, increasingly the military uniform we are seeing around Center consists of white skirts and berets.

Who are these ladies in white? They are the Navy Waves stationed at NADC. And according to Navywide statistics, we'll be seeing a lot more of them.

In 1948 enlisted women totaled 1,230 comprising .3 percent of enlisted personnel. Today they number 42,200 and the percentage of total enlisted personnel has risen to 8.3 percent.

In 1948 there were 2,412 women officers. Today they number 6,525. Advancement opportunities are there for women in the Navy. This year a higher percentage of women in the E-7 through E-9 classification were promoted to chief than men in that class.

Where are these women stationed? Secretary of the Navy Instruction 1300.12 provides a list of 72 ships eligible for permanent assignment of women. By the end of April 1984, 176 women officers and 3,184 enlisted women were stationed on 30 ships in the Navy. Women sometimes total as much as 50 percent of a ship's crew.

Fourteen percent of enlisted women, in fact 5,798 of them, are involved in such things as helo combat support, tactical electronic warfare, fleet air reconnaissance, and air test and evaluation.

Currently at NADC there are 11 Waves who are enlisted personnel and one who is an officer. There are three

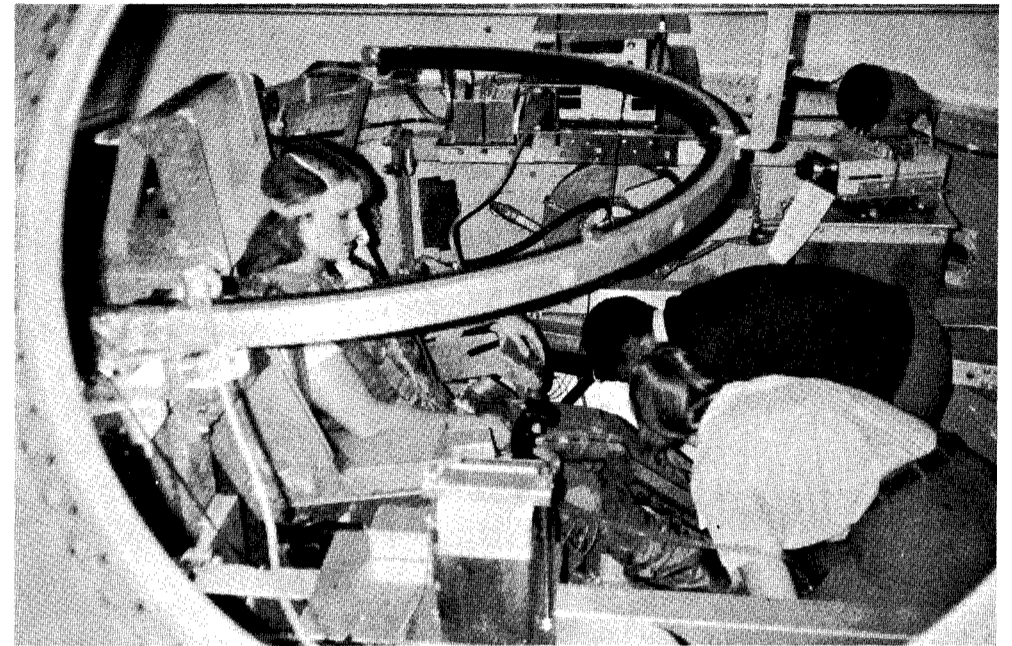


Photo by Jim Kingston

HM2 Lisa Butler-Johnson and HM2 Marjorie Marchese secure harnesses on HM2 Deanna Patton before running the centrifuge to test the effects of localized cooling for the improvement of G-tolerances.

enlisted married couples here at the Center also. AK1 William Shuey, married to AK2 Carol Shuey, said, "Young married couples like us cannot afford to give up 50 percent of our income anymore, and the benefits that the average military couple receive far outweigh any benefits we would receive from private industry."

"As for the old fear of being separated by duty stations, it is unfounded in the fact that 99 percent of the female spouses are stationed at the home port if the male spouse is stationed in a squadron or on a ship."

Shuey said separating work and home life is really quite easy. Both he

and his wife were Navy professionals before they got married and they still are.

AK2 Carol Shuey, of the Supply Department, said, "Being in the Navy for over five years has been a rewarding experience for me. I have been able to do more with my life since I have been in the Navy than I ever thought possible."

AK3 Beverly Marple, who also works in the Supply Department, commented, "Although I had some reservations before I joined the Navy, it has been a very fulfilling experience for me. Things are not always easy for women in the Navy, but it is steadily getting better."

(continued on page 3)



Photo by Ken Smith

Ribbon cutting ceremony (l. to r.) Wm. J. Cavalieri (Danladi Construction Co.), Wayne Burke (Vice President, Mache Corp.), CAPT E. Sturm (Center Commander) and LCDR Ken Sjodin (AROICC).

Lunchtime in luxury

If you have been in the cafeteria recently, then you have already noticed some of the obvious improvements in the dining area. New tongue and groove walnut paneling and indirect lighting accentuated by decorative acoustic ceiling panels are the most noticeable changes. Additionally, planters and hanging plants have been strategically placed to beautify the surroundings.

Some other improvements include a new public address system, a new front entrance that incorporates an automatic door for the handicapped, and new tables, chairs, curtains and floor. Since we are all concerned about the heat during this time of the year, the addition of air-conditioning in the cafeteria is a luxury worth mentioning.

On 2 August these spectacular improvements were celebrated with a ribbon cutting ceremony in the morning and a lunchtime special for the

(continued on page 5)

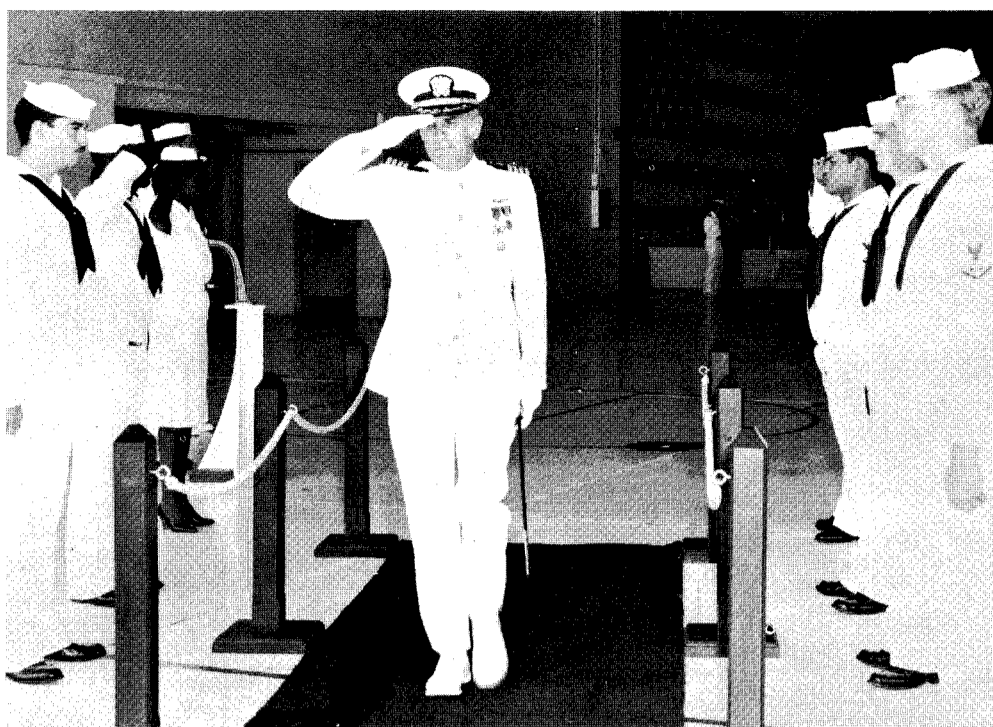


Photo by Peg Callahan

CAPT E. J. Sturm, as he assumes command of NADC on 19 July.

Sturm sets NADC's goals

CAPT Edward J. Sturm, who assumed command of the Center on 19 July 1984, spoke recently about the goals he would like to achieve during his tenure at the Center.

"NADC has a fine reputation for being technically competent and responsive in providing support to the Navy," he said. "A big challenge we all have is to continue to build on that reputation.

"In order to continue to be competent and responsive in the future," Sturm said, "we need to make sure we have the right people with the right skills on board and the proper facilities to support those people."

Therefore, Sturm said, the Center must be certain that NADC train its existing workforce where necessary and employ enough new people with the proper skills to handle the additional workload we will be tasked with in the future. Thus, there must be a strong emphasis on hiring.

Similarly, Sturm said during his tenure he plans to continue to emphasize facilities improvement. This includes acquiring the facilities necessary to do the customer's future work and making some of NADC's existing workplaces a more pleasant place to work.

"Another one of my goals is to help instill a strong sense of pride in each and every employee at the Center," Sturm said.

"We do fine work here," Sturm said. "People should realize this and be proud of the support this lab has given and continues to give the Navy.

"Everybody should also realize every job on the Center is important—there is not one job here that isn't important. It takes everybody doing their jobs to make NADC run, and run well."

Sturm also noted that he is a strong believer in the Merit Promotion System, since it recognizes the employee who performs well on the job.

"I want to ensure that the system stays a truly performance-based system and that the best qualified people are promoted within it."

The Department of the Navy is currently emphasizing integrity in the workplace. This is an area Sturm said he plans to emphasize.

"Our employees should set a high standard of integrity for themselves," Sturm said. "We have much work to do with the finite resources the Navy has

entrusted to us. The Navy cannot afford employees who use their jobs or Navy resources for personal gain."

Besides integrity in the workplace, Sturm also plans to emphasize efficiency in the workplace. This means that every employee will be expected to give a "good day's effort every day," Sturm said. In addition, managers will be challenged to keep Center overhead to levels no higher than is absolutely necessary.

"Management has also been tasked with reducing the amount of overtime used by Center employees," Sturm said. "NADC is out-of-line with other labs for the amount of overtime used to get the job done. We are under pressure from Washington to reduce overtime, and we will reduce it." (CER)

CMG develops future Center strategy

Strategic Planning, the latest management tool, has come to the Naval Air Development Center. The first step in the strategic planning process was for the Center Management Group (CMG) to meet to draft Center goals and objectives. The CMG, chaired by Assistant Technical Director Thomas Brennan, met at the Ramada Downingtown Inn, 11 through 13 July.

Strategic planning is an on-going process. It attempts to assure the technical quality of an organization as well as to prepare for future opportunities through flexibility and needed change. It also examines the organization's internal strengths and weaknesses and considers the external environment — its markets, competitors and sponsors.

NADC is not alone in this endeavor. Last year the Director of Navy Laboratories directed all Centers and Laboratories to develop strategic postures as part of their long-range plans with the expectation that complete plans would be structured by next year.

At the opening session of the meeting, Brennan discussed the significance of strategic thinking and planning and encouraged the directors to focus on what the product emphasis should be for NADC in the future.

"The strategic plan," according to Brennan, "will provide a 'profile' which will be used as the framework for

Tele-phobia baffles NADC

Does the NADC phone system have you baffled? Would you rather do a research paper than put someone on hold and answer another call? Is automatic call-back like a Star Wars invention to you? Our phone system works only if you are willing to work with it. Many of the features available in your office phone are the same as those available in your home phone.

Robert Angiolillo, head of the Telecommunications Division, and his staff are available to small groups to instruct them on telephone usage. Just fifteen minutes with Angiolillo and you'll be working the phone system with ease.

Our new phone system represents a change and people are often reluctant to change. Instead of the visual signals of the old system, the new one works on audible cues. For instance, when you place a call and you hear the distinctive ring signal (a ringing phone that tails off at the end), this means the person you are calling is on the line and needs time to finish his/her call and answer yours.

One unique feature of the system is its ability to inform you of an incoming call by way of a beeping sound. One beep means an internal call is coming in and two beeps signal an outside call.

Angiolillo says there is no reason that any call on the Center should ring and not be answered either by call pick-up coverage (* 7) or call-forwarding (* 2).

"People did not hesitate to put their calls on hold before with the old system," he said. "Regular use will facilitate the ease with which a person is able to manipulate the new system."

With practice, putting someone on hold and answering another line is a snap. (Just depress the switch hook, * 4,

then * 9). To return to your original call just depress the switch hook and wait for the phone to ring. You can even put the second caller on hold and return to your first call by depressing the switch hook, * 4, and depressing the switch hook again.

Automatic call-back is another distinctive feature. This simple method keeps trying a busy number while you continue working. Just depress the switch hook, * 5, dial the number you are trying to reach, then hang up and let the system do the work. It also has a distinctive triple-ring to let you know your call has been successfully placed.

One thing that neither Angiolillo nor the new phone system can do is instill responsibility in you for your calls. When you are away from your desk, on leave or vacation, you have a couple of alternatives:

You may ask someone who sits close by to pick up your calls or you may forward your calls to a secretary or someone else in the area. When you return, the system will remind you with one short ring on your first incoming call to take your phone off call-forwarding (#2).

We all have a responsibility to the Center and to each other to answer the phone. We also should not abuse our fellow employees by always relying on the same individuals to answer our calls or not returning the favor when needed.

Here at NADC where many support and professional personnel are responsible for developing the many complex systems of the future, it would seem that the workings of our internal phone system should not be such a challenge.

technical, business and resource decisions for the Center."

Later, George Eck, Head of the Strategic Planning Coordinating Group, assisted by Larry Buchsbaum and Ralph Seckel, reviewed the planning process to take place over the next year. Following presentations and peer reviews by the directors on their specific directorate strategic thrusts, working groups convened to discuss and formulate Center goals and objectives.

"The meeting was extremely successful," said Brennan. "A sense of unity and 'initial' strategic goals were formulated. We reached an agreement on the future process for involvement of

the entire Center. Efforts are continuing at a rapid pace and it is expected that the Center Commander and Technical Director will be presented the initial goals by the end of August."

Brennan stressed, "Arriving at a unified direction for the Center is a difficult task. It will require several reviews at all levels of management. The dedication and cooperation of all concerned are essential." (MAB)

Editor's note: Information for this article was obtained from members of the Strategic Planning Coordinating Group.



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Eight percent of today's U.S. Navy is female

(continued from page 1)

NADC Waves are involved in such areas as air traffic control, aviation maintenance and human factors. ACAN Ginger King and AC3 Lisa Oechslin work in the Tower as Air Traffic Controllers.

HM2 Deanna Patton, HM2 Lisa Butler Johnson and HM2 Marge Marchese are Waves assigned to the Crew Systems Department and are involved in Dynamic Flight Simulator testing.

AT1 Beverly Bailes, who works in the Test Equipment Branch, said she has had the opportunity to travel, learn a new language and enjoy the benefits of the many educational opportunities the Navy has to offer.

MSSA Desirie Jones and MSSN Mary McKittrick work in NADC's Consolidated Mess. AZAN Brenda Milner works in Aircraft Maintenance as does NADC's newest Wave ADAR Barbara Holcroft.

NADC's only female officer is Ensign Cheryl Valdivieso who is currently wearing two hats, those of Legal and Military Administration Officer in the Command Administration Department.

Women are here to stay in today's Navy. The enlisted retention statistic in 1977 for career women was 53.6 percent. Now in 1984, 78.6 percent of the women are career women. The

retention statistic for career men is 82 percent.

All of the Waves at NADC agree that the Navy is the ideal place to be if you want an opportunity to travel or learn a particular trade. They feel that it's tough being female in the Navy, but most of the time it's enjoyable.

Editor's Note: Also contributing to this article was Myrt DiSalvo who works closely with military personnel while performing her duties in the Military Administration Office.



Photo by Carolyn Riemer



Photo by Mary Ann Brett

AC3 Lisa Oechslin, as she prepares paperwork for Air Traffic Control training session.

AFE supports Ch. 12

On 25 August, volunteers from NADC's Association of Federal Employees (AFE), their families and friends plan to participate in a Pledge Drive for the benefit of WHY TV-12, the public broadcasting station in the Delaware Valley.

"Our volunteers," according to Claire Bayer, Recording Secretary for the AFE, "will be manning the phones during the regularly scheduled programming all Saturday evening. There will be an on-air interview with an AFE representative as well."

CV-ASWM upgrade will benefit Navy

The Navy's antisubmarine warfare module, which is installed in aircraft carriers is undergoing improvements that will increase both its acoustic and tactical capabilities.

Known as the CV-ASWM (Carrier Anti-submarine Warfare Module), this module is currently installed in 12 carriers, with three more modules scheduled to be installed in upcoming years, according to George Lange, the CV-ASWM program engineer. Three of the modules are also installed at land-based sites.

The planned acoustic capability improvements are being done in conjunction with similar improvements to the ASW Operational Centers. There are 19 of these land-based systems set up around the world. While the CV-ASWM provides pre- and post-flight support for the carrier-based S-3 and S4-3 aircraft, the ASWOCs provide support for the land-based P-3 aircraft.

Improvements in the acoustic capability consist of an upgrade to both the CV-ASWM and the VP-ASWOC Fast Time Analyzer Systems (AN/SQX-1 and AN/FQX-1 respectively).

Upgrading the fast time analyzer will provide several benefits to the Navy. The upgrade increases the acoustic processing capability by tripling the number of channels available, by providing greater resolution and by improving displays, Lange said.

Thus, the spectrum analyzer will have a greater capacity to break the signals into frequency components to determine a submarine's acoustic signature. Also, reliability and maintainability are improved.

These improvements, then, will allow

the fleet to keep abreast or ahead of the improvements made in enemy submarines, which in turn will allow the Navy to find and track more submarines, Lange said.

These improvements also correspond to improvements made in the P-3 and S-3 aircraft systems. It was determined that an engineering change to the fast time analyzer currently in the fleet would provide the quickest and most cost effective means of upgrading the system. The fast time analyzer, however, is still considered an interim system and is expected to be used only until the mid-1990s.

Currently, the first pre-production unit has been built and delivered to the Naval Air Test Center at Patuxent River, Maryland, for testing. There, the Naval Electronic Systems Command will evaluate the analyzer for use in ASWOCs.

Then, NADC and the Naval Sea Systems Command will conduct evaluations of the analyzer for its use in carriers at NADC. During the evaluations, synthetically generated signals and recorded real world signals will be used to observe and verify the analyzer's performance capability, Lange said. When these evaluations are complete, the results will be incorporated into the production procurement.

The specifications for the improvements were drawn up by NADC personnel, led by Mike Higgins and Richard Sensenig of the Acoustic Processing Division of the Sensors and Avionics Technology Directorate, and then procured from a contractor, who builds the actual unit. In the past,

Rockwell International has built these units.

In addition to the improvements to the acoustic capabilities, the module's tactical capabilities have been upgraded. NADC has taken delivery of the CV-ASWM Model 4.1 (Baseline) Software Program, according to John Licht, project engineer for this software program.

The Baseline 4.1 program will undergo fine tuning and systems integration testing until approximately December of this year. Once this testing phase is completed, the software will be extended to incorporate the standard Navy UYQ-21 display system, new S-3 capabilities and additional command and control features.

This version is designated the 4.1/Q-21. The 4.1/Q-21 will be installed in the Navy's aircraft carriers and at the Integration Combat Test Facility at San Diego. The first fleet delivery is scheduled for 1986 on the USS THEODORE ROOSEVELT.

NADC and Sperry engineers developed the 4.1 model using elements of the Canadian Data Interpretation and Analyzer Software and the Navy's Fleet High Level Terminal Software. At NADC, the development of the software program was led by Robert Chin, of the Software and Computer Directorate's Combat Systems Software Division; John Kraus and D. Baker of the Systems Directorate's System Design Division; and Joel Lenko, of the Software and Computer Directorate's Software Engineering Methodology Branch.

Improvements have been made to the two functions of the CV-ASWM, Licht

said. First, improvements were made to the system's ability to provide support to the S-3s and the ASW helicopters and, second, to the command and control function of the system. Most of the expansion in the system has been made to the command and control area, making more tactical information available immediately.

Specifically, there have been improvements in message management, historical data management, and mapping and bottom contouring capabilities over the current software program, the 4.0 model.

Previously, there had not been a great deal of automation in the message management function. With the new software model, file management has been improved, whereby an increased capability—that could be compared to the improvement between a typewriter and word processing system—has been put into place, Licht said. The system's ability to handle historical data, or the data collected over previous days, has also been vastly improved.

A new feature of the 4.1 model is the ability to overlay data displays on a map. The map is a high resolution 80,000 point map with the capability to zoom from a map 2,000 miles across to a highly detailed map four miles across, Licht said. A bottom contouring capability, which is also part of the system, increases the operator's capability to interpret acoustic information and therefore to track submarines better. Another feature of the 4.1 software is a built-in capability to display information in color for future expansion. (CER)

Upsets, runaways, hitting characterize playoffs

By Charles Destra

The first round of this year's men's softball playoffs was characterized by upsets, runaways and a lot of hitting. Two of the top teams went down for the count early, two teams of equal caliber battled to the three-game series limit and the top favorite won handily.

The Granfalloon, after losing its first game 6-5 to the Bearcats, uncharacteristically came up flat in the second contest, losing 9-6. The Bearcats jumped on the defending champs for seven runs in the first inning of the second game and never looked back.

"We lacked enthusiasm — everyone just waited for something to happen," said losing manager Tom Weiss. Skip Reed's steady pitching was the key to the upset.

The 8th Inning got outstanding pitching from Bob Larr and knocked off the favored Guzzlers in fast fashion, 9-4 and 13-2. The feared Guzzler batting order managed only 11 hits over the two games. Dean Stroehle (2 HR) and Joe Klicka (HR, triple) provided the power for the winners.

The Druids won its seesaw series with the Rebels 9-4, 1-12, 12-4. In the deciding game, the Rebels committed 10 errors after averaging only two per game during the 16-game season. The Druids received good hitting from Dave Dummeldinger and Rick Kinsch.

The heavily-favored Misfits rolled over the Ballbusters 8-0 and 9-6, and were never threatened in the series.

Thus, the semifinal series was set with the Druids taking on the 8th

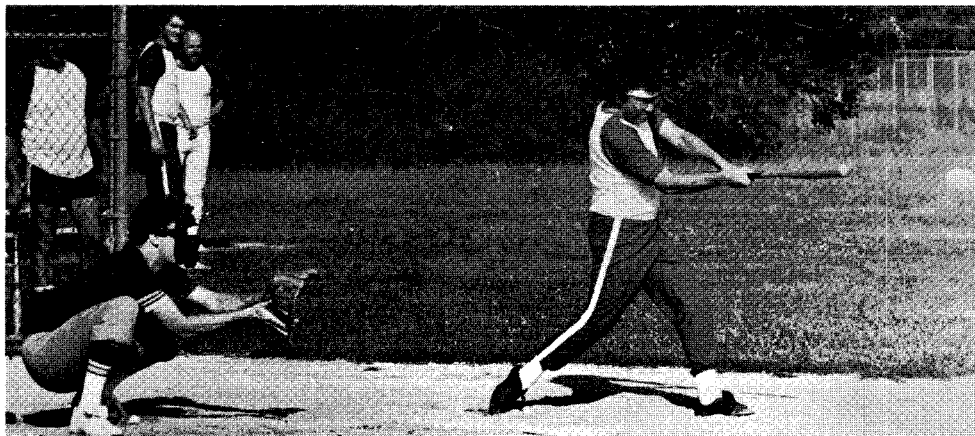
Inning and the Bearcats facing the Misfits.

The 8th Inning won its semifinal series with hitting this time instead of pitching, 10-6 and 19-9. Power-hitter Dean Stroehle clubbed three more homers and John Bechtel chipped in with three hits and two walks in the series.

In the other semifinal series, the Misfits continued their excellent play by beating the Bearcats in two straight. The Bearcats led 1-0 going into the last inning of the first game, but Misfit hurler Greg Heydet struck out the side in the top of the seventh, then doubled and scored the tying run in the bottom of the inning. The Misfits went on to win in the eighth, 2-1.

The emotional loss took the wind out of the Bearcats' sails, and they were blown away in the next game, 17-0. Heydet, perhaps the league's most valuable player, also whiffed nine batters in the series. The Misfits averaged an impressive nine runs and gave up an average of only 1.7 runs per game during the entire playoffs.

The five-game championship series, featuring the versatile 8th Inning and the dominating Misfits, was just beginning at press time. A tough series to predict, the 8th Inning's chances hinge on Bob Larr's pitching and their ability to hit the Misfits' Heydet. The Misfits have looked and played like champions but the 8th Inning looks like a time bomb ready to explode. Win or lose, both teams deserve credit for being there at the end, something 14 other clubs failed to do.



Ballbusters' Ken Miller bats against the Guzzlers.

Photo by Jack Eyth



John Markow tags teammate Jack Eyth during practice.

Photo by Robert Geyer

NADC volleyball season passes the halfway point

By LCDR Walter Teichgraber

With the NADC Mixed Volleyball League season now past the halfway point, the standings seem to be stabilizing. Six of the fourteen teams have better than .500 won-loss percentages: Grabbers, Network, Jammers, Renegades, Epsilons, and S-Hs.

Of those, three have already clinched playoff berths with 23 or more wins each: Grabbers, Network, and Jammers. No teams have yet been eliminated, however, so it looks like an exciting season finish as the remaining teams vie for the last five playoff spots.

It's interesting to note that four of the top five teams boast players who have competed either at the college or YMCA level: Doug Lundberg (Grabbers), Joe Bebey (Network), Jack Reilly (Jammers), and Gary Groshner (Epsilons).

One player does not make a successful team, however. Other top players for those teams are: Diane Cisco (Grabbers), one of the top setters in the league, and one-half of the league's few husband-wife combinations (her husband Jim is a top spiker for the Grabbers); Ken Koper, a powerful

spiker and blocker for the Network; Mike DeShield, the Jammers' No. 2 spiker; Steve Bazow, Mike Lanier, and Wayne Everett, spikers for the Renegades; Pat Beach (setter) and Ross Osborne (spiker) from the S-Hs, Ken Lee (spiker) from the Grabbers, and Eric Fanjoy from the Epsilons.

Other standout players from the remaining teams in the league are: Paul Manecke (Slammin' Hammers); Glen Lorenz and Mike Dougherty (Who Cares); George DeLisi (Yaw); Bill Birmingham (Spasmatiks); Dave Gleisner (Rusty Spikes); and Scott Shaner (Beefs).

With competition for the remaining playoff berths tightening up, spectators can be guaranteed some exciting matches in the next few weeks. Spectators are always welcome; come out and support your favorite team.

The records of the top six teams as of 6 August are:

	W	L
Grabbers	24	6
Jammers	26	7
Network	26	7
Renegades	23	7
Epsilons	17	10
S-Hs	16	11

Technical Highlights

CVBG Acoustic Measurement Test

NADC, in cooperation with ASW aircraft from three other nations, conducted a Carrier Battle Group (CVBG) acoustic measurement test during the period 18-27 June 1984. A transiting CVBG and aircraft from Australia (P-3C), Canada (CP-140), New Zealand (P-3B), and the United States (P-3A), were involved. Two measurements were made with the 8 ship CVBG transiting through a field of 35 air-deployed sonobuoys and a measurement was made to gather ambient noise after the CVBG had cleared the area.

A total of 115 sonobuoys were expended yielding approximately 400 buoy-hours of recorded data for the three test periods. The recorded information will provide a significant data base that will be used to validate CVBG prediction models to evaluate existing sensors and tactics, and to aid

in the development of future sensor systems and new processing techniques.

Lamps Software Inspection Tool

A unique software inspection and acceptance tool was developed and delivered to the LAMPS Project. The software tool, referred to as the LAMPS software (LSA), which automatically scans the source code in the Computer Program Package contract deliverable for the LAMPS MKIII Helicopter Air Operation Program was delivered this month. The LSA insures that all software elements are properly defined, complete, and compiled error-free; any discovered anomalies are printed out and reported back to the development contractor for subsequent correction. The LSA tool has been installed and integrated into the LAMPS facility for Automated Software Production (FASP) for use by project personnel in

accepting new software deliveries. The LSA will yield significant cost savings by automating the inspection process which otherwise would be a very labor intensive and time consuming operation.

Conductive Organic Matrix Composite Connectors

Conductive organic matrix composite connectors have been developed by NADC on an experimental basis for the F-14 aircraft. The connectors were designed as replacements for metallic connectors. The components have been in service in the wheel well areas of four fleet F-14 aircraft for seven months.

These connectors appear to be as good as the day they were installed. Such materials will eliminate the costly corrosion problem associated with metallic connectors as well as provide the required level of electro-magnetic shielding.

Long Focal Length Imaging Demonstration

An advanced technology infrared imaging sensor having high resolution and sensitivity was operated at the 10,000 foot summit of Mt. Haleakala, Maui, HI to simulate the performance an airborne sensor would achieve. Ship and vehicle targets were imaged at various ranges out to the maximum capability of the sensor.

Simultaneous measurements of target signatures, weather parameters, and atmospheric transmission were made to aid in data analysis. The tests graphically demonstrated the capability an advanced technology airborne equipment would provide, showed the maturity of the contributing technologies, and provided data which will be useful in validating or refining field performance models.



Photo by Ken Smith

Cafeteria cake cutting ceremony (l. to r.) Joe Speaker, Chris Anderson, Aris Pasles, Bob Clegg, Captain E. Sturm, Robert Buffum, Dottie Kirkpatrick, Frank Drummond, Alexis DeLeone, Donald Morway.

Center and Macke groom cafeteria

(continued from page 1)

employees of NADC sponsored jointly by the Food Services Board and Macke Corporation.

These improvements are the result of the efforts of NADC's Food Services Board. By the time the present NADC Food Services Board was established in January 1980 it had become painfully clear that an intensive, comprehensive and long-range undertaking was necessary to renew and upgrade all aspects of the NADC's Food Services.

When members inspected other cafeterias, they found that NADC's cafeteria was inferior to those in government and industry. At that time board members made a commitment to make improvements for the employees of the Center. All board members have contributed a significant amount of time and effort above and beyond the requirements of regular membership. Board members are concerned about employee morale; they feel they are doing something worthwhile.

Cafeteria, canteen and vending service areas were in the original plans for improvement. The board began by becoming thoroughly familiar with the existing operation in order to identify major problem areas. After completing this initial familiarization and learning phase, the board was prepared to write a new contract package for competitive bidding. The contract package covered a broad range of food services.

This package included: (1) proposed menus in terms of quantity, quality, variety and presentation of food, as well as instituting a "make your own" salad bar (2) strict sanitation and pest control procedures (3) new accounting procedures and fiscal reporting schedules and methods and (4) the experience of the food service personnel proposed to staff the NADC facility. The contract also required a functional working agreement and meeting schedule between the Food Services Board and the food vendors personnel.

In October 1981, the Macke Corporation was unanimously selected by the board to carry out a five year food services contract. The contract was awarded for five years since this time frame was consistent with the food services corporate career development programs for their employees. This

guarantees that a professional career employee selected for local management would be willing to reside in the area with his or her family.

After the contract was established and Macke was on the job, a two phase strategic plan was developed by the Food Services Board.

Phase I was instituted to take care of essential food service operations and equipment. These things were, for the most part, of the type that were not obvious to our NADC cafeteria patrons. Phase I included completely redoing all the kitchen plumbing.

Serious and persistent underground water leaks had been plaguing the cafeteria's operations. The underground water service was eliminated and a new overhead plumbing system was installed. In addition to eliminating the leaks, it made access for any future repairs possible.

A new dishwasher was also purchased and installed. The delivery entrance at the rear of the kitchen was completely redone in order to make the service ramp usable from the new parking area.

Equipment service contracts were established to service and maintain all the kitchen equipment, such as the mixers, slicers, ovens, grills, etc. Energy efficient electric hot water boosters were also installed at the kitchen sinks and the new dishwasher to better meet the temperature requirements set by the health codes.

Phase II consisted of all the improvements we can easily see in the dining area and are currently enjoying.

The Food Services Board and the Macke Corporation are always trying to improve their services and relations with NADC employees. They support the Welfare and Recreation Association and monthly they sponsor lunchtime specials and the recipe contest in the Reflector. They do all this and manage to be in the top 5 out of 115 cafeterias inspected by the Environmental Health Branch of the Naval Hospital.

Aris Pasles is the chairman of the Food Services Board. Other members include: Chris Anderson, Bob Clegg, Alexis DeLeone, Frank Drummond, Dottie Kirkpatrick, Donald Morway and Joe Speaker.

Commander Salutes

Joseph Dugan, Comptroller — For significant contribution to the STAFS Project Office.

Thomas Kothstein, Software & Computer Directorate — For outstanding performance while assigned to the Embedded Computer Program Office.

James Bonanno, Command Projects, Dean Nathans, Stephen Schmidt, Communication Navigation Technology Directorate — For contributing to the successful completion of the Consolidated Very Low Frequency Technical Proposal Evaluation.

Anthony Madera, Sensors & Avionics Technology Directorate, CDR Frederick Ameel, Command Projects — For the superb sonobuoy briefing to Admiral Dunn.

Nicholas Conti, Comptroller — For assisting with special reports required for a visit by Congressman C. H. Smith to the Naval Air Propulsion Center; and, for assisting the Naval Underwater Systems Center with setting up and testing CDC Computer procedures.

Joseph Spodaryk, Comptroller — For untiring efforts dedicated to the STAFS project; and, for continuous support provided to the Project Manager for Training Devices.

Alan Cantor, Mark Katzeff, William Shope, Aircraft & Crew Systems Technology Directorate — For outstanding performance in support of the Navy Aircrew Common Ejection Seat Program.

Michael Caddy, William Mueller, Aircraft & Crew Systems Technology Directorate — For expert and timely assistance to the Light Attack Weapons School, Pacific.

John Keane, Sensors & Avionics Technology Directorate — For outstanding assistance provided to the Naval Air Systems Command in preparing plans for the ASW Sensor Program.

Kenton Bachman, Communications Navigation Technology Directorate — For dedicated support to the Naval Air Systems Command in developing a Standard Attitude Heading Reference System.

Alan Cantor, Vera Robbins, Aircraft and Crew Systems Technology Directorate — For outstanding support to the Naval Air Systems Command on the Helicopter Emergency Egress Lighting System.

Christine Gallagher, James McNamara, III, John Ohlson, Carl Reitz, Jr., Aircraft & Crew Systems Technology Directorate — For their diligent and proficient technical support provided to the Air Vehicle Subsystem Branch at the Naval Air Systems Command.

Glenn Carter, Martin Leonardo, Robert Geyer, Robert Skalamera, Systems Directorate, John Whalon, Robert Mullins, Software and Computer Directorate — For outstanding performance as Battle Group ASW Readiness and Effectiveness Measurement Observers.

Stephen Filarsky, Aircraft and Crew Systems Technology Directorate — For outstanding assistance to the Naval Air Systems Command as Project Manager of Maneuvering Flight Path Display System Special Technology Project.

Joan Miller, Civilian Personnel Department; LT Thomas Bily and Chris Thompson, Sensors and Avionics Technology Directorate; Clare Walsh and J. Zimnoch, Communication Navigation Technology Directorate; LT William Little, Aircraft and Crew Systems Technology Directorate; AK3 Beverly Marple, Supply Department; and Barbara Goldstein, Computer Department — For participating in and ensuring the success of the 1984 Navy Relief Campaign.

Emil Bazow, Command Projects, and Richard Gleich, Sensors and Avionics Technology Directorate — For outstanding contribution toward improving the effectiveness of TARPS aircraft.



The NADC RECIPE REVIEW Meat Loaf Italian Style

This month's recipe is provided by Erna Caskie (Code 601, X1912) who will receive a \$50 Bond from the Food Service Board. This recipe will also be served in the NADC Cafeteria. Submit your recipes to Mr. Robert Green, Cafeteria Manager. One winner will be selected each month.

1 Jar Prego — use half and save half for later
1 Packet Good Seasons Lo Cal Italian or Garlic & Cheese Dressing Mix
2 pounds Hamburger
1 large egg or 2 medium eggs
1 large onion — peeled & diced
cracker or bread crumbs
provolone cheese
water
Pasta — some type of noodles

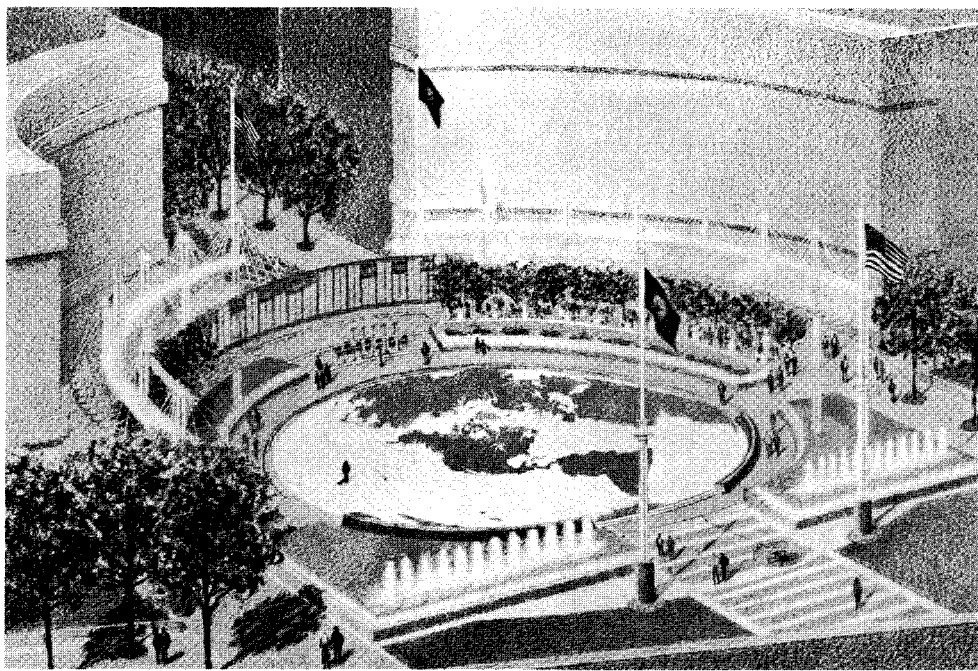
Combine hamburger, egg, onion, cracker or bread crumbs and seasoning. Mix until hamburger molds into a loaf. Bake at 375° for 40 minutes. After 40 minutes take out of oven and place slices of provolone cheese over top and pour half jar Prego over top, add a little water and return to oven for about 15 more minutes.

Cook pasta, noodles, until tender. Drain. Place in baking dish that has been greased with melted butter or margarine. Slice meatloaf and place over pasta. Warm leftover Prego with some water and margarine or butter and pour over meatloaf and pasta. Serve with salad and warm rolls or warm bread.



LOOK FOR THIS RECIPE TO BE
SERVED IN THE NADC CAFETERIA

Cut here for file card



Artist's conception of the United States Navy Memorial

Navy memorial planned for the nation's capitol

The United States Navy Memorial Foundation has broken ground for a national Navy Memorial in the nation's capital, which will be dedicated exclusively to those who have served in the U.S. Navy. Construction is set to begin this summer.

Foundation president, RADM William Thompson (USN, retired) stated that the memorial "will fill the need for a site set aside to honor America's Navy men and women."

The memorial will be built on Pennsylvania Ave., midway between the Capitol and the White House. This is along the route taken during the inauguration of U.S. presidents. The location is in the heart of the city's business, government and arts center, and is directly across the avenue from the National Archives Building.

The dominant element of the project will be an amphitheater with a multi-purpose concert stage. The deck of the amphitheater will be a 100-foot diameter inscribed grid of the Western Hemisphere.

The United States will be central to this geographic layout, to emphasize its position as an island nation, dependent upon the seas. This portion will serve as the seating area for concerts.

Two large fountains will flank the entrance to the memorial. One will have an international theme to honor sailors of all nations, while the other will be thematic of the U.S. Navy.

The first phase of the building program is expected to take three years. The total program will cost \$10 million. All of the funds are to be provided by private contributions. Because the foundation has been designated a non-profit, educational organization, by the Internal Revenue Service, all donations to the fund are tax deductible.

The memorial was authorized by an Act of Congress and was signed into law in March 1980. The measure provided for a Navy Memorial to be built on public land in the Washington metropolitan area.

"The U.S. Navy Memorial will contribute to the development of an awareness among Washington's many visitors that this country is a maritime nation, born of the sea, and depends on the seas for its security and commerce," Thompson emphasized, "and the U.S. Navy has contributed significantly to America's origin, development and survival."

Security Reminders

Communications Security (Comsec) Surveillance

All military and civilian personnel are reminded that discussion of classified information over nonsecure circuits is prohibited. Official government communications systems and facilities, including DOD telephones and telephone systems, are subject to COMSEC monitoring at all times, and use of such systems, facilities, or telephones constitutes consent to COMSEC monitoring.

Combination Changes

Combinations to security containers shall be changed under the following circumstances:

- when container is placed in service.
- when an individual knowing the combination no longer requires access.
- when the combination has been compromised or the security container has been discovered unlocked or unattended.
- at least annually, unless more

frequent change is dictated by the type of material stored therein.

- when the container is taken out of service.

Padlock Security

When the door, gate or other equipment, which a padlock is intended to secure, is open or operable, the padlock is to be locked into the staple, fence fabric or other nearby securing point. This is to preclude the switching of the padlock to facilitate surreptitious entry.

Watchstander

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

- classified material is properly stored.
- all burn bags are stored or destroyed.
- security containers are locked.

The security check shall be made a matter of record, with the record retained at least until the next security check is conducted.

Safety wheels turn

By Mike Masington

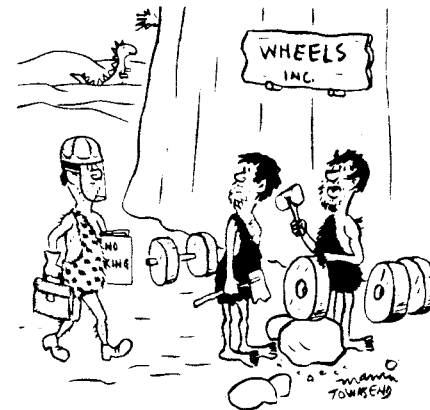
On Tuesday, June 17, 4,000,003 B.C. at approximately 10:20 a.m., a caveman named Og created a revolutionary invention called the wheel. At approximately 10:23 a.m., Og tripped over said wheel which he had carelessly left at the entrance of his cave and gave up his second great invention, the workplace fall.

Things have changed a lot since then. We now wear Calvin Kleins instead of mammoth skins, food shopping is a lot less interesting since the food we shop for now doesn't weigh 800 lbs. and fight back. We've even found a use or two for Og's wheel, but one thing we haven't changed is Og's second invention.

Now don't get me wrong, it's not that we haven't tried. In fact if anything, our modern society has created bigger, better and more frequent opportunities to fall and injure ourselves. Here at the Center, we certainly do our share to protect this unenviable tradition.

So far this year, 19 of our 69 major and minor injuries have been the result of trips and slips. Can we, the potentially periled pedestrian, do anything about this, or should we resign ourselves to the situation and promote Slips and Trips as a team sport in the '88 Olympics? I recommend we do something.

Our records show that most falls here are caused by folks slipping on wet surfaces. They may result from one of our abundance of roof leaks, tracked in rain or snow, or even a spilled cup of coffee. The roof leaks are being worked on (although maybe not at the pace we'd like to see), but what about those little



"It's something new... calls himself a safety engineer."

puddles and spills?

To be blunt about it, if you spill something, take a few minutes of your valuable time and clean it up. Your thoughtlessness in ignoring your spilled cup of coffee may cause a co-worker a serious injury. On the other hand, if you spot some sinister, slippery substance on the floor, do the right thing and wipe it up or at least report it immediately to the trouble desk at x2700.

In your own work area, take some time to eliminate possible tripping hazards. Reroute those electrical cords out of the path of travel, and make sure the aisles are kept clear of clutter. Finally, when you walk, watch where you are going! All of us have seen folks walking down the hall reading a report or engrossed in a face to face conversation. True, the things they slip on or trip over shouldn't be there, but they may be and, with a modicum of caution, could be avoided. So let's combine a little common sense with some good housekeeping, and make Og's second invention obsolete.

Promotions

Margarita Alicea, Madeline A. Arcangel, Stephan R. Bazow, Regina A. Beans, Josephine Beber, Dennis L. Bellevou, Sylvia Z. Bentley, Georgia W. Bernard, Linda S. Biechy, Leonard R. Blazick, Elia Calabro, Richard Capaldi, Elizabeth A. Chapman, Joan M. Colyar, Romanda C. Daniels, Richard Defrancesco, Susan L. Douris, Wayne C. Everett, Kurt C. Frederick, Richard S. Genovese, William H. Graff, Marianne T. Haiduck, John R. Hughes, Gerald R. Iannelli, Elisha Ingram, Michael P. Juszak, D. Scott Kee, Mary C. Kelly, Robert F. Kennedy, Barry L.

Knouse, Harry F. Koper, David L. Kramer, Mary E. Kuna, Miriam E. Lentz, Marijane A. Maloney, Sheila M. Mangin, William McFarland, Lawrence J. Miller, Diana L. Mulley, Joseph F. Oriti, Carmel J. Owens, Gerald T. Pirrung, Tina M. Polichetti, Joseph T. Ponden, David M. Popeck, Rodney J. Pursell, Phillip L. Rollhauser, Richard H. Runyen, Scott R. Shaner, A. Basit Syed, Carol L. Taylorblakey, Garth S. Torok, John Vanfraassen, Carl E. Wagner, Joseph K. Weidner, David L. Williams, Elsie M. Worobe, Robert P. Zwissler

New employees

Ronald P. Averell, Neil Axler, Paul J. Beer, Jeffrey K. Biscardi, John B. Bocedy, Frank J. Boka, Peggy L. Bower, Carlton B. Brown, James L. Byers, Edward J. Calvello, Michael P. Cannon, George J. Carlin, Jr., Peter F. Carroll, Erna B. Caskie, Dante A. Ceniccola, Jr., Ronald C. Cochran, Jerome M. Curtin, Michael Daum, Timothy C. David, Theresa J. Donrussello, Marybeth Dormuth, Margaret Dougherty, Emmanuel Engelesson, Diego P. Escolbar, James A. Fingerle, Solomon I. Fink, Kurt C. Frederick, Janet M. Froggatt, Gordon F. Gerstenkorn, Georgianne D. Gibbons, Mary Ellen Grady, Gary L. Groshner, Irene Heitzman, Nora Hernandez, Terenee L. Houghton, Jr., Leslie L. Hrebin, Gerald R. Iannelli, Kenneth R. Ives, Brandon

F. Johnson, Dawn Keiser, Mitchell J. Kelly, John R. Kulb, Jr., David L. Kramer, Timothy L. Kraynak, Beverly Lazarus, Cynthia J. Malloy, Lary A. Mark, Joseph McFadden, Carol Jean McIlwain, John Mochulski, Frederick R. Morey, Jania M. Moser, Dominic J. Nguyen, Frank E. Plonski, Jeremy D. Predhome, Harry Reichhardt, James L. Robinson, Sharon Robinson, Emil L. Rongione, William S. Sadak, Dino S. Scanzello, Ernest R. Schneck, Andrew S. Schwartz, Susan P. Scott, Scott R. Shaner, Martin D. Sholomskas, Stephen J. Skilton, David J. Swinski, Susan J. Tiley, Michael J. Troyanosky, David W. Walter, June M. Wagner, Lauretta L. Welch, John Winiarczyk, Craig A. Wood, John W. Wood



REFLECTOR

J. BARTON

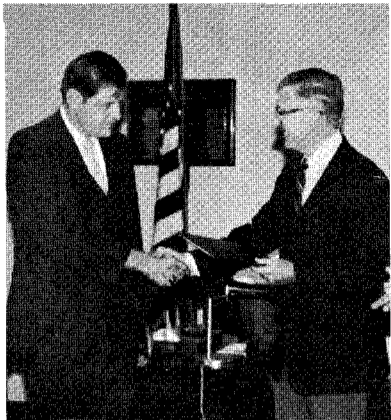
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Naval Air Development Center, Warminster, PA

1944 • "Building Naval Aviation's Future for 40 Years" • 1984

Volume 28
Number 9
Sept 1984

President's Exchange Selects Brennan



Service Award Winner
See page 2



Teacher extraordinaire
See page 3



The thrill of victory
See page 4



Here comes the judge
See page 6



Horse for the library
See page 8



Photo by Regina Gasuk

Thomas J. Brennan

Thomas J. Brennan, former NADC Associate Technical Director, has been selected a Presidential Exchange Executive from the federal government. Only nine candidates were chosen and he is the only one from the Department of Defense. As an exchange executive, Brennan will spend a full year working in industry, receive special education, and then return to NADC. Jerry Guarini has been selected to fill his position as Associate Technical Director.

Brennan will be working as special assistant to the president of Teledyne Corporation's largest companies, Teledyne Electronics and Teledyne Ryan Aeronautical.

The President's Commission on Executive Exchange states its purpose to "promote mutual understanding between American government and business, to foster personal growth through a new and challenging experience and to stimulate ideas and promote techniques which will result

in better management of government agencies and greater cooperation with private business."

Federal candidates for the President's Exchange must be at the GS-15 level, a candidate for or member of the Senior Executive Service or its equivalent. They must be willing to relocate since most assignments are at the corporations' headquarters and never in the Washington DC area. Brennan will be relocating to San Diego, CA.

Brennan was nominated for the exchange program by Robert Buffum, Technical Director, and Captain James Anderson, then Center Commander. He was picked number one nominee throughout all Centers by the Executive Resources Board. His nomination was further accepted by the Chief of Naval Operations, both the Secretary and Assistant Secretary of the Navy, and the Office of Management and Budget.

Nominations are accepted by the

Nominations are accepted by the President's Commission on Executive Exchange in Washington during January. The Executive Director and Deputy Executive Director then conduct screening interviews. After selection, executives are required to research several corporations to determine where their skills might be best utilized.

Brennan prepared a 'white paper' on each of 14 different companies he approached. He will be working for Teledyne, a conglomerate corporation comprised of almost 200 subsidiary companies. As Special Assistant to the President of Teledyne Electronics and Teledyne Ryan Aeronautical he will be responsible for special planning for their product lines that will be utilized into the turn of the century. Brennan says he will focus on a more integrated systems product for the two companies as well as trying to infuse a greater

(Continued on page 3)

Guarini New Associate Technical Director

Jerry Guarini is NADC's new Associate Technical Director replacing Thomas Brennan who was selected for the President's Executive Exchange Program. Guarini began as Associate Technical Director on 20 August.

Prior to his assignment, Guarini was Director of Planning, Assessment and Resources (PAR). His strong technical background includes 18 years in sensor and avionic technologies, with the past twelve years in advanced concepts and weapons systems. Guarini feels that the three months he recently spent in PAR provided him with an entirely different view of the business side of the NADC operation. He noted that the assignment in PAR exposed him to every aspect of NADC's business base and the many fine people who make our business run. "In retrospect, it was an excellent crash course for the assignment to O1A," said Guarini.

Leading up to the PAR assignment, Guarini spent nine years as Head of

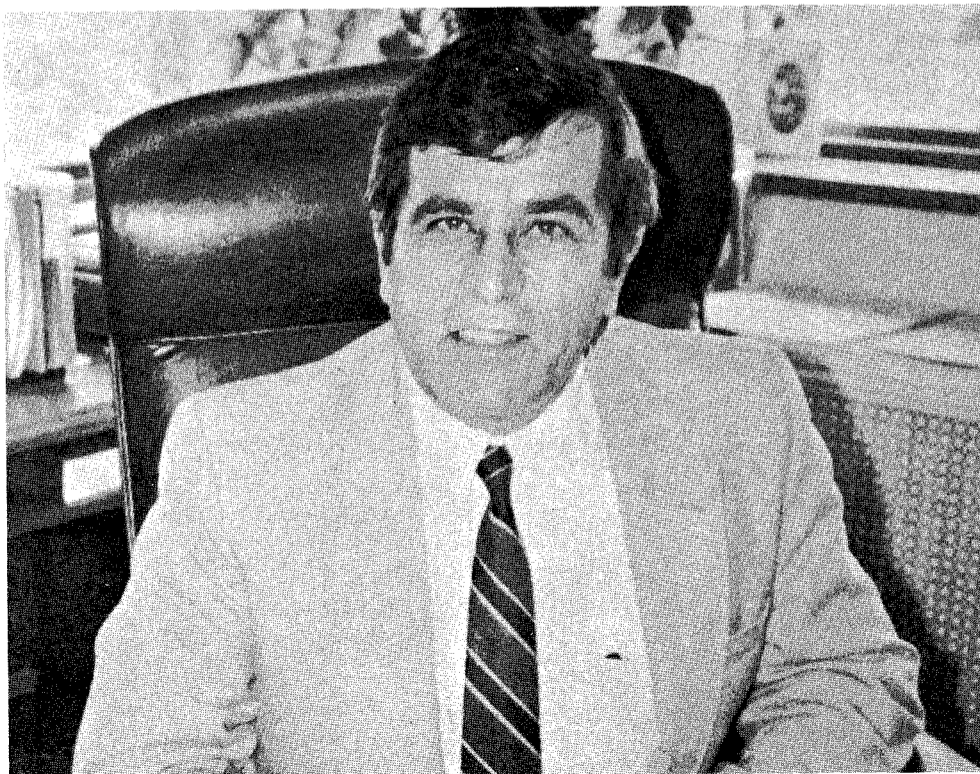
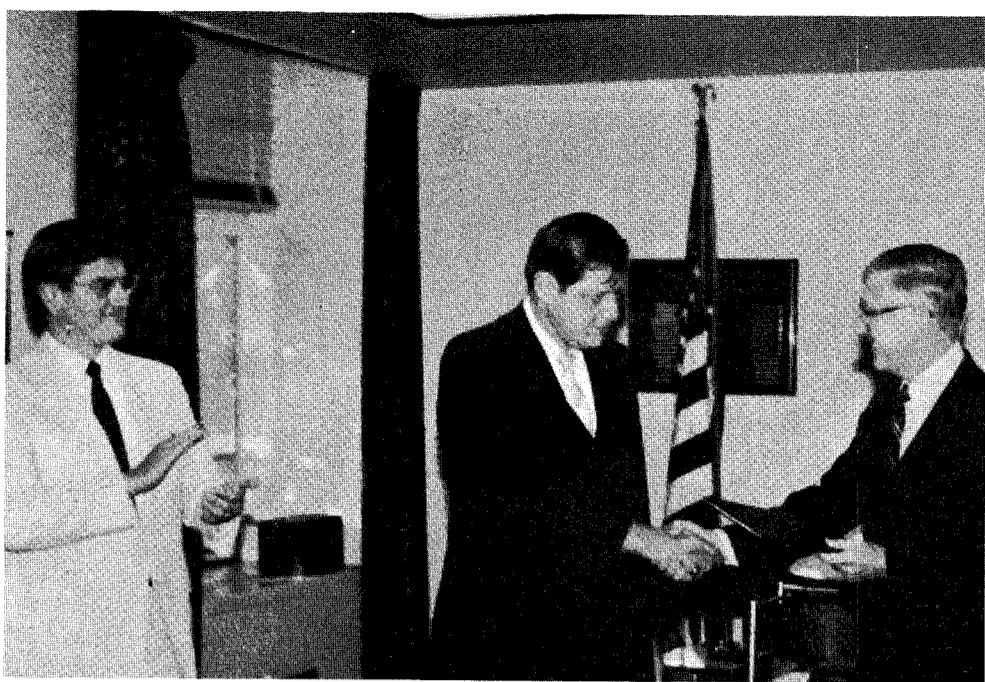


Photo by Jim Kingston

Jerry F. Guarini

(Continued on page 7)



Tony Mickus receives Science Advisor of the Year award from Gary Morton, Director of Navy Laboratories. Robert Buffum, Technical Director looks on.

Fleet's capability enhanced

P-3C software improvements

The Naval Air Development Center is tasked with fleet software support for the P-3C. Ted Kopp of the VP Program Office is the project engineer for this effort. The Center has just delivered the latest in a series of updates to the Naval Air Test Center for Naval Test Evaluation. This program constitutes a major software upgrade which culminates over four years of effort and provides significant advancement of the fleet's capability. The new upgrade I.4.6.1 is a combination of new capabilities and the correction of fleet reported problems. "One of the major program functional enhancements included a new algorithm that we instituted into the software using Kalman filtering techniques, a method whereby the best and worse cases are eliminated to leave you with a good statistical average that is more reliable than peaks," explained Kopp. According to Kopp, Kalman filtering is a sophisticated mathematical approach that eliminates large perturbances and gives you more expected values. "The same mathematical techniques," said Kopp, "are used to accurately display radar (maneuvering target tracking) contacts of interest."

Harpoon targeting aids have been updated to provide more enhanced operator display advisory for targeting

the harpoon missile based upon maneuvering target prediction, probability of missile illumination, and the operator selection of desired air point and release point. Appropriate steering advisory is provided to the pilot also.

Another capability known as Passive Tracking Algorithm (PTA) in the Signal Data Recorder (AQA-7) provides a means for automatic frequency (line) tracking, bearing tracking and target tracking.

Improved weapons processing will include more accurate ballistic calculation for torpedo drops and the capability to build and deploy mine trains with variable spacing and mixed type. Data link communications improvements have been made in support of fleet coordinated operations and over-the-horizon targeting.

"We are continually striving to provide the fleet with program updates to increase their capabilities," said Kopp.

Franz Bohn, Program Engineer of the VP Program commented, "this is the latest release and we are anticipating further upgrades and improvements in correction of fleet problems with the next upgrade which will be called I.4.7 scheduled for January 1987."

Letter to the Editor

Dear Mr. Editor:

I heard with some dismay, about the Center issuing a new policy to stop mailing copies of the REFLECTOR to our retirees. A sad commentary; most of our people dedicated all of their working lives to the Navy and now we say the Navy can't afford this little nicety. Several years ago the REFLECTOR did a post card survey to see just how many retirees were still around, still interested, or had access to a REFLECTOR (i.e. a relative working on Center). A new survey could probably cut a lot of waste, which is your goal, and would make the availability of the REFLECTOR to the rest of the retirees kept within budgetary limits. Also, how about adding a little line on a retiree's

checkout sheet, asking if the party would be interested in receiving the Center paper? Any alternatives?

Eddie Nichparenko, Code 8411

Editor's Note:

The decision to discontinue mailing the REFLECTOR to retirees was not made by this Center. It was dictated to us through DoD instructions which have become increasingly stringent and no longer allow the franking privilege to be used for mailing newspapers to the general public, i.e. retirees. The AFGE Local 1928 is attempting to change the instruction, but in the interim, we must comply.

Thank you.

Service Academy News

by Ed Tankins and Paul Scells

It doesn't take political pull or a magic touch to get accepted into a military academy. All it takes is hard work, motivation, and perseverance. Unfortunately, not many people realize this.

Ed Tankins, an engineer in the Aircraft and Crew Systems Technology Directorate and a retired Army Colonel, knows exactly what it takes to enter an academy. Closely connected with the admission's office, Tankins acts as a liaison officer for West Point.

"I attend the college nights and career days at all the area high schools. I brief the admission's people and interview the potential candidates," said Tankins. "I am really the focal point for the people who have problems and questions.

"Too often guidance counselors do not have the necessary information to answer student's questions or they simply do not care. I would like to share the information that I utilize," he said.

One of the most important steps in applying to a military academy is to start early. Asking a counselor for information or writing to the Academies during the student's junior year of high school is the time to start. The earlier the better.

The student wishing to apply should send away to the Academy for a pre-candidate questionnaire to establish a file at the Academy. Getting your name on file is the first step. Just as vital, is getting a nomination to accompany your application. This is the step which people think political pull is necessary. Tankins disagrees.

In order to get nominated, the student should write to a Congressman. "The Congressmen in this area utilize a Service Academy Selection Board," Tankins said. "The board interviews each potential candidate and submits a slate of 10 names for every vacancy they have to fill.

"The nomination starts the admission process for selection. The student's class rank, SAT scores, type of courses, extracurricular activities, athletic involvement, community activity, work experience, and leadership potential are all important factors considered," he said.

"When this list is received the admission's office starts to review all those on the list with a file. It is possible for all 10 individuals on that

list to be offered admission to the Academy," Tankins said. "It has been my experience that three or four candidates on the list from this area have been admitted. It is imperative that the file and nomination process be started in the junior year."

When applying to an academy, Tankins suggests applying to all of the Academies, keeping the student's options open. "I have seen a student turned down by one Academy and then accepted by another," he said.

If accepted the student can look forward to a free education away from home with all medical expenses covered and a yearly salary of \$5,000. What's the catch? The applicant must be willing to make a five-year military commitment upon graduation.

"The Academy experience and five years active duty as an officer is a very valuable experience that will prepare the young man or lady for a successful career in any field," Tankins said.

Although Tankins does not think the Service Academies are for everyone, he does think that anyone who likes an outstanding Academic environment, and wants to develop their mental and physical abilities as well as leadership potential should look into the Academies.

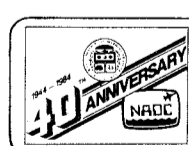
Any questions can be directed to either, Ed Tankins X2875 or LCDR Mike Dougherty X3999.

Service Academies

- U.S. Military Academy at West Point, NY
- U.S. Naval Academy at Annapolis, MD (includes Marine Corps)
- U.S. Air Force Academy at Colorado Springs, CO
- U.S. Merchant Marine Academy at Kings Point, NY
- S. Coast Guard Academy at New London, CT

Editors Note:

Additional information may be available from: CAPT Fred Wright, Chief Staff Officer and Jim Kingston, Public Affairs Officer, (both of whom have sons at West Point) and these on-Center Naval Academy graduates: CDR J. Rockwell, ext. 7119; CDR M. Weaver, ext. 2114; LCDR N. Brownsberger, ext. 3744; LCDR M. Dougherty, ext. 3999; LT W. Dietzler, ext. 2834; LTR. Knowski, ext. 2104; LT R. Seaberg, ext. 3551; LT S. Wood, ext. 3335.



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App takes on Special Projects in CNTD



CDR George App

In June 1984 CDR Kenneth George App arrived at NADC. Until August, he assisted the Operations Officer, CDR Gordon Safley; now he is assigned as the Communication Navigation

Technology Directorate (CNTD) Special Projects Officer.

As CNTD's Special Projects Officer, App will oversee the Global Positioning System and the Basic Avionics Subsystems Integration Concept project. He will also represent NADC to the Fleet in the Navy Science Assistance Program projects assigned to CNTD.

He is currently involved in the Battle Group Navigation Improvement Program for CINCPACFLT which is analyzing battle group navigation systems and system integration techniques during a recent major Third Fleet exercise.

From his carrier anti-submarine warfare module experience, App brings Fleet perspective to both battle group and airborne command and control programs.

As a P-3 pilot he is participating in VP fleet software support tests, low cost sonobuoy drops, Anti-Jam Airborne Communication System flights as well as post maintenance functional check flights.

If you think App looks familiar, you just might be right. He was stationed at the Center as a Lieutenant and a Lieutenant Commander from August 1975 through March 1978. He served as both the NATOPS Officer and Assistant Operations Officer.

In March 1978 he proceeded to CV-TSC School in Dam Neck, VA, followed by a tour aboard the USS JOHN F KENNEDY from June 1978 to September 1980 as the CV-ASWM Officer and Officer of the Deck, Underway. App then went to the Fleet Combat Directions Systems Support

Activity in Dam Neck, VA until June 1981 as the CV-ASWM Program Performing Specifications Officer.

App was most recently stationed in Jacksonville, FL in VP-45 as Administrative Department Head.

"It was a conscious decision on my part," App said, "to return to NADC. My family liked this area, and I felt I had more to offer the Navy working from NADC based on my flying capabilities, prior NADC tour, anti-submarine warfare module background, and recent fleet experience in battle group command and control."

App's wife, Donna, presently a registered nurse for the Bucks County Public Health Department, and daughter, Julie (in 9th grade) have accompanied him back to NADC. (MAB)

Rockwell New Associate Director in SD

the job but on a short term basis.

Although Rockwell reported to the Center in mid-June he spent almost one month requalifying to fly the A-7 aircraft and recuperating from knee surgery resulting from soccer and racquetball injuries.

Now that he is back full time, Rockwell says, "I will try to contribute as much as I can to the Systems Directorate's overall mission, at the same time keeping a view toward improving the quality and usefulness of Center products to the Fleet. That's what we're all here for."

He also intends to make himself aware of Fleet and user needs so he can "sell" the Center's capabilities at every opportunity. Rockwell has already touted NADC's capabilities to the A-7 and F-18 communities during a recent

trip to NAS LeMoore, CA.

Rockwell added he sees part of his job as helping Center engineers and Fleet users relate more easily to each other.

He described NADC as the "cutting edge of technology—where things happen." And, he noted, the Center has a forward-looking approach to weapon systems and DoD needs of the future."

Rockwell said he was particularly impressed with the "Center's intent to relate its work to the needs of the Fleet." He sees that as a healthy view of customer and end use; a view not always held by all contractor or government agencies.

As the sole military person in the Systems Directorate, Rockwell brings with him a needed operational and test pilot background.

Designated a naval aviator in 1967, he gained his fleet experience flying

F-8's and F-14's in VF-124, VF-194, and VF-1. He was a test pilot at the Naval Air Test Center from 1977 to 1981. Most recently he was stationed at the NAVPRO in Bethpage, NY where he was an F-14 and A-6 production acceptance pilot.

Rockwell is a 1966 graduate of the U.S. Naval Academy. He also attended the Defense Language Institute in Monterey, CA as a German language student prior to attending the University of Munich as an Olmsted Scholar studying political science. He holds a Master's Degree in International Relations from the University of Southern California.

Rockwell's wife, Genie, and three of their four children have accompanied him for his tour to NADC. His oldest daughter is attending Hofstra University in Long Island, NY. (MAB)



CDR John Rockwell

Photo by Jim Kingston

CDR John "Rocky" Rockwell, III is the first officer officially detailed to the position of Associate Director for Fleet Systems in the Systems Directorate, job. Two other officers previously filled

President's Executive Exchange Assignment for Brennan

(Continued from page 1)

system development into their products.

During Brennan's year at Teledyne, he will be required to attend three educational programs. The first of these is a one week public policy seminar held in September for the appointees to provide them with an opportunity to become more familiar with the commissions' goals, expectations, and guidelines as well as to meet fellow participants and top level public government leaders.

In December, Brennan will attend a one week session at Harvard Business School which will address national and international policies as they affect industry-government interface. This effort is conducted yearly at various business schools throughout the United States. The final program is an international seminar planned to take place in Europe in April. This will give the executives an opportunity to explore the US position in world trade and the political, economic and military considerations that impact it.

Brennan and the Center consider this appointment a great honor. "The cross fertilization of experience and ideas between government and industry can only strengthen the understanding of the numerous issues involved in the strategic allocation of scarce resources and can broaden the perspectives toward potential long-range solutions. A one-year Executive Exchange assignment with Teledyne would extend the unique opportunity to foster similar and reciprocal benefits to both

organizations," said Brennan.

"My observation, interaction and personal participation in the strategic management of a high-technology corporation," Brennan said, "would be of inestimable long-term value to me in the fulfillment of future responsibilities within the Navy; from Teledyne's perspective, my skills, knowledge, interests, and experience should contribute well toward effective planning and management tasks."

On a personal note, Brennan will be taking his entire family with him. "They are looking forward to the challenge of California, and I am sure they will be looking forward to coming back at the end of the year," he said.

When queried as to what he would do upon his return, Brennan said, "I will not be returning to the O1A position. In my discussions with Mr. Buffum and CAPT Sturm, (Center Commander) relative to my reentry, a line organization position would be most appropriate to fulfill and share my experiences of the past year."

Presidential Exchange Executives represent the best of business and government. The Center is very proud of Brennan's selection into the program.

DeLuccia teaches his way to fame



Dr. John DeLuccia

Dr. John DeLuccia is known to many as the Head of the Aero Materials Division of the Aircraft and Crew Systems Technology Directorate. But, to those who have attended Drexel University's evening college over the past 23 years, you may know DeLuccia sometimes wears a different hat.

Starting as a visiting professor in 1961, DeLuccia has been teaching various engineering courses at Drexel. Currently he holds the academic rank of adjunct professor, teaching Materials Engineering.

It is for his success in this endeavor that Drexel University chose to honor him with the Laura S. Campbell Award for teaching excellence. The

Award is presented yearly to the "best teacher" in the evening college. The best teacher is first determined by student questionnaire, then endorsed by a committee of previous award recipients, and finally approved by the University President.

DeLuccia received the Award during graduation ceremonies in June. "Accompanying the honor," said DeLuccia, "were a check for \$280 and the prestige of having my name engraved on a plaque in the faculty club room at Drexel."

The real honor though," DeLuccia said, "is to know I am doing an effective job and my teaching efforts are appreciated by the students." (MAB)

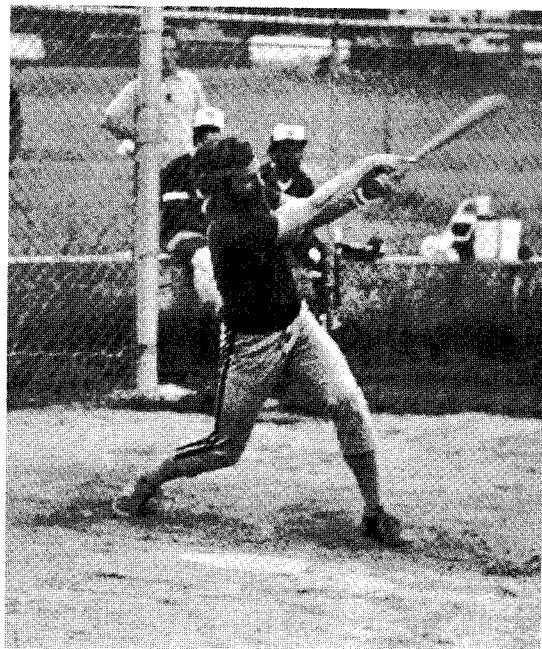


Photo by Ross Hendricks

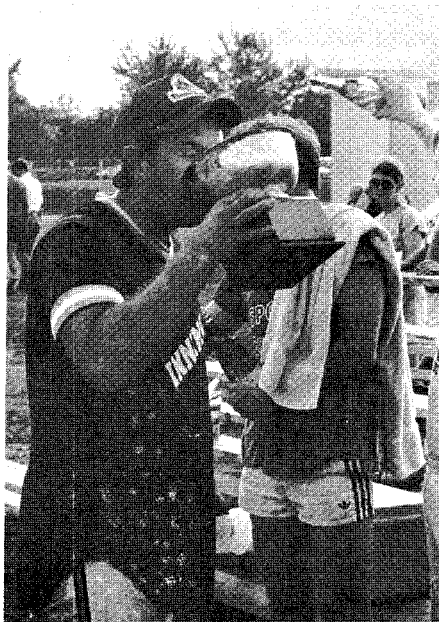
Joe Klicka bats one in.

Photo by Bob Larr

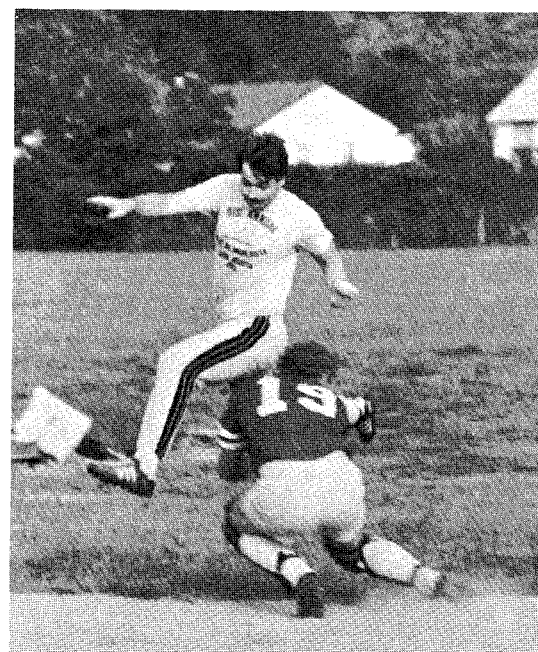
8th Inning coach, Fred Kuster, celebrates victory.

Photo by Bob Larr

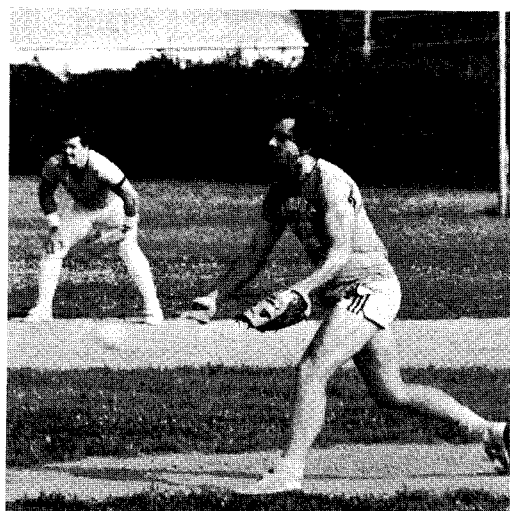
Jim Kearney tags Bruce Heath.

Photo by Karl Schmidt

Bob Larr makes catch.

Photo by Karl Schmidt

Chuck Bigley slides into Bruce Heath.

8th Inning takes the title in five

By Charles Destra

The 8th Inning, a team that came together in the playoffs, defeated the favored Misfits in a dramatic five-game series to capture this year's men's softball championship.

That the 8th Inning would win the crown was somewhat of a surprise. Near the midway point of the regular season, they had a 6-1 record and appeared to be one of the league's powerhouses. But they underwent a Jekyll-Hyde metamorphosis and finished the season at 7 and 9 (winning just one of their last nine). They went into the playoffs with no momentum but nevertheless disposed of three tough teams—the Guzzlers, Druids and Misfits, respectively.

Key to the team's playoff success was timely hitting, a stalwart defense, and pitcher Bob Larr's consistency on the mound. Larr, one of the more highly regarded pitchers in the league, simply began pitching like everyone knew he can. And to beat the Misfits (14-2, regular season) he would have to overshadow and outdo Misfit hurler Greg Heydet, and did.

The 8th Inning jumped out to a surprising and commanding lead, winning the first two games of the

series. Trailing 2-0 in the first game, they chipped away for three runs in the fourth inning and never relinquished the lead. Joe Klicka led the way with 4 for 4 hitting in the 6-3 win.

The 8th Inning won the second game, 3-1, in another pitcher's duel. The champs got all the runs they needed in the bottom of the fourth inning, scoring twice on only one hit. The Misfits hadn't lost two straight games all year long, and appeared demoralized at this point.

However, the Misfits showed tremendous character in the third game. Behind 4-0 in the third inning and facing elimination, they scored three runs in the fourth inning and four more in the sixth to win, 8-6.

The come-from-behind victory was a confidence-builder for the Misfits and they won the fourth game easily, 6-1. Heydet dominated the contest, giving up only five hits and two walks. Suddenly, the tide had turned and the pressure was on the 8th Inning.

Thus, the stage was set for a climactic fifth game and neither team disappointed. The game featured various lead changes, but it was the 8th Inning that came up with the big

plays — offensively and defensively — when they needed them.

This marked the first year that the championship final was played in a best-of-five game format. In past seasons, it had been a three-game series. And I think that this year's 8th Inning—Misfit series strengthens the case to continue next season with a five-game final.

The 8th Inning would have eliminated the Misfits in two ho-hum games had the series been a best-of-three affair. But this year's final turned out instead to be one of the most exciting ever played, thanks to the added games.

Moreover, a five-game series is a better indicator as to which is really the best team and deserving champion. In a three-game series, luck and/or injuries can be deciding factors; their effect is minimized in a longer series.

Key plays included a clutch single by Fred Kuster in the second inning that cleared the bases and two great catches by Scott Fowler in left field (once robbing Mick Rudock of a home run), but it was Larr who delivered the major blow.

With his team ahead 8-5, Larr came

up to the plate in the fifth inning and hammered Heydet's first pitch for a home run to give the 8th Inning a seemingly insurmountable four-run cushion. They went on to win the game 9-6, and the championship.

"It was the play that broke our backs," said losing manager Kim Kierney of Larr's blast.

It was only fitting that Larr, who had pitched so well but had a subpar series at the plate, would provide the insurance run that defeated the Misfits' hopes.

Heydet pitched and hit well for the Misfits, but in key situations didn't get the support he needed defensively. "We just collapsed defensively" Kierney complained.

In addition to Larr, the 8th Inning got big efforts in the series from Joe Klicka (9 for 18), Dean Stroehle and Fred Kuster (6 hits each), and Bruce Heath (five hits and several fine putouts at the plate).

Any team that beats the Misfits in a five-game series is a great team, and the 8th Inning is just that. Here's a salute to a team that showed the kind of character and poise necessary to deserve the claim "champions."

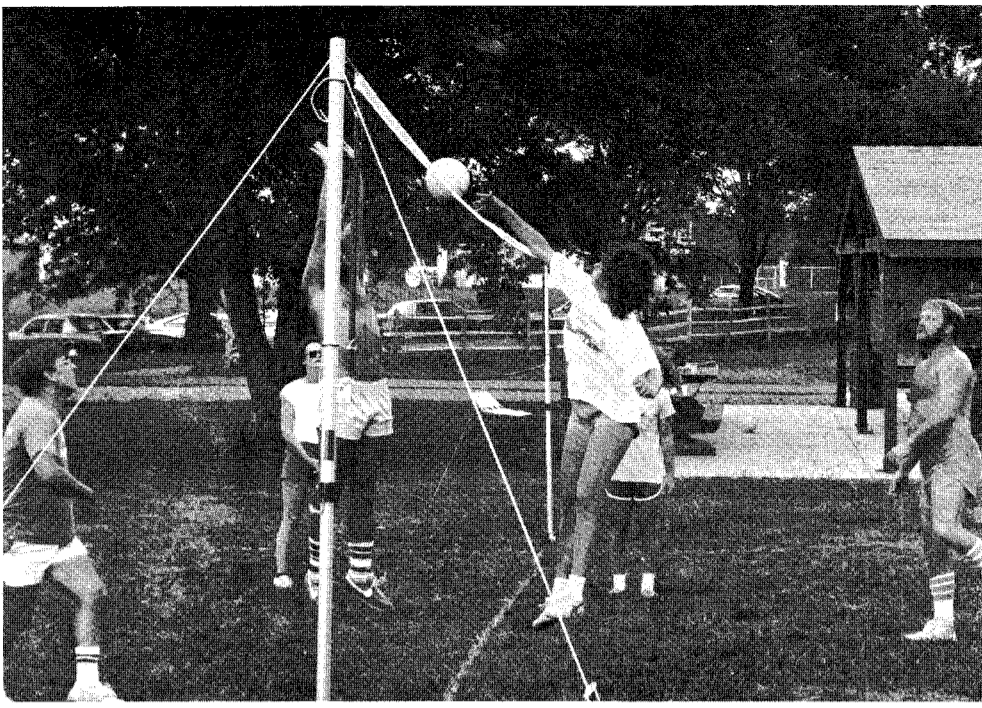


Photo by Cathy Burian

Janice Moser spikes the ball.

Photo by Cathy Burian

Ed Schmidt saves the play.

Photo by Cathy Burian

Nick Mirales blocking at the net.

Networks grab Grabbers

By Betty Anne Mauger

The last day of August also saw the last match of the NADC Mixed Volleyball League 1984 summer season. Zig "Never-a-Doubt" Rafalik's team Network ended their two-year quest for the league championship by taking the Grabbers two out of three games.

Network, after compiling a regular season record of 32 wins; seven losses, advanced to the finals by eliminating each of their playoff opponents, the Spasmatics and the Jammers.

Likewise, the Rusty Spikes and the Renegades sacrificed their hopes for a finals playoff berth by falling to the relentless drive of the Grabbers, who also had 32 wins; seven losses during regular season play. The Grabbers had maintained sole possession of first place throughout the season, edging out Network with total points scored.

The first game of the championship match saw tactical styles typical of both teams. The Grabbers jumped to an early lead behind the strong and effective serving of Doug Lundberg. But Network, alias "the Comeback Kids," used a few crucial time-outs to regroup, and overcame the Grabbers, 15-9.

After seeing what each team had to offer, both came back with ferocious intensity for game two. The hard-fought, point-for-point game was eventually survived by the Grabbers, 15-13.

Game three then became a do-or-die battle for both teams. Network took an uncharacteristic early lead and put the Grabbers into an equally uncomfortable catch-up situation. The Grabbers, capitalizing on several Network mistakes, were able to chip away and come within three, 10-7, at one point in the game, but fell victim to their own missed hits and lost serves.

A combination of Rafalik serves, tight team maneuvers and Joseph Bebey spikes finally proved lethal to the Grabbers. Final score, 15-10, Network.

A jubilant Rafalik noted that Bebey was definitely his team's MVP. "Joe's our number-one spiker, he always hustles for the ball, and really helps motivate the team," Rafalik said.

This is the second year for mixed league volleyball at the Center. The league has grown from an original eight to fourteen teams, and has approximately 150 members.

Golf season nears close

By Bob Piras

The NADC Twilight Golf League season is drawing to a close, and with two weeks left, only four teams are mathematically eliminated from the playoffs. The league was split into two divisions (White and Red) by a lottery at the beginning of the season. As luck would have it, the Reds proved to be much stronger, compiling a 606-394 victory margin over the Whites. However, the top five teams in each division will qualify for the playoffs, and it is the intra-divisional play in the second half of the season that is determining who will be in the running for the league championship.

In a four week playoff format, the second through fifth place teams in either division will compete for the first two weeks, beginning 12 September. The two winners from this single elimination event will be vying with the first place teams for the division championships. The two division champions will then face each other for the league championship on 3 October.

In any league, you want to finish first, but here the reward is even greater since a first place finish gives that team the divisional title and a shot at the league championship with only one playoff victory. Barring a last

minute swoon, the Pin Seekers (Red division) and Greenies (White division) should fill those slots. Both these teams are riding the crest of fast starts, and have coasted to comfortable leads. The other four playoff slots in either division are virtually up for grabs, and the dogfight will probably last until the last week of the season.

The final event for the league this year will come on 8 October at Bucks County Country Club. The fare will include golf, refreshments, prizes, and the awards to the champions.

Guzzler's Golf

By Charlie Destra

The Third Annual Guzzler Invitational Golf Tournament was held August 15 at the Horsham Valley Golf Course. Players from various softball teams participated in the outing, which is played yearly at the conclusion of the softball season.

Den Stiles (94) and Jack Eyth (111, handicap winner) were this year's champs. Bob Geyer won the closest-to-the-pin event.

Tournament director John Markow is planning a "Fall Classic" event, and encourages interested personnel to contact him concerning details.



Photo by Mary Ann Brett

Local area volunteer fire companies participated in a Time Response Relay, along with several other events, during the Fireman's Olympics held at the Center in August. The NADC fire company was ineligible as they are professional fire fighters.



Photo by Regina Gasuk

Eastern States Championships Model Airplane Meet was held here at NADC on 28 August. From l. to r. Frank Stanton, member NADC model airplane club, Captain Edward Sturm, Center Commander, and Don Lloyd, also member, judge for best navy scale aircraft.

Federal Junior Fellowship Program Gets Friendly Greeting

By Paul Scellsi

Back in July a new program came on-board the Center. It was similar to such established programs as the Research Apprentice and Co-op programs that provided career-related work experience for students. Yet, it was a new face on an old block and needed a friendly greeting.

The Federal Junior Fellowship Program got that friendly greeting. It received several warm smiles and, because of the willingness of many people to help out and work hard, the program began its first summer smoothly.

Gause proposes JFJP

"If you really wanted to pinpoint who got the program rolling," said Director of the Civilian Personnel Office, Ron Young, "it would have to be Kathy," referring to coordinator Kathy Gause. "She came to me about starting the program and I said, 'yes, I think it's a good idea and I'll even participate in it.'"

It was just this attitude the program needed and found in several areas on Center.

Arnold Molotsky took Mark Copeland on board in the Accounting Division, Ralph Lachenmaier made room for Kevin Bidgel in the Processing Displays Branch of the Computer Systems Technology Division, John Heap cleared the way for Leonard Elliott in the Fleet Software Engineering Analysis Division, and Lynne Edwards was given a chance in the Equal Employment Opportunity Office from Gause. The foundation was laid.

To qualify for the program a student must be a high school graduate ranking in the top 10 percent of his or her class, enrolled full time in a college curriculum that can be connected to the Center, and must demonstrate financial need. The main thing to be considered is making room for the student. For example, if Molotsky

wasn't willing to take an accounting major then that student would have missed out on a great opportunity.

"I like the program because we are getting someone who is majoring in accounting and could someday come back as a permanent employee," Molotsky said. "I'll know better in four years how much I like the program, but I think it has great potential."

"It wasn't difficult to make room for Mark (Copeland) because we are always in need of help in the summer," Molotsky said. "It has really been a good thing so far."

"Basically, they have me doing regular jobs in accounting . . . using the adding machine and checking the books for mathematical errors. When I get more into accounting at school I hope to become more involved here," said Copeland, 18, who will be majoring in Accounting at Temple.

"Part of the problem with using students in a professional area is they have limited knowledge," Computer Systems' Lachenmaier said. "If we are going to use project funds to pay the student, we need him to contribute. We are making an investment in them we hope to get back someday."

Mentors are essential

"I think a program like this is a tribute to the management personnel at NADC," Lachenmaier said. "People like John (Coyle) who are willing to act as mentor for the students and put the time in to work one-on-one, keep the program going as well as the supervisors who take the first step to make room for the student."

Four years down the road the student could be offered a full-time job in his field. The one risk that enters the picture is if the student turns down the offer. Coyle, the mentor for Bidgel, understands the possibilities. "If you work the program correctly you will have the students who will feel comfortable here and will want to

return after college," Coyle said, "of course we have no control over the drawing power of private industry."

Students are enthusiastic

The students like the program because of the money, the people, and the experience. Bidgel, 17, will be majoring in computer science at Beaver College this fall and has already received hands-on practice with computers putting him a step ahead of the pack. "This program is very helpful if you want to pursue a career in computer science," he said. "I am doing actual computer programming and signal processing and feel prepared for school."

Departments take chance

Heap of Fleet Software is glad he took the chance. "It wasn't difficult making room for Leonard (Elliott). We have starter positions for such students who are interested in computers and demonstrate the potential. He is doing well so far. He came to us with a rudimentary knowledge of computer software, a talking knowledge, which is a tribute to (Philadelphia's) Central High School. . . It has really worked out well for both parties," he said.

Elliott like the fact he is learning from professionals doing real work. "This program puts you right in there doing the real thing with top-notch people," the 18-year-old said. "The experience is great. I really enjoy working with the top people and high-quality technology." He too will be attending Beaver College for computer science.

Students well treated

All of the students said they were treated with respect, like a permanent employee. "I like the fact that if I make a suggestion they think about it, examine it, and go all the way with it,"

Security Reminders

Classified Material

Material should be reviewed annually to determine if it should be downgraded, declassified, destroyed or returned. The purpose of the review is to reduce the volume of material on hand and reassign security containers made available by reduced volume of material.

Badges

NAVAIRDEVCCENINST 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 the wearing of the Center badge is mandatory while on the Center.

Handcarrying

All hand-carried classified materials must first be routed through the Security Classification Office (Code 0441) before being carried off the Center. Material classified "Confidential" will then be processed through the Mailroom (Code 04122) and "Secret" material through the Center Secret Custodian (Code 04124).

Elliott said. "Yeah, they really listen to you," Bidgel agreed.

Edwards, 18, the first fellowship member, is putting together a manager's guide for supervisors who might participate in the program in the future. She understands the value of the program which is giving her a chance to gain experience in business administration, which she will be studying at Ursinus College.

"I think it is an excellent program for people like me who would have ended up being a camp counselor for the summer," she said smiling. "Instead, I am learning in my field." Edwards also noted, "Co-ops have some college education behind them when they start their program and then find out what is in their (text) books is different from the job. The Junior Fellowship Program gives me a more realistic view because of my on-the-job training."

Young lauds program

In the opinion of Young, "It is a good in-take program which gets NADC quality people at the other end of the pipeline. I think a strong selling point is that we get high-quality people and they in turn get a chance to gain experience in actual career-related work.

"We are hoping that other areas throughout the Center will follow suit and participate in the Junior Fellowship Program," Young said. "Hopefully through the early success of the program other opportunities will open up for additional participants."

The students are happy, the supervisors are happy, and the program is rolling along. The new face in town is the Junior Fellowship Program. Take a chance and get to know it.

For information on the Program, call the DEEO Office, ext. 3061.

Editor's note: This article was written by Paul Scellsi, a summer employee at NADC, who is majoring in Communications at Temple University.



Crash House Officially Opened — from l. to r. Ken Clegg, Head Technical Services, CAPT Edward Sturm, Center Commander, Don Meadows, Fire Chief, LCDR Burt Streicher, Public Works Officer

Guarini New Associate TD

(Continued from page 1)

the Center Design Team and the Advanced Weapons and Concepts Group (Code 20P). Speaking highly of that position, Guarini said, "It afforded me the opportunity to apply my 18 years of technological background to the solution of some very difficult weapons systems problems such as the Forward Pass, F/A-18R, ECX, P-3, JVX, and VFMX, to name a few." Guarini added, "The technology background provided the foundation for the Systems involvement, which in turn provided the basis for the PAR and O1A assignment. I was very fortunate to have had such exciting assignments and the opportunity to work with so many competent and dedicated employees." He credits any of his success over the years to his co-workers. "I had many, many good teams over the years," Guarini noted, "however, I am particularly indebted to the hard-working and extremely competent PAR employees who taught me so much in such a short span of time. The variety, and complexity of jobs thrown their way on a daily basis is almost staggering, yet they always get the job done without much Centerwide awareness of their involvement!"

DANTES for civilians

For the first time, civilians are now eligible to take the Defense Activity for Non-Traditional Education Support (DANTES) examinations to earn college credit for knowledge gained on the job independently. A Chief of Naval Operations message announced this in July.

For many years, only active duty service members were eligible to take these tests. Now, military dependents and DoD civilians may take any of the more than 50 standardized tests on subjects ranging from applied technologies to languages and social sciences.

Many of the DANTES tests cover knowledge required to obtain a technical or trade certificate or diploma; but, some also are applicable to associate and baccalaureate degrees. Candidates who pass one of the tests can usually receive three college credits without having to sit through a

One of the new Associate Technical Director's primary roles is Chairperson of the Center Management Group (CMG). "I find the responsibility of leading the CMG perhaps my most challenging assignment," he said. "I have had many teams over the years, but the CMG presents quite a formidable team of professional, and experienced players. It's the first team of NADC and on a daily basis impacts where the Center is going."

"I have come into the O1A position at a very opportune time," Guarini stated, "because the CMG is in the first stages of a strategic planning process which will determine the Center's course for many years to come. In addition, I have just gone through the FY-85 Business Planning Process, the Center's IR/IED reviews for next fiscal year and the Center Wide Support programs for FY-85." Guarini continued, "The new CO/TD combination has already proven to be a good team unto itself, and both CAPT Wright and I face the same perspective," Guarini observed, "we are both new to our positions, and we are looking forward to working with the CO/TD to keep NADC moving forward."

course covering the same information — and without having to pay tuition.

The DANTES program complements the College-Level Examination Program (CLEP), because it offers tests in subjects not covered by CLEP tests.

According to the message, DoD civilians and military dependents pay \$25 for each test administered at a military installation. Colleges and universities set their own fees and may also be contacted for further information.

At this time, the closest testing site to NADC is the Willow Grove Naval Air Station, anyone interested in taking tests should contact Herman Liccioli, Education Services Officer there, on 443-6871. Liccioli says that the examinations will probably be available at Willow Grove the latter part of September. (MAB)

"EDITH" in all families

By Mike Masington

It is truly amazing that our enlightened society will spend an average of \$225 on homeowner's insurance, \$40 each for high security locks, and maybe thousands on a burglar alarm system, but won't spend from \$10 to \$50 to provide their families with a chance of survival. What is this \$10 miracle item? Why a simple smoke alarm of course. Let's take a look at the facts. 5,900 people die and 200,000 are injured in residential fires every year. Most of these fires occur between 8 P.M. and 8 A.M. when most occupants are asleep, and most deaths result from inhaling smoke or toxic gas, not from flames. Doesn't it seem logical to protect yourself with something that can detect this smoke and gas and then wake you up before you become a victim?

The number and placement of smoke detectors depends on the size and configuration of your home, but generally at least one per level is recommended with most attention given to protecting the bedroom area. Most detectors on the market today are at least adequate, but check to see that the ones you purchase have an Underwriters Laboratory approval and detailed installation, maintenance, and testing instructions. Follow these instructions exactly to place your detectors properly, and ensure that

they will work when you need them.

Being alerted to a fire in your home is only part of the problem. Your next major concern is how you and your family will get out. For this situation you need E.D.I.T.H. No, E.D.I.T.H. isn't a who, it's a what and stands for Exit Drills In The Home. Start by studying your house carefully, and plan at least two escape routes from every room, particularly bedrooms. An alternate exit is necessary, since your primary escape route may be blocked by smoke and flames. If a window escape route is necessary, make sure the windows work easily and are large and low enough to get through. Use any available porch, shed, or garage roof to reach safety or if needed, purchase an emergency escape ladder. Include specific plans for evacuating small children, the elderly, or any other member of the household who would need special help. Pick an assembly point well away from the house where everyone will meet and be accounted for. And finally, PRACTICE YOUR EXIT DRILL. No, don't just talk about it, have everyone do it often enough so that there will be no tragic misunderstandings or mistakes in a real emergency.

Remember, for a small investment of your time and money, you can give your family security and peace of mind. Isn't it worth it?

Ten years of safe flying

In early August, VADM James B. Busey, Commander of the Naval Air Systems Command, sent NADC a message commending us for our impressive aviation safety record.

Busey stated that 23 July 1984 marked the Center's tenth year of class A mishap free flying—the equivalent of 28,000 flight hours.

"This outstanding safety accomplishment," said Busey, "is the result of personal dedication and professional pride. All hands are to be congratulated for their exemplary safety record for the past ten years."

More recently, VADM Robert F. Schoultz, Deputy Chief of Naval Operations for Air Warfare, sent a similar message of recognition offering "Congratulations on your outstanding contribution to aviation safety."

Commander Gordon Safley, NADC Operations Officer, attributed the fine record, in part, to the reaffirmation of the safety standdown approach to operations. He said, "We apply this approach not only to flight personnel, but to maintenance personnel as well.

This kind of success can't be accomplished by either group alone. It takes all hands at all levels to ensure aviation safety."

Lieutenant William Ryan, Naval Aviation Training Operations Procedures Safety (NATOPS) Officer, described the safety standdown approach as an all day effort to counter complacency both on the ground and in the air. "Last year," said Ryan, "we held four standdowns covering a wide range of subjects such as safe driving, survival equipment on the airplane, and cause factors from previous airplane accidents."

"Our efforts though," Ryan added, "would be in vain if we didn't have the Center Commander's support, both past and present. The command policy, upheld now by Captain Edward Sturm, is 'no project test is so urgent that it merits the taking of undue risk.'"

Sturm strongly endorses the closing sentiment in Busey's message, "I extend my sincere appreciation for a job well done. Keep them flying. Keep them safe." (MAB)

The NADC RECIPE REVIEW

Chicken Supreme

This month's recipe is provided by Nancy Macur (Code 1P, X1726) who will receive a \$50 Bond from the Food Service Board. This recipe will also be served in the NADC Cafeteria. Submit your recipes to Mr. Robert Green, Cafeteria Manager. One winner will be selected each month.

1 cup soft bread crumbs
1/2 cup grated Parmesan cheese

4 whole chicken breasts, split (about 12 oz. each)
1 cup butter, melted

Combine bread crumbs and Parmesan cheese. Dip chicken breasts in butter, then roll in crumb mixture. Arrange chicken breasts in 15-1/2 x 10-1/2 x 1" jelly roll pan. Pour remaining butter and crumbs over chicken. Bake in 350° oven for 30 minutes. Baste with pan drippings. Bake 30 minutes more or until chicken is tender. Makes 8 servings.

LOOK FOR THIS RECIPE TO BE SERVED IN THE NADC CAFETERIA

--- Cut here for file card ---



Photo by Ken Smith

l. to r. (top row) Mrs. Jeanett Gray, Mrs. Alice Dougherty, Mrs. Debbie Streicher, Mrs. Elizabeth Blower (Wives Club members); l. to r. (bottom row) their children, and Ms. Diane Hazzard, Children's Librarian at Warminster Free Library.

Wives Club donates horse

On 29 August 1984, the Naval Air Development Center's Officers' Wives Club donated a wooden rocking horse to the Warminster Free Library.

The Officers' Wives Club, whose current President is Mrs. Debbie Streicher, donated the horse in memory of Christopher Hatter of Warminster, recently killed in a car accident.

Streicher said the \$85 horse was purchased from Community Playthings, an organization that manufactures hand-crafted toys and is run

by a self-sufficient community of Brothers in Rifton, New York.

Diane Hazzard, Children's Librarian at Warminster Library, said the horse was greatly appreciated and would last for many years.

The Officers' Wives Club holds several events each year such as bake and flower sales, and auctions to raise money for various charities. Some of these include: Women Against Rape, The Ginger Tuttle Scholarship Fund, Bucks County Vietnam War Memorial, the National Military Wives Association, and others. (MAB)

Combined Federal Campaign Kicks Off

This year's Combined Federal Campaign is scheduled to begin October 15th and continue until November 23rd. The Center's goal is \$80,000.

Joseph Cody, this year's chairman, said, "the list of charitable organizations will be the same as last year, however, all combined federal campaigns must permit contributors to write in the name of any human, health and welfare charitable agency recognized as tax exempt by the IRS, whether or not it appears on the list we provide." This new Office of Personnel Management regulation went into effect this past August. Therefore, if the charity to which you wish to donate is not on the list provided, just write in the agency's name and address as best you can and campaign headquarters will follow through by checking their qualifications and donating the money to them.

Cody further explained that, "The campaign this year will emphasize and encourage contributors to give and designate their gift to a specific recipient of their choice instead of making a general contribution. As in past years no one will be required to do either."



Joseph Cody, Chairman, CFC

The overall NADC participation last year was 78.6 percent. The Center hopes this year to increase that percentage substantially and meet its new goal.



Commander Salutes

LCDR M. Dougherty, ADC W. Tuite, AE3 J. Baxter, AC1 P. Bateman, AMS1 K. Grard, AS1 K. Heberlig, AD2 G. Potter, AE3 V. Neal, ACC J. Becknell, ADAN M. Krueger—For assistance in the recovery of five tactical aircraft from NAS Willow Grove.

Mr. T. Weaver, LCDR N. Brownsberger, AW1 J. Pelton, AW1 M. Singer, AT2 C. Collins, (Code 10); Mr. B. Knouse, Mr. N. Kreshover, Mr. L. Bolmarcich (Code 50); AD1 S. Cox, AMS2 C. Wade, AME2 R. Henry, AE2 C. Chrz (Code 80)—For outstanding performance to the Naval Air Systems Command during the testing of the first production P-3C Update III weapons system.

Mr. A. Karalus, Ms. L. Bronikowski, Mr. R. Gindhart, Mr. W. LaBarge, Mr. D. Volak, Mr. S. Sanelli, Mr. F. Rineer (Code 30)—For significant contribution to the Naval Air Systems Command as members of a test team during the successful completion of the Carrier Battle Group Noise Measurement.

Mr. K. Kennedy, Mr. P. Ondeck, Mr. W. Schork (Code 60)—For essential support to the Pacific Missile Test Center during the YBOM-126A flight demonstration.

PR1 B. Clements, PR2 J. Harpersberger (Code 80)—For outstanding assistance to the Navy Aviation Supply Office by introducing two new survival equipment inventory managers to the identity, function, and attrition characteristics of various parachutes and their components.

Mr. W. Cole (Code 60)—For dedication to the Independent Research and Development Program which enabled the Naval Air Systems Command to fulfill its obligations.

Mr. N. Armstrong (Code 30)—For dedication to the improvement of US/Canadian reconnaissance systems for the past nine years.

LCDR W. Helm (Code 60)—For outstanding performance as the Human Factors Engineering Exploratory Development Block Program Manager.

Mrs. J. Koch (Code 094)—For untiring dedication to the Small and Disadvantaged Business Utilization Program which merited the Navy Field Contracting System Small Business Award.

Mr. P. Benner (Code 60)—For outstanding performance from August 1983 through July 1984 as the Technical Team Leader for the evaluation of the BOM-PI Target Program.

Ms. B. Simpson (Code 03)—For outstanding assistance as a union negotiator during a recent OPM training course.

Promotions

Kevin W. Birney, Betty Bodor, Denise M. Boone, Charles H. Carik, Steven P. Fleischut, Patricia D. Foley, Barbara M. Goldstein, Clelland N. Green, Francis A. Karwacki, Kathleen J. Lampman, Miriam E. Lentz, Carol M. Majer, Michelle A. Martin, Thomas P. McLaughlin, Paul D. Meisinger, Shirley J. Morris, John V. Newton, Sebastian Nicolo, Rose Marie Pearce, Joan M. Reimel, Carl R. Ruzicka, Philip J. Sanborn, Christine V. Santi, Joseph F. Schnecker, Gregory I. Schultz, Charles R. Schweizer, Paul J. Sheridan, James C. Vernon, Jr., Marvin A. Walters, Neil R. Weinman.

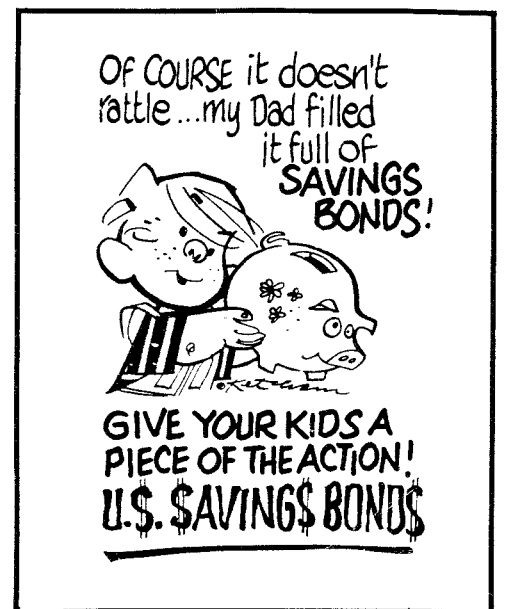


Photo by Jim Kingston

Volunteers from NADC's Association of Federal Employees (AFE), their families and friends participated in a Pledge Drive on 25 August for the benefit of WHYY TV-12, the public broadcasting station in the Delaware Valley.



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CMG sets future goals for NADC

The Center Management Group (CMG) has taken an active part in the future of the Naval Air Development Center by formulating a Statement of Strategic Goals over the past few months. Six major goals are included in the statement. Three of these goals are technical in nature and three deal with management issues.

CAPT Edward Sturm, Center Commander, and Robert Buffum, Technical Director, in a statement endorsing the Strategic Goals feel that everyone in our organization should know about the things that the Center is interested in accomplishing, so that we can unite and concentrate the Center's efforts to do them.

SYSTEMS ACQUISITION AND SUPPORT

GOAL: Expand NADC's role as a full spectrum research and development Center in the acquisition and support of air systems, aircraft systems, subsystems and establish a significant presence in aerospace systems and battle group systems.

Fully develop NADC's capability as the air systems lead technical support activity for NAVMAT assigned leadership areas and NAVAIR product, functional area and systems engineering assignments.

Apply NADC's systems expertise to new air and aerospace systems and battle group systems.

Apply new and emerging technologies to the acquisition of affordable air systems and aerospace systems of high military worth and utility.

Reestablish preeminence in air ASW systems and technology developments to provide for fleet introduction of weapon system capabilities in advance of the threat.

ADVANCED TECHNOLOGY

GOAL: NADC will increase its role in the forefront of advanced technologies



Photo by Ken Smith

CAPT Edward Sturm, Center Commander and Robert Buffum, Technical Director sign Statement of Strategic Goals as Jerry Guarini, Associate Technical Director and George Eck, Chairman of Strategic Planning Committee look on.

required to satisfy key Navy needs and future operational requirements.

Strengthen NADC lead activity role by applying advanced technology capabilities to NAVMAT assigned leadership areas and NAVAIR product and functional area assignments.

Increase the scope of advanced technology applications to new sponsors.

Expand advanced technology capabilities into aerospace applications.

Increase the emphasis on new and advanced technologies which have significant impact on air and aerospace systems, for example, light weight platforms, stealth, artificial intelligence, VHSIC, super computers, data fusion.

Enrich and expand the Center's technology base by more vigorous interaction with universities and industry.

COMMAND AND CONTROL SYSTEMS

GOAL: Provide leadership for integration of Navy air command and control capabilities in multi-warfare, multi-platform environments.

Achieve a Center-wide approach to multi-warfare, multi-platform air command and control.

Strengthen command and control system engineering capability.

Obtain formal recognition, sponsorship and support from SYSCOMS and OPNAV.

Capitalize on Center programs which pertain to fleet command and control.

CENTER MANAGEMENT

GOAL: Strengthen Center-wide management capability and adopt business-like management practices at all levels of operation.

Reduce the cost of doing business and

increase productivity while maintaining high product quality.

Develop and implement a strategic planning system that is the basis for management decision-making and Center-wide resource allocations.

Devise and implement a marketing strategy to promote programs that support the desired future direction of the Center.

READINESS AND SUSTAINABILITY

GOAL: NADC will provide, in its areas of expertise, timely and quality technology and systems support to increase the operational readiness and sustainability of the fleet.

Emphasize the operability, reliability and maintainability in the development of all products.

Provide quality personnel to on-going fleet support advisory programs and establish new programs to increase both operational and technical information exchange.

Provide life cycle support for software and hardware products which are developments of this Center or transfer life cycle support of those products to fleet support activities when appropriate.

SUPPORT SERVICES

GOAL: Provide employees with a creative work environment, quality facilities, improved management and support services so they can perform with excellence the Center's mission.

Identify and alleviate constraints in providing responsive support services.

Formulate and execute a facilities master plan which supports the strategic plan, identifies long-range facility requirements, quality of life improvements and new construction needs.

Provide internal and external users with required computing power, software user tools, and computer consulting services at a competitive cost.

Commercial Activities studies settled

—Storage and Warehousing—

Federal employees at the Naval Air Development Center in Warminster once again prove to be performing their duties in a cost efficient and effective way. The Federal Government has a program to achieve greater efficiency in its operation of commercial type functions (e.g. janitorial, custodial, storage, warehousing, etc.). It is known as the Commercial Activities (CA) Program. The CA Program involves comparing the cost of performance of a commercial function by government employees with the costs submitted by private contractors in open competition. A recent cost comparison

performed at the Naval Air Development Center proved that the Center's storage and warehousing function (which includes packing and crating, stock control, receiving and delivery, shipping, and storage) is being performed by the government employees both efficiently and effectively. The cost of performance of the storage and warehousing function by the government employees was much less than all of the acceptable contractor's bids received. The continuation of the performance of the storage and warehousing function by government employees at the Naval Air Development Center will result in a cost avoidance over the next three

years of almost \$450,000. Previous cost studies won by employees of the Naval Air Development Center and the resultant approximately three year cost avoidance are as follows: Automatic Data Processing — \$145,000, Motor Vehicle Operations and Maintenance — \$700,000, Fueling Services — \$70,000 and Mail Distribution Services — \$250,000. The total cost avoidance resulting from the

cost efficient and effective performance by the employees of the Naval Air Development Center comes to approximately \$1,615,000 over the next three years.

Editor's Note: Information for this article obtained from Paul Devlin, Management Analyst on CA team.

Continued on page 3.

ENERGY AWARENESS WEEK
22 — 28 OCTOBER 1984

Bondi back at NADC



CDR Robert Bondi

CDR Robert Bondi is back at NADC. He has just finished a tour at the Naval Air Propulsion Center (NAPC) in Trenton, NJ where he served sequentially as Director of Engineering and Executive Officer. "I'm glad to be back," said Bondi.

Bondi requested a deputy directorship and one of the options available was the Sensors and Avionics Technology Directorate (code 30). "Since I worked for years with the people in SATD," said Bondi, "I know basically what they are doing. I have come to respect the quality of work that comes out of this directorate," he said.

Bondi has been in the ASW business all of his career and values the

opportunity to come back and work in that area again. Bondi served two previous tours here at the Center. The first in 1968 on Project Igloo White, and the second, just before going to NAPC, in Command Projects. While here he received the Project Leadership award for his work as Director of the Advanced Signal Processor project and Director of the VP program.

Bondi feels that at this point he easily understands the operation and management of the Center. "The way we do business on a daily basis remains essentially the same as four years ago," he said, "however, getting back into the technical aspects of the job will be a little more time consuming."

"I view my role here as making the job for scientists, engineers, and technicians easier by relieving them of administrative burdens so they can get on with the business of engineering and dealing with technical problems in the directorate," said Bondi.

Bondi is fascinated with the Low Cost Sonobuoy program in his directorate. "It is a challenging program with high visibility and great expectations," he commented.

Bondi graduated from the Naval Academy in 1964 after which he became a Naval Flight Officer. He served in VP-56, Norfolk, VA on P-2s, VP-50, Moffet Field, CA on P-3Cs, and VX-1 on P-3Cs.

Moroney joins 602



CDR William F. Moroney

CDR William F. Moroney arrived at the Center in August 1984 for his assignment as the Head of the Man-Machine Integration Division (Code 602) in the Aircraft and Crew Systems Technology Directorate.

During his three year stay at NADC, Moroney said he will be trying to "improve the man-machine interface — the way people relate to the equipment they operate and vice versa; how information is transferred from the display to the operator and how inputs are made to the machine in order to receive the required results."

This includes how information is processed, i.e. how information should be displayed on the screen. These considerations include the sizes and colors used on the display screen as well as how big the knobs on the control panel should be.

Moroney has already found NADC employees to be "a very professional and talented cross section of people."

With their help, his ultimate goal is to reduce the communication gap between the developers of aircraft systems and the Fleet users.

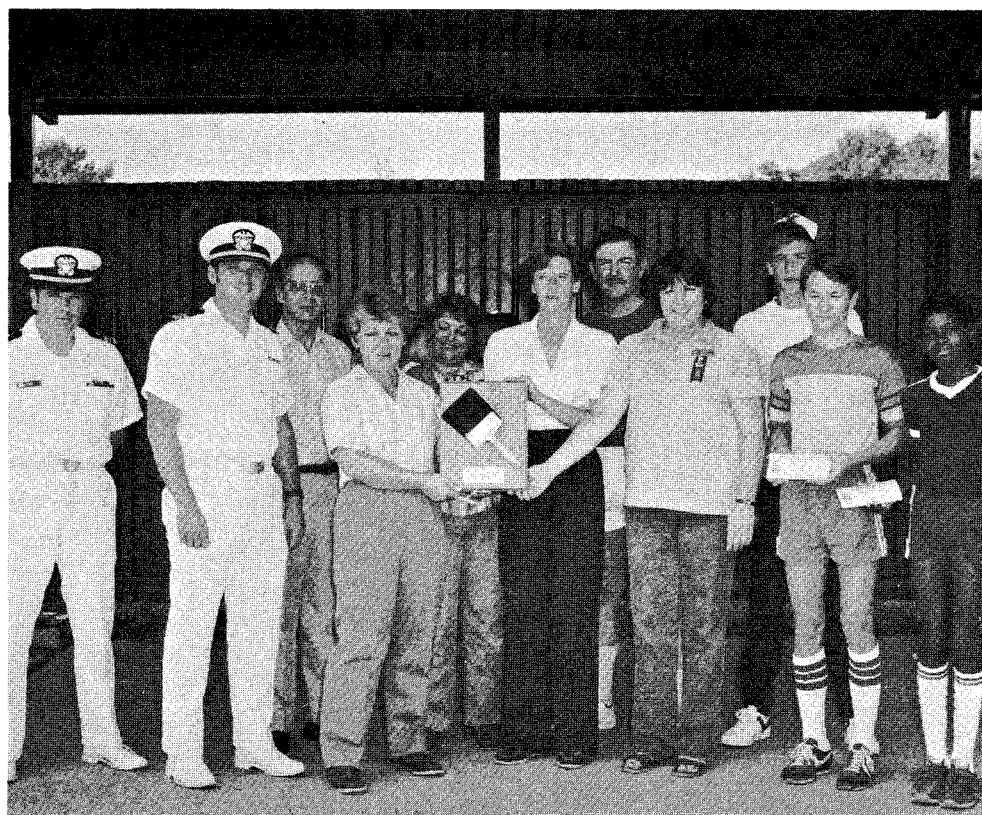
A Ph.D. in Experimental Psychology, Moroney graduated from St. John's University in New York City, NY. His first duty assignments were at the Naval Aerospace Medical Institute and the Naval Aerospace Medical Research Laboratory in Pensacola, FL from September 1969 to February 1973. He proceeded to the Naval Missile Test Center until May 1975 and then to the Pacific Missile Test Center (PMTC) in Point Mugu, CA through January 1979. While at PMTC, he was awarded a Navy Invention Disclosure on the "Gear-Up Landing Prevention System."

Moroney 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 (NATC), Patuxent River, MD as a Technical Specialist on Aircrew Systems.

"Most of my previous assignments were of a test and evaluation nature," he said. "Here at NADC I have a chance to work the development side of the problems."

"I am not unfamiliar with the Center," said Moroney, "since for the past decade both at PMTC and NATC I have been evaluating NADC's products in aircrew systems."

Moroney and his wife, Kathleen, and their children, Brian, Jean, and Daniel have made a home in the Chalfont area. (MAB)



Mrs. Tutor representing the Willow Grove Navy Wives Club receives an award from LCDR MacAfee (far left) Public Works Officer at NAS WG LCDR Streicher Public Works Officer at NADC for leading a team in painting the NADC housing bus stop in July.

DeVal science fairs

Anyone interested in science and engineering projects? If you are, and if you care about students in grades 6 through 12, the Delaware Valley Science Fairs has an opportunity for you. That opportunity is known as their "Mentor" program and they are soliciting help from the Center.

The Delaware Valley Science Fairs started its mentor program last year to alleviate problems area students encountered with science and engineering projects that their teachers were not able to help them with due to lack of time, equipment or expertise.

Shelley Reeves, director of the Delaware Valley Science Fairs explains that, "a mentor is a person who encourages a student to learn and think about a project, but stresses that the idea and the work is the students' own." In some cases students need actual help with building, testing, or programming. Mentors might want to sit down with a student for an afternoon to assist them in analyzing data for their projects. Occasionally, some students who have been working on long-term projects need sophisticated help.

"In the past," said Reeves, "students have requested help in a broad range of fields: electrical

engineering, analytical chemistry, computer programming, physics, astrophysics, aeronautics, alternative energy topics, mechanical engineering, geological sciences, and other natural and medical sciences."

Especially active in the fairs are the Pennridge school district, Archbishop Wood high schools, and Central Bucks school district. Mentors are needed in Bucks, Montgomery and Philadelphia county schools, nine South Jersey counties including Burlington and Camden and northern Delaware state.

If you are unable to participate in the Delaware Valley Science Fairs' mentor program, perhaps judging junior and senior high school students' science projects would be of interest. This year's judging day is Thursday, April 25th. The five fairs are broken up into 13 categories: Behavioral and Social Sciences, Biochemistry, Botany, Chemistry, Computer Sciences, Earth and Space Sciences, Engineering, Environmental Sciences, Mathematics, Medicine and Health, Microbiology, Physics, and Zoology.

For additional information on how you can participate in the Delaware Valley Science Fairs as either a mentor or a judge, contact the Public Affairs Office on extension 2290 or 1842.



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Commander, NADC CAPT. Edward J. Sturm
Technical Director Robert S. Buffum
Public Affairs Officer James S. Kingston
Editor Regina Beans Gasuk
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Slippery when wet

by Mike Masington

Og, our favorite caveman, made another of his brilliant discoveries on Sept. 22, 4,000,005 B.C. On this day he noticed that when he took a dip in his favorite primordial swamp, his lips turned blue and his teeth began to chatter. He also found that his summer weight loincloth wasn't protecting him from the elements anymore, and he had to rumage through his cave's attic looking for his winter bearskin. Finally, he noted that he was less interested in playing a pickup game of baserock with Ug and Mung, and would rather sit by the fire in his cave watching a college footrock game, eating stone ground corn chips and drinking Rolling Rock. Yes friends, Og had discovered autumn.

But this wasn't the highlight of Og's discoveries. That came the next morning when he was driving his wheel to work at NADC (Neolithic Architectural Design Corporation). He noticed that it was darker than usual, it was raining more frequently, and that the tree leaves were all over the road. (Previously he had scientifically proven that falling leaves was a punishment from the god Boompah, who was angry at them for hunting brontosauri out of season.) As he approached the intersection of Mastodon and Pterodactyl, he suddenly saw someone in a dark bearskin crossing the street. Og applied his brakes as quickly as possible, but due to his speed, the wet leaves and his failure to see the situation sooner, he skidded into the intersection and struck the hapless pedestrian.

Unfortunately for Og (but fortunately for our story) the pedestrian, one Ox Knuckle, was an exceptionally huge individual, and quickly shook off the effects of the accident. He recovered so well in fact,

THE GENERAL SCHEDULE										
To be effective the first pay period in January 1985										
	1	2	3	4	5	6	7	8	9	10
GS- 1	\$9,339	\$9,650	\$9,961	\$10,271	\$10,582	\$10,764	\$11,071	\$11,380	\$11,393	\$11,686
GS- 2	10,501	10,750	11,097	11,393	11,521	11,860	12,199	12,538	12,877	13,216
GS- 3	11,458	11,840	12,222	12,604	12,986	13,368	13,750	14,132	14,514	14,896
GS- 4	12,862	13,291	13,720	14,149	14,578	15,007	15,436	15,865	16,294	16,723
GS- 5	14,390	14,870	15,350	15,830	16,310	16,790	17,270	17,750	18,230	18,710
GS- 6	16,040	16,575	17,110	17,645	18,180	18,715	19,250	19,785	20,320	20,855
GS- 7	17,824	18,418	19,012	19,606	20,200	20,794	21,388	21,982	22,576	23,170
GS- 8	19,740	20,398	21,056	21,714	22,372	23,030	23,688	24,346	25,004	25,662
GS- 9	21,804	22,531	23,258	23,985	24,712	25,439	26,166	26,893	27,620	28,347
GS-10	24,011	24,811	25,611	26,411	27,211	28,011	28,811	29,611	30,411	31,211
GS-11	26,381	27,260	28,139	29,018	29,897	30,776	31,655	32,534	33,413	34,292
GS-12	31,619	32,673	33,727	34,781	35,835	36,889	37,943	38,997	40,051	41,105
GS-13	37,599	38,852	40,105	41,358	42,611	43,864	45,117	46,370	47,623	48,876
GS-14	44,430	45,911	47,392	48,873	50,354	51,835	53,316	54,797	56,278	57,759
GS-15	52,262	54,004	55,746	57,488	59,230	60,972	62,714	64,456	66,198	67,940
GS-16	61,296	63,339	65,382	67,425	69,468*	71,511*	73,554*	75,597*	77,640*	
GS-17	71,804*	74,197*	76,590*	78,983*	81,376*					
GS-18	84,157*									

*The rate of basic pay payable to employees at these rates is limited to the rate payable for level V of the Executive Schedule, which would be \$68,700.

that he took his extremely large club and began to beat poor Og about the head and shoulders to express his rather keen displeasure at the preceding events. As he recovered from this encounter, Og had time to chisel these rules for safe autumn driving.

Wet leaves affect traction and braking almost as much as ice. Reduce your speed accordingly.

The hours of daylight driving are reduced and visibility becomes greatly restricted. Check your headlights for proper operation, and keep the lenses clean. Always use your headlights during the hours of dawn and dusk.

Keep your windshield clean, your wiper blades in good condition and your windshield washer reservoir filled.

Winter clothing is usually dark and harder to see at night. Be especially watchful of pedestrians.

Kids love playing and hiding in piles of leaves. Never drive through them.

If your wheel is equipped with a catalytic converter, the heat of your exhaust system can set leaves on fire. Avoid parking where leaves are piled.

Last and most important. Never hit a pedestrian who is larger than most single family homes.

Commercial Activities

Continued from page 1

—Support Services—

The Public Works Support Services function at NADC was the sixth in a series of functions to undergo a Commercial Activities study.

The study was finally settled in the government's favor since the cost of performing this function by government employees was less than all of the acceptable contractors' bids. The key word here is "acceptable."

The PW Support Services function includes facility maintenance and repair, alteration and equipment installation, utility system operation and maintenance, rigging, and pest management services.

The apparent low bidder for the PW Support Services function was reviewed by the Contracting Officer of the Northern Division Facilities Engineering Command. This was done to make certain that it was, in fact, a small business concern since this solicitation was limited to small businesses.

Also, the Contracting Officer asked the Small Business Administration (SBA) Regional Office to determine if the apparent low bidder could be considered a responsible or 'acceptable' bidder. The SBA reviewed the case and based on a comprehensive analysis of all available information determined that the apparent low bidder was not capable of performance; and therefore, declined to issue a certificate of competency in this instance. The government's bid is now the low bid.

The Chief of Naval Operations (CNO) has been advised of the SBA decision to deny the certificate of competency. Upon approval by the CNO, the function will continue to be performed in-house.

Performance of Support Services in-house will result in cost avoidances of almost \$900,000 over the next three years, continuing a cost savings trend already begun. (MAB)

Hatch Act reminder

As election time nears, remember that federal employees are forbidden from active participation in political campaigns. According to Defense Personnel Support Center's Office of Counsel the restriction not only applies to permanent employees but employees on leave of absence with or without compensation. Activity identified with any political party in any election is prohibited.

You are free, of course, to vote as you choose and to make a voluntary contribution to a regularly constituted political organization as long as the contributions are not made in a Federal building or to some other employee.

For information on the Hatch Act, call AUTOVON 444-2633.

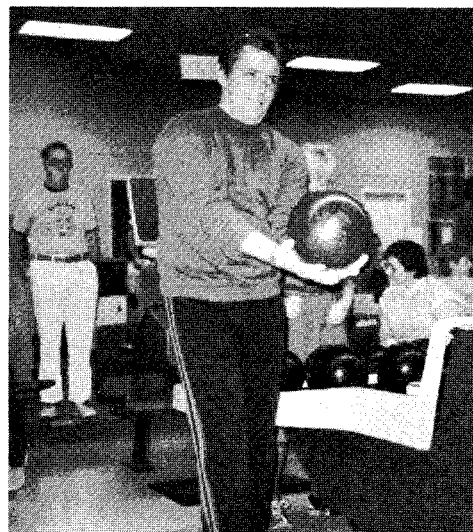
Commander Salutes

(Code 01A) Thomas Brennan and (Code 304) Anthony Madera: For the professionalism demonstrated in planning and participating in the CNO Executive Panel's recent visit.

(Code 10) Theodore Kopp, SQNLDR Stuart Heppenstall, RAF, AX1 Stephen Hughes: For the valuable assistance provided to Air Test Evaluation Squadron One with project aircraft.

Lystad bowls a 755

by Tom Reiter



Frank Lystad Photo by Tom Reiter

The NADC Mixed Bowling League is only in the early weeks of an eight month season and one has to wonder if the best individual bowling statistics are already in the books. In only his second week back after a four month layoff, Hank Lystad of the Pinpoppers bowled an amazing series of 242, 256, and 257. This achievement marks a career high series of 755.

On 19 September, Lystad started the night with a seven strike, 242 effort.

ED		DATE 9/19/84	
PINPOPPERS		LANE # 14	
PLAYERS	1ST GAME	2ND GAME	TOTAL
RO LYSTAD	140	165	169
RAE ROUITZAH	110	119	113
MITCH KELLY	140	126	91
STEVE THOMAN	92	107	135
HANK LYSTAD	242	256	257

He only left one frame open and, as it turned out, it was his only open frame of the night. He continued to a nightly total of twenty-five strikes and a 251 three-game average. Lystad's overpowering evening was supported by a 474 series from his wife, Ro Lystad.

This type of performance is not new to Hank Lystad. He has maintained the League's high average for the last five years. This was his fourth 700 series at Tudor Lanes. He has flirted with the perfect game in the past by bowling eleven strike games on three separate occasions. There is little doubt that Lystad will continue his professional caliber performances throughout the remainder of the season.

The NADC RECIPE REVIEW

Tasty Chicken Recipe

This month's recipe is provided by Ann Best, (Code 404, X3112) who will receive a \$50 Bond from the Food Service Board. This recipe will also be served in the NADC Cafeteria. Submit your recipes to Mr. Robert Green, Cafeteria Manager. One winner will be selected each month.

- 1 1/2 cups cubed cooked potatoes
- 1 1/2 cups cubed cooked chicken
- 1 1/2 cups hard boiled eggs cut in pieces
- 2 cups of chicken broth (probably from the freshly cooked chicken)
- 1 cup of half/half
- 1/2 cup of oil
- 1 cup of crunchy peanut butter
- 1/2 cup flour

Heat oil in pan. Add peanut butter until melted together. Add flour and mix thoroughly until smooth. Add chicken broth and half and half and continue blending. Then add other ingredients and serve over rice.

VARIATION: Pineapple chunks may be added to this recipe for variation.

LOOK FOR THIS RECIPE TO BE SERVED IN THE NADC CAFETERIA



— Cut here for file card —

Fly for less

Fuel efficiency directly affects aircraft range and endurance, which in turn, determines readiness and mission capability. Improved aircraft fuel efficiency has resulted from changes in engine and airframe design, maintenance and support procedures, and the use of computer based flight planning systems. Navy and Marine Corps aircraft use over 40% of the Department of the Navy's petroleum. Any improvement in aircraft fuel efficiency would result in increased aircraft capability and significant dollars savings. A 1% reduction in fuel consumption equates to over twelve million dollars. The new F/A-18 consumes nearly 20% less fuel than the F-4. The Navy's new Hawk trainer, the T-45, uses a third as much fuel as current trainers.

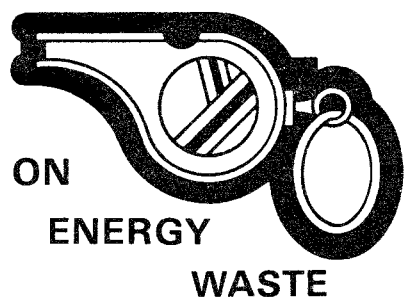
Computerized flight planning systems have met with tremendous success. In particular, the Optimum Path Aircraft Routing System (OPARS), originating out of the Fleet Numerical Oceanographic Center in Monterey, has helped the Navy save over five million dollars in fuel costs in 1983. OPARS provides naval aviators pre-flight information on the best fuel load, speed, and altitude for a given route. The computer bases its information on worldwide weather forecasts, and mission profiles. It is expected that over 60,000 flight plans will be provided in OPARS in 1984, up 50% from 1982.


In-flight computers, such as the Flight Performance Advisory System (FPAS), and the Aircraft Performance Advisory Computer (APAC), have nearly completed the research and development stages and are undergoing flight testing and evaluation. FPAS and APAC will provide pilots up-to-the-minute information on the most fuel-efficient flying profile based on changing flight conditions. Various FPAS or APAC designs and software programs are being prepared for the P-3, A-6, A-7, F-14, and the F/A-18.

P-3 aircraft, using 16% of all naval aviation fuels, and whose mission is especially sensitive to range and endurance, is greatly affected by efficiency improvements. Approved P-3 airframe modifications, such as less gritty wing walkway paints; nose radome seals; and extended wing leading edge tape; are expected to provide large fuel savings each year. Additional fuel will be saved in the future by increasing P-3 use of ground support equipment, and decreasing reliance on auxiliary power units.

Other airframe, engine, and procedural modifications and changes to the major aircraft types will significantly enhance the range and endurance of our aircraft forces. Increased energy efficiency results in millions of dollars saved, and improves our defensive capability.

BLOW THE WHISTLE





CHIEF OF NAVAL OPERATIONS

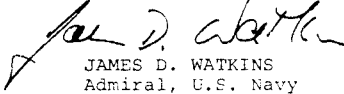
NAVY BIRTHDAY 1984

On the occasion of this 209th anniversary of our Navy, I want to take this opportunity to thank you--our wonderful Navy team--for your extraordinary performance over the past year.

Since our last birthday, we have lost comrades in combat, sailed every sea and ocean on this planet and performed flawlessly our mission of national defense. Our present Commander-in-Chief has used naval forces as no other has during a time of peace, with 8 of 13 battle groups moving around the globe nearly all the time. Our tempo of operations is greater today than at the height of the Vietnam conflict.

During this time of "violent peace," it is especially important for our Navy to continue to demonstrate that our nation's deterrent strength is alive, well and underway in every corner of the world. American sea power can make a difference, and our nation knows it can depend upon you to do the job. You, through your steady, untiring superb performance, are sending this signal of determined strength today.

Your accomplishments are many. You are the most spirited, ready and capable Navy I have seen in all of my 35 years of naval service. To our "One Navy" family--from civilian and precious family members, to active duty, reserve and retired--have a great Navy Birthday 1984. You deserve it. May God bless you all.



JAMES D. WATKINS
Admiral, U.S. Navy

This year the Center will observe the Navy's birthday on 26 October. During quarters for the military that Friday at noon, CAPT Sturm, Center Commander, will preside over a brief ceremony and those present will celebrate with coffee and cake.

Blood donors pour forth

The following are blood donors who participated in the Blood Mobile visit to NADC on 12 September:

Code 02: Daniel Carbo, Joann Cocchimiglio, Sylvia Fiumara, Linda Lips, Arnold Molotsky, Beth Mumford, Margaret Rudolph, James White; **Code 03:** Charles Banionis, Jacquelyn Benner, Geraldine Keenan; **Code 09:** Regina Gasuk; **Code 10:** Elizabeth Mauger, Thomas Merkel, Grace McCaffrey, Jeanine Peterson; **Code 20:** Dennie Baker, Douglas Bellis, John Bowes, Richard Brookes, Dennis Cantley, Jacques Etkowicz, Marguerite Hoefling, Robert Imbrogno, Wilbur Knerr, Carla Mackey, Jeffrey Mansfield, John McFadden, Thomas Michalski, Dean Mondelblatt, William Nuss, Robert Oakley, Anthony Opiatowski, Stephen Sterchak, Debbie Szubinski, Steven Torok, David Williams, Theresa Zoltowski; **Code 30:** Carlton Brown, Stephen Campana, Theresa DeDominicis, Jean Dowds, Felix Gonzalez, Rogert Hontz, Joseph Kaszupski, Paul Moser, Joseph Oriti, Leonard Roach, Ronald Schwartz, Martha Snyderwine, John Wilks, John Williamson, Akira Yoshida; **Code 40:** Edward Beach, James Eck, Paul Gasuk, Charles Halko, Martin Leblang, Michelle Martin, Lawrence Pearson, Philip Sanborn, Walter Schoppe, Peter Shaw, Robert Tafel, Kim Wayland, Marcus Wolf, William Zane; **Code 50:** James Atkins, Gary Davies, Michael Deshield, Clyde Jackson, Barbara Leistiko, George McElhinney, Abraham Meth, James Rachiele, Jeremy Robinson, Gordon Safley, John Santini, Steve Shelikoff, Larry Smith, John Supp, Basit Syed, Anthony Tornetta, Robert Swisler; **Code 60:** Brian Brady, Reynolds Brooks, James Butt, John Clark, Edward Deesing, Moise Devillier, Michael Doyle, Christopher Economy, Michael Faherty, John Felix, Albert Ferkel, James Grubb, Eileen Healy, James Henderson, Marshall Hynes, Fred Kuster, Richard Lee, Michael MacKinnon, Tom Marchione, James McPartland, Charles Miller, John Ohlson, John Parker, Deanna Patton, Carl Reitz, Glenn Rhodside, Robert Seltzer, Herman Shmukler, Timothy Springer, Leon Stallings, Marshall Thomas, David Walter, Marvin Walters, Daniel Wells, Steven Wormser; **Code 70:** Craig Jencks, Robert Pomrunk, William Myers; **Code 81:** Joseph Armstrong, Jeffrey Biscardi, Catherine Burian, William Daumon, John Druckenmiller, Lawrence Miller, Robert Moore, George Rossi, Ervin Rothermel, Grace Ward, William Wiggs; **Code 82:** Gary Ilniski, Jamie Jaromay, Robert Provencher, John Riddle, Norman Watson, Richard Willers, Rick Whittington; **Code 83:** James Betlyon, Lenwood Broomer, Richard Childers, Suzanne Dougherty, Robert McFetridge, William McKenna, Thomas McLaughlin, Mary Matthews, Robert Urban, David Varner, Thomas Whittle; **Code 84:** Clare Ashley, Loretta Dunn, Margaret Fisher, Alfred Greiner, Selina Ridpath, Milton Weaver; **Code 85:** Robert Berry, Margaret Douglas, Alan Reines, Robert Smith; **Code 901:** Ross Hendricks; **SEMCOR:** Kathleen Brown, John Finegan, Paula Hamlin, Jeffrey Kim, Eileen McGough; **OTHERS:** Diana A'Harrah, Richard Kolbe, Luanne Nodzo, Son Nguyen, Jan Safley, Maria Sica, Marion Trembley, Edward Turner.

Computer costs cut

Again this year charges for running jobs on the Central Computer System (CCS) have been reduced. Last year they were cut by 15 percent. This year the minimum reduction is 10 percent on most CCS capabilities.

The basic cost for computer work done by batch jobs is reduced by 10 percent. For example, a batch job that cost \$100 last year will cost \$90 this year.

The service charge for each batch job is reduced by 44 percent, a significant reduction.

Computer charges for a terminal session were lowered by 10 percent.

Realtime simulation costs are also being cut by 10 percent. Realtime users will find that simulations of the same type and duration as last year will cost significantly less in FY85.

Al Kaniss, Head of the Computer Resources Management Division, said "These cost cuts are possible due to hardware modernization, consolidation, and more powerful mainframes."

The "economy" and "super economy" classes of jobs will continue in FY85. Both of these job classes result in very significant cost savings and both have met with very large acceptance here at the Center.

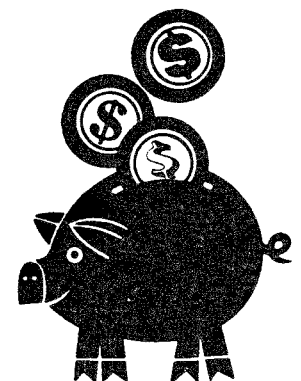
The economy class can be used when your computer work can wait until after 8:00 PM to be processed. Jobs that are run under this class obtain a cost reduction of 50 percent off the normal cost of running the same job.

Super economy class was first made available to CCS users in FY84. If you can take the chance of having to wait a day or two to have your job run, the super economy class will afford you an impressive 88 percent savings.

For example, if a normal priority job cost \$50 to run, then the same job would cost \$25 in the economy class. If the same job was run under the super economy class, it would cost \$6, a remarkable savings. Additional discounts are also available to very large users.

"We're always looking for ways to cut costs, ways to supply more bang for the buck," said Robert Finkelman, Deputy Department Head of the Computer Directorate. "In addition, our leasing costs have been cut since we now own some of the equipment we used to rent."

CCS users who require help or additional information about the new charging policy should contact the Duty Programmer at extension 3219. (MAB)



**SAVING ENERGY IS
SAVING MONEY**



REFLECTOR

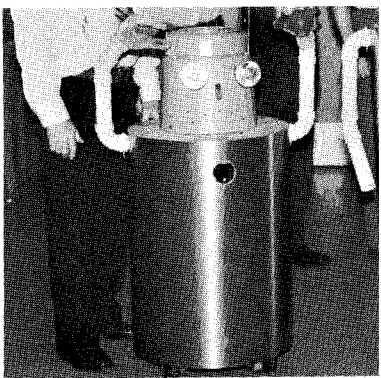
Naval Air Development Center, Warminster, PA
1944 • "Building Naval Aviation's Future for 40 Years" • 1984

Jim Barton

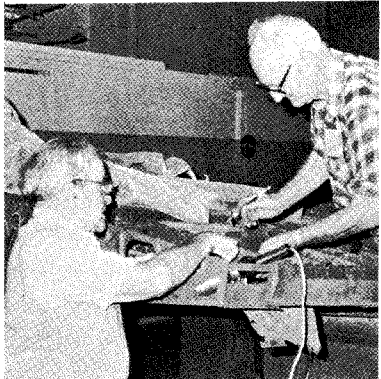
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Birdie on the 8th
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Get Robotized
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Mr. Fix-it
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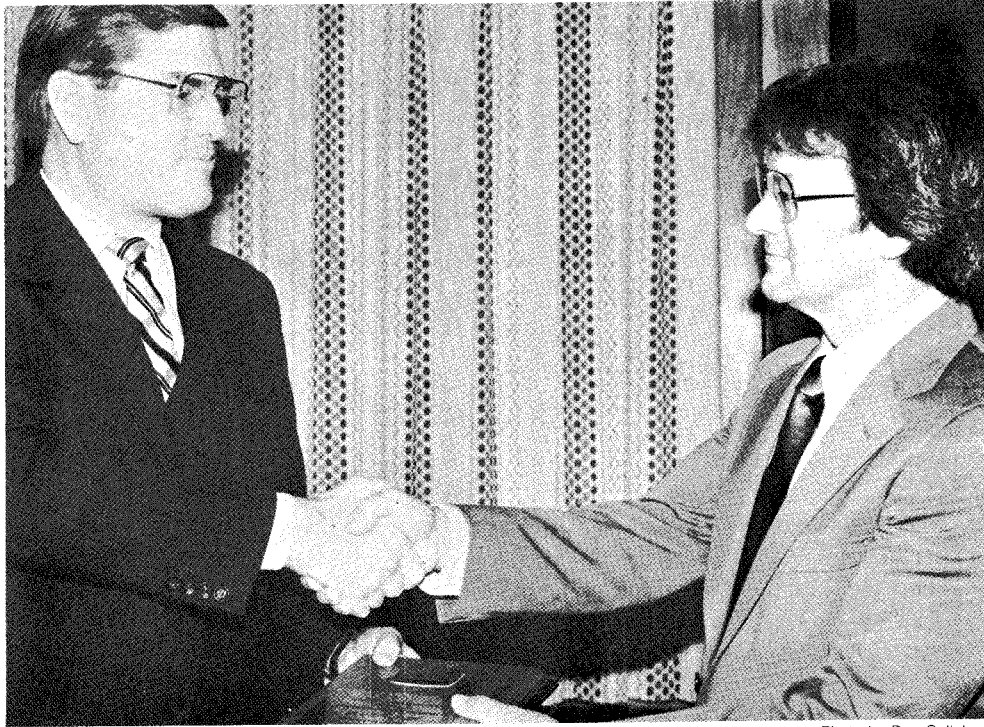


Be Aware
See page 7



209 years old
See page 7

IR/IED gets recognition



Robert Buffum, Technical Director, presents IR Award to Dr. Lloyd Bobb.

Lloyd Bobb and David Keyser are this year's winners of the Independent Research/Independent Exploratory Development (IR/IED) Annual Awards.

These awards are granted annually by our Technical Director (TD), to the scientists or engineers who under the Center's IR/IED program have made a significant contribution to the solution of a Navy or Marine Corps problem. The nominees are recommended to the TD by the IR and IED Evaluation Panels which are composed of Center scientists, engineers, and either NAVMAT or Naval Post Graduate School personnel.

Bobb was recognized for Outstanding Independent Research. A scientist in the Electro-Optics Development Division of the sensors and avionics technology directorate, Bobb carries the distinction of winning not only the Scientific Achievement Award in 1983 but also last year's IR award for his efforts on "Optical Fiber Sensor Investigation."

This year he directed his IR efforts toward "Depopulation Pumping of Atmospheric Species." Bobb personally composed and proposed this project for IR approval as a parallel project to his Remote Magnetic Sensing work. The overall aim of both these projects is to measure magnetic fields accurately and at some distance away.

"I'll try to make this strange title a little clearer" Bobb said. "In an attempt to measure magnetic fields you must understand how a magnetic field interacts with an atom for one and then how you can get that information back.

"It turns out," he continued, "that the energy levels that exist—like the states in an atom in which the electrons can reside, depend on whether or not a magnetic field is present, and also on the strength of the field. So if you can measure those energy levels you can measure the strength of the magnetic field.

"Basically," Bobb said, "we try to put

the atom into a given state, and then by looking at the light that comes back from the atom, we can tell what energy levels are and accurately assess the magnetic field value.

Bobb added, "Part of one of these schemes is called 'depopulation pumping.' In the 'pumping' process, light is imaged onto an atom and electrons are pumped from one level to another. When you 'depopulate,' you actually move a fraction of what's in one state to another state. He added, "the 'atmospheric species' is what we call all of the naturally occurring atoms and molecules in the atmosphere."

When asked how he felt about this repeated recognition, Bobb humbly smiled and said, "It's actually very nice!"

Keyser was recognized for Outstanding Independent Exploratory Development. As a mechanical engineer in the Aero Engineering Division of the Aircraft and Crew Systems Technology Directorate,

Keyser directed his award winning efforts toward "Development of a Fluid Dynamic Accelerometer." This accelerometer is currently in the 'in-search' status awaiting authorization for patent application.

Keyser said he developed this project "... to satisfy the need for a good linear accelerometer for fluidic backup flight control systems." These systems operate in the absence of electrical power and provide a signal compatible with the fluidic control circuits.

"The older turbulent flow designs," he said, "are incompatible with the modern laminar flow fluidics. Even backup flight control of an advanced, statically unstable aircraft will require an input of normal acceleration." He added that there is widespread agreement in the aircraft industry on the need for this accelerometer.

"The way to do this," Keyser continued, "is to design and develop this sensor using laminar fluid dynamic sensing, amplification, and compensation. The design must minimize, preferably eliminate, mechanical moving parts."

Keyser explained that the accelerometer design is made up of three basic parts—an oil-filled can with flexible diaphragm ends which is the "sensitive mass", a pair of proximity sensors to detect the deflection of the diaphragms under "g" load, and a flow impedance network. This network produces a differential pressure compatible with typical fluidic control circuits downstream. He added that the proximity sensors are the variable impedances in this network.

When Leo Markushewski (Keyser's branch head) told Keyser that he'd won the IED award for his design, Keyser beamed with excitement and then said, "But, we haven't found out if it works yet!"

CAPT Sturm, Center Commander and Robert Buffum, TD, congratulate both men, applaud their outstanding contributions to the Navy and wish them continued success. (MAB)



Robert Buffum presents IED Award to David Keyser.

... than the next 100 flight hours. This

Aircraft speeds varied from 215 to 250

The first flight of the F/A-18(R) variety of reconnaissance applications.

Command Corner

Commander Salutes

Code 20: **John Swaren III**; Code 50: **Jeremy Robinson, Robert Dolceamore**; Code 60: **Roy Anderson, Alan Berg, Leonard Buckley; John Burns, Kenneth Mergner, Paul Ondeck, William Schork, William Seeman, Onofrio Trovato, David Woll, Kevin Kennedy, Paul Rehal, Brian Brady, Carl Reitz, Jr., Gerald Seidel, Robert Mahorter, Jr., Albert Cavaliere, John Davis** — for dedication to the success of the BQM-PI and YAQM-127A source selection efforts.

Code 03: **Bettie Simpson** — for outstanding performance as the Federal Business Association Coordinator.

Code 60: **David Keyser** — for significant contribution to the American Society of Mechanical Engineers' Board on Performance Test Codes.

Code 20: **Albert Knobloch, Albert McGlynn, Vincent Sieracki**; Code 30: **Lucien Daouphars**; Code 40: **Lee Morris, Leon Smith** — for significant efforts in support of the Outer Air Battle Study.

Code 20: **Alan Victor, Frederick Barker, Janice Gess**; Code 70: **Thomas Willey** — for enthusiastic participation in the Naval War College's Global War Game 84.

Code 70: **CDR Gordon Safley** — for outstanding performance in support of the Naval Reserve Units at NADC.

Code 60: **Charles Hegedus, Gabriel Pilla** — for valuable assistance to NAVPRO and Sikorsky Aircraft in an assessment of current process problems.

Code 20: **Glenn Carter** — for an outstanding presentation on non-acoustic ASW to the Naval Reserve Unit.

Code 80: **Tina Polichetti** — for valuable support to NAVMAT in reviewing and approving special facilities projects.

Code 60: **Edward Kenkelen** — for outstanding performance and assistance to NAVAIR on the Supersonic Low Altitude Target Program.

Code 30: **J. A. Williamson, J. H. Price, D. R. Furmanski** — for the dedication, responsiveness and technical skill that contributed to the resolution of a critical fleet problem.

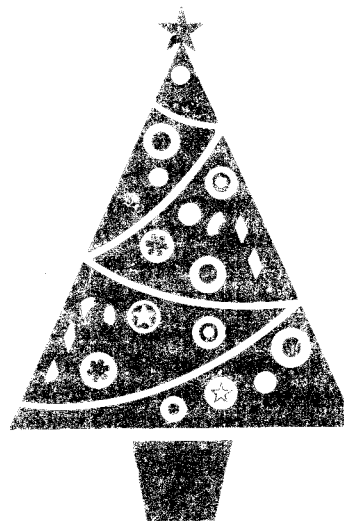
Code 02: **James White** — for valuable assistance provided to the Joint Interservice Resources Study Group.

Code 40: **George Lowenstein, John Phanos, Abraham Silver, John Nichols, John Auerbach, Charles Falchetti** — for outstanding performance in support of the Global Positioning System program.

Code 40: **Joseph Tronolone** — for contributing to the success of the Surface Warfare Officers' School "Teach the Teachers" program.

to mail past December 10th.

Mail originating at overseas post offices should reach the Continental United States gateways no later than the 14th of December to assure delivery by Christmas.



Christmas by mail comes early

It is not too soon to start planning when to do your holiday mailing. All Christmas mail should be posted on or before the following dates to assure timely arrival at overseas destinations. First class mail going to South or Central America, the Middle East, Southeastern Asia, and Australia should be postmarked no later than the 26th of November. If you are mailing to Africa or Greenland plan on getting to the post office by the 3rd of December.

On the 7th of December all mail going to the Far East or Europe must be postmarked. And lastly, if you are mailing to Alaska, Hawaii, Iceland or the Caribbean and West Indies try not

Marines' birthday

On 10 November the U.S. Marine Corps celebrated their 210th birthday. In a message from Admiral W. L. McDonald, Commander-in-Chief, U.S. Atlantic Fleet, Marines were commended for their superb professionalism and many sacrifices that have brought continuing glory to their splendid heritage. He further explained that today the marines remain an indispensable element of the magnificent Navy/Marine Corps team. Happy Birthday Marines!

Coming Soon

Viewpoint

In December, the *Reflector* will begin a new monthly feature known as Viewpoint. Each month attention will be focused on a particular question of interest. We will then solicit opinions from Center personnel.

The *Reflector* staff is requesting ideas for questions to be featured each month in Viewpoint.

Send your ideas to the Public Affairs Office, Code 091.

REMINDER!

In addition to being closed on Thanksgiving, Christmas, and New Years holidays, the Center will also be closed Friday, 23 November, Monday, 24 December, and Monday, 31 December. These additional days are not holidays and leave should be charged in accordance with NAVAIRDEVCEENOTE 5330 of 3 April 1984.

Promotions

Hazel Andrews, Rutheanne Bendzlowicz, Michael Bosak, Brian Brady, Bruno Cavallo, Francis Chamberlain III, Richard Coughlan, Anthony Daddezio, Michael Diberardino, Jean Dowds, Michael Doyle, Sandra Draham, Helen Eddowes, Betty Eisold, Timothy Fitzpatrick, Joseph Franz, William Halpern, Michael Harding, William Hicklin, Lawrence Howarth, Ralph Hungerford, Stephen Jerdan, John Johns, Joan Kopper, Craig Krauss, Paul Krebs, John Lommock, James Marshall, Sidney McCleary III, Catherine McGowan, William Meiklejohn, Anthony Negri, Karen Nilsen, Mark Polo, Paul Prale, Kathleen Quinn, Peter Santi, Michael Schultz, Davene Sheppard, Kevin Shinsky, Maureen Talley, Steven Thoman, Christopher Thompson, Peter Yost.

Anita T. Baxter, Peter Boretsky, Carl T. Calianno, Margaret J. Callahan, Thomas P. Curran, David Davis, Maria A. Dipasquantonio, Diane E. Erdman, Jacob Eyth, Jr., Aubrey A. Fennell, Walter R. Foraker, Harry N. Frost, James W. Grubb, Nelson J. Hall, Leslie L. Hrebin, Jonathan W. Kaufman, Kevin J. Lawlor, Cynthia J. Malloy, Anna C. Mawhinney, Edward A. Mebus, David Moore, Guy L. Nissley, Vinh T. Nuyen, James R. Orfe, James M. Palmer, Bernard Pollack, Maryanne B. Purtell, Gloria M. Puzio, Michael G. Raditz, Keith H. Sansalone, Christine V. Santi, Harvey L. Sokoloff, Anne R. Stancliff, David E. Torr, Barbara A. Wiley, Natalie M. Wolaniuk, Steven J. Womser, Tsungshun Wu, Cynthia L. Yanoff, William B. Zane.

Be a Smart Host

Before you throw your next bash, you should know that you may be held liable for your guests' drunken actions. Some states have "dram shop laws." These laws establish liability against any person who sells or serves alcoholic beverages to an individual who is visibly intoxicated.

Dram shop laws evolved in the 1800s to protect families of patrons injured in bar-room brawls. With the invention of the car, and more recently, the drastic increase of alcohol-related vehicle accidents, many states are reviving dram shop laws as a deterrent to drunk driving. While the primary target of lawsuits are establishments that sell alcoholic beverages, cases have been made and won against private hosts.

Offered below are some suggestions to help hosts avoid misuse of alcohol by guests:

—Provide a relaxed environment. Put guests at ease with personal greetings and introductions.

—Keep the cocktail hour short; if a meal is to be served, serve it reasonably soon.

—Serve snacks so guests need not drink on an empty stomach. Serve foods that do not stimulate thirst (salty chips, etc.) Low-calorie, high-moisture content foods, such as raw vegetable pieces and light dips, serve double duty. High-protein foods such as cheeses and meats are digested slowly and help slow alcohol absorption.

—Avoid carbonated mixers; carbonation speeds alcohol absorption. Substitute fruit juices.

—Serve attractive non-alcoholic drinks for those guests who choose not to drink alcoholic beverages.

—Measure drinks and don't "double up." Avoid having an open bar.

—Space drinks apart. Wait awhile between drinks, giving guests time to experience the effects of one drink before offering another. Never push guests to drink. One drink per hour is all the body can absorb.

—Promote activities or entertainment as diversions from just eating and drinking.

—Stop serving alcohol toward the end of the party in anticipation of the trip home.

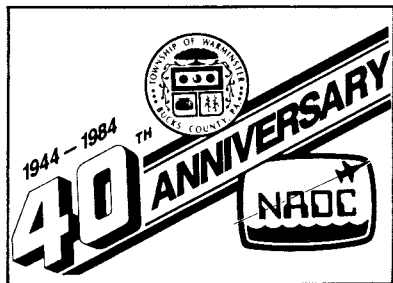
—Create a climate that discourages alcohol abuse. However, if a guest does over-indulge, see that he gets home safely or invite him to stay overnight.

REFLECTOR

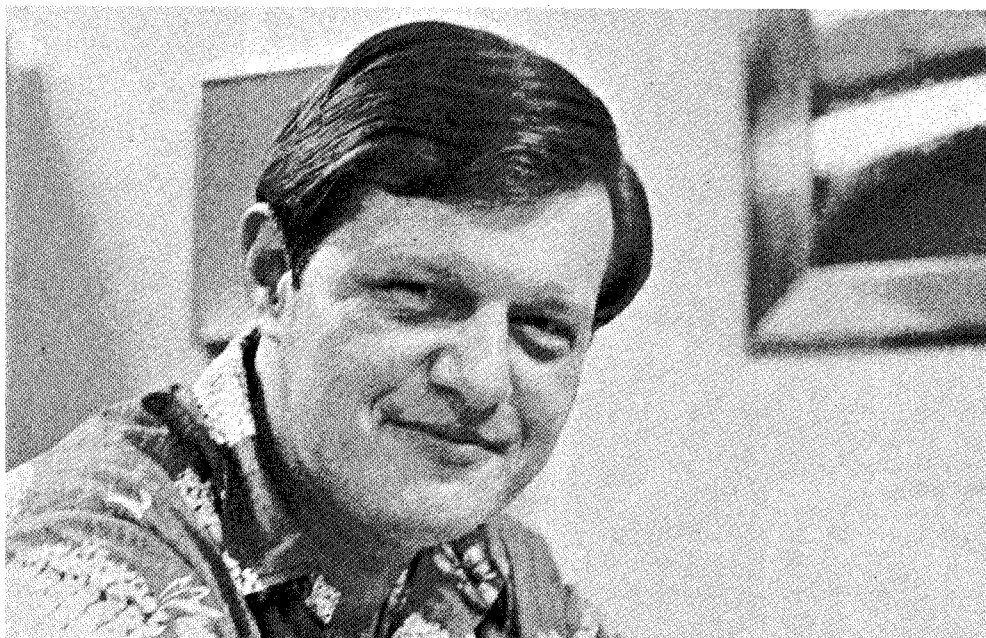
Naval Air Development Center, Warminster, PA

1944 • "Building Naval Aviation's Future for 40 Years" • 1984

Volume 28
Number 12
Dec. 1984



NSAP offers challenging opportunities



Anthony Mickus, "Outstanding Naval Science Advisor of the Year."

The Technical Advisors and Consultants in today's Navy Science Assistance Program (NSAP) may not realize it . . . but they're carrying on a tradition that dates all the way back to the Civil War. The Navy has sponsored science and technological groups as far back as the Civil War with increased usage during World Wars I and II. The Vietnam Laboratory Assistance Program (VLAP) begun in 1962 focused the expertise of the Navy labs and Research, Development, Test and Evaluation (RDT&E) Centers directly on operational problems. Its success prompted the formation of NSAP in June 1970 to answer the continuing need for providing strong technological support to naval operational forces afloat and ashore.

NSAP makes available the full spectrum of resources and capabilities of the Navy Laboratories and RDT&E Centers to all major areas of naval warfare on a quick-reaction basis.

The NSAP program, sponsored by the Chief of Naval Material (CNM) is

managed by the Director of Naval Laboratories. NADC has five of its engineers in the field. NSAP is currently sponsoring three Science Advisors/Consultants while NADC is sponsoring two science and technology representatives. The five are: Anthony Mickus, CINCPACFLT; William Slowik, COMNAVAIRPAC, San Diego; Al Spector, AIRLANT, Norfolk; Roy Preston, Naples, Italy; and Robert Antonelli, 3rd Fleet, Hawaii. These men, known as Science Advisors/Consultants and Science and Technology Representatives, serve their respective commands and themselves by supplying the expertise of their home laboratory while gaining a significant amount of new knowledge and experience.

NSAP Advisors are GM-15's or GM-14's temporarily promoted to the GM-15 level. NSAP consultants are GS-12's through GM-14's and experts in specific areas such as Anti-submarine Warfare (ASW), Airwarfare, and Electronic Warfare. NADC science and technology representatives are normally at the GM-14 and -15 level, however, temporary promotions are applied when necessary.

This month the *Reflector* will take a look at the NSAP position of Anthony Mickus stationed in CINCPACFLT, Hawaii as a Science Advisor (SCIAD). Being the first SCIAD on CINCPACFLT has provided him the unique opportunity to shape the position and define its role. It was necessary for Mickus to rapidly learn staff routine, regulations and protocol to operate effectively without disrupting the existing routine.

"One of the most interesting aspects of the position is the incredible variety of efforts you become involved with," said Mickus. "In the last year and a half I have worked in the areas of Navigation, HF Improvement, Torpedo Countermeasures, Tropical Cyclone Track Prediction, Water Contam-

ination, C3 Countermeasures, AAW Targets, etc., in addition to the standard issues which come up on a day-to-day basis," he said.

One of the aspects of the job Mickus enjoys most is the diversity of efforts and the tremendous opportunity this gives him to learn new things and obtain fresh perspectives on old problems.

For example, navigation accuracy is a major issue in PACFLT, because effective control in an Over the Horizon (OTH) oriented warfare environment assumes accurate navigation as a starting point. There are two major efforts addressing navigation improvement in the Pacific Fleet: the pilot project for improved battle group navigation accuracy and the CINCPACFLT Navigation Improvement Program (CNIP). The Pilot Project for Improved Battle Group Navigation Accuracy is an NSAP run fleet funded multilab effort with NADC as the lead lab. The objective of this effort is to demonstrate, using an off-the-shelf commercial integrated radio-navigation aid directly interfaced to the Naval Tactical Data System (NTDS) the effectiveness of integrating the navigation subsystem with the combat system, navigation system grooming, and improved navigation operating procedures. CNIP is a multi-year effort which addresses navigation improvement from the viewpoint of hardware enhancement, grooming, shipboard organization/procedures, and training.

Mickus is also sponsoring an NSAP task in the area of HF communications improvement. The Fleet High

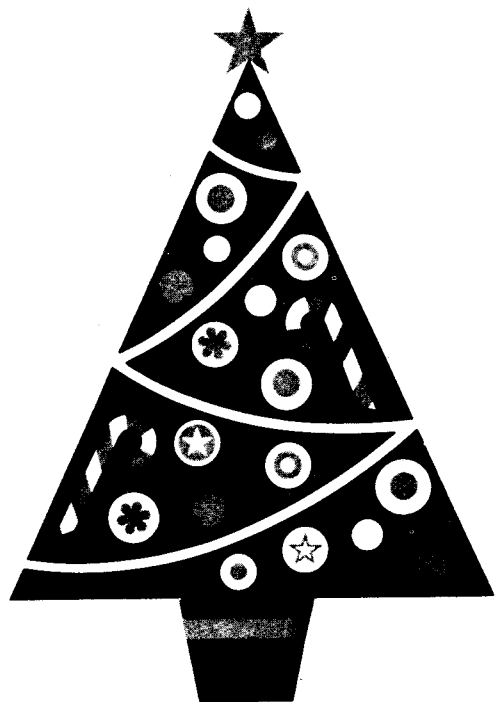
Command Radiotelephone Network (HICOM) is a long range HF voice circuit utilized for emergency reporting. CINCPACFLT requires command connectivity with all units within a short period of time. This capability is tested continuously to ensure that procedures and results are adequate.

Another aspect of this assignment which cannot be overlooked according to Mickus is the opportunity to see things happen. Working for a fleet CINC puts the Science Advisor close to the top of the Navy chain of command. Programs or actions which are perceived as necessary are generally established/implemented quickly.

"The NSAP program provides a unique opportunity for those in the laboratory community to get out with the customer and determine first hand who he is," said Mickus. "I know that the Center will benefit from this assignment because of my professional growth as a result of it," he said. "I highly recommend these assignments to others in the laboratory community because of the potential for significant professional growth."

In July of this year, Mickus was selected as the Outstanding Naval Science Advisor of the Year.

The NADC NSAP coordinator will be soliciting application for three NSAP position vacancies: two in Hawaii and one in Norfolk, Virginia. These rotational assignments of one year with extensions available for one year will be filled in the summer 1985 timeframe. For more information contact LCDR Carl Kail on extension 3166 or John Tate on extension 2081.



Zaslow wins Barnaby Award

Center Commander CAPT Edward Sturm (left) and retired CAPT Ralph Barnaby (center) name Isadore Zaslow as the Ralph S. Barnaby Award recipient. Edward Skidmore, former co-worker of Zaslow's, accepts the award in his absence.

Photo by Peggy Callahan

Command Corner



CAPT Edward J. Sturm,
Center Commander



Robert S. Buffum,
Technical Director

We join in wishing the best this holiday season has to offer to all our fellow NADC employees — military and civilian — and to the contractors whose work days are spent here.

We sincerely hope you find warmth, love, and a spirit of renewal with family, friends, and co-workers at this special time of year.

Your hard work, energy, and devotion to the Center have

contributed immeasurably to 1984's having been a good year for all of us. May 1985 be equally good or better. May you find continued job satisfaction, good working relationships, security, and prosperity in the coming year.

For those of you who will be travelling far for holiday visits, we wish you a safe journey and an equally safe return.

Agarwala wins symposium award

Dr. Vinod Agarwala of the Aero Materials Division in the Aircraft and Crew Systems Technology Directorate received a dual award at the Air Force/Navy Science Symposium at the Norfolk Naval Air Station in November.

His paper entitled "Crack Arrestment Compounds for Corrosion Fatigue and Stress Corrosion Cracking" received not only the Edward M. Glass Award for best paper in the Materials category but also the CAPT Walter S. Diehl Award for overall best paper of approximately 128 submissions.

The Air Force/Navy Science Symposium is held triennially. In light of the United States' great technology challenge to maintain its position of leadership in the world the nation as a

whole and the Department of Defense must continue to place great emphasis on maintaining its science and engineering prowess. Thus, the purpose of this symposium is to give recognition to the Navy and Air Force scientists and engineers who keep our technology strong.

There were eight technology areas recognized — Aeropropulsion, Materials, Flight Vehicles, Weaponry, Electronics/Computers, Geophysics/Environment, Life Sciences, and Manufacturing/Production.

As engraved plaque was presented to Dr. Agarwala for taking the Glass Award and a handsome piece of Steuben Glassware and \$500 were added when he was named the Diehl Award winner. (MAB)

PAO Message

by Jim Kingston

Thank you, Reflector readers, PAO appreciates you

This has been for us a year of change: During 1984 we have had three editors of the *Reflector*—Dave Polish, Jim Kingston, and, now, Jeannie (Beans) Gasuk. Dave moved on to a higher position at the Naval Air Propulsion Center. His replacement, Jim Kingston, came in and quickly advanced to Public Affairs Officer. He replaced himself with Jeannie Gasuk, the current Editor.

Also early in 1984, Mary Ann Brett came on board as a Public Affairs intern and as this issue goes to press,

Patricia 'Pat' Wenclawiak is scheduled to join our staff as Visit Coordinator.

You all saw some significant changes in the layout, design, and content of the *NADC Reflector* this year. Many of you commented quite favorably on them. Rest assured your current editor has a few more in store for you.

The entire staff of the Public Affairs Office and *Reflector* thank you for your interested readership, your helpful feedback and useful suggestions. Knowing what you like, what you want to read, and what you feel helps us make your newspaper more meaningful for all.

W&R brings Santa to orphans

The annual W&R Orphans party was held on Saturday the 8th of December in the NADC Cafeteria. Santa Claus arrived on an NADC fire truck and a gift which had been previously chosen from the Sears wishbook was distributed to each child. The children

were also treated to a magic show, the NADC Choral Club, and a Sing-a-long. A luncheon of hamburgers, French fries and soda followed the festivities. Please support this worthwhile effort by signing your division's Christmas poster.

Christmas / New Year Holiday Message From the Secretary of Defense to Members of the Armed Forces

The holiday season is always a special time of the year. It is a time of love, gifts, family and sharing the blessings of freedom.

You, the men and women of our armed forces, know a lot about giving. Every day, you give your energy, your talents and your dedication to protect and preserve our American way of life.

Your task is not an easy one. Many of you are spending this special time away from the warmth of your families, in remote outposts and foreign lands, and sometimes in areas of great danger.

I know well that all of you in our defense establishment, both military and civilian, bear a heavy burden for all of us. And all of you should take great pride in the knowledge that what you do secures the most important gift any people can receive—the gift of freedom.

No matter where you are, may you and your families and friends around the world have a happy and safe holiday and a prosperous, free 1985.

Mumford joins PAR



CDR Thomas Mumford

CDR Thomas Mumford recently returned to the Center and is slated to head the proposed Test and Operations Resources Group in Planning, Assessment and Resources. This is his third tour at NADC.

Mumford left NADC in November 1983 for the Naval Air Rework Facility (NARF), Alameda, CA. There he served as the Production Officer and later as the Executive Officer supervising some 4700 employees.

His extensive Navy career began in June 1953 when he enlisted into the Navy as a seaman recruit. For the first ten years he served as an aviation structural mechanic with tours of duty at the Naval Air Special Weapons Evaluation Facility (NWEF), Kirtland Air Force Base Albuquerque, NM; Heavy Attack Squadron Nine (VAH9); USS SARATOGA (CVA60); and the

Training Squadron Twenty-four (VT-24) at Beeville, TX.

Upon commissioning in 1963, Mumford returned to the USS SARATOGA where he served as the Aviation Fuels Officer. In September 1966, he reported to the NWEF in Albuquerque for a second tour. In November 1970, he transferred to Fleet Tactical Support Squadron Fifty (VRC50) in Atsugi, Japan. During this tour, the squadron relocated to NAS North Island, San Diego, CA and then to Cubi Point in the Philippines.

From 1973 to 1977, Mumford served as the Maintenance/Material Control Officer at NADC. He was responsible for maintaining 23 aircraft of 17 different types. After this he returned to NWEF for a third tour as Head of the Aircraft Maintenance Department until 1980 when he returned to the Center. This time he was assigned as the Director of the Engineering Support Group. He left NADC in November 1983 for the NARF.

"I couldn't be happier," says Mumford. "I'm thrilled to be back." Although a lot of his time since October has been spent traveling back to the NARF to "tie up loose ends" as Mumford puts it, he has been spending most of his time coordinating the responsibilities of his newly proposed group.

CDR Mumford's wife, Lucetta, has returned to Bucks County with him. (MAB)



REFLECTOR

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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
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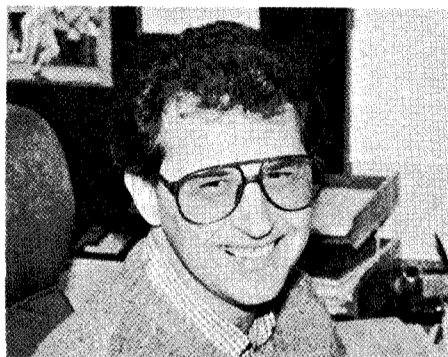
VIEWPOINT

The Public Affairs Staff asked the question,
Do you believe in Santa Claus?

Photos by Regina Gasuk



“No, because Congress doesn’t appropriate any funds for him.”
Stu Simon, Code 702



“Sure, and I also believe in Ronald Reagan, Ron Jaworski, Paul Owens and that someday I’ll bowl a 300 game.”
Tom Reiter, Code 1005



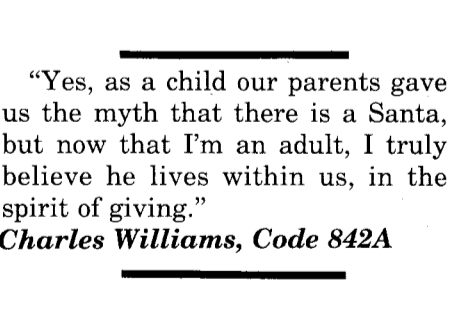
“Yes, because he’s the only man I know who gives presents and asks for nothing in return.”
Jean Dowds, Code 01AS



“I know he exists because I audit his payroll and travel records every year. I also know his political affiliation since he doesn’t offer much in the way of a retirement program, either.”
Ron Kabin, Code 0201



“Yes, with an 85% probability. In fact, Systems Directorate is responsible for the incredibly reliable Santa deliveries through our Claus Air Sled with Total Analysis Logistics, Design, and Integration (CASTALDI) Program.”
Deborah Sztubinski, Code 20S

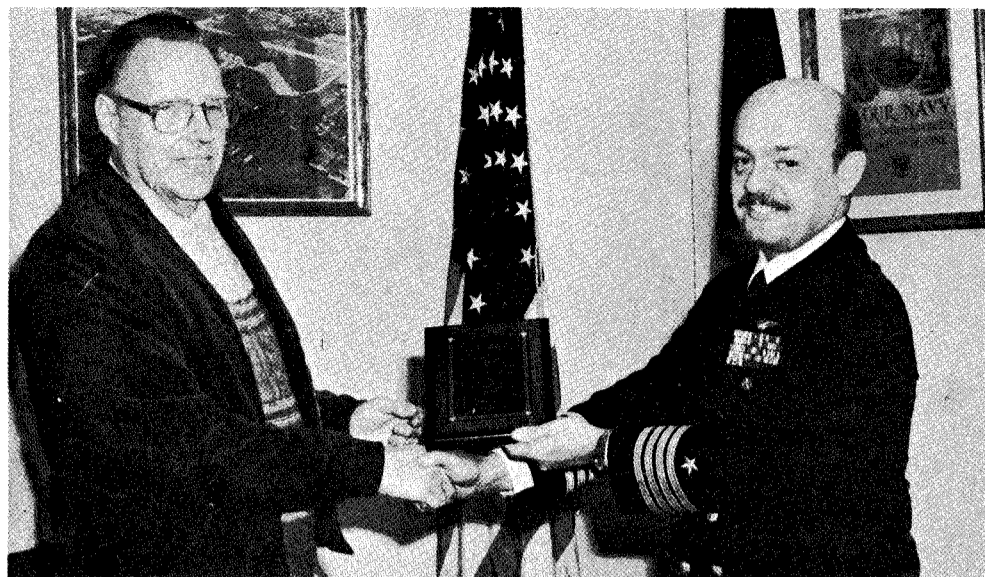


“Yes, as a child our parents gave us the myth that there is a Santa, but now that I’m an adult, I truly believe he lives within us, in the spirit of giving.”
Charles Williams, Code 842A



“Yes, because when I was a kid he kept our house well supplied with coal.”
CAPT Tom Gallagher, Code 60A

The question for this month’s viewpoint was submitted by Captain Fred Wright.



Clarence West receives a plaque commemorating his 25 years of service to the Flying Club from CAPT Fred Wright, Chief Staff Officer.

NADC Flying Club

25-year member honored

A quarter of a century ago ten NADC employees got together to form a flying club. They approached the Center Commander with their idea and he approved, provided the club became sanctioned by the Navy. These ten determined men submitted the required paperwork and in November 1959 received their official recognition as a Navy flying club.

On 21 November 1984 in a small ceremony in the office of CAPT Fred Wright, NADC’s Chief Staff Officer, Clarence West, one of the original ten was honored for 25 years of dedicated service to the flying club.

West, a retired civilian employee of the Center with 37 years of service received a plaque and many good wishes for his work as the Maintenance Officer of the flying club.

Ordinarily, when a civilian club member retires from the Center, it is mandatory that he must also retire from the flying club. When West retired from the Center, however, the club was able to obtain a waiver allowing him to remain an active member. This special dispensation was granted based on his long and valuable service to the club. What makes West such a valuable club member is the closed-loop effect he has in the unique position he holds as Maintenance Officer. He not only fixes the aircraft, but tests and flies in them on a regular basis thereby always aware of pilot/aircraft needs.

West, who got his mechanics license in 1939 and his pilots license in 1944, said, “It has been a sport and a hobby with me. I treat all the airplanes as if they were my own and I fly in them all.”

At the time the club was formed it was the second such club of its kind. Since the first club is no longer in existence, the NADC Flying club is now the oldest active flying club in the Navy.

The club began acquiring planes by asking for custody of planes the Navy was planning to dispose of. The FAA at the time had many safety requirements and West had to install special equipment necessary to meet FAA regulations. The club received its first T-34 on August 25, 1960 from VT-31, Corpus Christi, Texas. The first flight was in June 1961 and West was the pilot.

The second T-34 arrived June 6, 1966 from the Naval Air Facility Litchfield Park, Phoenix, Arizona. Since then the club purchased two Cessna’s, a 150 and a 172. In between, but no longer in its custody, was a Citabria, a Beech Musketeer and a Cherokee 180.

NADC’s Navy Flying club currently has 60 members with a waiting list of 80. They are capped at 60 people because of space problems relating to the amount of aircraft they can physically handle.

A year ago, as a result of an audit, NADC’s flying club was chosen as the model club of all Navy flying clubs for maintenance, operations, and finances.

The club has logged 1100 hours of flying time this year. You can see them flying at lunchtime, after work and on weekends. They use their aircraft for business, pleasure and vacations.

West is one of the reasons NADC’s flying club is such a success. In its 25 years of existence it has never had a safety related incident. The Center commends him for his dedicated service. Keep ’em flying!

The NADC RECIPE REVIEW

PORK STIR FRY

This month’s recipe is provided by Marjorie Tausek (Code 0342, x3970) who will receive a \$50 Bond from the Food Service Board. This recipe will also be served in the NADC Cafeteria. Submit your recipes to Mr. Robert Green, Cafeteria Manager. One winner will be selected each month.

- 1 lb. pork, sliced thin
- 1 T oil
- 1 garlic clove, minced
- 16 oz. frozen pea pods
- 1/2 C milk
- 1 t basil
- Dash nutmeg
- 1/3 C shredded Swiss cheese
- 4 oz. can mushrooms, drained

Heat oil in large skillet, stir fry garlic 30 seconds. Add pea pods and stir fry 2 minutes. Remove from skillet. Add more oil if necessary. Stir fry 1/2 pork 3 to 4 minutes, remove and stir fry remaining pork, remove. In pan, heat milk, basil and nutmeg. Add cheese and cook until melted. Stir in pea pods, pork and mushrooms. Heat through and serve with linguine. Serves 2



LOOK FOR THIS RECIPE TO BE
SERVED IN THE NADC CAFETERIA

— Cut here for file card —

Is that "One for the Road" worth it?

By Mike Masington

The annual Neolithic Architectural Design Corporation (NADC) Christmas party at the Cro-Magnon Club had just broken up, and our perennially popular, prehistoric protagonist, Og, was ambling his way rather unsteadily across the parking lot towards his wheel. After eight Rock and Ryes chased with an equal number of Rolling Rocks, he noticed he was having trouble keeping in contact with the ground, had visions of pink wooly mammoths in his head, and had accidentally singed Stan Stegasorius' eyebrows when he exhaled while lighting a cigarette. However, being the role model for future generations of macho men, he knew he could handle it. Sure he had heard all those lectures about pacing your drinking if you're planning to drive, and that the average adult can safely handle about one regular drink an hour, but he knew those rules didn't apply to him.

As his '85 (that's 2,000,085 B.C.) turbo-charged, wheel roared along the roadway, he noted that he was stopping too soon or too late at stop signs, that he was having trouble staying awake and on the road, and that he had difficulty maintaining a steady speed. Unfortunately for our polluted prehistorian, he wasn't the only one

who noticed this. Officer Bronk Brontosaurus had been trained to look for such signs, and in Tyrannosaurus Township as in the rest of the state, a major push was on to crack down on drinking and driving during the holidays. With this in mind, the paleolithic patrolman pulled out of a side street and gave chase to the careening caveman. After Og's offending vehicle was pulled over, the sequoia sized cop walked up to the driver's window. "Wha sheems to be the probum occifer," slurred Og as he smiled his most ingratiating grin. "You were observed operating your vehicle in an erratic manner, sir, may I see your license and registration," replied the businesslike Brontosaurus. As he fumbled for his cards in his polyester leiseskin, Og said, "There mus be some mistake occifer, I'm jobber as a sudge." Bronk's only reply was, "Would you step out of your wheel please, Mr. Og."

The ensuring balance and equilibrium tests proved to be a classic as Og poked his finger in his ear while trying to touch his nose, got lost while trying to walk a straight line, and when asked how much he had to drink replied, "two Shirley Temples and a small sherry." An appreciative panel of bystanders awarded him 9.6, 9.8, 9.6

and a 10.0 on the basis of originality. After his arrest Og was taken to the police station where his breathalyzer test set a new local record, and melted the plastic housing on the unit.

Our story ends here. While I've tried to present this in a humorous light, the problem of drinking and driving, particularly during the holiday season, is not funny. It kills not only the drinkers, but all too often innocent people who are just going about their business. Under the new Pennsylvania drunk driving law, the following rules are in effect:

- A police officer can require a suspected drunk driver to take any or all of the three major blood alcohol content tests: breath, blood, or urine. Refusal to take the test will result in a one-year license suspension, and can be used as evidence at trial.
- A charge of drunk driving cannot be reduced or dismissed at arraignments or preliminary hearings.
- At trial, a test showing blood alcohol of .10% or greater while driving is evidence of drunk driving. Supporting evidence is not necessary.
- A first-time conviction for drunk driving requires a minimum 48-hour jail term and a \$300 fine. Penalties can go as high as two years and \$5,000. (Some first offenders *may* be recommended by the DA for the Accelerated Rehabilitative Disposition (ARD) program. In this case there is no trial, your license is suspended for one month, and you are required to attend a five-week rehabilitation course at your expense.)
- Mandatory minimum sentences for repeat offenders are: 30 days for a second conviction, 90 days for a third, and one year for any subsequent convictions. Conviction will automatically suspend your license for one year and require attendance at a rehabilitation course.
- If you cause an injury or death, the resulting sentence will be added to your drunk driving conviction.

Think it over folks. Is that one for the road worth it?

The continuation of the Brewster aircraft story which we featured in the November *Reflector* will appear with more photos in the January issue.

Commander Salutes

JOSEPH GRIFFIN (Code 81): for substantial cost-saving contributions that merited the Secretary of Defense Productivity Excellence Award.

RANAE DAVIS (Code 20), **HERBERT HEFFNER** (Code 30), **SAMUEL SIZGORICH**, **JOSEPH FRANZ** (Code 60): For dedication to the success of the YAQM-127A target source selection effort.

LCDR MICHAEL DOUGHERTY and **DAVID WHITEMAN** (Code 10): For cooperative and enthusiastic efforts contributed to the success of the Naval Academy Information Program's annual business/dinner meeting.

RALPH HUNGERFORD (Code 10), **JAMES McDIARMID**, **WALTER LEYLAND** (Code 20): for outstanding support to COMTHIRDFLT as observers during the recent passive sonar system exercise.

FRANK SCHEETZ and **JOSEPH OROSZ** (Code 20): For enthusiastic participation in the Naval War College's Global War Game 84.

DOMINIC OTTAVIANO and **STEVEN WOODS** (Code 60): For outstanding contributions to NAVAIR for the VANDAL target system.

PETER VERBURGT (Code 30): For outstanding performance as lead project engineer for AIR ASW weaponry programs.

CDR MICHAEL MILCHANOWSKI and **LCDR MICHAEL DOUGHERTY** (Code 10): For excellent assistance provided during the visit of COL Faulkner, Canadian Forces.

Marines sponsor toys for tots

The U.S. Marine Reserve sponsored the Toys for Tots program again this year carrying on a 37-year tradition with 177 Marine units currently providing an estimated 75 million toys annually to the underprivileged children of America. A drop barrel was located opposite the credit union where Center personnel again donated brand new toys to make someones Christmas a little brighter.

CHINFO Award for TV studio

The Center's TV Studio, located in the Technical Services Department of the Engineering Support Group, recently received one of the 1984 Chief of Information (CHINFO) Merit Awards.

According to the CHINFO message announcing the awards, winners represent the Navy's best print and broadcast entries from more than 700 worldwide submissions.

The videotape that won the "Special Television Program" award was titled "Aircrew Laser Eye Protection." The tape serves the purpose of introducing new laser eye protection goggles and glasses to the Fleet. It also provides a

brief background on how lasers work, the kinds of eye damage lasers can cause, and how we can protect against the danger of eye damage.

TV Studio personnel involved with the production were Ray Satterfield, Producer/Director; Ross Barcklow, Audio/Visual Production; and, Robert Larr, Script. CDR Gary Smith and Dr. Gloria Chisum from the Aircraft and Crew Systems Technology Directorate served as the principal Technical Advisors.

The tape can be viewed over the in-house cable system by calling the TV Studio on extension 2388. (MAB)

Mixed league bowling record

By Tom Reiter

As of the end of November, both divisions are involved in close races. The Mixed League bowls each Wednesday at Tudor Lanes beginning at 6:00 P.M. All NADC is invited to come out and enjoy the goings-on.

DIVISION A

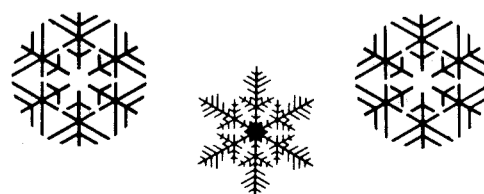
Team	Captain	Record
Goofers	Al Knobloch	32.0 — 16.0
Raiders	Cliff Tierney	30.5 — 17.5
Pinpoppers	Steve Thoman	30.5 — 17.5
Magic Markers	Neil Weinman	29.5 — 18.5
11th Frame	Helene Goldstein	28.0 — 20.0
Neiners	Helen Catto	24.0 — 24.0
Renegades	Ted Kopp	22.0 — 26.0
TNT	Jerry Miller	21.5 — 26.5
Screwballs	Pat Tease	20.0 — 28.0
Les		
Champignon	Ed White	18.0 — 30.0
Alley Oops	Rick Yeager	17.0 — 31.0
Blips	Rhonda Vaughan	10.0 — 38.0

DIVISION B

Team	Captain	Record
White Winoes	Jerry Guarini	29.0 — 19.0
Alley Cats	Bob Geyer	28.0 — 20.0
Rated X	Sylvia Fiumara	28.0 — 20.0
Warveyhall-bangers	Mike Kreuter	26.0 — 22.0

Red Winoes	Tom Reiter	25.0 — 23.0
The		
Ballbusters	Blaine Price	24.0 — 24.0
Falcons	Ted Calkins	24.0 — 24.0
Dynamic Duos	Ed Gifford	23.0 — 25.0
Who Cares	Jim Eck	22.0 — 26.0
Bullshooters	Tom Leahy	22.0 — 26.0
Lucky Strikes	Cathy Burian	21.0 — 27.0
The Strange		
Brew	Jim Mitchell	19.0 — 29.0

Congratulations to the winners of our Thanksgiving Turkey Shoot. Steve Messina rolled a 269 with handicap. Sue Stauffer gobbled up a 238 with handicap. Both bowlers were rewarded with a voucher toward their Thanksgiving feast. Highest scores to date include Hank Lystad's 257 and 755 series and Debbie Erney's 242 and 562 series.



Security Reminders

WATCHSTANDER:

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

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

CLASSIFIED HARDWARE

Classified hardware, like classified documents, must be identified as classified at the time a unit becomes classified with the addition of first classified sub-assembly. Identification

of a unit as classified may be accomplished by attachment of a tag, sticker, or similar device bearing the classification and additional marking. Classified hardware that cannot be marked with a tag or sticker, may be marked by attachment of a tag or sticker to the container of the classified hardware in lieu of the hardware itself. Classified hardware/equipment must be afforded the same security protection as written material. Questions relating to the physical security of such equipment will be answered by Code 04414, ext 1450.