The Reflector

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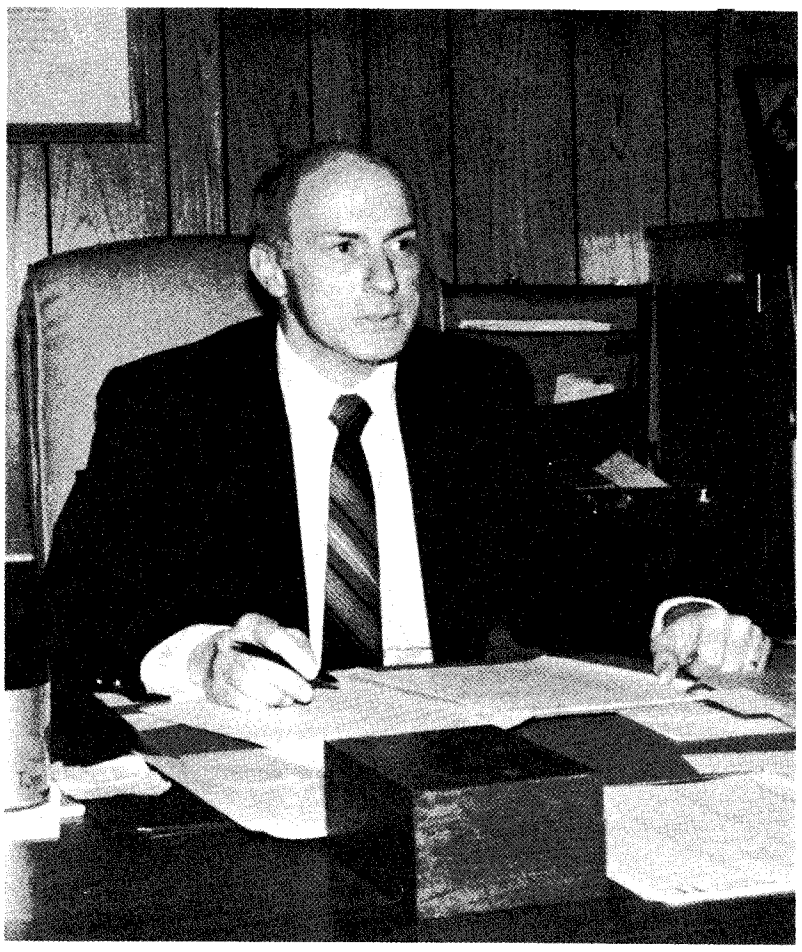
Castaldi: Technical Excellence and Quality Are Paramount



Mr. Thomas Castaldi assumed the reins of the Systems Directorate in November.

Mr. Thomas Castaldi has been selected as Director of the Systems Directorate replacing Dr. Rudolph Stampfl who retired from that position in August. Mr. Castaldi, formerly the Project Engineer for the VP Program, began his career with the Navy at the Center in 1962 working on the design and development of surveillance and tactical ASW systems. In 1977 he became the Science Advisor to the Commander-in-Chief, U.S. Atlantic Fleet. In 1978 he was named as a Technical Advisor to the Chief of Naval Operations in the OPNAV ASW Division and in the ASW Systems Project Office. In 1969 Mr. Castaldi returned to the Center as Program Director for the ASW Systems Program office and was later assigned as VP Program Project Engineer.

Mr. Castaldi believes that the Systems Directorate plays a very important role at NADC. "It boils down to one phase," he said. "The Systems Department is the cement that binds the avionics and the platform into a single cohesive weapons system. We have people at the Center strong in the development of avionics technology," he continued, "and on the other hand we have people here with an excellent grasp on the vehicle and the crew. That doesn't mean anything if we can't bind them together. That combination will give us the best weapons systems possible."

Castaldi believes that coming from the Command Projects Directorate will make him more sensitive to the requirements of developing large systems. "In the VP Program I managed the overall work performed by the other Directorates. Now I provide the major systems engineering support to the projects. I bring with me an understanding of the schedule and financial demands that are faced by Project Directors. However, the needs of supporting Project work must be balanced against the need as a Directorate to increase our systems engineering capabilities. This Directorate has a good reputation for engineering excellence and I want to strengthen it."

Castaldi's goals for the Systems Directorate are simply stated. "I want to ensure that the need for high quality, reliable airborne systems is met in the most efficient manner. The operant word," he explained, "is 'reliable.' All system design and development," Castaldi said, "will be approached in a professional manner. Technical excellence and the quality of work are paramount."

From a personnel perspective the new Systems Director is set on establishing an environment where the large numbers of scientists, engineers and analysts in the Directorate can grow through challenging and interesting work. "I am impressed," he said, "with the depth of technical talent and the breadth of capabilities here. The same engineer can work on three different programs each requiring different technologies and techniques. That is to me a very impressive demonstration of capability."

Will Castaldi's management style bring changes to the Directorate? "I believe clearly in delegation of authority with the attendant responsibility for performance in that area," he explained. "Most operating decisions will be made at the division level with as much latitude as possible. Accountability will be through the review process." He added, however, that he will retain the ultimate responsibility for major decisions with impacts "which are felt external to the Directorate or the Center."

There will be no surprises from this Director either. "I'm not the type to shoot from the hip," he said, "I will strongly seek counsel and advice and will hear out all options. When appropriate," he continued, "I will try to explain my decisions to people who do not agree. I like to feel I am approachable. I want to hear about both the good things and the problems from anywhere in the organization," he concluded.

Mr. Castaldi is a graduate of St. Joseph's University, where he received a B.S. Degree in Electronic-Physics. He received his M.S.E.E. degree from Penn State. He has also attended the Naval War College.

Paper Problem Cut Down To Size

Is there any truth to the criticism about the government being all tied up in paperwork? If the 41,250,000 sheets of paper generated in FY82 at NADC are any indication, then we are guilty. This astronomical figure averages out to 20,000 pieces of paper per person per year here at the Center. The 41,250,000 sheets of paper can be broken down into the following statistics: Approximately 16,272,000 pieces of paper came out of reproduction, 14,970,000 sheets of paper were generated out of the computer department and the balance of 10,008,000 were all produced from the stand-alone quick-copiers around the Center.

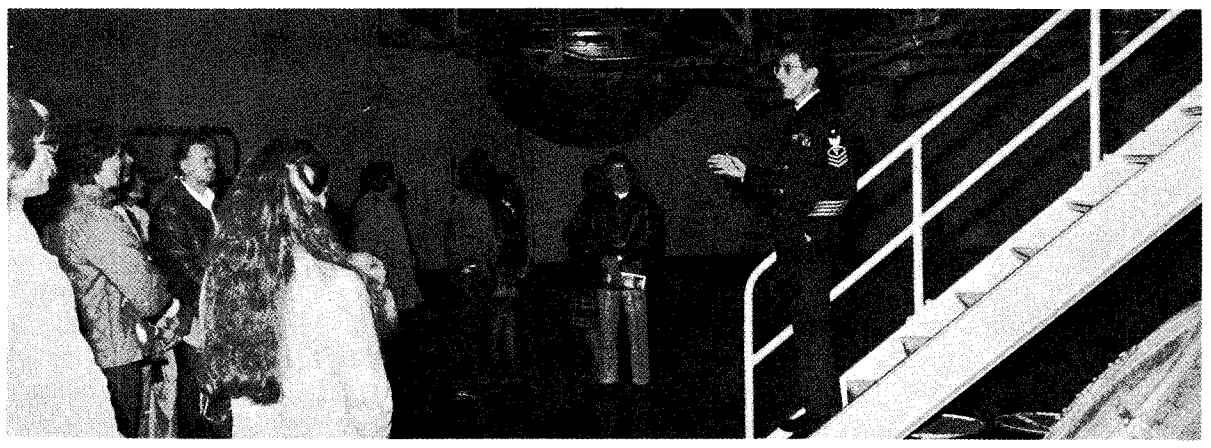
If you find the amount of paper astounding, just think about how much time is utilized moving this paper around. Consider the impact of the turnover of 41,250,000 pieces of paper through-out the system. Then there is the question of disposal. There can be no doubt that to eliminate the unnecessary paperwork at the Center would mean a considerable savings of both time and money.

The figures presented are part of an evaluation completed by a committee of Center personnel which began in the summer. The paper reduction program is already in effect and the committee will be reviewing all paperwork here at the Center for possible elimination, consolidation, reduction and redesign.

For example, the Navy Publication and Printing Office will be duplexing all work from now on without exceptions. No flyers will be printed in the future, including W&R, Ski Club, Computer-User groups and various retirement & luncheon announcements. The intent here is for employees to utilize the Log, Reflector, and Bulletin Boards as a means of transmitting information.

(Continued on page 2)

Weighing in excess of 1600 pounds each, NADC used paper bales are sold for recycling through the Defense Property Disposal Office at $192.50 a ton.



Senior Chief W. C. Miller briefing members of the Experimental Aircraft Association during one of many tours in support of the PAO Program.

HMCS Miller Receives PAO Award

Recently HMCS Woodrow C. Miller was presented the 1983 Public Affairs Award for his outstanding contributions to the Center's Public Affairs Program. Senior Chief Miller is the Flight Director for the Dynamic Flight Simulator in the Aircraft and Crew Systems Technology Directorate. This month marks the end of a 15-year tour of duty for him here at the Center in which he has participated in every major project that Crew Systems ever had. Besides his primary responsibility as Flight Director he is in charge of the subject pool for projects involving human subjects in the dynamic flight simulator, cold water and ejection tower studies.

Senior Chief Miller's conscientious and dedicated efforts have aided the Public Affairs Office immeasurably and his professionalism and enthusiam have enhanced the Center's image throughout our local community. Senior Chief Miller will be stationed with the Marine Corps at Camp Pendleton as Senior Chief Hospital Corpsman and Medical Liaison for the First FSSG Fleet Marine Force.

Final Draft of Facilities Improvements Submitted

A final draft of the new Master Plan and Base Exterior Architecture Plan for the Center have been submitted by the Northern Division of the Naval Facilities Engineering Command for review and approval by the Center Commander, Captain James Anderson. These are the first ever developed for the Center and, when approved, will be a significant step forward in providing timely and professional facility management.

As part of the Center's Business Plan, a detailed facility plan was approved for the coming year. The plan, as currently configured, calls for the most extensive program of renovation and construction ever undertaken by this command. In all there are 81 special projects planned for FY84 as compared to 21 projects in FY83 and 16 in FY82. The total value of Fiscal Year 1984 projects is approximately $14 million. As the plan is approved, says Public Works Officer, LCDR Bert Streicher, "We are going to have to issue hard hats to everyone."

The purpose of the planning which has been under preparation for almost a year, is to provide the Department of the Navy with realistic and orderly development proposals for improvements at the Naval Air Development Center. The Master Plan has identified specific sites for future projects on existing land while the Base Exterior Architectural Plan recommends exterior landscaping improvements.

When taken in total, this year's Facility Plan is designed to upgrade Center facilities and equipment with improvements in six major areas: Directorate or Department office consolidation moves; physical improvements in support of technical directorate business plans; security improvements; essential maintenance and repair; heating, ventilating, and air conditioning repairs; and quality of life improvements. Evidence of some of these changes is already obvious.

Construction of a new office "staging" area has begun in the basement area of building 2. This staging area office is critical to all construction that follows since it will permit branches and divisions to be relocated to comfortable and efficient spaces while permanent office renovations are underway. First to occupy the new spaces will be the Aero Structures Division of ACSTD and the Digital Technology Branch of SCD.

"The staging area is also a trial balloon to get people's reaction" to some new energy saving ideas said LCDR Streicher. In many of the office spaces to be renovated he added, "we are going to indirect lighting." "Within a space," he continued, "people move so frequently that we are planning to install free standing lights which reflect off the ceiling." Each Directorate's Business Plan has also been reviewed with an eye toward facility needs. Projects resulting from that review, and scheduled for FY84, include a new TACAMO Library and new Command Projects office space. In addition, the offices and laboratory spaces in nine divisions are scheduled for renovation this year. "There is also a directed effort," Streicher added, "to improve general overall habitability at the Center." Facility support contracts will be developed for painting, floor and ceiling tile replacement, roofing repair, door repair and partition installation.

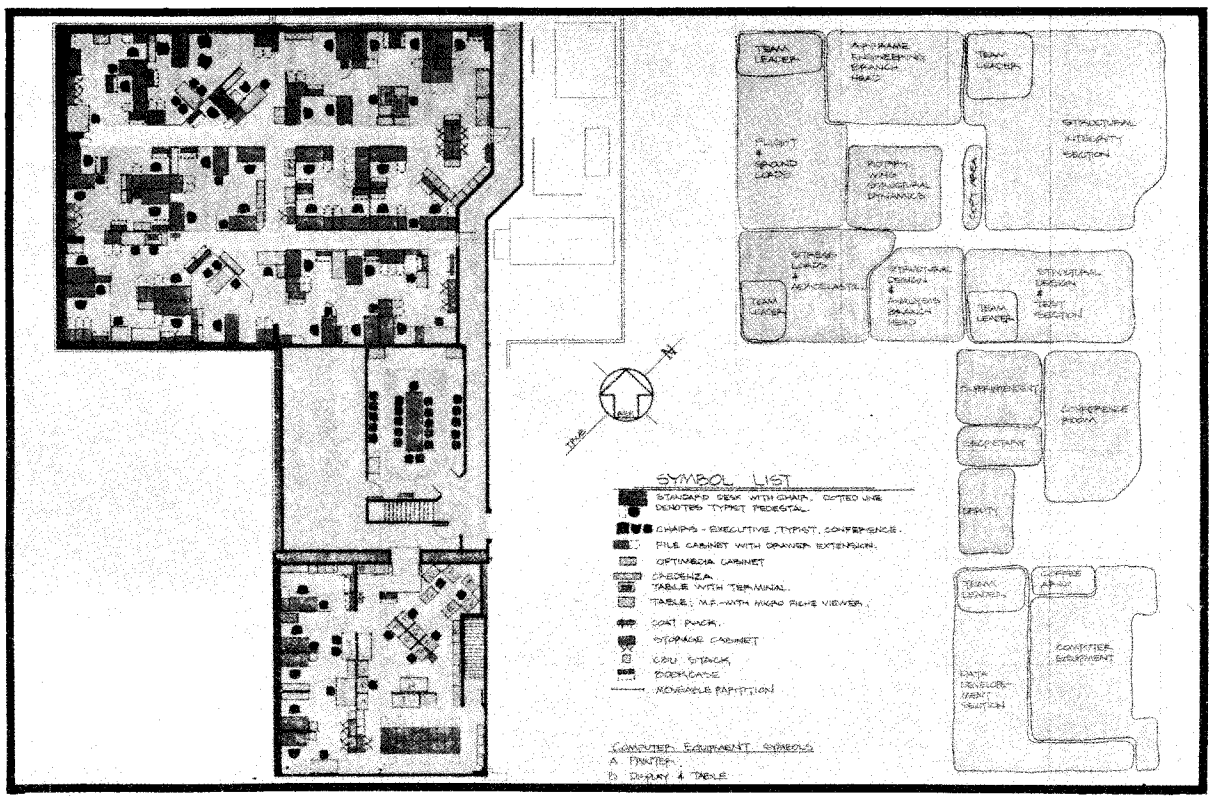
Planned Security improvements in this fiscal year include repairs and modifications to the security fences, and a study to improve the security access control system.

There is also an impressive list of Quality of Life improvements scheduled to begin shortly. The list is topped by such items as providing a face lift for numerous rest room facilities, renovation of the Auditorium, Cafeteria and Main Lobby, improvements to parking facilities, and the renovation and relocation of the Library.

Looking ahead, some of the more obvious changes planned for the near future are detailed in the Master Plan and Base Exterior Architectural Plan. These plans were designed to present an overall impression of unity throughout the Center, linking diverse functional areas and establishing a unified architectural motif. The proposed architectural treatment presents a high technology image that is consistent with the research and development activities associated with the Center. Elements of the plan call for exterior improvements to the existing facade of all buildings to create a uniform appearance, landscaping improvements virtually across the entire Center, construction of new main entrance to both the Air Operations Complex and the Laboratory Complex, a comprehensive signage program, the reconfiguration of parking lot 2 and new recreational facilities for the military.

All of these improvements are in addition to the construction of several major facilities which are either under construction or are in the planning stage. These include the Fire and Crash Facility now under construction near the UEPH building, a new TACAMO/GPS Facility adjacent to Building 175, a new Life Sciences building adjacent to Building 70, a new Aircraft Maintenance and Installation Facility and a new Materials and Structures Facility.

As Public Works Officer, LCDR Streicher says, "It's a tremendous workload and a challenge for Public Works."



Proposed renovations to the Aero Structures Division (604) office spaces are typical of improvements currently being planned for many areas of the Center.

(paperwork)

The Administrative Services Division (041) has reworked some of the official NAVAIRDEVCEN Distribution Lists to eliminate unnecessary and redundant paperwork.

For instance, the currently used C-9 distribution is being eliminated and replaced by a choice of C-4, 7, or 8 resulting in a savings of $73,416.24 and 1,700,000 pieces of paper. C-2 distribution is being reduced to a new C-6 category, saving $76,930.88 and 1,800,000 pieces of paper. Lastly the Plan of the Day will have a special distribution and will no longer go out under the C-4 and C-7 lists. POD savings amount to $57,222.76 and 1,500,000 sheets of paper. Aggregate sums of 5,000,000 pieces of paper and $207,569.88 will be realized by distribution list changes alone.

Of the 10,000,000 pieces of paper that are generated from NPPSO (Repro) on distribution lists, the changes listed above would result in an almost 50% savings on paper. Administrative Services is currently working to expand the base of selection for the distribution lists to limit as precisely as possible the distribution that is needed.

The Computer Department is transferring an increasing amount of work to the Xerox 9700 high-speed printer to reduce the amount of print-outs generated in the computer department.

The Comptroller Department (02) has completed a paperwork reduction analysis that will reduce the number of report pages generated out of 02 by 606,700 from the present output of 1,740,000.

The use of micropublications to duplicate and store material will be of increasing importance to the Center's paper reduction efforts. Training sessions on the use of microfilming and microfilming equipment can be expected. In the near future the NAVAIRDEVCEN Logo will be permanently affixed to all stand-alone quick-copiers throughout the Center and will appear on all copies made.

In a facility this large, written communication is a necessary function. The Center's paper reduction program will not limit the amount of information available; it will just change the manner in which we are informed. It is every Center employee's responsibility to cut back where they can. Asking ourselves the real need for what we are copying and the number of copies required is a good way to begin.

A Paper Reduction Hotline has been set up to report instances of paper abuse but more importantly to take suggestions anyone might have regarding the more efficient dissemination of information.

Call Mr. George Gianios of the Naval Publication & Printing Office on X2220 or the Fraud, Waste and Abuse Hotline number X3015.

The NADC RECIPE REVIEW

For this month's winning recipe: **Chicken Madeira**

Ruth Pickering will receive a $50 Bond from the NADC Food Service Board.
Selection by NADC Cafeteria manager.

2 chicken breasts (deboned, skinned)
2 tsp. rosemary (be careful not to use too much)
3-6 Tbsp madeira wine
2 Tbsp chopped parsley

Cut deboned chicken into bite size strips (1" wide). Coat chicken pieces in flour/salt/pepper. Lightly coated. In a saute pan, melt 4-6 Tbsp. butter. When butter is foamy, add chicken pieces. Stir chicken pieces while cooking. When chicken is well-browned and firm, add rosemary and madeira wine. Continue to cook to reduce the wine. Add chopped parsley for a garnish and stir it around with chicken pieces. Serve. **Makes 4-6 servings.**

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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Robert S. Buffum — Technical Director
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Regina Beans—Editor

Toastmasters Install New Officers

New Officers from lt to rt, William Bristol, Sergeant-at-Arms, Arthur Horbach, Educational Vice President, Larry Smith, President, Jim Davis, Administrative Vice President, Rockne Anderson, Treasurer.

The NADC Toastmasters Club has elected Mr. Larry M. Smith as its new president for 1984. Mr. Smith, of the Software Engineering Methods Branch in the Software and Computer Directorate, will be installed on 10 January.

Mr. Robert Hayes, outgoing Toastmasters President, said "the Toastmasters Program is designed for self-improvement and the means chosen to do that is through improved communications."

The NADC Toastmasters Club meets on Center every second and fourth Tuesday at 11:45 am in the VS Conference Room. New members are welcome.

Other officers who will be installed on 10 January include Arthur Horbach, Educational Vice-President; Shauket Gadiwalla, Secretary; Rockne Anderson, Treasurer; Rebecca Gray, Bulletin Board Editor; and William Bristol, Sergeant at Arms.

NADC Employees Contribute $72,000 To CFC

The 1984 Combined Federal Campaign has exceeded its goal of $68,000.00 with collections to date of over $72,000.00. Frank Dolan, Campaign Chairman, was impressed by the spirit of giving at the Center. "NADC has shown that they care about supporting such individuals as the poor and the homeless. This year we have received some very large contributions from individuals," Dolan said.

Of the $72,000.00 to date over $14,000.00 has been contributed in cash. The balance of contributions will be made through payroll deductions. Many NADC employees showed a specific interest in one or more charities supported by the Combined Federal Campaign. "The majority of contributors do designate, including most large donors," said Dolan, "because they have had specific experience with an agency and are moved by it." Fifty-six percent of the money collected in this year's campaign has been specifically earmarked.

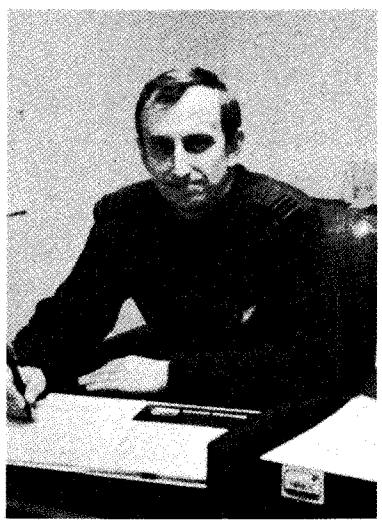
The Aircraft and Crew Systems Technology Directorate led all other Departments and Directorates with donations amounting to $16,863.25, an increase of over $1,000.00 from last year. The Sensors and Avionics Technology Directorate contributed $10,906.50. The Computer Department had the highest percentage of participation with 95% of its employees contributing.

Squadron Leader Stuart Heppenstall Joins the VP Team

Squadron Leader Stuart Heppenstall of the Royal Air Force came on board early last month to assume the position of Fleet Software Support Project Manager in the VP Program Office. Squadron Leader Heppenstall is expected to be here for the next three years. He joined the Royal Navy in 1968 as a helicopter pilot in Culdose, Cornwall, England. In 1971 he transferred to the Royal Air Force and became a navigator. Since his transfer he has been flying on the Nimrod (the British version of our P-3 aircraft). Most of his time with the Royal Air Force has been spent in Kinloss, Scotland, although he has been involved in torpedo trials at AUTEC (Atlantic Underwater Test and Evaluation Center) in the Bahamas for the Nimrod Mark II.

This is Squadron Leader Heppenstall's first tour abroad. Prior to this tour though, he has visited the United States five times in the course of his duty with the Royal Air Force. He is very enthusiastic about his tour and when asked about his goals in his new position, he said, "I see this as an on-going effort to provide the best possible software to the VP fleet and my efforts will be concentrated in that direction."

We welcome Squadron Leader Heppenstall aboard along with his wife Heather, and their three children, Paul (11), Charlotte (8), and Daniel (4).



Squadron Leader Stuart Heppenstall

Performance Rules Surrounded In Controversy

The Office of Personnel Management has announced that "pay-for-performance" and reductions-in-force (RIF) regulations were to become effective for the Civil Service on November 25, 1983." A controversy surrounding the regulations, however, has yet to be resolved as both Congress and the Courts have moved to block the regulations.

In recent action the Congress has barred the spending of funds to implement the new rules. The effect of this action may be to prohibit OPM's administration or enforcement of the regulations. Also a federal judge has temporarily blocked, for at least 20 days, implementation of the rules.

"We have the paradox of rules becoming effective without the oversight to assure that they are implemented fairly," said Donald Devine, Director of OPM. "The fact that we have rules that will not be overseen by the oversight agency, while not unique, is certainly unusual. We believe, however, the agencies can in general be expected to implement the rules fairly," added Devine.

The effect of these regulations, if implemented over the objections of Congress and the courts, is that the Federal workforce will be governed by the principle of performance. Within-grade pay raises and reductions-in-force will be based more on performance for the overwhelming majority of the workforce.

Mr. Ron Young, Civilian Personnel Director for the Center said that "there will be no immediate change in procedures at NADC until we receive guidance to do so from the Department of the Navy."

Technical Highlights

S-3A SOFTWARE DELIVERED TO THE FLEET

The S-A Fleet Issue 4.0.3 Tactical Mission, System Test, and Positional Trainer programs have successfully completed Navy and Operational Test and Evaluation and were released to the Fleet in November 1983. This represents NAVAIRDEVCEN's first major software upgrade to the S-3A Weapon System. Major functional highlights of the program include increased operational capability, faster deck turnaround, and significantly reduced fault-isolation time. The new Fleet Issue software products will lead to increased S-3A weapon system readiness and ASW capability.

FORWARD PASS COMPLETES TECHNICAL EVALUATION

Forward Pass, the Marine Corps remote sensor store and forward relay system, developed by NAVAIRDEVCEN, has completed technical evaluation. Operational evaluation has commenced by the Marine Corps at Camp Pendleton, California. Tests include air dropping the sensor data storage system, over-the-horizon relaying of the stored data, and processing and analysis of data received over the relay link.

RAFT TRANSITIONS FROM FEASIBILITY TO ENGINEERING DEVELOPMENT

The Retardation and Automatic Flotation System (RAFT) has completed its 6.2 conceptual feasibility stage and is ready for 6.4 engineering development. The RAFT system is designed to limit damage and provide rapid recovery for nuclear weapons or high value cargo that has been intentionally or inadvertently jettisoned during vertical replenishment. Present missions for transporting high risk cargo have been limited to internal aircraft use only.

SPECIAL PROGRAM ON RAPID SOLIDIFICATION TECHNOLOGY BEGINS

Rapid Solidification Technology (RST) is a major DOD thrust area in which significant advances in the properties and performance of metal alloys can be achieved especially for airframes and engine applications. The new Navy-wide Special Technology Program on RST, which the Center is managing for NAVAIR and the Navy, has been organized and initial funding for FY84 has been received.

THREAT MISSILE DETECTION SYSTEM SUCCESSFULLY TESTED

The Threat Missile Detection System (TMDS) is a radar sensor being developed for high speed aircraft protection against threat missile attack. Implementation of the Feasibility Demonstration Model Hardware of TMDS was completed. The system underwent initial testing in New Mexico. The tests were highly successful. A variety of projectiles differing in size and velocity were fired into the TMDS pattern of coverage. All were detected. No system failures were experienced during the test. An Advanced Development Model phase will follow.

NAVSTAR GPS USER EQUIPMENT TESTED ABOARD KITTY HAWK

NAVAIRDEVCEN successfully conducted preliminary integration tests of GPS User Equipment aboard USS Kitty Hawk (CV63). The tests included operation of the User Equipment integrated with both the ship's NTDS (Navy Tactical Data System) and SINS (Ships Inertial Navigation System). This accomplishment is the first integrated systems test of GPS User Equipment aboard an operational Navy surface ship, and will aid preparation for the planned formal TECHEVAL aboard CV64.

Power Shutdown/Paychecks

Again this year the Center will be closed between Christmas and New Year's to save energy. The energy shutdown will begin at 1600 on Friday, 23 December and end at 0500 on Tuesday, 3 January 1984. Only specifically designated areas which are necessary to operate will have power.

Civilian paychecks will be distributed in the cafeteria on Thursday, 29 December 1983 from 0730 to 1130 unless arrangements to mail your check have been made. The Credit Union will also be open Thursday morning.

Commander Salutes

LCDR Dave Mills, HM2 Neil Nelson, HMC Michael Ryan and HM1 Walter Krasa, all of the Aircraft and Crew Systems Technology Directorate, for their assistance in the evaluation of the NADC Branch Clinic's Mass Casualty Drill.

CDR Lynn Butler, Ms. Barbara Turner, of Command Projects Directorate, Mr. Richard Stickney, Mr. Richard Zielinski, of the Systems Directorate and Mr. Rudolph Merando, and Mr. Paul Hafele both of the Supply Department for their assistance to the NAVAIRSYSCOM LAMPS MKIII Project Manager in developing an Avionics Integration Laboratory at the Naval Air Development Center for Life Cycle Support of the SH-60B operational and test programs.

Mr. Robert Finkelman of the Computer Department for briefing the NADC Naval Reserve Units, NADC 0193 and NADC 0293 on the operation and capability of the Central Computer Facility.

Mr. Daniel Probert for assistance provided to the USAF 91st Tactical Reconnaissance Squadron.

For the last 30 years NADC employees have sponsored a Christmas party for children from Christ and Bethanna Homes. Otto Engdahl, Electrical Trades Branch, was a convincing Santa at this years party.

Super Safety

by Mike Masington

"Twas the night before Christmas,
and Johnathan Krause,
Was checking for safety,
all through his house.

The lights and the wiring,
were UL approved.
And the tree was secured,
so it couldn't be moved.

The fire was blazing,
with a screen right in place.
And a good working flue,
drew the smoke from the space.

And John and his wife,
with precision and care.
Assembled the gifts,
for the kids up the stair.

No games with sharp edges,
no dangerous toys.
You've got to be careful,
with three little boys.

With a bang and a thump,
someone came to the door.
It was Santa himself,
in a red RX-4.

"He really exists!"
gasped John with a yelp.
"You bet your sweet bippy,"
said the chubby red elf.

"I seldom am seen,
so adults don't suspect.
But I thought I'd drop by,
just to pay my respects."

"I really am pleased,
by your Christmas decor.
And the safety you practice,
makes it mean so much more."

"That tree that you've flameproofed,
is but a small sample,
of the safety you preach,
through deed and example."

"You see I keep records,
on big people too.
And I've kept special watch,
over Mary and You."

"You care for your family,
and the folks where you work.
You protect them from hazards,
wherever they lurk."

"So I thought I'd say thanks,
for a job so well done.
Now I've got to be going,
for it's almost one."

With a click of a seatbelt,
and a turn signal light.
The jolly old man
drove off in the night.

He waved his gloved hand,
and glanced to the rear.
Then he called, "Merry Christmas
and a Happy New Year."

November Promotions

Congratulations to:

John A. Coyle, Marlene E. Worden, Kathleen M. McPeak, Kenneth W. Lee, Sheila Y. Dorrey, Robert Mullen, Khien B. Nguyen, John A. Nichols, David B. Klock, Stephanie M. Berdis, Dannie Darrigo, Thomas M. Donnellan, Elizabeth M. Goehring, Arnulfo Hinojosa, Jr., Kevin M. Kennedy, Phyllis E. Morway, Donna M. Nicolo, Frances R. Prettyman, Nancy H. Tillmann, Helen A. Watkins, Gary R. Whitman, Sharon P. Miller, Robert S. Turzanski, Jr., Neil A. Bailey, Jacquelyn R. Benner, Jaime Clavell, John J. Sprenger, S. Herbert Herman, Tyrone R. Snowden.

Welcome Aboard

We would like to welcome to the Center:

Irene L. Knechnetsky, Thomas N. Ryan, Elizabeth J. Seibel, Betty Bodor, Donna M. Reagan, Elia Calabro, Yean Mei Lee, Madeline A. Arcangel, Joan Kopper, John R. Beckum, Gerald Miklosh, Thomas J. Whittle, Tina M. Polichetti, Carl R. Ruzicka.

Did you know....

The Navy's first fleet ballistic missile submarine, USS *George Washington* (SSBN 598), was commissioned 24 years ago—on Dec. 30, 1959.

-USN-

Dynamic Flight Simulator Improved

by Dave Polish

Since 1979 NADC has been involved in upgrading and redesigning its human centrifuge. After four years and $5 million what has emerged is the most capable dynamic flight simulator in the world. Project Engineer Jack Eyth said, "For the first time a flight simulator will be able to replicate the sustained 'G' forces encountered in actual flight."

The program to build, install, and integrate all of the necessary system hardware was primarily an in-house effort. A project team composed of personnel from SCD, TSD and ACSTD worked for many months to complete this extremely complicated facility. The design of the system is based on the F-14 aircraft. An F-14 configuration was chosen back in 1979 because of spin problems that were occurring.

Eyth explained that, "between 1978 and 1979 several F-14 aircraft were lost due to departures and flat spin accidents." You can visualize a flat spin if you imagine an airplane flying like a frisbee. At that time NADC proposed that the spin problem could be investigated in the Center's centrifuge without risk to the flight crew and the aircraft. The proposal was endorsed by NAVAIR and work began. Since then a fully operable F-14 cockpit has been constructed and installed in the centrifuge. Its design incorporates a high degree of flexibility which will permit future upgrades and changes. One such change may be the simulation of the F-18's flying characteristics.

The entire Dynamic Flight Simulator is under digital computer control. It is connected by a fiber-optic link to the System's Cyber 170 mainframe. The software that drives the system uses the NOS real-time operating system. The aerodynamic model that is currently being used simulates the F-14 flight characteristics. This unit enables the centrifuge to feel like an F-14 when a pilot flies in it.

"Flying" the centrifuge is a proper description because the test subject will actually control the twisting and turning movements of the centrifuge. As an optional mode of operation, the DFS cockpit can be removed from the centrifuge and utilized as a fixed-base simulator. This feature also allows the centrifuge to be returned to its conventional configuration for physiological studies.

To help give a fuller sensation of flight, a visual display system has been added. The visual system projects real-world scenery in front of the pilot's cockpit. It has an airfield scene that incorporates flashing runway lights and contains enough detail to show tire marks on the end of the runway. The weather can be changed at the touch of a button from clear to full overcast. The time of day can also be changed from day to night. Other scenes include mountainous terrain, cities and farm land. An enemy aircraft can also be generated for simulated dog fights.

The new updated centrifuge has the potential for simulating flight maneuvers that cannot be done safely in the real world. It is with this capability that NADC hopes to save aircraft and lives.

W&R Invites Retirees

NAVAIRDEVCEN's Welfare and Recreation Department welcomes retirees to participate in W&R recreational actitivies. Planning for the coming year includes Walt Disney World/ Epcot Center in May 1984; a one-day bus trip to Radio City Music Hall to see the Easter Show (including dinner) in March 1984; a one-day bus trip to Longwood Gardens (including dinner) in April 1984; a one-day bus trip to the Smithsonian (including dinner) in June 1984; and a four-day bus trip to Quebec City, Canada, in September 1984.

Trips already underway include Hawaii, 28 March through 6 April 1984. Space is still available for this trip. Call Ida on 441-2451 for information.

Watch for further announcements from your Welfare and Recreation Association. We'll try to keep you informed so that you can join in our activities.

Forty Years— by Dave Polish

It was selected because it was the highest point within a ten-mile radius. The original facilities were built in less than a year and it was, and still is, the hub of employment in the Bucks County area. The Navy moved in during the year of 1944 making it forty years old next year. If you haven't guessed by now, the facility that is about to celebrate its anniversary is the Naval Air Development Center.

NADC started as a modification unit for production aircraft. The facility was called the Naval Air Modification Unit (NAMU). Aircraft were brought here to be updated to the latest specifications. Today NADC is on the leading edge of technology. The people here develop some of the world's most advanced aircraft and ship systems.

During 1984 the Reflector will look back on NADC's history of accomplishment.

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