

NAVAL UNDERSEA WARFARE ENGINEERING STATION KEYPORT COMMAND HISTORIES, 1981–1984

In the holdings of the
U.S. Naval Undersea Museum



COMMAND HISTORY 1981
NAVAL UNDERSEA WARFARE ENGINEERING STATION

Commanding Officer

Captain Charles H. Wilbur, USN
1 Jan 1981 - 31 Dec 1981

Executive Officer

CDR E. Edward Schultz, USN
1 Jan 1981 - 16 Aug 1981

CDR Eugene B. McPhail, USN
17 Aug 1981 - 31 Dec 1981

Technical Director

Mr. Edward H. Lesinski
1 Jan 1981 - 31 Dec 1981

CAPT Charles H. Wilbur
Commanding Officer



Command Group Changes

CDR Eugene B. McPhail assumed duties as Executive Officer on 17 August 1981 replacing CDR E. E. Schultz who retired. CDR McPhail's last assignment was in La Spezia, Italy, where he served as Naval Advisor at the SACLANT Anti-Submarine Warfare Research Centre.

CDR E. Edward Schultz retired during ceremonies on 31 August 1981 after more than 27 U. S. Navy Service years. CDR Schultz was awarded the Meritorious Service Medal for outstanding meritorious service as Officer-in-Charge of the NUWES Hawaii Detachment and as Executive Officer of NUWES.

CDR Lee Davis relieved CDR John Peterson as Officer-in-Charge of our Southern California Detachment on 13 March 1981.

CDR Elden Ploof relieved CDR Elwood Harper as Officer-in-Charge of our Hawaii Detachment, Lualualei, HI on 25 June 1981.

Best Enlisted Mess Award

The NUWES Enlisted Dining Facility was selected as best small mess ashore in the entire Navy, receiving the Captain Edward F. Ney Memorial Award and congratulations from Secretary of the Navy for "demonstrating supremacy in all aspects of food service." The announcement was made in June 1981.

Station Visitors

NUWES hosted visits for more than 28 U. S. Naval Officers at or above the rank of Captain including two VADMs, and nine RADMs. Other VIP visitors included five representatives from Congressional Committees, and 27 international visitors from ten countries, including 15 weapons systems/ordnance trainees.

Inspection Visits

NUWES had 16 inspection/review type visits. Approximately 56 visitors were directly involved with these inspection type visits.

Building Construction at NUWES

Construction began on a 9,000 square foot Torpedo MK 48 Advanced Capability (ADCAP) addition to Building 514 in support of the MK 48 program. NUWES received approval and funding for a new Advanced Lightweight Torpedo (ALWT) Facility. The ALWT MILCON project includes a torpedo shop, an assembly building, and a new supply facility. Work on the 69,000 square foot, \$7.8 million project is scheduled to begin about 1 April 1982.

Fund Raising

With only 2630 military and civilian personnel assigned to NUWES Keyport Station, personnel achieved a new all time high Combined Federal Campaign total of \$53,000 in contributions and pledges and raised more than \$10,800 for the Annual Navy Relief Drive. This is an indication of the cooperation and motivation of civilian and military personnel working together.

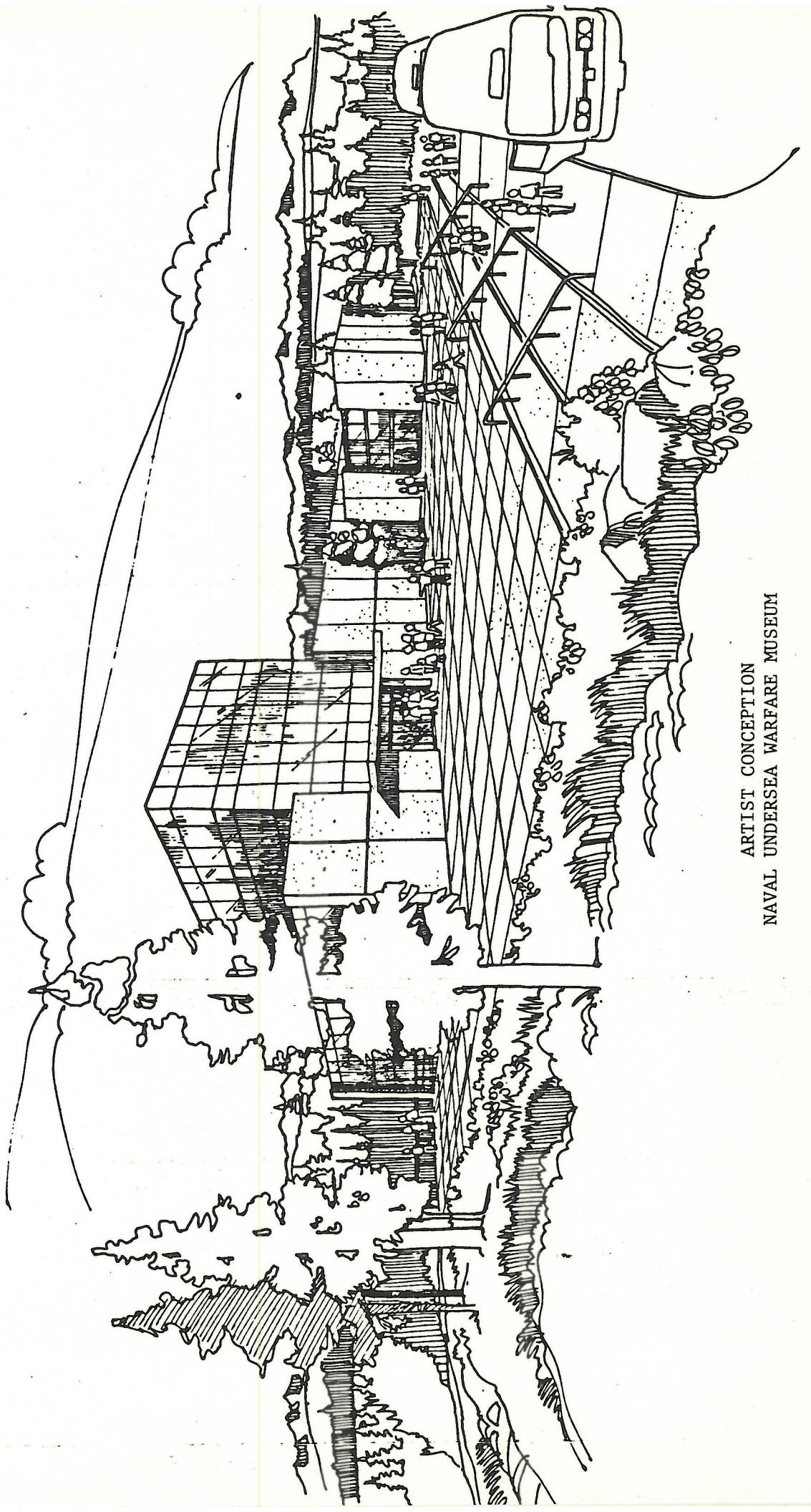
High Grade Positions Down

Through an effective and positive position management system at NUWES, the number of High Grade Positions within NUWES has been reduced from 84 to 81.

Merit Pay implementation performance objectives are appropriate, realistic and measurable. Adequate training and an acknowledged good understanding of the system indicates a good base for Merit Pay Program success.

Naval Undersea Warfare Museum

Development of the new Naval Undersea Warfare Museum at Keyport has been advancing. In late February, Mr. Richard Meyer became the museum's first Administrator. Work has focused on cataloging existing artifacts on hand and acquired new items, building site selection and layout, selecting a conceptual building design and pushing for approval of design and funding for MILCON P-600 (a new main entrance to the Station and the Museum site). Work has been in conjunction with the Naval Undersea Warfare Museum Foundation and with the approval of the Naval Undersea Museum Board. Estimated completion date for Phase I and operational start-up of the facility is July 1984.



ARTIST CONCEPTION
NAVAL UNDERSEA WARFARE MUSEUM

Quality Circles Program

A Pilot Quality Circle Program has been established in five production areas of our most critical work. This program is a worker participative approach designed to improve quality output, increase productivity, and benefit the work life environment of the employees.

Quinault Underwater Tracking Range

An Operational Shallow Water Range has been established on the Pacific Coast at Quinault for tracking high speed underwater vehicles. The range, with its 13 underwater arrays, became fully operational in July 1981.

NATO Presentation

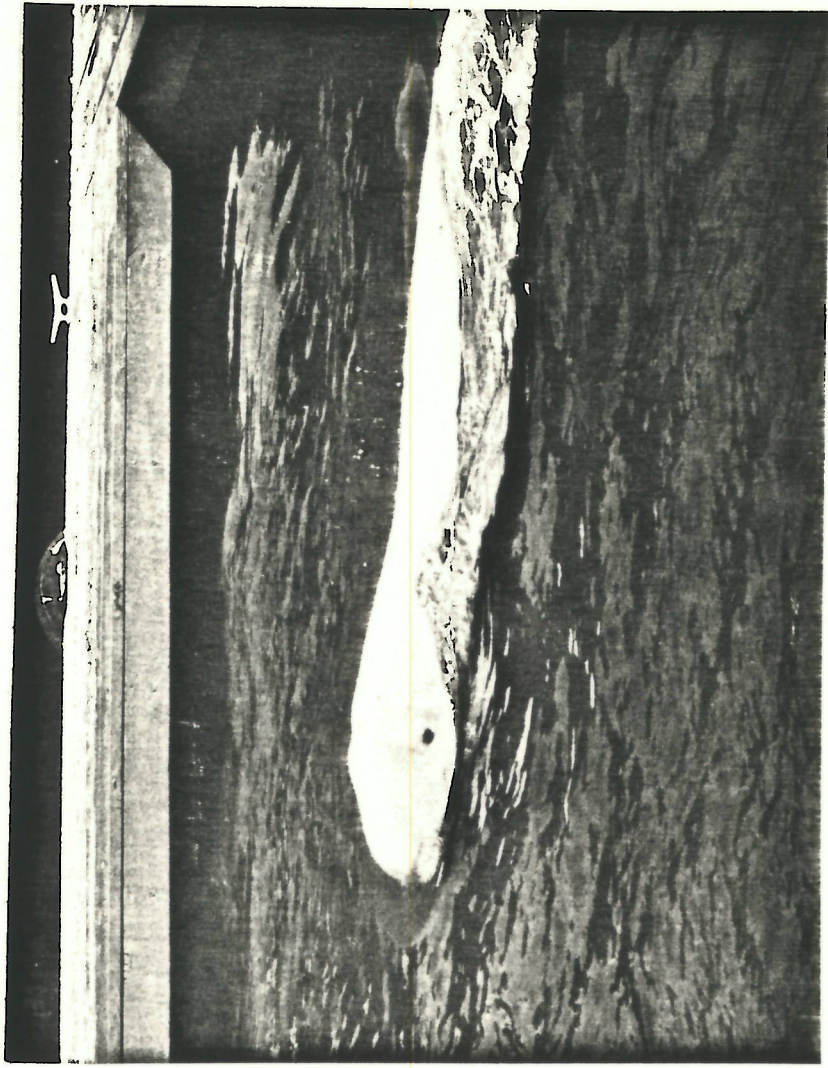
An overview of technology used by the United States for weapons and tactical ranges was presented to a NATO information exchange group in Brussels on 5 October 1981 by NUWES personnel. Follow-on presentations may be requested in future years.

In-Service Engineering Agent (ISEA)

NUWES was designated ISEA for Mobile Torpedo Target MK 27 Mod 0 and Control Panels MK 264 and 309 on 1 October 1981. This is in addition to the existing ISEA designation from MOSS system MK 70, Fire Control, ASROC, MK 114, and Fire Control Group, ASROC, MK 111. As ISEA, NUWES provides engineering and configuration control services for equipment in use aboard combatants following procurement and delivery to the Navy throughout the equipment's remaining service life. This includes follow-on support for equipment transferred through Foreign Military Sales.

Marine Mammal Project

The Navy's Marine Mammal research project utilizing Beluga whales for underwater recovery operations under specific Northwest environmental conditions was completed in 1981. The whales have helped recover a Torpedo MK 48 fuel tank section from a 1300 foot depth, and a dummy torpedo MK 48 from a 400 foot depth.



ONE OF TWO BELUGO WHALES TAKING PART IN MARINE MAMMAL RESEARCH ON NUWES RANGES IN WASHINGTON AND CANADA

The research was conducted by the Naval Ocean Systems Center, San Diego, using the Dabob Bay (Hood Canal), Washington and Nanoose, B.C. ranges. The whales came to Hood Canal in October 1980 and were transferred to Nanoose 28 May 1981. They are scheduled to return to San Diego in early 1982.

CAPTOR Savings

NUWES developed and established a method by which the proofing version of the MK 60 Capsulated Torpedo (CAPTOR) mine surfaces at the conclusion of a proofing run thereby reducing ranging costs for CAPTOR Proofing by fifty percent.

Ranging

NUWES ranged 1,299 torpedoes and targets on local ranges and conducted 106 bottom recoveries.

Anti-Submarine Warfare (ASW) Tests

NUWES completed 327 ASW tests; 61 in the Pacific Northwest, 163 in the Hawaii area, and 103 in Southern California.

Computer Tracking System

NUWES acquired, installed, and had certified new computer based tracking systems at the Nanoose and Dabob Ranges during 1981.

Post Operational Analysis Critique Exercise Reviews (PACER)

NUWES completed 102 PACERs; 42 surface and 60 air. Air PACER capability has been established at the Nanoose Range and a pilot program has been established at Jacksonville Florida for the Atlantic Fleet. The significance of PACER is that it reconstructs an ASW test using shipboard and range data within three days after the actual ASW test to reflect performance of all participants.

ASW SERV

NUWES developed a pilot program for integrating Anti-Submarine Warfare (ASW) testing on surface ships. This program, called ASW System Enhancement and Readiness Verification (ASW SERV), is designed to integrate the presently fragmented ASW tests and thereby significantly reduce the ship time devoted to ASW testing.

IMA Recertification

The annual torpedoes MK 46 and MK 48 IMA Recertification was conducted 17-21 August. The NUWES Intermediate Maintenance Activity designation was again recertified.

Advanced Lightweight Torpedo (ALWT)

The Advanced Lightweight Torpedo made its first Stored Chemical Energy Propulsion System (SCEPS) engine powered test on Dabob Bay Range on 2 Sept 1981. The test was successful.

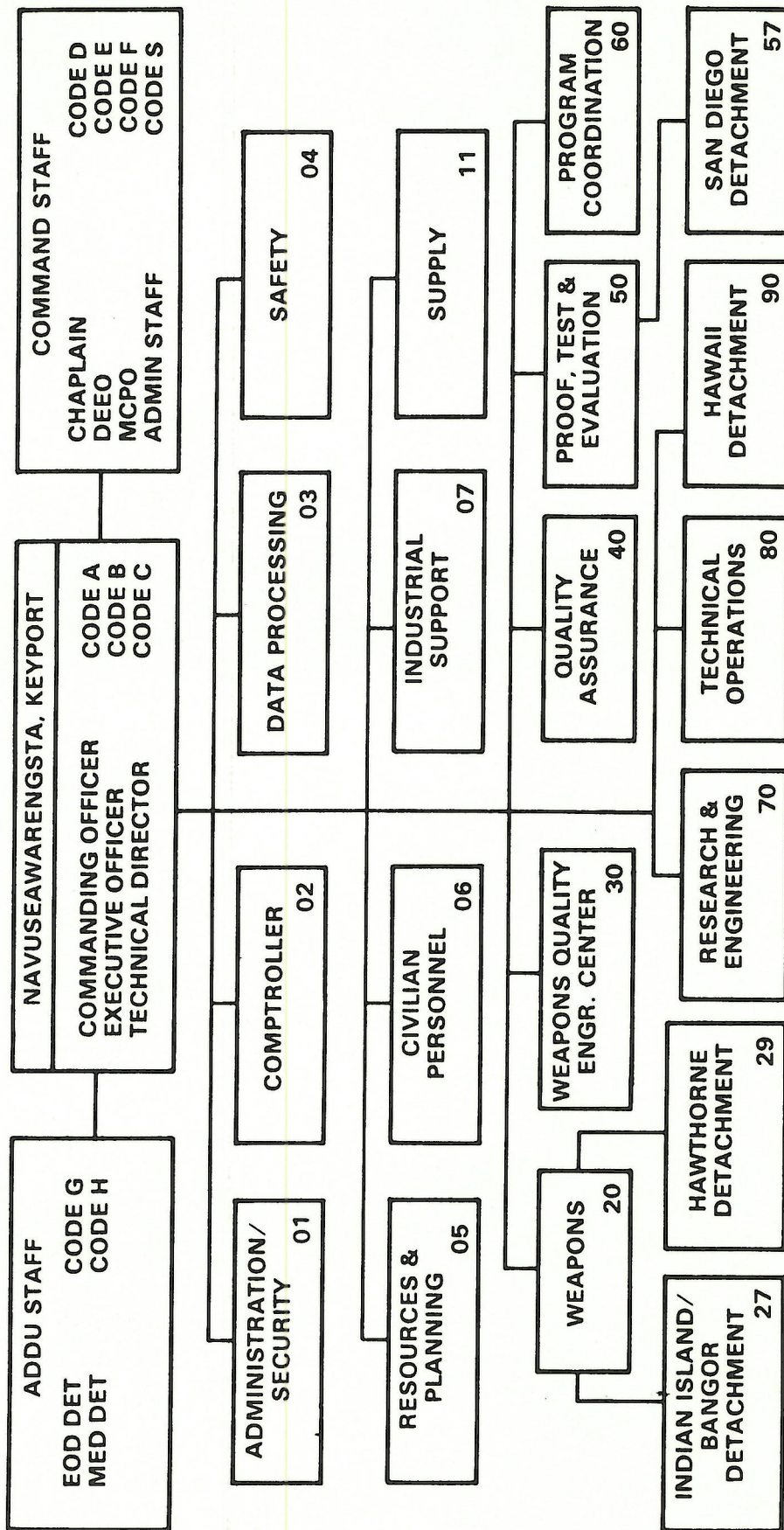
Other Technical Accomplishments

NUWES proofed 234 and delivered 115 new production torpedoes MK 48 to the Fleet, and ORDALTed and shipped 233 BIT and 79 REBIT Torpedoes MK 48 to the Fleet;

- Performed 1,394 Class B Maintenance overhauls on torpedoes MK 46;
- Established MOSS Turnaround Capability;
- Completed the Torpedo MK 46 Mod 2 Foreign Military Sales Program;
- Completed the last Torpedo MK 37 conversion from Mod 0 to Mod 2 for Foreign Military Sale;
- Refurbished 19 Attack Consoles MK 53, four Attack Consoles MK 38, and two Weapon Control Consoles MK 81;
- Repaired 20,777 electronic items and 12,876 mechanical items of torpedoes/targets.



STATION ORGANIZATION





PERSONNEL SUMMARY

NUWES KEYPORT (FY-82)

KEYPORT (HOME BASE)	
OFFICERS	18
ENLISTED	227
CIVILIAN	2385
INDIAN ISLAND (DETACHMENT)	
OFFICERS	2
ENLISTED	32
CIVILIAN	74
HAWAII (DETACHMENT)	
OFFICERS	1
CIVILIAN	120
HAWTHORNE (DETACHMENT)	
OFFICERS	1
CIVILIAN	20
SAN DIEGO (DETACHMENT)	
OFFICERS	1
CIVILIAN	41

TOTAL 2922

NOV 1981



PAYROLL SUMMARY (ANNUAL)

NUWES KEYPORT (FY-82)

KEYPORT (HOME BASE)	
MILITARY	\$ 4,404,620
CIVILIAN	69,103,940
INDIAN ISLAND (DETACHMENT)	
MILITARY	691,600
CIVILIAN	2,534,580
HAWAII (DETACHMENT)	
MILITARY	48,980
CIVILIAN	4,394,500
HAWTHORNE (DETACHMENT)	
MILITARY	48,980
CIVILIAN	449,500
SAN DIEGO (DETACHMENT)	
MILITARY	48,980
CIVILIAN	1,378,470

TOTAL \$83,104,150

NOV 1981

COMMAND HISTORY 1982
NAVAL UNDERSEA WARFARE ENGINEERING STATION

Commanding Officer

CAPTAIN Charles H. Wilbur, USN
1 Jan 1982 - 31 Dec 1982

Executive Officer

CDR Eugene B. McPhail, USN
1 Jan 1982 - 31 Dec 1982

Technical Director

Mr. Edward H. Lesinski
1 Jan 1982 - 31 Dec 1982

CAPT CHARLES H. WILBUR
COMMANDING OFFICER



AWARDS

The Pacific Northwest Pollution Control Association (PNPCA) chose the new industrial waste treatment plant as the 1982 Washington recipient of the "PNPCA State Industrial Pollution Control Award." The award was presented at the annual PNPCA convention, 3-5 November 1982 in Vancouver, B.C., Canada.

NUWES received the Golden Anchor Award for retention of military personnel during FY 82. Announcement of the award was made by Naval Sea Systems Command. NUWES won in the "at large" category in the NAVSEA competition. During the year, 60 percent of the first-term sailors and 87.5 percent of all second-term and career-designated enlisted personnel reenlisted.

The Enlisted Dining Facility has again been nominated by NAVSEA and NAVMAT for the Ney Award as the Best Small Mess Ashore in the Navy.

Commodore Stuart F. Platt presented HMI Jacob Avenson of NUWES a certificate honoring his selection as NAVSEA Sailor of the Year. Avenson was selected for the honor after first being named NUWES Sailor of the Year.

NUWES was nominated by COMNAVSEA for the "Bronze Hammer" Award, in recognition of the renovation of our Unaccompanied Enlisted Personnel Housing (UEPH) facility. The self-help project vastly improved habitability and increased its capacity.

MUSEUM

The Naval Undersea Warfare Museum is a step closer to reality with the signing on December 15, 1982 of an important document.

Undersecretary of the Navy, James Goodrich, joined VADM Lee Baggett, Jr., President of the Museum Board, and VADM Eli Reich (USN, Ret.) Museum Foundation President, in signing a Memorandum of Understanding affirming support, identifying the key organizations in the project, and defining their roles. This document, along with another memo signed on 22 December 1982 between the Foundation and the Naval Facilities Engineering Command, paves the way for an engineering design and construction contract to be awarded. The Foundation will pay for costs associated with the new facility and NAVFAC will be the contracting agent.

NEW DEPARTMENT

As of 1 October 1982, NUWES had a new department. The Southern California Detachment has become a department, with CDR Lee Davis continuing as its first "Department Head." The change in status is due to the growth in size, increased workload and responsibilities. Among the new responsibilities are expanded testing of radio direction finding systems, measurement of the acoustic noise radiated by surface ships, and conduct of Post-Operational Critique and Exercise Review (PACER) for helicopters.

ADMATT

The first Advanced Mobile Acoustic Torpedo Target (ADMATT) arrived onboard in October 1982. The ADMATT, which the Navy has designated the EX 40 Mod 0, is an autonomous underwater vehicle with a towed array that will provide a dynamic

and acoustic simulation of submarines in order to support test and evaluation of developmental homing torpedoes. ADMATT is an integral part of the Advanced Lightweight Torpedo Program (ALWT).

RANGING

NUWES conducted 1,430 in-water torpedo and target proofing runs on local ranges.

UNDERSEA WEAPONS SYSTEMS

NUWES delivered 901 MK 48 torpedoes to the Fleet - 124 new production and 677 REBITS (Reliability Enhanced Baseline Improved Torpedoes).

NEW CONSTRUCTION

A ground breaking ceremony was held September 17 to mark the start of construction for expansion of the NUWES Consolidated Range Control Facility on San Clemente Island. The additional space is required in the CRCF because of growing responsibilities for range operations and ASW test and evaluation programs in Southern California.

Official ground breaking for the new ALWT Building took place on July 21. The new ALWT Building will cover about 70,000 square feet on two floors. The ALWT Building will house all necessary facilities for the Station's work on the Advanced Lightweight Torpedo.

Construction was completed on the new Supply Building in December 1982. The 18,000 square foot steel building will house the Supply shipping and receiving functions.

QUALITY CIRCLES

Seven new circles were added in 1982 for a total of 14. A cost savings of 188K was gained as well as an increase of 14% in shop performance.

PRODUCTIVITY

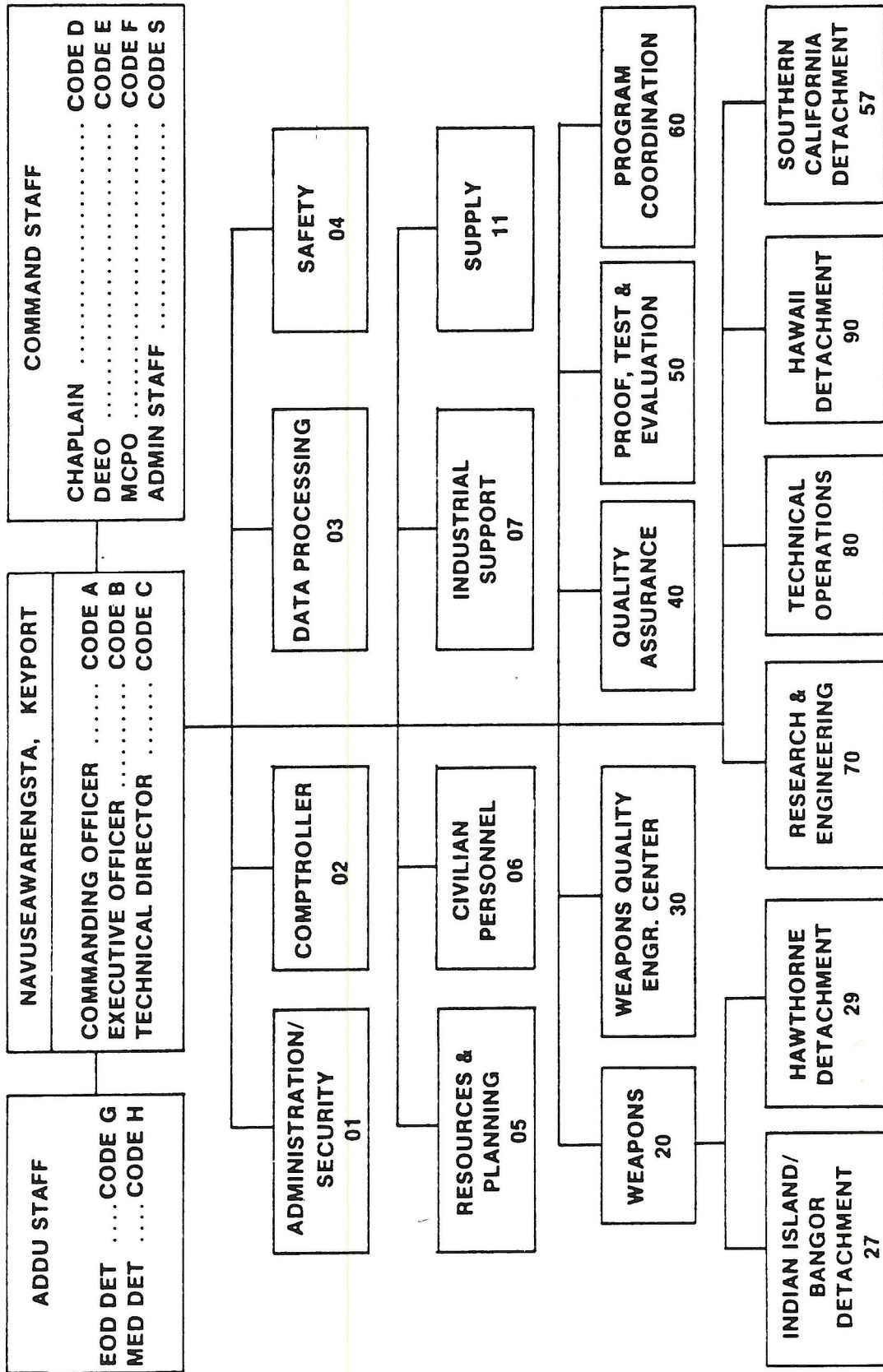
Productivity has been an area of intensified interest at NUWES during 1982. Areas where significant improvements in productivity can be made have been identified at recent Long Range Planning Conferences. NUWES established a Productivity Improvement Officer in the Resources and Planning Department and developed an overall Five-Year Productivity Improvement Plan. The plan emphasizes both physical and human resources improvement.

STATION VISITORS

NUWES hosted visits by more than 36 U.S. Naval Officers at or above the rank of Captain including one VADM and four RADMS. Other VIP visitors included five representatives from Congressional Committees, and 37 international visitors from eleven countries.



STATION ORGANIZATION



JANUARY 1983

The NAVAL UNDERSEA WARFARE ENGINEERING STATION (NUWES) recognizes that the freedom of the seas for the United States and its allies depends to a large extent on our ability to cope with the undersea environment. The problems of detection, location, and neutralization of future undersea threats are being solved today in the laboratories, shops, and on the test ranges.

The Naval Undersea Warfare Engineering Station stands ready to assist Department of Defense activities, other government activities, and authorized contractors in all aspects of undersea research, test, development, and production of weapons, vehicles, and procedures.

C.H. WILBUR
Captain, U.S. Navy

Commanding Officer
1 January 1983 - 31 December 1983

E.B. MCPHAIL, CDR, USN
Executive Officer
1 January 1983 - 31 December 1983

E.H. LESINSKI
Technical Director
1 January 1983 - 31 December 1983

NAVAL UNDERSEA WARFARE ENGINEERING STATION

Headquarters for the Naval Undersea Warfare Engineering Station (NUWES) is located at Keyport, Washington. A complete, modern light industrial complex supports undersea weapon test and evaluation in the Pacific Northwest, and on nearby U.S./Canadian Ranges. NUWES maintains detachments in San Diego, California; Oahu, Hawaii; Indian Island, Washington; and Hawthorne, Nevada. In addition to weapons test and evaluation, the Station has been assigned as Pacific ASW Test Agent. In this role, the Station provides test services throughout the Pacific.



NUWES AWARDS

Secretary of Defense Caspar W. Weinberger announced 15 June 1983 that our Indian Island Annex will receive the 1982 Secretary of Defense Natural Resources Conservation award. The announcement indicated Indian Island conducted an exemplary Natural Resources Management Program which included ecological habitability, endangered species habitat preservation, long-term yield of forest products, and outdoor recreation opportunities. The installation award is presented annually to the military installation which has demonstrated the most progress during the prior three years in applying sound principles of natural resources management consistent with the military mission of the installation. The award was presented at a Pentagon ceremony on 2 August 1983 to Capt. C.H. Wilbur and to CDR Jerry Hamilton, Officer in Charge, Indian Island Detachment.

NUWES was recently named one of the winners of the FY 83 CHIEF OF NAVAL MATERIAL Productivity Excellence Award. The Station has realized a ten-fold increase in savings/cost avoidance during this timeframe. There were 15 productivity initiatives representing managements commitment to productivity, and 69 individual actions which represented over \$15 million in savings for the Station.

IMPROVING PRODUCTIVITY

Quality Circles

Improved productivity at all levels to enable NAVUSEAWARENGSTA to conduct combat systems missions effectively and efficiently is the objective and the focal point for all productivity improvement initiatives. This is reflected in top management's commitment as evidenced especially by their support of the Quality Circle program.

1983 was truly a year of growth for the Quality Circles program at NUWES. The number of circles was increased by 7 which brings the total number of Quality Circles to 20. The FY 83 Quality Circles efforts produced an annual savings of over \$177,000.

The effect of top management support, established Station-wide local policy guidance, and participation by all Station departments in a team environment, has been responsible for the development of a successful Quality Circle program.

Beneficial Suggestion Program

NUWES has found that the Beneficial Suggestion Awards Program is an excellent vehicle for rewarding its employees for submitting recommendations which make significant improvements in daily operations, thereby, increasing output and enhancing productivity. Of the 236 suggestions submitted in 1983, savings of \$160,000 in tangible benefits and \$18,000 in intangible benefits were realized.

RANGING OPERATIONS

NUWES conducted 1477 torpedo, target, and mine inwater runs, including 301 Advanced Capability (ADCAP) and 84 Advanced Light Weight Torpedo (ALWT) engineering and development runs. This is an increase of 47 runs from FY 82.

UNDERSEA WEAPONS SYSTEMS

NUWES delivered 811 MK 48 torpedoes to the fleet including 144 new production and 667 Reliability Enhanced Baseline Improved Torpedoes (REBIT).

GENERAL INTEREST ITEMS

The first formal Production Acceptance Test and Evaluation (PATE) Support Facility Executive Team meeting was held at NUWES on 2-3 February 1983.

The first new production ASW mobile target MK 30 MOD 1 S/N 79 104, (produced by Goodyear Aerospace Corporation) arrived at NUWES Hawaii Detachment, Kauai on 3 March 1983 for first evolution of proofing tests required on first production item marking the resumption of the MK 30 MOD 1 proofing program.

A unique tracking system, called the Space Frequency Shift Keyed (SFSK), system, has recently been implemented on the Quinault Range. This system is a 100% NUWES effort - that is, it was conceived, designed, built and tested by NUWES personnel. The system appears to work well and is under consideration for other ranges including a proposed NATO test range and a range for tactical testing of underwater weapons off the Southern California coast.

NUWES has designed, developed, produced, and released our first Ordnance Alteration (ORDALT) as an In-Service Engineering Agent. This ORDALT addresses areas of the MK 38 Attack Console used in the MK 111 ASROC Fire Control Group.

During the month of March, NUWES hosted the third Commanding Officer/Executive Officer Conference sponsored by the Naval Civilian Personnel Command. Guests at the Conference included COs and XO's from throughout the Pacific Northwest, civilian executives and representatives from area civilian personnel offices. Major topics of discussion/concern were in the areas of drug abuse, employee morale, labor relations and changes in the Civil Service regulations.

In the April-May timeframe, our ability to recover torpedoes was greatly enhanced with the successful and final acceptance of a new torpedo recovery vehicle named TROV-N (Tethered Remotely Operated Vehicle - Navy). This is a swimming-type vehicle similar to the CURV vehicle and joins the fleet with two SORD vehicles (mud diggers). The ability to rapidly recover planned (and unplanned) sinkers is significantly enhanced.

May also brought the successful implementation of the Industrial Logistics Support Management Information System (ILSMIS) Receipt and Issue Subsystem one day prior to the scheduled date.

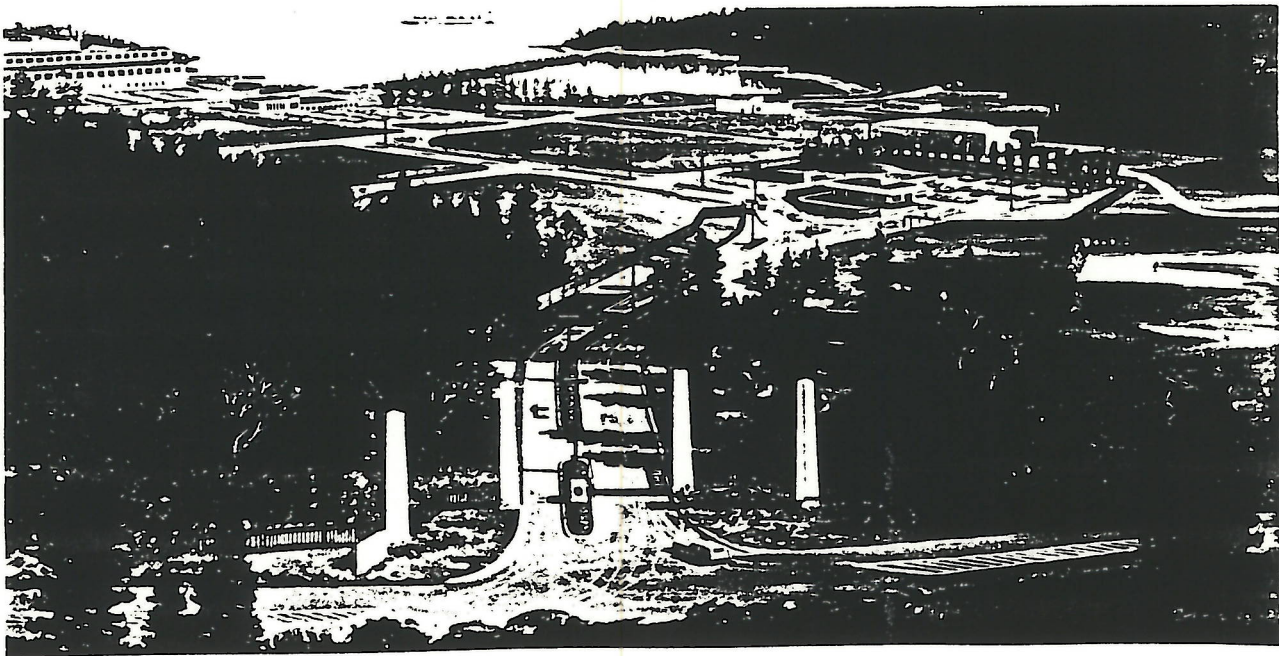
The first set of Fire Control System MK 117 consoles upgraded by NUWES were delivered to NAVSEACOMSYSENGSTA, Norfolk, two days ahead of schedule. Due to the high quality upgrades NUWES is being tasked to do an increased percentage of planned console upgrades over the next several years.

The first ALWT and ADCAP torpedo runs against an actual submarine were made on the SoCal Detachment range in August. Subsequent runs were conducted in September and December at Nanoose. The first ALWT utilization of the recently installed Quinault Underwater Tracking Range occurred in September with successful launching, tracking and retrieval of two ALWT test vehicles and four advanced mobile targets. The first anti-surface ship ADCAP runs against a real target were conducted in October.

The SoCal Detachment has completed the first submarine Weapons System Accuracy Trials (WSAT) conducted on the San Clemente Island 3-D Range, thereby providing a new capability for supporting San Diego based submarines.

In December, NUWES' role in the Standoff Weapon (SW) MK 31 program was defined. NUWES will perform the conversion work necessary to produce the SW MK 31, manufacture the launchers and accessory equipment, proof the completed weapons, and provide initial training to the fleet.

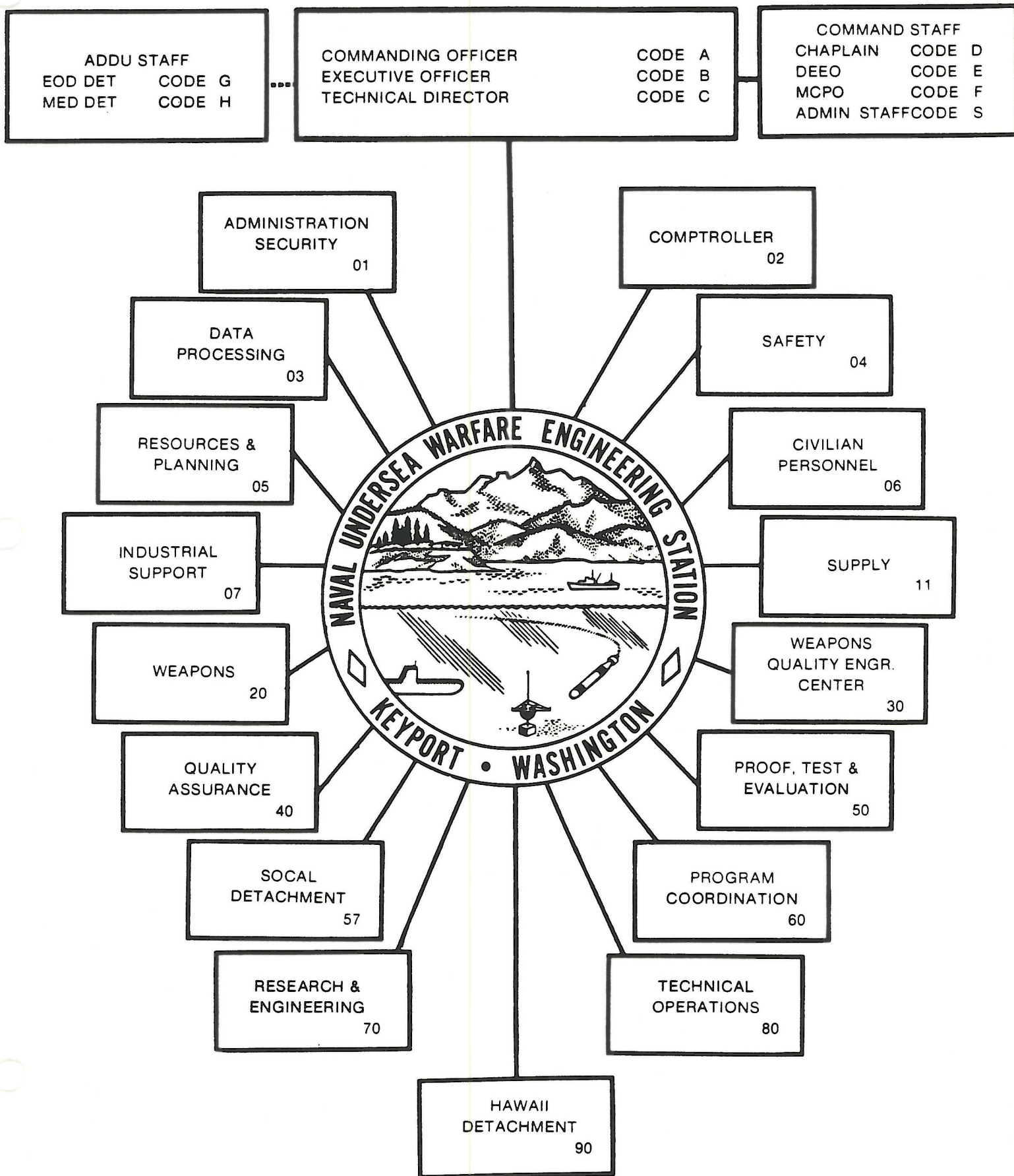
The 98th Congress enacted legislation in October to build a new main entrance to NUWES. Public Law 98-115 authorized and PL 98-116 appropriated \$1.4 million for the project as part of the FY 84 Military Construction Program. The project is to include a new entrance road, main gate with gatehouse, pass and I.D. building with parking, plus security lighting and fencing. Construction is anticipated to begin in June, 1984.



STATION VISITORS

NUWES hosted visits for more than 32 U.S. Naval Officers at or above the rank of Captain including two ADMs, two VADMs, and four RADM. Other VIP visitors included 60 international visitors from eleven countries and a variety of representatives from various Department of Navy activities.

STATION ORGANIZATION



PERSONNEL SUMMARY

NUWES KEYPORT (CY83)

KEYPORT (HOME BASE)	
OFFICERS	18
ENLISTED	220
CIVILIAN	2791
INDIAN ISLAND (DETACHMENT)	
OFFICERS	2
ENLISTED	30
CIVILIAN	93
HAWAII (DETACHMENT)	
OFFICERS	1
CIVILIAN	125
HAWTHORNE (DETACHMENT)	
OFFICERS	1
CIVILIAN	19
SAN DIEGO (DETACHMENT)	
OFFICERS	1
CIVILIAN	43

TOTAL MILITARY - 273

TOTAL CIVILIAN - 3071

DECEMBER 1983

PAYROLL SUMMARY

(ANNUAL)

NUWES KEYPORT

KEYPORT (HOME BASE)

MILITARY	\$6,413,079
CIVILIAN	89,246,316

INDIAN ISLAND (DETACHMENT)

MILITARY	831,522
CIVILIAN	3,355,985

HAWAII (DETACHMENT)

MILITARY	56,763
CIVILIAN	4,558,373

HAWTHORNE (DETACHMENT)

MILITARY	48,027
CIVILIAN	494,531

SAN DIEGO (DETACHMENT)

MILITARY	56,763
CIVILIAN	1,307,613

TOTAL - \$106,368,972

DECEMBER 1983

UNDERWATER RANGE AND SHIP TESTING

- CONDUCTED 1477 TORPEDO, TARGET, AND MINE IN-WATER RUNS (INCLUDED 301 ADCAP AND 84 ALWT ENGINEERING AND DEVELOPMENT RUNS)
- COMPLETED 5 DEFENSIVE WEAPONS SYSTEMS (DWS) SUPPORT OPERATIONS AND LOADOUTS FOR U.S.S. OHIO AND U.S.S. MICHIGAN
- SOCAL 3-D RANGE CERTIFIED OPERATIONAL FOR SUBMARINE OPERATIONS AND SURFACE SHIP RADIATED NOISE MEASUREMENT (SSRNM) TESTS
- COMPLETED 435 ASW TESTS (INCLUDES 186 PACER-POST ANALYSIS CRITIQUE AND EXERCISE REVIEWS -- 135 AIR, 51 SURFACE)

NORTHWEST.....112
 HAWAII 201
 SOCAL122

SURFACE SHIP.....157
 SURMARINE.....125
 ASW AIRCRAFT.....153

UNDERSEA WEAPONS SYSTEMS

- DELIVERED 811 TORPEDOES MK 48 TO THE FLEET INCLUDING 144 NEW PRODUCTION AND 667 REBITS (RELIABILITY ENHANCED BASELINE IMPROVED TORPEDOES)
- PERFORMED 1630 TORPEDO MK 46 CLASS B MAINTENANCE OVERHAULS
- COMPLETED 167 TORPEDO MK 46 FOR FMS PROGRAM
- PREPARED 304 ADCAP TORPEDOES FOR RANGING IN SUPPORT OF ADVANCED DEVELOPMENT PHASE
- REFURBISHED 19 ATTACK CONSOLES MK 53, 4 ATTACK CONSOLES MK 38, 8 WEAPON CONTROL CONSOLES MK 81, AND 48 PLOTTERS MK 19
- CONDUCTED 49 CAPTOR IN-WATER RUNS AND 9 ANCHOR SIMULATOR TESTS
- UPGRADED FIRST FIRE CONTROL SYSTEM MK 117
- INITIATED SUBMARINE LAUNCHED MOBILE MINE (SLMM) MK 67 PROGRAM

DEPOT REPAIRABLES

<u>PROGRAM</u>	<u>ELECTRICAL/ ELECTRONIC</u>	<u>MECHANICAL</u>
TORPEDO MK 48	8,514	18,661
TORPEDO MK 46	3,560	3,884
FIRE CONTROL/ SONAR	9,190	1,675
TARGET MK 27/30	1,013	368
TORPEDO MK 37	275	106
FMS/MISC	1,306	176
TOTAL	23,858	24,870
TOTAL DEPOT REPAIR	48,728	

MISCELLANEOUS

- **PROVIDED ON/OFFLOAD SERVICE TO 50 U.S. SURFACE SHIPS AT THE INDIAN ISLAND PIER AND TO 33 SUBMARINES AT SUBASE BANGOR**
- **PRODUCED 8300 16"/50 ADDITIVE JACKETS FOR 16" FULL CHARGES**
- **RENOVATED 714 MK 107 AND 747 MK 103 TORPEDO WARHEADS**
- **RECEIVED THE NAVY AND DOD NATURAL RESOURCES CONSERVATION AWARD FOR INDIAN ISLAND DETACHMENT**
- **RECEIVED CHIEF OF NAVAL MATERIAL PRODUCTIVITY EXCELLENCE AWARD FOR EFFORTS INVESTED IN STIMULATING PRODUCTIVITY**



DEPARTMENT OF THE NAVY
NAVAL UNDERSEA WARFARE ENGINEERING STATION
KEYPORT, WASHINGTON 98345

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MAR 01 1985

From: Commanding Officer, Naval Undersea Warfare Engineering Station
To: Director of Naval History, Naval Historical Center, Washington, DC
Subj: NAVAL UNDERSEA WARFARE ENGINEERING STATION, KEYPORT, WASHINGTON;
HISTORY FOR PERIOD OF 1 JANUARY 1984 THROUGH 31 DECEMBER 1984
Ref: (a) OPNAVINST 5750.12C, CH-2 of 10 Jan 84
Encl: (1) NAVUSEAWARENGSTA Command History for Calendar 1984
1. Enclosure (1) if forwarded in accordance with reference (a).


LEWIS A. MUNSON
By direction

Copy to:
COMNAVSEASYS COM (SEA OOD, 63B, 6413)

Teamwork Results In Banner Year

Culminating a year of "total excellence", the Naval Undersea Warfare Engineering Station ended fiscal year 1984 with a nomination for the Commander-in-Chief's Installation Excellence Award. The nomination for this coveted award is based not solely on the Station's accomplishments during fiscal year 1984, but rather on the recent overall outstanding accomplishments of the Station. Most notable of these was the Naval Material Productivity Excellence Award bestowed on the Station last March. This award, presented by COMNAVSEASYS COM VADM Earl B. Fowler, Jr., was based on the formal incorporation of productivity objectives into all Station functions, individual merit pay objectives, and capital investment planning. Documented individual actions resulted in savings of more than \$15 million or nearly \$5,000 per employee. A concerted effort to reduce overhead costs resulted in actual overhead costs of \$5.4 million less than budgeted. Increased outputs in both the Mark 46 and Mark 48 torpedo programs combined with major innovations in management such as the Advanced Technology Training Center (ATTC) and the highly successful Quality Circles Program are indicative of the interest of management and the dedication of the total workforce. The Station has had a record year of assigned mission workload delivering over 2,000 Mark 46 torpedoes and over 900 Mark 48 REBIT torpedoes. Likewise, the Quality Circle Program produced positive results in improving productivity and quality of worklife. In FY 1984 alone, 14 new circles were added, bringing the total to 33 in just four short years. Also, more than 200 QC projects have been completed, yielding savings of nearly \$400,000. The "first" known international circle in government was established by NUWES involving Canadian and United States members at Nanoose Underwater Range. The ATTC was established to allow individual personnel development in microprocessors, computers, fiber optics, and robotics. Also in '84 came the establishment of NUWESnet — the design and installation of a local area data communications network which connects ADP resources and users utilizing fiber optic and coaxial cable technology throughout the Station and its Detachments. More than 1,000 terminals and 300 computer ports are connected to date with annual savings of more than \$600,000. The workload planning system developed by NUWES has been a model for NAVSEA and the NAVSEA community in applying workload planning techniques to support the management and budgeting process. Approximately 65 percent of authorized Capital Investment Program funding is applied to productivity improvement projects. Another highlight of FY 1984 is the Station's aggressive space planning efforts ensuring optimizing facilities. Long range facility planning has resulted in the completion of the 70,000 square feet, \$8 million Mark 50 Torpedo Building to coincide with development of this program. Also, the continuing attention to appearance, building and ground maintenance, and numerous improvement projects have resulted in a show place industrial activity. The Station's numerous visitors typically rank NUWES first in appearance of Navy shore stations. Additionally, an aggressive energy conservation program has resulted in completion and programming for numerous projects which have held energy usage far below the level of growth in direct workload. The Station has ranked at the highest level in the Occupational Safety and Health (OSH) and Equal Employment Opportunity (EEO) Programs. A concentrated effort in community relations including an extensive speaking schedule and an annual 4th of July celebration have resulted in recognition within local as well as the broader civilian community. NUWES has continued to excel in receiving military activity awards. The Station was a Navy semi-finalist for the Ney Award for

food service excellence in 1984. The establishment of a team approach has produced an enviable record of accomplishments for the Station including the Washington State and Pacific Northwest Pollution Control Association Awards for making the most significant contribution in pollution abatement in the Pacific Northwest, and the Navy and DoD Natural Resources Conservation Awards for the Indian Island Detachment. 1984 was indeed a banner year for NUWES and its employees. What better way to celebrate the Station's 70th birthday.

Service To Fleet Improves

By removing manpower ceilings, NUWES and the Navy benefited greatly during fiscal year 1984. In general, the benefit was derived in the major areas of increased product delivery and/or service to the fleet, increased capability development to satisfy upcoming technological advances in undersea warfare program support, and generally improved productivity through local management initiatives.

Success In Carrying Out Assigned Mission

Accelerated Mark 46 Torpedo Class B maintenance, including 1,444 overhauls allowed reduction of the Station's backlog of fleet torpedoes by more than 570, increasing the availability of these units to the fleet. An extended range use agreement with the Canadians and Depot-IMA facilities improvements resulted in record levels of Torpedo Mark 48 and ADCAP preparations and range runs. Warshot reliability is 100 percent as documented by more than 15 tests. The Station has exceeded the NAVSEA shipment schedule for Torpedo Mark 48 REBITs for the past three years.

Other mission workload figures include: 1,757 in-water torpedo and target proofing runs, 492 ASW systems tests, 368 ADCAP in-water runs, completion of 36,563 Electronic and 22,487 Mechanical Depot Repairables, and delivery of 914 Mark REBIT torpedoes. The Station also accomplished temporary transfer of fleet IMA workload from Pearl Harbor during modernization of that facility. Mission "first" include:

The first submarine Weapons System Accuracy Trials (WSAT) on the San Clemente Island 3-D Range, the first SSN 688 Class Submarine Consolidated ASW Readiness Trial (CART) on-board USS SAN FRANCISCO (SSN 711), certification as a Mark 84 Mod 0 Sonic Transducer Repair Facility, establishment of the Submarine Launched Mobile Mine Mark 67 (SLMM) conversion shop, establishment of the NUWES ADCAP Management Team, the Mark 50 Torpedo Mission Control Panel, surface and sub-surface submarine tracking capability of Quinault Underwater Tracking Range, and completion of the Mobile Acoustic Spatial Target Program.

Meeting the challenge of fleet demands is a monumental task in itself. But improvements have been made in response to fleet support requirements. For example, in 1982, NUWES maintained an 80.1 percent success rate in meeting the assigned delivery schedule. This rose to 89.7 percent in 1983, and achieved a new high of 93.3 percent in 1984. This achievement is noteworthy in light of the tremendous growth realized in the number of Depot Level Repairable (DLRs) being repaired. In FY 1984, the Station repaired an all-time high of 59,050 DLRs, a 21.2 percent

increase from the 48,728 DLR repairs made in FY 1983.

NUWES has benefited from the removal of civilian personnel constraints in the aforementioned areas, and in many more. This environment has enabled management to concentrate on service to the fleet and provide a top to bottom consciousness of cost control with effective use of resources.

NUWES Personnel Summary

	<u>Military Allowance</u>	<u>Civilian Permanent</u>	<u>Temporary</u>
• Keyport (Home Base)			
Officers	18		
Enlisted	230		
Civilian		2830	73
• Indian Island (Detachment)			
Officers	2		
Enlisted	30		
Civilian		103	33
• Hawaii (Detachment)			
Officers	1		
Civilian		130	4
• Hawthorne (Detachment)			
Officers	1		
Civilian		18	6
• San Diego (Detachment)			
Officers	1		
Civilian		46	0
SUBTOTAL	283	3127	116
TOTAL		3526	

NUWES Received Productivity Excellence Award

One of the top honors the Station has ever received came in 1984. On March 8, less than two years after the implementation of a Five-Year Productivity Improvement Plan, NUWES was cited in a Station ceremony as one of eight elite recipients of the Chief of Naval Material (CHNAVMAT) Productivity Excellence Award for FY 1983. (The Naval Sea Systems

Command, NUWES' headquarters, is one of five systems commands under NAVMAT. NAVSEA is commanded by VADM Earl B. Fowler, Jr., USN, who made the award presentation to NUWES.)

According to NAVMAT instructions, awards were established to stimulate innovative thinking about productivity and potential productivity improvements. More than 200 activities in the Naval Material Command vied for the coveted awards. And in a congratulatory message to the winning commands, ADM Steven A. White, USN, Chief of Naval Material, said, "The extraordinary efforts invested in improvements to both productivity and quality of worklife are reflected in the superior level of performance of your command. The results have been evident in the outstanding, creative, quality-oriented results you have achieved this year."

In addition to these overall Station accomplishments, 20 NUWES employees, civilian and military, were selected for an individual Productivity Fellowship Award based on a significant contribution either through performance or leadership in areas of direct labor support, staff support, technical assistance, supervisory leadership, or other acts of administrative service which contributed to the achievement of the Productivity Excellence Award.

VADM Fowler, COMNAVSEASYSKOM, made the individual presentations March 8, 1984, at the Productivity Excellence Award ceremony held at the Station gymnasium.

Below is the Productivity Excellence Award plaque received by the Station; at left is the flag the Station may fly; below left are the 20 Productivity Fellow recipients.



The ATTC Is A Top Notch Training Facility

The doors were officially opened to the Advanced Technology Training Center (ATTC) Tuesday, 8 May, and also to technological training opportunities for NUWES employees.

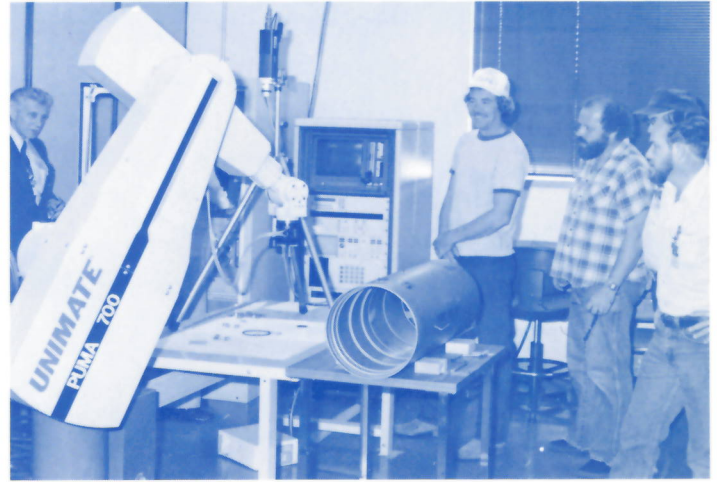
The commemorative ribbon-cutting ceremony and open house were attended by an estimated

100 Station employees, invited guests and visitors. Presiding over the grand opening and wielding scissors to sever the ribbon were NUWES Commanding Officer, CAPT C.H. Wilbur, Senator Ellen Craswell, and Dr. Henry Milander, President of Olympic College. CAPT Wilbur delivered the welcoming remarks for the inaugural occasion and was followed in addressing ATTC visitors by Technical Director E.H. Lesinski and Department Heads Robert Marimon, Code 70, Clyde Hudson, Code 20, and Robert Meade, Code 03. Following the introductory remarks, a tour of the fully equipped and staffed facility was conducted.

The ATTC consists of four primary training laboratories devoted to skill enhancement in computers, microprocessors, fiber optics, and robotics. Each laboratory is staffed by trained personnel with expertise in their particular field for hands-on training and individual instruction. Additionally, classroom space is available for on-the-job and after hours instruction and a wide range of employee development activities.



State Senator Ellen Craswell experiments with the equipment in the fiber optics laboratory of the ATTC.



Station employees witness how the new robot equipment works in the Robotics Lab.

NUWESnet Introduced

Computer and communications capabilities were firmly linked to the future in 1984 with activation of an intra-Station coaxial cable network system, "NUWESnet."

The cable network system currently interconnects 16 locations at Keyport, with more scheduled for later hookup, and makes possible a wide range of video/data transmission applications.

Networking, essentially, is a two-way cable TV system that permits interaction between the user (with computer terminal and TV monitor) and transmission source, typically a computer and/or a VCR/videodisc player.

Project manager of NUWESnet, described a successful pilot demonstration of the system — involving representatives from six customer departments — as highly successful and enthusiastically received.

A key test of the pilot study was workability of on-the-job network training in an on-duty environment, noise, distractions, interruptions, etc. A post-demonstration critique revealed a solid consensus on the network's potential.

A few of the services the new communications tool could provide include: Two-way video conferencing between Command and departments, a major upgrade of the existing audio-only

intercom; a library of videotapes or videodiscs stocked at the Advanced Technology Training Center which can be accessed and viewed on remote TV monitors; and cross-country video conferencing with NAVSEA addressing NUWES audiences on TV monitors.

Anticipating the Station's requirements include extending the network off base, linking directly to colleges or educational facilities for real-time or taped instruction. Video surveillance and voice recognition are other technologies that can benefit from the network foundation that has been laid.

Voice Technology Introduced to Station

During the summer of '84, voice technology was introduced to the Station. At the request of Technical Director Ed Lesinski, the Data Processing Department undertook the project of helping define the possible application(s) of voice technology on Station.

Speech technology is the digital recording into a computer's memory of a person's voice pattern (template) as the person speaks a word which they want the computer to later recognize. A voice module must be linked to the computer to accomplish this template storage and recognition.

One area where NUWES is currently experimenting with voice technology is in the Traffic Receiving Area of the Supply Department. Where it used to take two individuals to input the data for each item passing through the warehouse, one to read off the numbers and one to record it, we now have one person doing the work of two with a lot more accuracy.

By having one individual speak the numbers into a microphone and hearing them repeated back via a head set, inaccuracies and misunderstandings with data input are alleviated. For this particular voice technology application approximately one half to one full man-hour of work is saved per day.

QC Program Ends Year With 33 Circles

The Quality Circles Program on Station grew by leaps and bounds during 1984 adding three new facilitators and 14 Quality Circles. There are now 33 Circles at NUWES.

Another noteworthy event was the establishment of the first international Quality Circle in the federal government. A joint U.S. — Canadian Quality Circle held its first regular meeting during January 1984 at the Nanoose Range Facility.

Other highlights for the Quality Circle Program during 1984 included:

Extensive public relations played an important role as a monthly Quality Circle Newsletter went to press. Also, QC articles appeared in the Station newspaper **Keynotes** on a regular basis throughout 1984.

The first link-pin circle was formed combining members from Comptroller and Supply Departments.

Increases were realized in the confidence and strength of cost accounting data.

Circle projects shifted away from quality of worklife matters toward production-oriented projects.

The first Advanced Leader and Advanced Facilitator Training was conducted during 1984. Two NUWES facilitators were elected to hold office in the Greater Seattle Chapter of the International Association of Quality Circles for the 1984-85 business year.

One can clearly see that the Quality Circles Program at NUWES is an efficiency gauge of our

productivity. During 1984, NUWES Quality Circles recorded a total savings of \$354 thousand. This represents a \$1.74 to \$1 return on investment.

\$\$ Highest Beneficial Suggestion Awarded \$\$

Two creative contributors in 1984 earned the highest cash awards ever granted under NUWES' Beneficial Suggestion Program and collectively saved the Station more than \$400,000.

An Electronics Mechanic earned the top suggestion award of \$5,575 for an ingenious method of using a parachute retardation device to slow the descent of a Torpedo Mark 48 after on-range exercising to facilitate recovery from the bottom. Before the idea was adopted, a torpedo could become buried — and, in some cases, even lost — when hitting the bottom under momentum. The suggestion saved the Navy an estimated \$270,000 a year in recovery costs.

An Electronics Systems Inspector (Ordnance) received the second highest award ever of \$3,900 for a practical proposal that high and low pressure transducers be reworked and restored to service after exposure to saltwater during in-water runs of the Torpedo Mark 48. The suggestion called for the disassembly of the transducer, cleaning and removal of corrosion, and replacement of hex-head screws and O-rings. Before the restoration procedure proved feasible, saltwater-exposed transducers were routinely replaced by new ones. The idea saved the Station an estimated \$137,000 annually in hardware costs.

New Mark 50 Torpedo Building Dedicated

The new Mark 50 Torpedo Building was officially dedicated on October 2 while more than 350 guests looked on. CAPT Wilbur cut the ceremonial ribbon with the aid of the Station Technical Director Ed Lesinski, CAPT Robert Wellborn, Jr., the Mark 50 Program Manager from NAVSEA, and Clint Larson, the Honeywell Vice President and General Manager.

During his opening remarks, CAPT Wilbur praised the teamwork efforts of Station civilian, military, and contractor employees. CAPT Wellborn added that the new \$8 million building "is a symbol of teamwork and a true representative of excellence."

While CAPT Wellborn was finishing his speech the sun ironically broke through the overcast sky. This prompted the Mark 50 Program Manager to comment, "this is indeed a good omen for the future of this edifice."

NUWES spokesman Lew Munson said the large, new shop, under construction for more than two years, will ensure a stable workload (at NUWES) for the next 15 to 20 years. He said the new antisubmarine Mark 50 Torpedo is expected to be in use at least through the 1990s.

The new shop, with 70,000 square feet of special-purpose space, is to provide proofing, testing, evaluation, and fleet support for the new torpedo. Planning was initiated in March 1978 with congressional approval and funding provided in August 1981.

Hawaii Detachment Celebrates 10th Year

On Friday, January 27, 1984, the Hawaii Detachment held a Hawaiian luau to celebrate 10 years of success as an important element of the Naval Undersea Warfare Engineering Station, Keyport. During its 10 year existence, the Detachment has provided outstanding and critical support to a multitude of fleet and fleet-supported organizations. Many guests representing these

organizations gathered to celebrate with the Detachment.

The luau, held at the Honolulu Japanese Chamber of Commerce Hall, was attended by 380 employees, family members, and guests. The hall was beautifully decorated by Detachment personnel with palm fronds, tropical shrubbery, and thousands of tropical flowers. An exotic feast which included kalua pig, chicken long rice, lomi salmon, and other Hawaiian luau favorites rounded out the festivities.

Following the meal, everyone was treated to good old fashioned Hawaiian entertainment of songs, hula, and tahitian dancing by the Detachment hula troupe. As the highlight of the evening program, Detachment Chief Engineer Jimmy Sakata took the podium, and reviewing the history of the Detachment, recognized Detachment and Station personnel who were instrumental in the success achieved over the past 10 years.

The Hawaii Detachment was formed out of the Fleet Support Division of the Quality Evaluation and Engineering Laboratory of the Naval Ammunition Depot (NAD), Oahu, and became part of NUWES on January 6, 1974. At that time of organization, the Detachment strength was 90 government employees and one contractor. Today, the workforce consists of 130 civil service employees and 68 contractors.

At the luau, CAPT Wilbur read a congratulatory letter from RADM Robert Fountain, SEA-06. In his letter, RADM Fountain said in part, "...Your part in conducting a decade of ASW Ship Test Analysis programs in the MIDPAC and WESTPAC area and in supporting the Mobile Target Mark 30 and BARSTUR/BSURE range instrumentation programs as well as other important NAVSEA programs in Hawaii, is appreciated. Our ship, submarine, and aircraft undersea warfare systems are in better condition, and ASW training in the Pacific Fleet has benefited greatly from your efforts..."

The Detachment received many other congratulatory letters and messages from activities all over the country.

The success and growth that the Hawaii Detachment has enjoyed during the past 10 years has been unique and unrivaled. With its reputation for enthusiasm, imagination, and dedication to excellence, it would be difficult to envision anything but continued success for the Hawaii Detachment in the future.



The most recent aerial view of the Station includes the new Mark 50 Torpedo Building indicated at center with an "X".