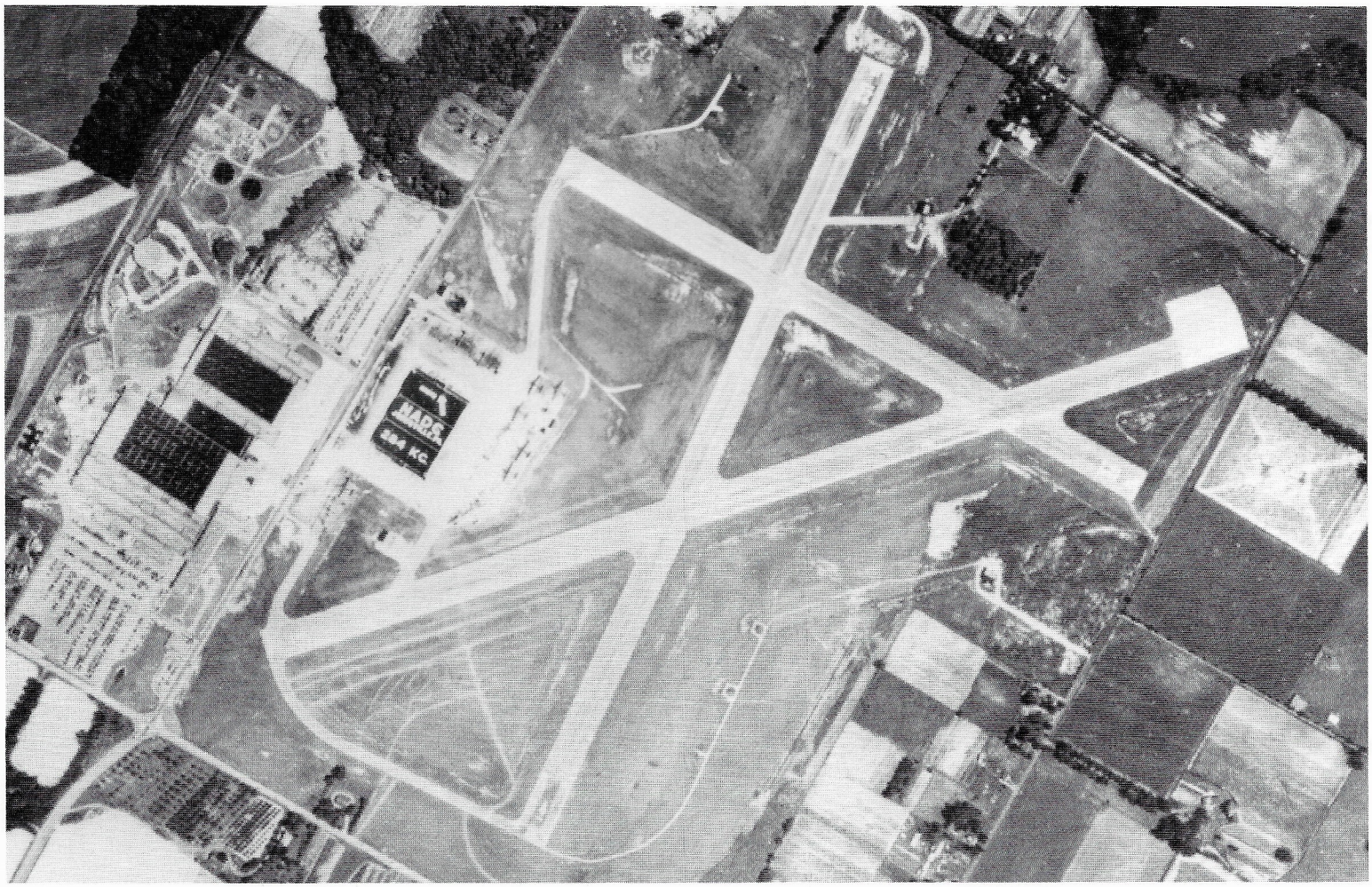
Naval Air Warfare Center
Aircraft Division
Warminster
Disestablishment Ceremony

September 30, 1996


MAPS
Mid-Am
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Program for Disestablishment Ceremony

Music

U.S. Naval Academy Band Ceremonial Unit

Arrival of Official Party

Parading of the Colors

National Anthem

Invocation

Lieutenant Commander Robert P. McClanahan, Jr.
Chaplain, NAS Patuxent River

Introductions

Captain Michael A. Cosgrove, USN
Commanding Officer, NAWCAD Warminster

Retirement Ceremony

Guest Speaker

Mr. William J. Cassidy, Jr.
Deputy Assistant Secretary of the Navy

Principal Speaker

Vice Admiral John A. Lockard
Commander, Naval Air Systems Command

Reading of Disestablishment Order

Captain Michael A. Cosgrove, USN

Benediction

Retire the Colors

Forward

In July of 1944, the United States Navy took possession of the Johnsville (Warminster), Pennsylvania Brewster Aeronautical Corporation plant. Thus began a 52 year history of the Navy in Bucks County, a history that ends today.

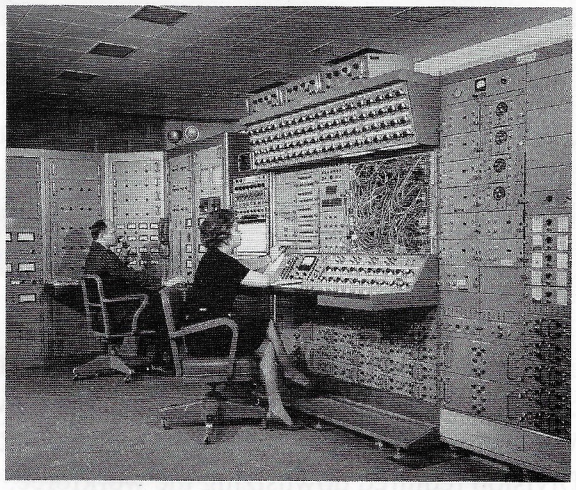
Today's disestablishment ceremony marks the closing of the Naval Air Warfare Center Aircraft Division Warminster and honors the accomplishments of the men and women, many of whom have worked their entire careers here, in service to this country.

There have been, literally, thousands of projects and programs resulting in real contributions to the Navy, the Department of Defense, foreign countries and the public. The important accomplishments of the people who have worked at the Naval Air Warfare Center Aircraft Division Warminster, and its previous incarnations, are the legacy that form the history we celebrate today. It is impossible to highlight everything that was accomplished here. We, however, can take comfort in knowing that there is not a submarine, surface ship, aircraft or person in today's Navy that has not benefited from the dedicated efforts of the thousands of people who made this place vital to the defense of the United States and security of the World.

History

In 1941, on Bucks County farmland with sparsely placed houses, there rose a one million square foot complex that was designed to produce aircraft for the Nation's war effort. The plant, owned by the Brewster Aeronautical Corporation, was to build a new dive bomber called the Buccaneer. Problems plagued the company from the start. Delays in production caused the Navy to take immediate control of the firm. Control was given back to private management, but after a series of management changes, production lines still fell short of their goals. By 1944, the Navy cancelled all its contracts with Brewster and took over the plant.

Conversion of the production facilities moved quickly under Navy management. The Naval Air Modification Unit (NAMU) tranferred from the Philadelphia Navy Yard and opened its doors in 1944 with three laboratories and 2,200 people including 450 military members. NAMU's purpose, before the move, was to perform modifications on mass produced aircraft, bringing them up to the latest specifications. Once in Warminster, the mission was expanded to include prototype installations of improved armaments and communications equipment. In the 14 months between the time NAMU stood up in Warminster and the end of World War II, over 1,370 aircraft were experimented with, modified or repaired.



Early work at NAMU began to include converting full size aircraft into drones (radio controlled aircraft) and development of new guided missiles. Some of the drone aircraft were used during early atomic bomb testing, flying through the post-explosion mushroom cloud to collect data. More work was being concentrated in the research and development fields and with this change in work came a change of name. NAMU became the Naval Air Development Station (NADS). As other laboratories were moved to Warminster, NADS became the Naval Air Development Center (NADC) in 1949.

The original laboratories that comprised NADC were the Pilotless Aircraft Development Laboratory, the Aeronautical Electronic and Electrical Laboratory and the Aircraft Armament Laboratory. In 1950, the Aeronautical Computer Laboratory was added. This laboratory would become the home for TYPHOON, the world's largest analog computer.

By 1952, the Aviation Medical Acceleration Laboratory (AIL) became part of NADC with the dedication of the world's largest human centrifuge. In the following year, the Naval Air Material Center, Philadelphia transferred the Aeronautical Instruments Laboratory and the Aeronautical Photographic Experimental Laboratory to Warminster. The Simulation, Inertial Navigation, and Systems and Computers branches were added to the AIL in 1958. Also established that year was the Antisubmarine Warfare Laboratory which became the technology most associated with the Navy in Warminster.

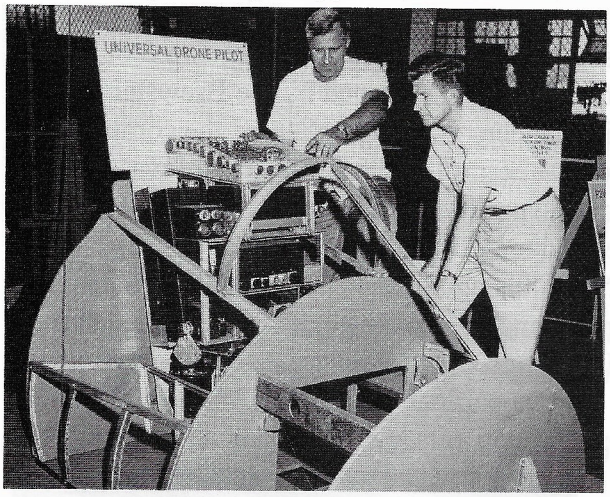
In 1967, three laboratories of the Naval Air Engineering Center, Philadelphia became departments within NADC. They were the Aero Materials, Aero Structures and Aerospace Crew Equipment Departments. In the following year a Life Science and Bio-Equipment Group was established. This group was comprised of portions of the Aerospace Medical Research Department and the Aerospace Crew Equipment Department.

The Naval Strategic Systems Navigation Facility from Brooklyn, New York moved to Warminster in 1973. The Naval Navigation Laboratory was created when it combined the navigation tasks formerly assigned to the Air Vehicle Technology and Aero Electronic Technology Departments at Warminster, .

With all the pieces in place, NADC became the Navy's principal research, development, test and evaluation laboratory for aircraft systems.

In 1975, the Technical Services Department was established. It consisted of the Engineering Shops Division, Environmental Facility Support and Standards Division, The Presentation and Information Division, and the Structural and Aircraft Fire Division. Increased workload and personnel reductions led to a reorganization in 1977. Six technical directorates were formed: Command Projects, Systems, Sensors and Avionics Technol-

ogy, Communication Navigation Technology, Software and Computer, and Aircraft and Crew Systems Technology. Engineering, Support and Administrative Groups and Planning Assessment and Resources encompassed the support functions. In addition, the Naval Air Facility was merged with the Center.

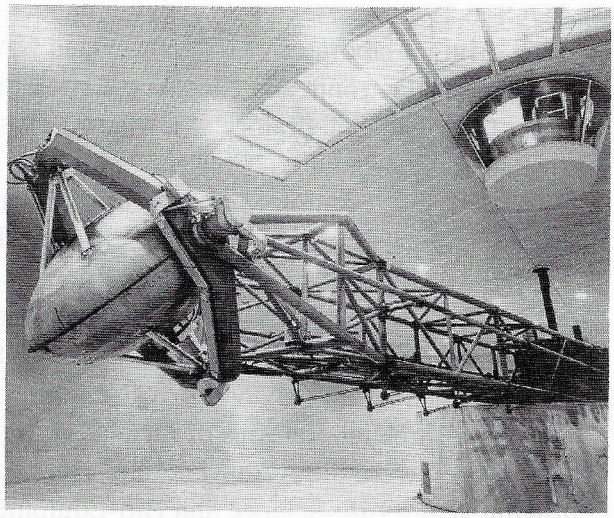


Because of the growing need for data processing and computer equipment, the Computer Department was formed in 1983 to provide general computing services and support to the Center.

In 1990, Congress established an independent commission to analyze and review base closure and realignment recommendations to be submitted by the Secretary of Defense. The Base Closure and Realignment (BRAC) Commission was responsible for making their recommendations to the President and Congress. Defense downsizing was necessitated by the changing world-wide military commitments resulting from the end of the Cold War. The Naval Air Development Center contributed greatly to winning the Cold War.

On 1 June 1991, the BRAC recommended approving the Navy's plan to realign nine Navy centers, each with its own rich history and mission, to create the Naval Air Warfare Center (NAWC). NAWC consists of two divisions: the Aircraft Division (Patuxent River, Maryland) and the Weapons Division (China Lake, California). The Naval Air Propulsion Center, Trenton, the Naval Avionics Center, Indianapolis, and the Naval Air Development Center, Warminster joined the Naval Air Test Center, Patuxent River and Naval Air Engineering Center, Lakehurst to form the Aircraft Division.

In addition to the consolidation of the Navy's R&D activities into the two Warfare Centers, the BRAC also recommended the transition of Warminster's engineering functions to Patuxent River, Maryland. This transfer effectively marked the end of the Navy's presence in Warminster, Pennsylvania. Consolidation into the Aircraft Division required downsizing the workforce. From nearly 12,000 civilians in 1990, the Aircraft Division will downsize to approimately 6,000 in FY99 excluding the Training Systems Division in Orlando, Florida.



These actions sparked an aggressive and intense planning process to complete the transition and closure of the DoD facilities in Warminster. The process impacted 2,600 DoD civilian and military personnel and approximately 4,000 contractor and peripheral employees in the Warminster area. To help the communities surrounding the base recover from the Navy's departure, a Federal Lands Reuse Authority (FLRA) was appointed by the Bucks County Commissioners to oversee the reuse process. The 829 acres, 1.2 million square feet of office, lab and hangar space, 8,000 foot runway and hundreds of buildings will, with the help of the FLRA, be used again by the community to recreate jobs.

Compounding the planning process, BRAC '95 closed the Inertial Navigation Facility, the Naval Command Control Ocean Surveillence Center RDT&E Division Detachment, and the Dynamic Flight Simulator (NAWCADWAR Crew Systems Division).

The NAWCAD Warminster Transition Team has orchestrated the mammoth relocation of mission essential equipment and project materials to Patuxent River. The Commanding Officer and Deputy Director successfully completed this massive undertaking with the cooperation of the entire workforce and the move contractor, FSEC, Inc. Over 700 moving van loads transferred 227 laboratories and 1,656 offices.

Throughout the multi-year transition, essential projects and products were delivered to the customers. A

shrinking workforce used the team concept to continue project and program work amid the whirl of move activity. To avoid downtime on the P-3 and S-3 Software Production and Development labs, a temporary software support laboratory at Patuxent River was developed to conduct parallel operations with the closing Warminster facility. Corporate operations continued throughout the transition with close coordination between the sites. The Intruder and Orion SGI computers were shipped and installed without impact on operations.

Ongoing work included the Presidential Helicopter Program. The Avionics Department continued their work on the Shared Aperture Sensor System (SASSY) throughout transition. Multiple projects continued for fleet antisubmarine warfare (ASW) systems. Crew Systems development programs continued, including: helmet system improvements and advanced helmet mounted cueing systems. Life support gear included anti-exposure survival coveralls and life preservers, advanced anti-G protection for jet aircraft pilots, performance upgrades to Chemical-Biological protective systems, and survival radio with Global Positioning System upgrades. Numerous other projects continued as Warminster management and employees ensured program milestones were met within the context of the move.

The Concept Analysis Evaluation and Planning Department supported the Joint Advanced Strike Technology (JAST) program. The Aircraft Conceptual Design Division provided products used by the JAST program office to develop their operations.

Test Wing Atlantic, Air Test and Evaluation Squadron and the Fleet continued to use the Center's Dynamic Flight Simulator for operational evaluations, experiments and equipment tests.

These and other vital projects will continue at Patuxent River with vital Warminster expertise. Successful transition and closure of the 52 year-old aviation facility at Warminster were due to a host of organizations within the Naval Air Systems Command, the NAWC, the Transition Team, employees and communities of Southeastern Pennsylvania and Southern Maryland, and the cooperation of local, state and federal entities.

Safety for the workforce and move contractors was a primary concern to the Commanding Officer throughout the move. Management queried transfer-of-function employees regarding their wishes to remain with the Aircraft Division at Patuxent River and many families faced relocation with the help of both Warminster and Patuxent River transition teams. The welfare of military and civilian employees in transition was taken into account. The Priority Placement Program facilitated future government employment for approximately 130 Warminster employees as of July 1996. Managing Change seminars were held at intervals, as well as a variety of other workshops designed to ease transition into the public sector workforce for employees who were not moving to Patuxent River.

An Employee Assistance Center operated in Warminster throughout the transition. Job search tools included the Pennsylvania Job Center computer system ALEX, the Federal Job Search database, a Career Search Report program, job announcement books, a job search library, and help updating resumes and SF-171s. The Bucks County Office of Employment and Training was established on site with the Career Transition Program Office. Counselors helped dislocated workers apply for federal retraining grant monies, unemployment compensation and a variety of services.

Transition training was implemented to phase in the Navy's new competency aligned organization (CAO) concept at the same time closure was proceeding. Employees began operating in a team environment, taking more leadership responsibility as empowered team members.

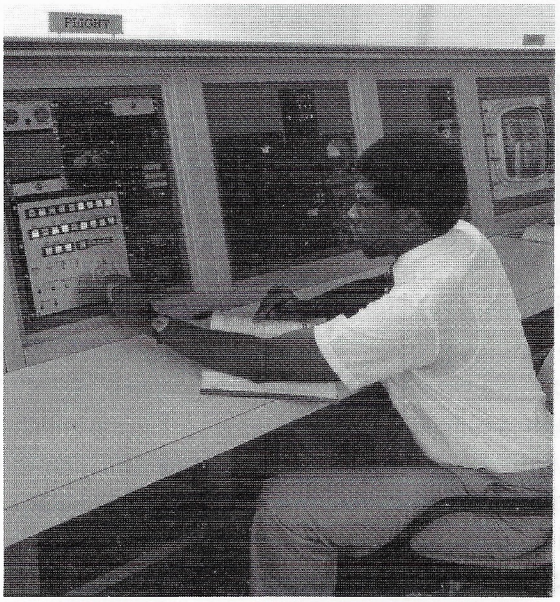
The consolidated Aircraft Division incorporates the various sites into a fully integrated, customer oriented, efficient Competency Aligned Organization responsive to the Navy's changing environment and needs. The

world-class facilities at Patuxent River Naval Air Station will provide successful consolidated operation for the Navy of the 21st century.

Accomplishments

As a full spectrum aircraft systems laboratory, Warminster has produced the cutting edge technology that has kept the United States Navy the most formidable force in the world. From the extreme pressures of the deep ocean to the vacuum of outer space, the legacy of Warminster's people and capabilities continue to make their mark. The technologies that are incorporated into the design, manufacture and support of a modern naval aircraft are diverse. Materials, structures, electronics, propulsion, aerodynamics, software, hydraulics, crew systems/life support and many more all came together "under one roof" located in Warminster, Pennsylvania.

The development of electronic sensors, called sonobuoys, that are used to detect, localize and identify hostile submarines has been Warminster's "claim to fame" since the early days of its existance. These sensors are designed to measure such things as noise, temperature, ocean current speed, magnetic signature, etc. Today, the scientists and engineers who are transferring to Patuxent River are investigating the use of lasers as an improved means of locating submarines deep in the ocean.



The sensors can not operate without the transmitters and receivers. This equipment moves the information that is generated by the sensors to the recorders aboard Navy aircraft. These transmitters, receivers and recorders are specially designed to capture the detailed data that helps the U.S. Navy accomplish its antisubmarine warfare mission. Most, if not all, of this equipment had its origins in the labs and work spaces of the Naval Air Warfare Center Aircraft Division Warminster. Scientists, engineers and technicians brought their expertise to bear on the problems and challenges of detecting deeply submerged submarines. Their efforts, over the years, were key to keeping the Navy in the lead for the "battle" to protect the World's oceans.

The platforms that carried the sensors were also closely linked to Warminster. In particular, the P-3 Orion aircraft. It was here that all of the major innovations to that weapon system were developed, installed and tested. As the threats under the ocean became quieter and dove deeper, the people at Warminster met the challenge by incorporating advanced computer technology into the airframe, developing more sophisticated detection equipment, and constantly updated software for the computer systems.

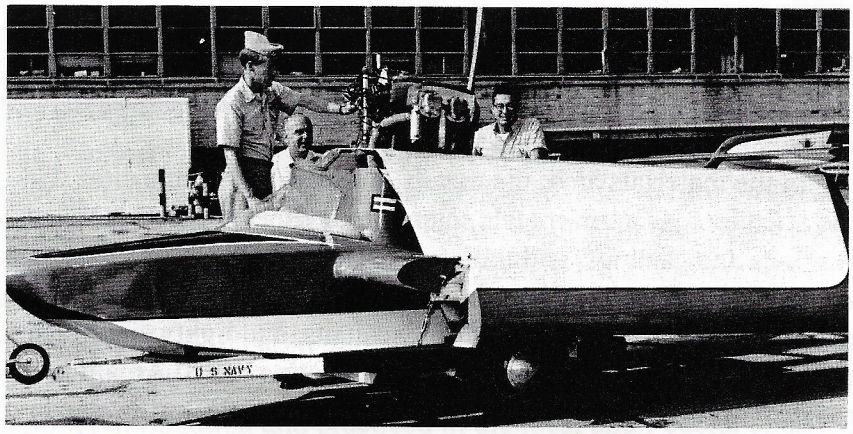
The aviation innovations that were born in Warminster have made the U.S. Navy's aircraft the world's most advanced. Innovations like the Phoenix missile system that can track 27 different targets and select the six that are the most threatening for destruction were conceived here. The Tactical Air Reconnaissance Pod System (TARPS) was designed, built, and tested by a team of Warminster engineers and technicians. This system allowed a tactical aircraft to be converted into a reconnaissance platform by attaching a self-contained photographic pod to the belly of an F-14 Tomcat. The results of this effort were so impressive that the concept was adapted for fleet use. A spinoff of the TARPS was a "palletized" camera system that was able to convert an F/A-18 into a reconnaissance aircraft by replacing the forward gun.

Aircrew protection has been one of the paramount missions of the talented people working in Warminster. Whether they were developing new fire resistant flight suits, advanced helmets, anti-exposure suits or life rafts, the crew systems people were always in close working relationships with the sailors and officers of the Navy. Many Navy people volunteered for the sometimes hazardous duty of being a test subject. Some floated in

freezing cold water to evaluate anti-exposure suits. Others were strapped into ejection seats for a short but fast ride up the tower. These rides helped make escapes from high-performance aircraft safer. Some of the volunteers spent time spinning around in the Dynamic Flight Simulator (DFS). It was in this facility that the original astronauts trained and some of the challenges of the X-15 rocket plane were conquered. The DFS has been used to explore a pilot's reaction to high G induced blackout and research has led to the development of anti-G suits, and straining techniques used by aircrew members to help delay blood loss from the brain. Civilians also served as test subjects. Recently women were recruited to help establish criteria for female pilots who fly high performance aircraft. Using data gathered from these tests, the Navy can modify escape systems and control panels to accommodate male and female pilots of smaller stature.

Other accomplishments in the life support disciplines include development of an on-board oxygen generator system for the AV-8 Harrier aircraft, a single person life raft, special goggles and visors that protect against laser light and NOMEX fire resistant material.

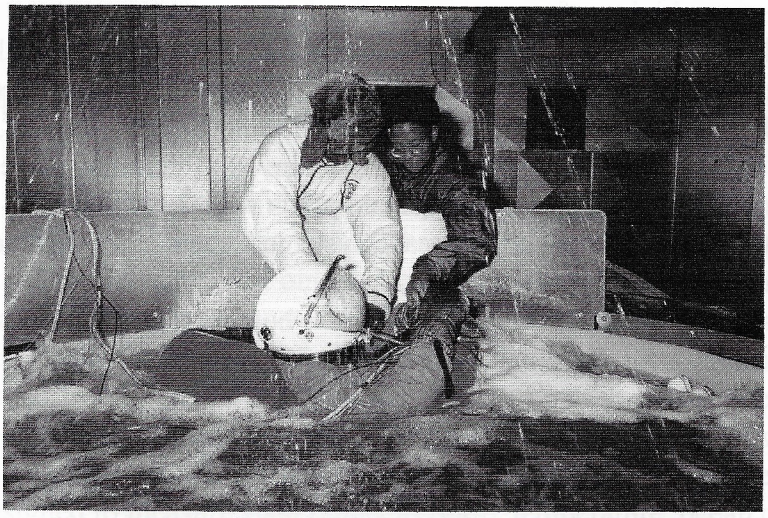
Some of the concepts that were developed at NAWCAD Warminster bordered on the fantastic. For instance, imagine an ejection seat that turned into a mini helicopter or fixed wing aircraft that could fly at 100 knots and carry a pilot safely back to areas away from the enemy. Just such an idea was pursued. It was called Aerocab. Several mockups were built that looked like small, one-person, helicopters. Another idea that actually flew was the X-28A. It was a small, one-person seaplane with folding wings that could be transported on a car trailer. The plane was flight tested in the Delaware River and evaluated for use in South East Asia. A captured air bubble vehicle was designed and tested. This Navy Warminster idea could go two to three times faster than an ordinary boat because it traveled on a cushion of air. The captured air bubble vehicle development led to the large-scale use of hovercraft by the Navy and Marine Corps.



The future of Naval aviation was never far away at NAWCAD Warminster. In the early 50's the first autopilot for a helicopter was designed and flight tested here. Projects that explored amazing technology were always being worked on in the labs, such as the flight helmet mounted displays that projected images of the aircraft's instruments into a pilot's eye. Systems that allow the pilot to control the aircraft's weapons just by looking at the control panel were developed. Automatic landing equipment that could guide an aircraft onto a carrier deck or runway without the pilot touching the controls was demonstrated. A Ski-Jump ramp to decrease the takeoff distance of aircraft was investigated and tested. This ramp, patterned after the ramp used by the British Navy to launch their Harrier aircraft from their aircraft carriers, was built at the Naval Air Test Center (now NAWCAD Patuxent River). Actual flight tests show a 66 percent decrease in takeoff distance could be achieved with such aircraft as the F-14, F/A-18 and T-2.

Challenges in the search for new technologies, and better solutions were the things that drove the people at Warminster. An inflatable head restraint system for pilots was conceived in the mid-sixties that preceeded the airbag technology that we all find in today's cars. Fire suppression devices for Marine Corps amphibious and cargo vehicles were created. Heads-up display technology was pioneered and demonstrated. Virtual reality was used in the late 60's in the human centrifuge. A motion picture of the outside world was projected inside the gondola to give test subjects a more realistic feeling of actual flight. Cameras for high altitude rockets were also developed.

The variety of projects worked on at Warminster was astounding. The effects of air combat on aircrew members were measured by Warminster researchers stationed on aircraft carriers during the Vietnam War. Changes in blood chemistry were recorded and used as a way of determining how fast a person could recover from the effects of stress. Radomes, the nose cones and other coverings that protect radars and other sensors,



were a big product line. Warminster was the organization possessing the most technical knowledge about the effects of rain erosion, thermal shock and materials. Low-light level viewing systems were explored as a means of detecting snorkels, periscopes and surface targets at night.

Command, Control and Communications have been vital pieces of the work accomplished at Warminster. Over the years systems were conceived that allowed for the total integration of all three military services during a conflict. A successful system for tying in the assets of a carrier battle group was designed, tested, produced and fielded by the Warminster employees. Called the Carrier-based Antisubmarine Warfare Module (CV-ASWM), it coordinated the ships and aircraft via data links and computers, increasing protection of the battle group. A Warminster Team actually installed these systems on aircraft carriers as they were undergoing service life extension maintenance.

In the materials area, the metals, plastics, and composites with which aircraft and equipment are made drew the attention of Warminster's scientists, engineers and technicians. They studied the atomic structures of forgings and castings, and the paint used to protect aircraft. Thousands of paint and coating samples were tested under real and simulated environmental conditions to sort out which would best protect the Navy's aviation equipment. Lubricants, thin films, sealants, and lightweight composites were researched, developed and introduced to the Fleet. A water-displacing coating called Amalguard was developed for use in a marine environment. This coating could be applied to an aircraft's surface and protect the exposed metal even though saltwater was present.

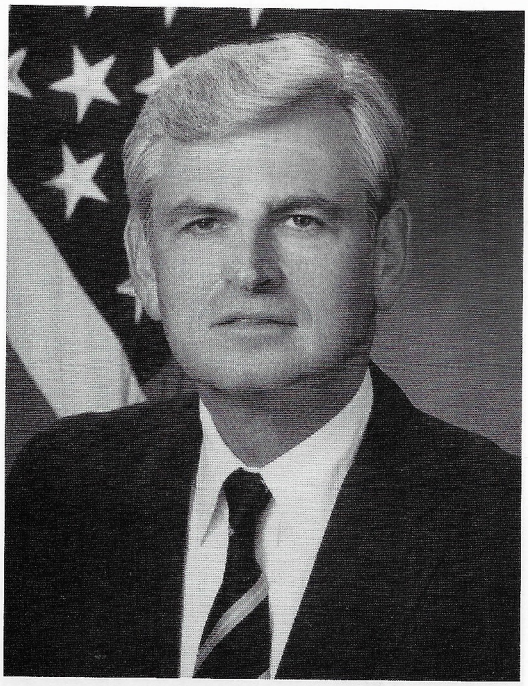
To help helicopter crewmembers escape, special lighting systems were developed and introduced to the Fleet. These lighting systems, placed around the escape windows and doors made it easy to find the exits especially if the helicopter was underwater, turned upside down in the dark of night. Seats were also designed and tested with shock absorption devices to increase the survivability of helicopter accidents.

Getting from place to place with precision is important to the Navy and the people at Warminster were the prime developers of equipment to help do that. Systems were developed that let nuclear submarines stay underwater without having to surface for position fixes. Ring laser gyroscopes were tested for use in aircraft, surface ships and submarines. This work was accomplished in the unique environment of the Inertial Navigation Facility. Much of the technology that is part of the Global Positioning Satellite network was created by the navigation personnel. Today, because of the work accomplished here, a person can have a handheld receiver that provides extremely accurate positioning data for use in recreational boating, camping and car trips. Another part of the navigation technology involved the display maps and other guidance data. Full color, digital moving maps for tactical aircraft were explored in the Center's laboratories and demonstrated on the Aerial Combat Simulator. We will be seeing some of this amazing technology in our cars in the not too distant future.

Helping a pilot see at night or through fog and smoke is important. Night vision goggles, able to amplify star light, originated in the labs at Warminster.

Today we mark a significant point in the history of aviation research, development, test and evaluation for the Navy. It is, indeed, a closure, but not an end. The people and the mission will continue. There is a vital requirement for the products that are being developed, now and in the future. While that future is not where we stand today, we can be proud of our accomplishments and look forward with optimism to the challenges and achievements yet to come.

William J. Cassidy, Jr., Deputy Assistant Secretary of the Navy



President Clinton appointed William J. Cassidy, Jr. as Deputy Assistant Secretary of the Navy in January 1994. Mr. Cassidy is responsible for issues arising out of the closure of Naval and Marine Corps bases and their conversion for redevelopment for other uses.

Mr. Cassidy was born and raised in Philadelphia, Pennsylvania. He is the son of Dr. and Mrs. William Cassidy of Huntington Valley, Pennsylvania.

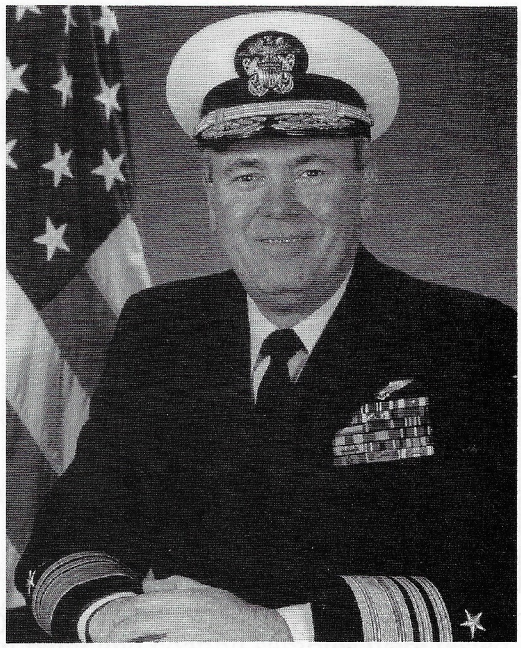
Mr. Cassidy graduated from LaSalle High School in Philadelphia in 1964. He received his Bachelor of Arts degree, cum laude, from Georgetown University in 1968. He received his law degree from Georgetown University, where he was editor of the law review, in 1974.

Mr. Cassidy served in the United States Navy as a line officer from 1969 to 1972. After commissioning at U.S. Navy Officer Candidate School in Newport, Rhode Island, Mr. Cassidy served aboard the Destroyer USS ROBERT H. McCARD (DD-822) as Deck Division Officer, Gunnery Officer and Communications Officer.

After graduation from law school, Mr. Cassidy served for one year from 1974 to 1975 as Law Clerk to then Chief Judge George L. Hart, Jr. of the United States District Court for the District of Columbia. From 1975 to 1978, Mr. Cassidy served as an Assistant United States Attorney for the District of Columbia, where he prosecuted criminal cases in trial and appellate courts of the District of Columbia and represented cabinet-level officers of the Federal government in civil appellate cases. Mr. Cassidy joined the Washington law firm of Hogan & Hartson in 1979 and was elected a partner in 1982. While in the private practice of law, he was engaged in a broad range of civil litigation and practiced in the local and Federal courts in the District of Columbia and throughout the country until his appointment to the Department of the Navy.

Recently, Mr. Cassidy was responsible for the conveyance of the island of Kaho'olawe from the United States to the State of Hawaii and the conveyance of Naval Station Mobile to the State of Alabama, and the transfer of the Midway Islands from the Navy to the Department of the Interior. He also represents the Department of Defense on the White House Interagency Working Group on Puerto Rico.

John A. Lockard, Vice Admiral, U.S. Navy, Commander, Naval Air Systems Command



Vice Admiral Lockard was born in Mobile and raised in Chickasaw, Alabama. After two years at East Central Junior College in Decatur, Mississippi, he joined the Navy's Naval Aviation Cadet Program. He began flight training in June 1964, graduating from NAS Kingsville in February 1966.

He reported to VA-125, NAS Lemoore for A-4 Replacement Pilot Training followed by his first operational assignment with VA-112, completing to WESTPAC combat cruises aboard USS KITTY HAWK (CV-63). He was Attack Weapons Project Officer for 18 months at NAF China Lake prior to earning his Bachelor of Science degree in Aeronautical Engineering from Naval Postgraduate School, Monterey in 1971. After completing A-7 transition training with VA-125, NAS Lemoore, he was assigned to VA-215 where he completed his third combat WESTPAC cruise aboard USS ORISKANY (CV-34) and logged his 322nd combat mission. In 1974 he attended the Command and Staff course at the Naval War College, Newport. After graduation he served with the F/A-18 Class Desk, Naval Air Systems Command (NAVAIRSYSCOM) until June 1978 when he reported as Executive Officer, VA-25 in March 1979 and assumed command of the "First of the Fleet" in July 1980. Following his command tour, he reported to COMNAVAIRPAC Staff as the Light Attack Training Officer. In September 1982 he moved back to NAS Lemoore for F/A-18 transition and assumed command of the "Rough Raiders" in October 1983. He detached in December 1984 and reported as Executive Officer USS CORAL SEA (CV-43) where he served during the Libyan Operations of April 1986. He transferred back to NAVAIRSYSCOM in August 1986 serving as the F/A-18 Program Manager until June 1990 when he assumed duties as the Assistant Commander for Systems and Engineering. In January 1991 he was assigned to the Assistant Secretary of the Navy for Research, Development and Acquisition as the Program Executive Officer for Tactical Aircraft Programs. In March 1995 he assumed command of the Naval Air Systems Command.

Vice Admiral Lockard's decorations include two Legions of Merit, Distinguished Flying Cross, two Meritorious Service Medals, 30 Strike/Flight Air Medals, two Navy Commendation Medals with Combat "V," Navy Achievement Medal, Presidential Unit Citation, Navy Unit Commendation, Meritorious Unit Commendation and the Vietnamese Cross for Gallantry.

Vice Admiral Lockard is married to the former Peggy Cantrell of Santa Rosa, California. They have four children, daughters Denise, Karen and Kelly and a son, John.

Michael A. Cosgrove, Captain, U.S. Navy, Commanding Officer, Naval Air Warfare Center Aircraft Division Warminster

Captain Cosgrove was born in Madrid, Spain on 10 April 1948. He graduated from the U.S. Naval Academy (1970) and received his Master of Science Degree in Systems Technology (Antisubmarine Warfare) from the U.S. Naval Postgraduate School in 1978. He is also a graduate of the Navy Test Pilot School (1981), Naval College of Command and Staff (1985) with a Master of Arts Degree in Security and Strategic Studies and the Defense Systems Management College (1987).

Upon being commissioned an Ensign in June 1970, Captain Cosgrove directly entered the flight training program and was designated a naval aviator in 1971. Ordered to Helicopter Antisubmarine Squadron TWO, Captain Cosgrove deployed aboard the USS TICONDEROGA (CVS-14) and the USS ENTERPRISE (CVAN-65) where he served as ASW Officer then as Quality Assurance Officer. During this period, he participated in the Evacuation of Americans from Saigon, South Vietnam.

Following graduate school, Captain Cosgrove was ordered to Helicopter Antisubmarine Squadron FOUR and made deployments to the Western Pacific aboard the USS RANGER (CV-61) and the USS KITTY HAWK (CV-63). During these cruises he was credited with two successful rescues at sea.

Upon completion of this second sea tour, Captain Cosgrove was selected for and graduated from the U.S. Navy Test Pilot School (Class of 1980). He was subsequently the Sea Control Department Head at the Rotary Wing Aircraft Test Directorate involved in technical testing of several new aircraft modifications including LAMPS MKIII.

In July 1985, Captain Cosgrove reported to the Naval Air Systems Command Headquarters where he served as the Deputy Program Manager for the H-3 Helicopter (PMA-274). During this period, he was designated a proven subspecialist in systems acquisition and was selected for designation as an Aerospace Engineering Duty Officer.

In January 1989, Captain Cosgrove assumed the duties of the Program Manager for the A-4, T-2, H-1, and H-3 aircraft (PMA-225). This position was followed by a tour at the Naval Air Test Center as the Director of the Systems Engineering Test Directorate. In 1992 he became the Commanding Officer of the Defense Plant Representative Office, Sikorsky Aircraft, involved in flight test acceptance of over 120 aircraft a year. He assumed his present duties as Commanding Officer, Naval Air Warfare Center Aircraft Division Warminster in May 1995.

Captain Cosgrove wears the following decorations: Defense Meritorious Service Medal, Navy Meritorious Service Medal with Gold Star, Navy Commendation Medal, Navy Unit Commendation Ribbon, Meritorious Unit Commendation Medal, National Defense Medal, Armed Forces Expeditionary Medal, Navy Humanitarian Award, and Sea Service Ribbon. He has flown over 3800 hours in 26 different helicopters and fixed wing aircraft.

Captain Cosgrove is married to the former Rhea Frances Wolfendon and they have three sons: Michael, William and Joseph.

Dana B. McKinney, Rear Admiral, U.S. Navy, Commander, Naval Air Warfare Center Aircraft Division

Rear Admiral Dana B. McKinney was born in Oakland, California, on 20 March 1947. A graduate of the University of California at Berkeley, he received his commission as a naval officer through the Naval Reserve Officers Training Corps program in June 1969. He was designated a naval aviator upon completion of flight training in January 1971.

Rear Admiral McKinney spent the next 15 years as an EA-6B pilot in training and operational billets, making extended deployments to both Sixth and Seventh Fleet carrier battle groups to the Mediterranean, Western Pacific, and Indian Ocean theaters of operation. During this period, he amassed more than 3,000 flight hours and 1,000 carrier landings in the "Prowler" and was selected as the 1981 Pacific Fleet Carrier Pilot of the Year. His Operational career culminated in command of the VAQ-136 "Guantlets," providing offensive information warfare and air defense suppression for Carrier Group FIVE and the 1st Marine Air Wing, forward deployed to Japan.

In 1987, then Commander McKinney reported to the Naval Air Systems Command Headquarters in his first "acquisition professional" assignment in the A-6/EA-6 Program Office. During the next 3 years, he was assigned as Deputy Program Manager first for A-6, and later the EA-6B, leading to his selection as Major Program Manager for A-6/EA-6 (PMA-234) in May 1990. He served in this capacity, managing two major aircraft acquisition programs, until he assumed the rank of Rear Admiral (Lower Half) in November 1993.

Rear Admiral McKinney commanded the Naval Air Warfare Center Weapons Division from December 1993 to July 1996, and was additionally assigned as the Assistant Commander for Test and Evaluation, Naval Air Systems Command from October 1994 to July 1996. He was assigned as the Assistant Commander for Research and Engineering, Naval Air Systems Command, in July 1996 and as the Commander, Naval Air Warfare Center Aircraft Division in August 1996.

Rear Admiral McKinney holds a Master of Science in Operations Research from the Naval Postgraduate School and is a 1987 graduate of the Defense Systems Management College.

His decorations include the Legion of Merit (two awards), Meritorious Service Medal, and Air Medal (Individual Award).

Rear Admiral McKinney is married to the former Anne Elizabeth Shade of Erie, Pennsylvania, a Navy Commander. Commander McKinney is assigned to the Joint Chiefs of Staff, Pentagon, Washington, D.C.

Commanding Officers

There have been twenty-two Commanding Officers tasked with overseeing the diverse Naval Air Warfare Center Aircraft Division Warminster. Each had their own unique style of management but each also was dedicated to assuring that the mission of the Center was carried out with maximum return to the citizens of this country and the men and women of the United States Navy.

Captain J. A. Haley, USN
May 54 - Aug 56

Captain R. S. Barnaby, USN
Jul 43 - Nov 46

Rear Admiral S. B. Spangler, USN
Jul 50 - Aug 51

Captain E. E. Fawkes, USN
Aug 56 - Aug 59

Captain C. E. Kirkbride, USNR
Nov 46 - Jul 47

Captain R. S. Hatcher, USN
Oct 51 - Mar 53

Captain H. L. Leon, USN
Sep 59 - Aug 62

Captain E. W. Rounds, USN
Jul 47 - Jun 50

Captain C J. Pfingstag, USN
Mar 53 - May 54

Captain A. E. Paddock, USN
Aug 62 - Jul 65

Captain Benjes, Jr., USN
Jul 65 - Aug 66

Captain G. M. Yowell, USN
Jun 74 - Jun 76

Captain E. J. Sturm, USN
Jul 84 - Jul 87

Captain B. L. Towle, USN
Aug 66 - Oct 68

Captain C M. Rigsbee, USN
Jun 76 - Jun 79

Captain C. J. Winters, USN
Jul 87 - Jun 91

Captain F. W. Ewald, USN
Oct 68 - Jul 71

Captain P. L. Dudley, Jr., USN
Jun 79 - Aug 81

Captain W. L. McCracken, USN
Jun 91 - May 95

Captain H. B. McCaulley, USN
Jul 71 - Jun 74

Captain J. B. Anderson, USN
Aug 81 - Jul 84

Captain M. A. Cosgrove, USN
May 95 - Sep 96

Center Men Claim Acceleration Record

Much Higher Speeds Possible With New Techniques, Say Recordbreakers

On Wednesday, July 30, a new record for endurance of acceleration forces was established at the Naval Air Development Center, Johnsville.

LT Collins

On that day LT Carter C. Collins of the Aviation Medical Acceleration Laboratory became the first human to exceed 20 G's and on the following day R. Flanigan Gray of the Biophysics Division, AMAL, duplicated Collins' feat.

Collins and Gray rode the centrifuge in the acceleration lab in a simulated high angle drag reentry from oribtal velocity. Duration of the acceleration was 54 seconds, and the peak of 20.7 G's was sustained for 6⅓ seconds.

At this point Collins said he weighed more than 3,400 pounds.

Old Record

The old record had been approximately 17G's, experienced by a pair of "volunteers" during German experiments in World War II.

The greatest acceleration ever produced on a human at Johnsville prior to these most recent tests was the 15 G's experienced by a number of subjects in 1954.

More tests are planned in the near future at Johnsville which will take human subjects to much higher levels of acceleration. "We feel our record will soon be broken," said Collins.

Support Important

Support to the body is extremely important in combating the effects of acceleration. Collins and Gray rode in a specially constructed contour couch designed and built by the National Advisory Committee for Aeronautics. The rigid moulded couch is covered with a thin layer of foam plastic.

The tests, which have been in progress at Johnsville for over a year, are being conducted as part of a program to determine the physiological limits of man to accelerations which will be encountered in space vehicles.

The tests are not part of the X-15 project, which will attempt to put a manned vehicle into space. In the tests in which Collins and Gray participated, the centrifuge simulated reentry of a drag type vehicle; that is, an aircraft with attitude controls but no wings.

Emergency Conditions

The high G-patterns being simulated in the centrifuge may only be associated with emergency conditions during exit from or entry into the atmosphere. The results of the tests, however, are used by engineers who will design the space vehicles and associated escape equipment.

It has been determined from tests so far that with training man can learn to breathe and strain (perform the modified Valsalva manoeuver) in order to maintain consciousness and vision. He can even become so indoctrinated at these high levels of acceleration as to perform certain tasks.

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The G-Men Of Johnsville

LT Carter Collins, the first man on the face of the earth (as far as is known) to exceed 20 G's of acceleration and tell about it is a native of San Francisco and drives a white Jaguar XK-120.

He has been at the NADEVCEN since February of 1956 and will soon be named Head of the Flight Simulation Division of the Aviation Medical Acceleration Lab.

He is currently on leave of absence from the University of California Medical Center where he was Administrator of the Research and Development Lab. He has delivered lectures all over the country on medical, electrical and human engineering.

Collins lives in Bridge Valley. He owns a private pilot's lience and is a qualified skin-diver.

What did it feel like at the height of acceleration? "Like a hundred people sitting on my chest. Had to breathe real shallow."

R. Flanigan Gray, a psychologist in the Biophysics Division of AMAL, lives in Levittown and has been at Johnsville for close to eight years, developing techniques to extend man's tolerance of G-forces.

His major contribution has been a water capsule, known

(Continued on Page 3)

Phantom Strikes No More

Which way did he go? The phantom, that is.

The mysterious character who had NADEVCEN personnel looking over their shoulders, and speculating and who was responsible for so many wild rumors a couple of weeks ago has apparently taken a powder.

He (or she or it) also caused the Marine detachment, among others, to lose a lot of sleep.

The rumors about the scuffle with the marine and the firing of a shot are all true. Coming off second best in these encounters did not fit into the Phantom's plans, however, and no depredations have been reported in the past several weeks.

The Johnsville Reflector

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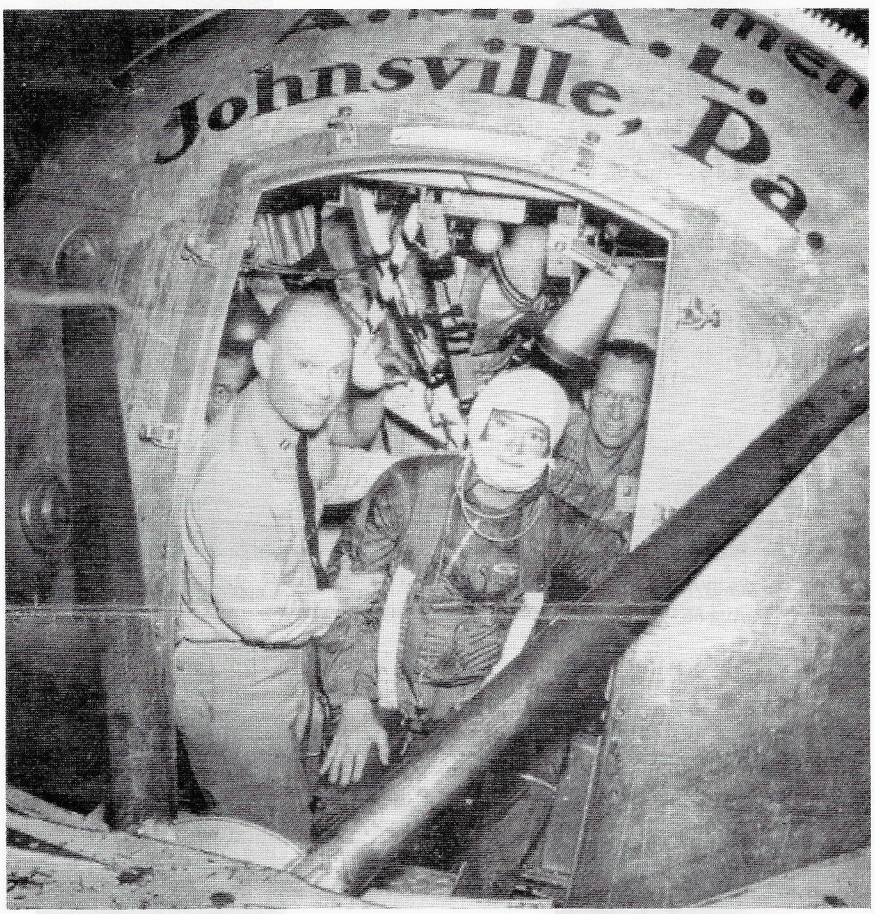
U. S. NAVAL AIR DEVELOPMENT CENTER, JOHNSVILLE, PA.



LIEUTENANT CARTER COLLINS, AMAL, first human to exceed 20 Gs for more than a fraction of a second, helps R. Flanigan Gray, co-worker in the field of high acceleration, from gondola of centrifuge at Johnsville after he had duplicated Collins' feat in simulated reentry of the earth's atmosphere from orbital velocity recently. Peak 20.7 G's was reached and sustained for 6⅓ seconds and Collins and Gray were none the worse for their experience. Using techniques they learned in these tests, they expect to be able to withstand and perform tasks at much higher accelerations..

Marines Move Out

Change To Civilian Guards Will Commence In September

Starting 1 September civilians will begin to assume perimeter guard responsibilities at NADMC, Johnsville, it was announced recently by the Industrial Relations Department.

According to the plans, a civilian force of 31 guards will work with the Marine detachment through the month of September, taking full responsibility at the end of the month, by which time the marines will have left for new duty assignments.

Civilians performed perimeter security duties until 1948, when the Third Guard Platoon took over. The change back to civilians has been contemplated for over a year.

Needed Elsewhere

Given as the reason for the switch to civilian guards was the need for Marines as guards elsewhere.

Positions with the new guard force are restricted to veterans. interested in NADEVCEN personnel will be given first crack at the jobs and applications are being taken by IRD. Applicants who are career employees at other government activities are also being interviewed.

No difficulty in filling the guard force is anticipated, although the Civil Service examination for the force is now closed. The Civil Service register will be consulted if there are not enough applicants from Johnsville and other facilities.

Adequate Pool

IRD has assured Security, to which department the force will be assigned, that the Civil Service

(Continued on Page 2)

Captain Gulick Replaces Powell

The NADEVCEN'S new Comptroller and Executive Assistant to the Commanding Officer is CAPT R. A. Gulick, an Ohioan who reported aboard from BUAER.

Captain Gulick took over in July replacing CDR William O. Powell, who was transferred to BUAER as Program and Budget Officer for Research and Development.

Born in Akron, Captain Gulick now calls Newark, Ohio, his home. Before reporting to Johnsville he served as Assistant Comptroller for Plans and Policy at BUAER.

He lives with his wife and three children in Quarters "F," Johnsville.

Started In '35

Captain Gulick entered the Naval Academy in 1935 and received his commission four years later. After a hitch aboard the USS Minneapolis, he went to Pensacola, re-

(Continued on Page 4)

The Naval Air Warfare Center was founded during World War II when the Navy purchased the Brewster Aeronautical Corp. factory and airfield on Jacksonville Road in Warminster. In this 1944 photo, Corsair aircraft with British markings await testing.

Marking 50 years at NAWC

Base at aviation's forefront from World War II to Space Age

By Edward Levenson
Staff Writer

When Paul Oliveri was transferred from the Midwest to the forerunner of today's Naval Air Warfare Center in Warminster, he had one slight problem.

He couldn't find the place.

"I came up on the train. I thought I was back in Kansas," recalled Oliveri, a 22-year-old sailor when the transfer went through in 1944. "It was in the prairie. Street Road was a two-lane highway. There were cornfields all over the place."

Eventually he found a pay phone, called for directions and reached his destination.

Oliveri, now 72, has been there ever since. He's an electronics technician who lives in Warminster and is one of the longest-serving employees on the base.

The NAWC celebrates its 50th anniversary with a dinner-dance this evening at which 500 people are expected and a daylong family picnic Saturday that should attract more than 1,400. Both are open to the public.

But the celebration is a poignant affair. The Defense Department has targeted the base for relocation to Maryland in 1996. Some employees have taken early retirement, others are deciding whether to move to Maryland or stay here and pursue new careers.

"We've planned it like a college reunion," said Capt. William L. McCracken, base commander. "It's bittersweet when you go back to college. You remember those four great years."

McCracken said the center has been a leader in technological innovations over the past five decades.

Some of its many accomplishments include enchanced airplane communications, sophisticated navigation aids for planes, ships and submarines; one-coat paints that eliminate the need for primer and night-vision goggles that enable pilots to see in the dark.

For Oliveri, the 50th anniversary marks his entire adult worklife.

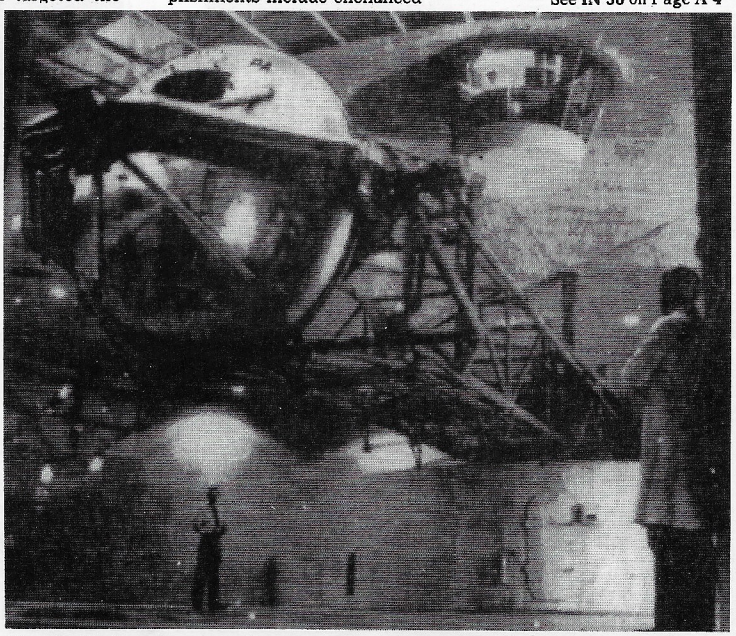
The base traces its origin to July 1944, when the Navy acquired the Brewster Aeronautical Corp.'s aircraft factory, airfield and hangars on Jacksonville Road.

See IN 50 on Page A 4

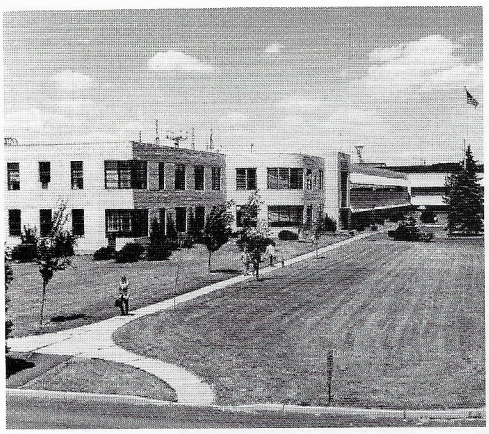
I thought I was back in Kansas. It was in the prairie. Street Road was a two-lane highway. There were cornfields all over the place.
Paul Oliveri

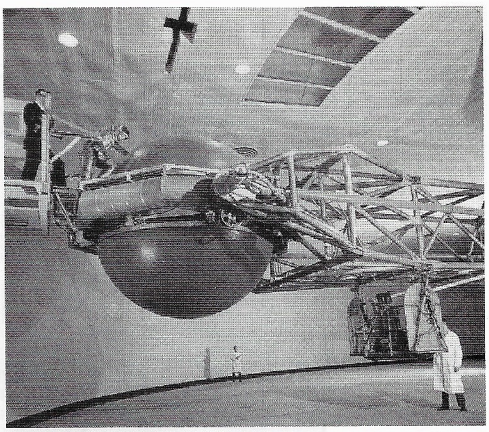
NAWC
Aircraft Division
NAVAL AIR WARFARE CENTER

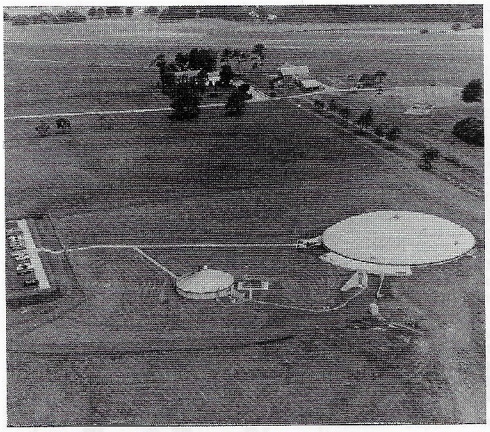
The end of an era

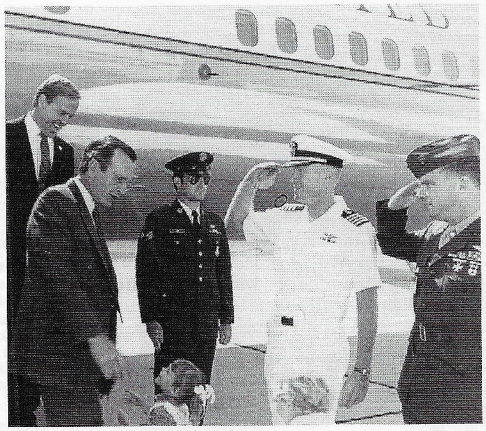


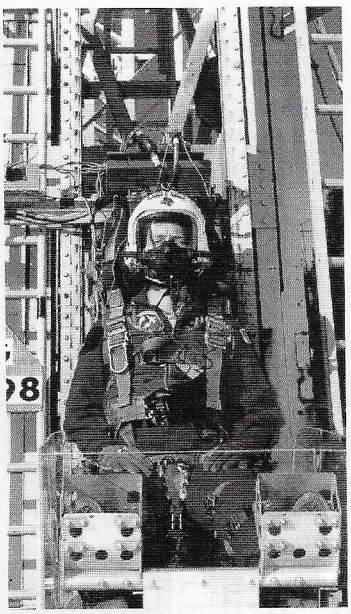
Naval Air Development Center employees monitor the centrifuge, a device used in testing aviators' reactions to rapid acceleration.



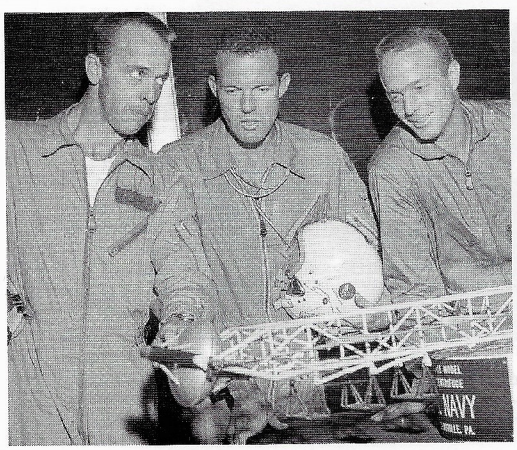


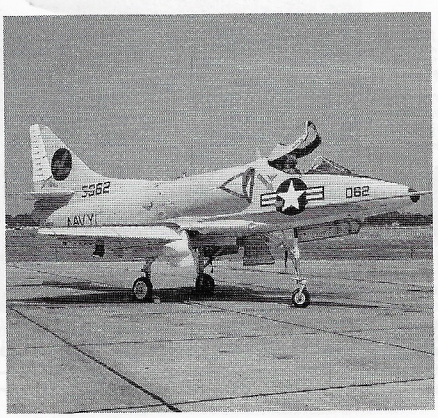






Celebrate the Journey



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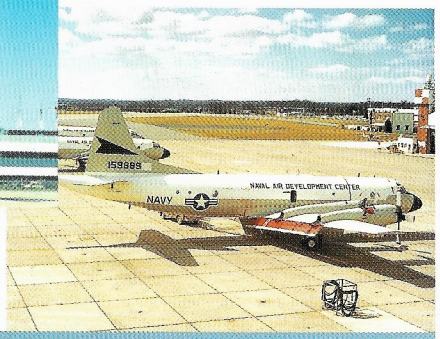
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WARMINSTER, PENNSYLVANIA
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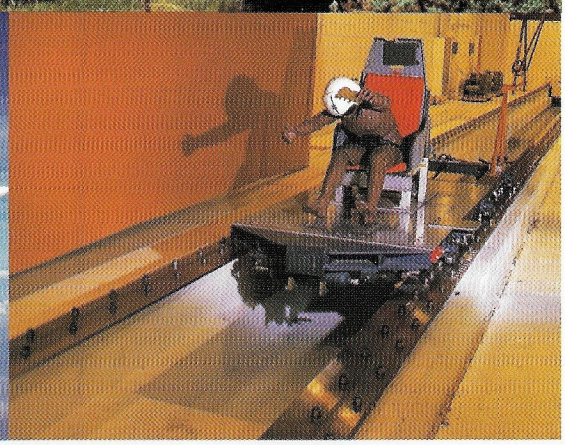

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