

- CAPT H. G. Chalkley, USN, assumed command on 22 June 1984.
- CDR C. S. Park, Jr., USN, relieved CDR R. S. Bondi as Executive Officer in August 1984.
- Conducted tests for the F404-GE-400 Component Improvement Program.
- Evaluated the F404 Fuel System using the closed loop test facility.
- Tested rotors from F404 and J52 engines in the Rotor Spin Facility to evaluate Naval Air Rework Facility (NARF) developed blade repair techniques.
- A major facilities expansion and modernization program in SETA to provide the dual test cell capability requested by the Joint Cruise Missiles Project Office was completed. Dedication of the new 3W test cell and control room was held in April 1984. The project provided the Center with its most modern and advanced test cell and control room.
- The Hot Gas Facility (HGF) was completed and is used for the testing of materials, combustors and fuels. The equipment comprising the facility is capable of reproducing the temperatures and pressures seen at the inlet of the combustor of an operating jet engine. Here, testing under controlled conditions helps develop new components and materials to increase the life, performance and efficiency of future engines.

1985

- CDR C. L. Butler, USN, relieved CDR C. S. Park, Jr., USN, as Executive Officer in June.
- Completed efforts for F404 second source procurement.
- Initiated testing of the F110 engine for use in the F-14D aircraft.
- Evaluated SH-60 transmission and tail rotor couplings in the Center's unique Transmission Test Facility, the only facility in the nation capable of evaluating the reliability of complete helicopter drive systems under simulated mission operation. The facility capacity is 8000 HP and was installed in what was formerly the exhaust stack for the original 3W Turboprop Cell.
- The Gyro Test Stand at OTS was activated and spin test were performed for the F109 engine scheduled to power the Air Force T-46 Trainer.
- Modification of the 4W test cell in SETA was completed for the testing of the T56-A-427 turboshaft engine, enabling the power output of the engine to be measured through the use of a water brake/dynamometer connected to the engine's output shaft.

1986-87

- CAPT F. K. Helmsin, USN, assumed command on 19 June 1986.
- CDR D. B. Rainsberger, USN, relieved CDR C. L. Butler, USN, as Executive Officer in April 1987.

1988-89

- CAPT C. S. Park, Jr., USN, assumed command on 12 August.
- CDR M. J. Dougherty, USN, relieved CDR D. B. Rainsberger, USN, in June 1989.
- Altitude and Sea Level Assurance testing was performed to evaluate the performance of hybrid F404 engines (50/50 mix of P&W and GE parts) to demonstrate interchangeability.
- Successfully completed Corrosion Susceptibility testing on T56-A-427 engine, clearing the engine for production release.
- Completed Environmental Icing testing of T406 engine.
- Successfully accomplished the qualification substantiation phase of the uprated Tomahawk SLCM propulsion system (F107-WR-402).

- Successfully completed a 750-hour Simulated Mission Endurance Test (SMET) to evaluate improved durability of the H-3 drive system at 2700 shaft horsepower (SHP) missions. As a result of this test, the engine soft mounts were found to be defective and the mounts were replaced on all units in the fleet.
- Performed component improvement substantiation tests on the ALCM engine (F107-WR-101).
- Simulated environmental and operational conditions on the Pioneer Remotely-Piloted Vehicle engine, confirmed the cause of in-flight uncommanded shutdowns, and initiated a fix for fleet assets.
- Initiated and completed modernization of 3E Test Cell and Control Room, increasing measurement capability and operation to support F412-GE-400 engine testing.
- Successfully completed an Altitude Exploratory Engine Controls Test for the F412-GE-400 and correlated test cell data with General Electric's test cells.
- Successfully completed High/Low Temperature Qualification Test for the F402-RR-408.
- Successfully complete an Engineering Investigation and Sea Level Correlation Test on an F404-PW-400 Hybrid engine at the Outdoor Test Site (OTS), Lakehurst.
- Completed production verification testing on the F404/RM12 for the Swedish government.
- Completed qualification of a second source F107 engine produced by Teledyne CAE.
- Completed a 1000-hour F404 Fuel System Low Lubricity Test.
- Installed and completed checkouts of Navy's first Multiple-Axis Thrust Stand (MATS) for aircraft engine testing.
- Developed a Strategic Business Plan for the Center.
- Signed a Memorandum of Understanding (MOU) with USAF's Arnold Engineering Development Center (AEDC) to formally collaborate on common management and technology issues.
- Developed and initiated formal Total Quality Management (TQM) Implementation Plan.
- Successfully completed an affirmative action with Granville Academy for placement of students as summer interns.
- Reactivated the Apprentice Program, establishing six new positions (three in-house and three new hires).

1990

- Completed initial Altitude Testing for F412-GE-400 engine, compiling over 160 test hours.
- Tested five J402-CA-400 (Harpoon) engines as part of the Storage Life Test Program.
- Tested six F107-WR-400 (Tomahawk) and seven F112-WR-100 (ALCM) engines.
- Completed Augmentor Development Tests and 67 hours of Altitude Testing on F110-GE-400.
- Installed and certified the measurement system for the MATS in preparation for F412 testing.
- Continued TQM implementation and developed five-year strategy.
- Completed initial exploratory testing of enhanced performance F404-GE-402 engine.
- Completed Altitude Verification Testing of 62T-47-1 engine.

1991

- CDR J. W. McCorkle, USN, relieved CDR M. J. Dougherty, USN, as Executive Officer in October.
- Completed over 60 hours of Altitude Controls Development Testing on schedule prior to expiration of program funding.
- Completed testing to evaluate several design improvements to eliminate afterburner lining burn-throughs on the F110-GE-400 engine.
- Completed Stall/Overtemperature Investigation testing of the TF34-GE-400B engine.
- Low Cycle Fatigue (LCF) Testing of the TF34-GE-400 fan blades revealed wear phenomenon which adversely affected LCF life and could lead to catastrophic failure. Design improvement was identified and recommended.
- Completed Official Altitude Qualification Test on the F404-GE-402 engine.
- Completed investigation of the TF34-GE-400 "Overtemperature after Carrier Arrest" problem and identified cause. Recommended solution was implemented.
- Completed validation testing of two competing Short Range Unmanned Air Vehicle (UAV) engine candidates.— Completed Official Altitude Qualification Test on J52-P-409 engine. EA-6B aircraft tailpipe was installed with engine and vectored thrust data was collected using Multi-Axis Thrust Measurement System.



Courter Commission Regional Hearing Phila., May 1991

L-R: Al Mardt, NFFE Local 1963 Pres., Joe Werner, FMA Chap 66 Pres., Ed Nawrocik, FMA Chap 66 Pres. Exec. V-P, Presenter of Testimony on behalf of NAPC, Chris Smith, Congressman, Tom Tighue, Ewing Mayor, Bob Bard, AFGE Local 373 Pres., Bruce Hosfield, Moral Support, Joe Bednarski, Chart Man.

- American Federation of Government Employees (AFGE) Local 373, National Federation of Federal Employees (NFFE) Local 1963, Federal Managers Association (FMA) Chapter 66, and local politicians formed a coalition, chaired by Congressman Chris Smith, to develop and

present testimony in behalf of NAPC to the Defense Base Closure and Realignment Commission (BRAC) at a regional hearing in Philadelphia, PA. The BRAC decided to transfer the Center's propulsion engineering function to NAS, Patuxent River, MD, and its large engine altitude testing function to AEDC, Tullahoma, TN.

- On 10 July, the President approved the list of military base closures proposed by the BRAC, including the realignment of NAPC.

- In April, SECNAV approved a plan to consolidate Navy research, development, test and evaluation, and fleet support activities. Under this plan, four warfare centers and one laboratory were formed, one of which was the Naval Air Warfare Center (NAWC). The NAWC would consist of two divisions: Aircraft (AD) and Weapons (WD).

1992-93

- CAPT D. C. Offerdahl, USN, assumed command in August 1992.

- On 1 January 1992, NAWC was officially established under the Commander, Naval Air Systems Command.

- On 2 January 1992, NAWCAD was established at NAS Patuxent River, MD. NAWCAD would be responsible for aircraft,

engines, avionics, and aircraft support. It absorbed activities of the Naval Air Development Center, Warminster, PA; the Naval Air Engineering Center, Lakehurst, NJ; NAPC, Trenton, NJ; the Naval Avionics Center, Indianapolis, IN; and the Naval Air Test Center, Patuxent River, MD. NAPC was officially changed to NAWCAD-TRN.

- Initiated transition of all Navy medium engine altitude test workload (including F414 and F405/124) to AEDC in accordance with BRAC91.

- Completed over 1400 engine test hours in altitude and sea level test cells in support of engine development, qualification, verification, flight test, service problem resolution, and service life extension.

- A fourth refrigeration system, almost equal in capacity to the total of the three existing systems, was checked out and became operational for testing.

- The local chapter of the AFGC, NFFE and FMA reformed the coalition, with Congressmen Dick Zimmer and Chris Smith as co-chairs, to develop and present testimony in behalf of NAWCAD-TRN to the 1993 BRAC Commission. BRAC93 final decision was to transfer the Center's sea level ram air and small engine altitude testing functions to AEDC and relocate NAWCAD-TRN's accessories test cells, fuels and lubricants laboratory, fuel system testing facilities, UAV test cells, and the test support staff for those facilities to NAWCAD-PAX.

- A high-level base closure team was established to conduct detailed planning to ensure that all Navy engine and accessory testing will be accomplished after NAWCAD-TRN closes.

- The Outplacement Assistance Services & Information Site (OASIS) was established with state-of-the-art equipment and enthusiastic staff capable of handling employees needs during downsizing and eventual closure.

- A "People Team", consisting of non-supervisory employees from across the command, was established to investigate and make recommendations on issues resulting from the BRAC93



closure decision.

- LCF testing of TF34-GE-400 engine fan blades with NAWCAD-TRN recommended design improvements incorporated resulted in 200 hour increase in blade life.

1993-94

- CDR T. L. Burtis, USN, relieved CDR J. W. McCorkle as Executive Officer in September 1993.

- Center personnel were integrated into the Naval Air Systems Team (NAST) Competency Aligned Organization (CAO) but a site organization was maintained to meet the Center's mission.

- Successfully transitioned the medium engine altitude test workload to AEDC and deactivated 1E, 2E and 3E, in compliance with the BRAC91 decision.

- Formed a transition team to plan and manage all aspects of facility movement, personnel movement, facility reuse, environmental restoration, and personnel outplacement associated with compliance to the 1991 & 1993 BRAC decisions.

- Completed over 1300 engine hours in sea level and altitude cells in support of engine qualification, production verification, FAA certification, service problem resolution, and service life extension.

- Completed FAA operational certification test on the AE3007 (formerly GMA3007).

- Completed a 500-hour Accelerated Simulated Mission Endurance Test (ASMET) on the F405-RR-401 engine for the T-45A training system.

- Successfully tested F107 Tomahawk engines and fuel controls to validate extending the engine deployment cycle from 60 to 78 months.

- Initiated development of plans for the transition of base property to uses that will economically benefit the local community. Out-leased a portion of the facility for local reuse in an extremely short timeframe.

- Implemented the formation of a Restoration Advisory Board (RAB) to oversee all environmental restoration programs. The RAB includes federal, state, and local representatives, in addition to Center representatives, that meet periodically to review restoration plans and progress.

- Formed a Labor Management Advisory Committee (LMAC) to assist employees in securing re-employment and ensure fair and equitable availability of employment and training opportunities for all employees. Committee retitled itself the Employment Services Partnership (ESP).

- Issued Transfer of Function (TOF) notifications to the workforce scheduled for transfer to NAWCAD-PAX in compliance with the BRAC91 decision. Coordinated briefings by the Southern Maryland Tri-County Council to inform employees of locality issues.

- Coordinated briefings to the workforce on PPP and other elements of the Civilian Assistance and Re-Employment (CARE) program.

1994-95

- Completed an ASMET of an F110-GE-400 engine to validate modifications to the engine front frame, afterburner liner and flame holder.

- Completed a 116-hour test of a TF34-GE-400B for the S-3B aircraft to evaluate engine start characteristics and flameout/relight problems in carrier landing environments.

- Completed a total of 2150 hours of testing in three rotor spin chambers, including F414 Component Overspeed/Burst Test, TF34 LCF, X-Rod Projectile Spin, and Probabilistic Rotor Testing programs.
- Completed tests on 28 Navy/Air Force Cruise Missile engines.
- Completed a 1200-cycle performance validation of the CH-53 engine starter.
- Moved the propulsion engineering function to Bldg. 106 at NAWCAD-PAX in compliance with BRAC91. 51 percent of the 130 billets transferred were filled by Trenton employees; 30 billets were retained at Trenton to support facilities with ongoing critical workload (billets will transfer when facilities at PAX are completed).
- Developed process for identifying and selecting the best qualified volunteers to fill the 124 billets scheduled for transfer to NAWCAD-PAX to support the PSEF as part of the BRAC93 decision.
- Established a Workforce Transition Manager position to focus on all aspects of personnel issues and help offset the upcoming loss of the Executive Officer billet.
- Successful completion of first Navy medium engine altitude test (F414 Altitude Exploratory Test) at AEDC was an indicator of the success of the transition of the function and maintained the schedule for the F-18E/F program.
- Continued implementation of the \$80M+ MILCON program to move functions to NAWCAD-PAX and AEDC in compliance with BRAC93. At that time, design of the Propulsion Systems Evaluation Facility (PSEF) at NAWCAD-PAX was completed and RFP for construction was issued; design of SL2 & SL3 for AEDC was 60% complete; design of the installation of 4W and 5W as T11 and T12 at AEDC was 90% complete; and 5W was transported to AEDC for preparation for installation.
- A \$900,000 interim remedial action groundwater cleanup facility was designed, implemented and operational in less than 150 days, one year ahead of schedule.
- Implemented a plan that included an Alternate Work Schedule (AWS), carpooling and public transportation to comply with the 1990 Clean Air Act.
- Assisted in the establishment of the local community Reuse Committee. After members were appointed by the local government, they began formulating grant applications to aid planning for reuse of the Center property.
- Transferred twelve civilian engineering billets and two Navy O-6 billets to AEDC. The civilian billets were integrated into the Air Force organization to support Navy and Air Force testing and the two military billets were to serve as Deputy Director of Operations and Vice Commander.
- Promoted labor-management partnership by incorporating Union representation into virtually all Center-wide boards and committees. Openness of communications maintained positive working relationships and facilitated personnel transition planning.

1995-96

- The Center's last Executive Officer, CDR T. L. Burtis, USN, retired in August 1995.
- Conducted corrosion susceptibility tests on the F414-GE-400 engine for the F18-E/F.
- Conducted rotor spin verification for LCF and overspeed/burst capability of the F414 high pressure compressor, high pressure turbine and low pressure turbine.

- Completed test and evaluation of nine F107-WR-402 Cruise Missile engines to verify specification performance and starting characteristics using JP-10.
- Tested five F107-WR-400 Cruise Missile engines to verify Service Life.
- Awarded construction contracts for the PSEF at NAWCAD-PAX and SL2 & SL3 at AEDC, for a total of \$75M, to comply with the BRAC93 decision.
- Received OCPM and NAWCAD HRO approval for the unique PSEF Support Team Selection Process developed by NAWCAD-TRN, and initiated the process for selection to fill the 124 billets.
- Supported the local community's development of their Local Reuse Plan on time and within the resources allocated by the Office of Economic Adjustment.
- Pursued aggressive outplacement and downsizing programs that avoided adverse actions and maintained a balanced workforce.
- Maintained open, honest communications between management, Unions and employees. Some of the key communication vehicles included: Town Hall meetings with all employees at which upper management provided status reports and responded to questions; People's Team meetings where representatives of employees raise issues, question rumors and provide feedback, and minutes of the meetings are published; weekly publication of "NAWC-NAWC" to highlight current events of interest; biweekly supervisor/employee meetings; EVERYBODY e-mail on significant happenings and events; and computer accessibility to minutes of all meetings and other pertinent information.

1996-97

- Completed testing of three F107-WR-400 Cruise Missile engines for the Service Life Assessment Program (SLAP), one with a Kearfott generator (replacement for the Pacific Scientific generator).
- Completed testing of three F107-WR-402 Cruise Missile engines for the Specification Performance Verification Test Program and three for the Thermal Substantiation Test Program.
- Completed testing of six F112-WR-100 Cruise Missile engines for the Life Extension Program.
- Completed the F414-GE-400 engine Corrosion Susceptibility Qualification Test, Starting and Environmental Qualification Test, Sand and Dust Ingestion Test, Water Ingestion Test, and the Infrared and Gyroscopic Rig Tests. Several discrepancies were identified during the test programs and corrected by the engine manufacturer.
- Completed over 6750 hours of testing in the four chambers in the Rotor Spin Facility, including: F414 engine component LCF tests; Air Force sponsored Probabilistic Rotor Design System LCF tests; and gas turbine engine rotor burst/containment tests for the FAA to evaluate the containment capability of composite materials.
- Completed the F404 control Life Cycle Test and published the results.
- Installation of the Center's 5W test cell at AEDC was completed. The cell was designated T-11 and will be used for testing Cruise Missile engines.
- Construction of the PSEF at NAWCAD-PAX was 90% complete, and construction of SL2 & SL3 at AEDC was 60% complete.
- Upgraded the Groundwater Treatment Plant to increase capacity and effectiveness in removing contamination from the groundwater.

- Trained and utilized Navy Public Works Center Detachment Philadelphia personnel to run the Center's stream plant to ensure a stable manpower resource for this critical activity up to closure.
- Placed 31 employees in positions at other DoD activities via the Priority Placement Program (PPP).
- Obtained approval to hold a Reduction In Force (RIF) in October 1997.
- Obtained approval to offer Voluntary Separation Incentive Pay (VSIP) to employees who voluntarily resign or retire between 15 January and 15 May 1997. Also received Voluntary Early Retirement Authority (VERA) for the same period. 69 employees accepted the VSIP, precluding the RIF scheduled for October 1997.
- Obtained approval for an expanded VSIP program (VSIP II) with NAWCAD-PAX and NAWCAD-Lakehurst from 28 February 1997 through 30 September 1997.
- The PSEF Support Team selection process was completed and 78 employees were assigned to positions on the team. The team was stood up on 24 November 1996 and all team members were issued Transfer of function (TOF) notices for alignment to NAWCAD-PAX no later than 28 January 1998.
- Reincarnated the Center Newsletter as another vehicle to maintain open communications. First issue of people-oriented NAWCAD-Trenton News was published in March 1997, and it was published every month through June 1998.
- ESP developed and sponsored a two-day bus trip to Southern Maryland for PSEF Support Team members and their spouses to familiarize them with the area; developed a "Ready for Hire Workforce" brochure to advertise the availability of Center employees to potential employers; approved over 60 individual training events for \$34K (BRAC funds) to enhance employability; and worked with Mercer County Office of Training & Employment Services (MCOTES) to develop a Job Training Partnership Act (JTPA) grant application and a grant for \$883,895.00 was approved to assist Center employees in retraining and re-employment.
- Purchased a touch screen computer system and maintenance service for nationwide federal job opportunities (system information updated each evening via modem from OPM source).

1997-98

- Completed a Corrosion Susceptibility Qualification Test of a T406-AD-400 engine for the V-22 aircraft.
- Successfully performed a 65-hour SMET on four Fichtel & Sachs SF2-350 engines, used in Pioneer UAV, to validate the integrity of a connecting rod modification.
- Completed testing of an H-60 helicopter drive train as part of the H-60 Power Drive Monitoring System test project.
- Completed a Noise Test on the Pratt & Whitney Canada (P&WC) PW150 engine at OTS, Lakehurst.
- Completed a 1200-cycle endurance test on an F-14A starter.
- Completed a Probabilistic Rotor Design System LCF test on six P&W-designed model disks.
- Completed a Burst Test on three T62-27 engine compressor disks.
- Performed a LCF Life Validation Test on two sample disks from the second stage fan of a TF39 engine.
- Installation of the Center's 5W test cell at AEDC was completed. The cell was designated T-



Members of the PSEF Support Team departing Trenton

12 and will be used for turbo-shaft engine altitude testing.

- Completed construction of SL2 & SL3 at AEDC and initiated validation in the spring of 1998.

- Construction of the PSEF at NAWCAD-PAX was completed and transition of test facilities from NAWCAD-TRN was initiated. The first test facilities became operational in June 1998.

- All 74 PSEF Support Team personnel were aligned to NAWCAD-PAX by the end of January 1998, completing the TOF.

- Over 1.7 million pounds of equipment

was shipped from the Center to NAWCAD-PAX and AEDC as part of the BRAC transition.

- As of June 1998, over 1200 individual items valued at approximately \$1.9M was redistributed to other DoD activities as part of the closure process.

- In preparation for transfer of the property for reuse, "layaway" of 90% of the Center was completed by June 1998.

- Initiated lease with Mercer County to permit early utilization of the portion of the property that will eventually be transferred to Mercer County for airport related uses.

- Began advertising the rest of the property for public sale, continuing on a path for a potential sale of the property before or near closure. If this is accomplished, the "hot turnover" to new owners would eliminate the requirement for a Caretaker Site Office, a significant cost savings for the Navy.

- Successfully planned for complete environmental remediation of the base enabling the Finding of Suitability to Transfer (FOST) to be prepared and signed in time for sale of the property in the fall of 1998.

- As part of the environmental remediation, The Big Dig was initiated on 1 June 1998 and scheduled to be completed by mid-September. This project involved demolition of all piping, equipment, and structures between the Blower Wing, Bldg. 40, and the Test Wing, Bldg. 41, to allow removal of over 500 truckloads of soil contaminated with trichloroethylene (TCE) from the area.

- ESP approved over 50 individual training events for \$25K (BRAC funds) to enhance employability and provided on-site seminars to assist employees in career transition.

- As of the end of March 1998, over 160 employees were certified for JTPA training and services; 35 of the certified employees obtained new employment; 8 employees utilized the On-The-Job Training benefits under the JTPA grant; and over \$250K of the \$884K grant was expended to assist employees.

- OASIS provided services for preparation of resumes and SF-171's; customized letters of recommendation and generic letters of introduction; assistance in completion of job applications; and PC's with internet capability, FAX and copy machines, phones, newspapers, phone books, and other publications to utilize for job searches.

- As of June 1998, placed another 20 employees in positions at other DoD activities via the

PPP.

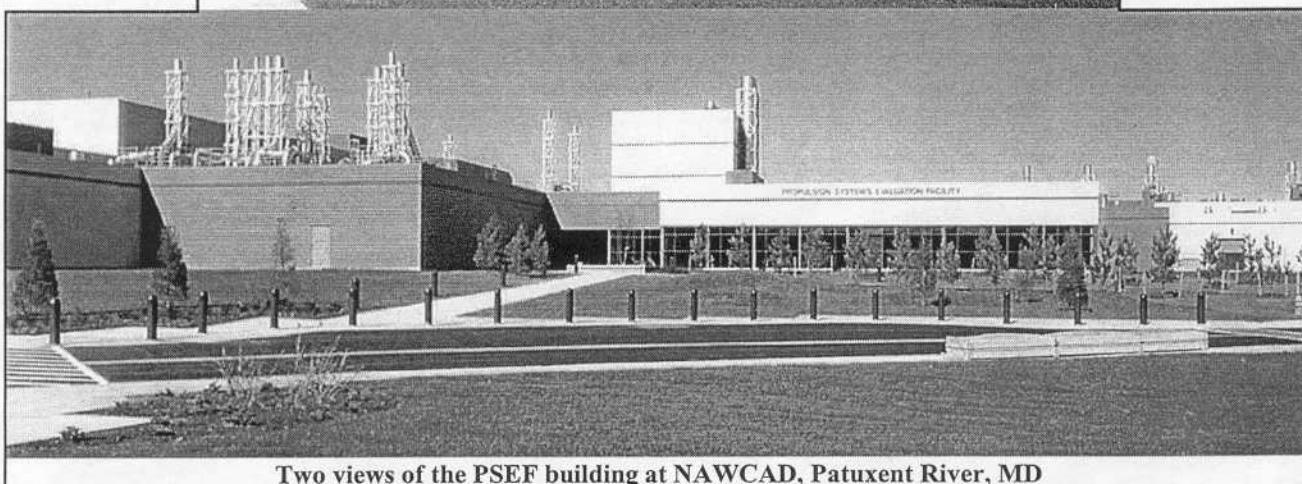
- Obtained approval for an extension of the VSIP II program and 31 employees were placed, primarily at NAWCAD-Lakehurst, via this program.
- Obtained approval to hold a RIF on 1 July 1998 and another at closure.
- Obtained approval to offer VSIP & VERA to employees who voluntarily resign or retire between 15 January and 28 February 1998. Although 37 employees accepted the VSIP, the reduction in personnel was insufficient to preclude the RIF scheduled for 1 July 1998.
- RIF notices were issued to thirty-three employees at the beginning of March 1998 but, due to successful outplacements and reassignments, only eight of those individuals were separated on 1 July.
- RIF notices will be issued to all remaining employees on 6 July 1998 for separation between 6 November and 15 December 1998, as workload dictates.
- Trenton's Last Roundup, an informal social gathering of over 500 individuals that have contributed to the accomplishment of the mission of the Center during its 47 year history, was held on 26 June 1998 at the West Trenton Ballroom. This final edition of the NAWCAD-TRN News was distributed at that gathering and a list of the attendees is included elsewhere in this newsletter.
- The A-4 that "guarded" the Center's main entrance was reconditioned and moved to its new location in the park at the rear of the Ewing Township Municipal Building. CAPT Offerdahl spoke at the official dedication ceremony on 30 May 1998.



The Center's A-4 being installed at it's new home

THE FUTURE

NAWCAD-TRN will be disestablished on 15 December 1998 but its spirit will continue on with the employees and functions that relocated to the PSEF and Bldg. 106 at NAWCAD-PAX, and to AEDC in Tullahoma, TN. Although the synergism, atmosphere and environment that existed at the Center will never be replicated, its people and heritage will assure excellence in Naval propulsion testing, now and in the future.



Two views of the PSEF building at NAWCAD, Patuxent River, MD



SL2 and SL3 were constructed at AEDC, Tullahoma, TN, to perform the type of testing that was previously accomplished in 1W and 2W at NAWCAD-TRN