



DEPARTMENT OF THE NAVY

USS CANOPUS AS-34
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From: Commanding Officer, USS CANOPUS (AS 34)
To: Director, Naval History (OP-09B4), Washington Navy Yard
Washington, DC 20474

Subj: COMMAND HISTORY OF USS CANOPUS (AS 34), 1986; REPORT SYMBOL 5750-1

Ref: (a) OPNAVINST 5750.12C

Encl: (1) Basic History

1. In accordance with reference (a), enclosure (1) is submitted as the Command History for USS CANOPUS (AS 34) for calendar year 1986.


T. J. O'BRIEN, JR.

BASIC HISTORY

COMMAND ORGANIZATION

USS CANOPUS (AS 34) is under the operational control of Commander, Submarine Group 6, Rear Admiral S. E. Bump. USS CANOPUS' primary mission is to conduct repair work for Commander, Submarine Squadron 16 units and replenish Site VI in Kings Bay, GA. USS CANOPUS is the Command Ship for Commander, Submarine Squadron 16, Captain Harry P. Salmon, Jr. CANOPUS' Commanding Officer is Captain Thomas J. O'Brien, Jr., USN, and the Executive Officer is Commander James F. Struble, USN. Key personnel changes which occurred during 1986 are as follows:

<u>Billet</u>	<u>Date</u>
Operations/Navigation Officer	January 1987
Auxiliary Machinery Officer	December 1986
Assistant Repair Officer	October 1986
Stores Officer	March 1986
Ship's Store Officer	March 1986
Medical Officer	August 1986
Dental Officer	July 1986
Communications Officer	November 1986

NARRATIVE

1. USS CANOPUS was moored and homeported at Naval Base, Kings Bay, GA.

2. REPAIR DEPARTMENT HISTORY

a. Repair Administration Division (R-0) shops accomplished the following listed items during Calendar Year 1986. The Photo Lab (39A) installed a new Roll Paper Printer and a new Black and White Enlarger, increasing output, while at the same time cutting down on turnaround time. The Photo Lab shot 562 jobs, used 1,800 rolls of film, and produced over 20,000 prints in both color and black & white. A new video camera system was installed, enabling the Photo Lab to provide training services for RADCON Drills. Over 50 hours of various type drills were filmed. The Print Shop (37A) processed 2,500 print requests and 525 photoengraving requests for various units of SUBLANT, SURFLANT, and local shore commands. The Drafting Shop (64D) processed 830 work requests during the year. An average of 60 Engineering Logs per tended unit were processed, as all units had logs changed from 8½" x 14" to 8½" x 11".

b. During Calendar Year 1986 the Hull Repair Division (R-1) supported 25 refits of COMSUBRON 16 submarines, one COMSUBRON 18 submarine, one COMSUBRON 4 submarine, five COMSUBRON 16 surface units, one emergency small boat repair, and one extended refit of an SSBN in dry dock. Work in support of these units included the following shops:

(1) The Shipfitter Shop (11A) expended approximately 67,160 manhours. Noteworthy repairs included the design and manufacture of 3 sets of sailstaging and the manufacture of a stainless steel lithium bromide settling

tank for CSS 16. The shop also manufactured a high capacity air compressor skid, replaced 250 feet of handrail, replaced the port and starboard running lights, and renovated five office spaces aboard the USS CANOPUS (AS 34). Over 1,500 zinc anodes, 100 feet of safety track, and five thermal studs (located inside the missile tubes) were replaced on tended SSBN's. The shop repaired the #1 potable water tank on all tended units, and completed the repair of over 70 sound shorts and 20 other sound oriented jobs on one SSBN within four days.

(2) The Sheetmetal Shop (17A) expended approximately 17,520 manhours. Noteworthy repairs included the replacement of over 2,500 feet of false overhead onboard USS OAKRIDGE (ARDM 1), 150 feet of stainless steel sheeting for the trash disposal units on SSBN's, 1,500 feet of ventilation on board the USS CANOPUS (AS 34) and other tended units, along with 70 feet of missile loading hatch stainless steel sheeting on SSBN's. In addition, the shop manufactured a mail box 3 feet x 4 feet of 1/8 stainless steel (for NAVSUBASE Kings Bay), over 750 various size lockers and cabinets, a cleaning gear adapter for use on 300 KW SSMG sets, and 2 air tight drug boxes for the Master-at-Arms onboard the USS CANOPUS (AS 34).

(3) The Weld Shop (26A)/Pipe and Copper Shop (56A) expended approximately 64,240 manhours. Noteworthy repairs included an in-place valve weld repair and weld joint replacement on two ASW valves, requiring no rework. This job was noted as being seldom seen onboard IMA's. In addition, two personnel were dispatched to Ft. Lauderdale, Florida, in order to perform emergent repairs on an auxiliary steam valve onboard an SSBN import. For this effort a "Bravo Zulu" was received from COMSUBLANT. These shops replaced over 800 feet of various size and types of pipe, 20 auxiliary seawater valves, and the poppet seats on six main engines and SSTG turbines. Ten missile heating and cooling modifications of constant flow fittings, hydro blast of 10 ASW and MSW coolers and condensers, along with base metal repairs on 15 pump shafts and three missile tubes were performed. Over 500 joints and 130 miscellaneous system components were brazed and welded. In addition, five jobs were completed on AS 34's CHT system, firemain system and associated equipment.

(4) Flex Hose Shop (56C) expended approximately 5,840 manhours. Noteworthy repairs include the manufacturing of 416 critical and non-critical RISICS.

(5) Lagging Shop (57A) expended approximately 23,360 manhours. Noteworthy repairs included the manufacturing of 750 lagging pads and the replacement of over 600 feet of casolite lagging, 125 feet of which was on a main steam line onboard a SSBN, a job normally accomplished by a shipyard. The shop also replaced 10,000 feet of cold lagging, 200 square feet of wallboard, the removal and installation of lagging on 2 steam generators, and over 100 asbestos ripouts onboard tended units.

(6) The Division supported highly successful PARE/QA, OPPE, RCPE and 3-M inspections. Personnel received 37 Letters of Commendation, 38 Letters of Appreciation, two Navy Achievement Medals, and the Battle Efficiency "E" Award for FY 86.

c. The Machinery Repair Division (R-2) accomplished the following repairs during the year: 300 typewriters, 118 clocks, 330 copy machines, 25 viewer/printers, five fairings, 72 ball valves, 34 steam related valves, 15 SSTG throttle jobs, 11 nuclear repair jobs, and five saltwater pumps. The division calibrated 7,770 mechanical instruments, overhauled 85 optical/navigational instruments, overhauled and repaired 24 periscopes,

manufactured numerous valve stems, blank flanges, test fittings, nuts and bolts, and four in-place cutting machines. In addition, nine steam chest covers, 22 shafts and 47 end bells were electroplated.

d. The Electrical Repair Division (R-3) supported refits for CSS 16's Fleet Ballistic Missile Submarines, one surface unit and all yard craft at Site VI. In support of these refits, 30 vent fans, five SSMG sets, and 60 pump motors were balanced and sound cut. Over 800 portsmouth plugs were shot, and 200 sound mounts, snubbers and DIM materials were replaced or refurbished. The division repaired eight various type masts, 34 epoxy shims, performed 30 cold epoxy patches, and 25 "O" ring splices. Ten electrical hull penetrators and 12 underwater log rod meters were replaced along with maintenance on six gyros, six CAMS units, six SUNDSTRAND systems, six Dialeex phone and AN/WIC systems. One thousand plaques and 1,500 rubber stamps were manufactured for various units. In addition, 300 routine plastisol jobs, 400 plexiglass services, 25 grout jobs, 37 PVC piping repairs, and six IC Switchboard Shipalts were performed. Seventy-five exterior cable replacements for navigational lights and mast indicators were installed, and six 54MC stations were wired for a new interdivisional communication system. The Electrical Division calibrated over 800 portable meters and 500 in-place meters. Over 55 new cable runs were made, 40 electrical motors reconditioned, 22 electrical motors rewound, 75 motor generator sets resurfaced, 10 welding machines, and 25 movie projectors repaired. Also seven trim pump motor rotors were repaired or reconditioned.

e. The Electronic Division (R-4) supported one attack submarine of CSS-4, 25 SSBN refits, and 6 major drydockings with extensive repairs. The work during drydocking included the replacing of the BQR-7, BQA-13, BQR-15, WQC-2 and hydrophones on various assigned units of COMSUBRON 16. The division conducted Electronic Arrival Inspections for each tended unit. These inspections observe the outboard mast and antennas for mechanical discrepancies, and VSTS testing in order to validate operational readiness of VLF to MF receiver communications systems. ESM grooming is accomplished as well as tuning all tuners in the ESM Testing Room. To ensure 100% operational readiness of all Site VI units, the Communication Repair and Assistance Team (CRAT) deploys on all REFTRA's and COMCONEX's. The MICRO repair and MINI repair station was certified by local MOTU. The Fleet Electronic Calibration Laboratory was recertified by the Proficiency and Readiness Evaluation/Quality Assurance Inspection and Capability and Proficiency Evaluation (PARE/QA, CAPE). FECL made a significant contribution to the timely establishment of Nuclear Field "A" School, Orlando, FL, by calibrating more than 300 pieces of initial asset general purpose electronic test equipment. The division is continually increasing the level of technical expertise by formal training and OJT utilizing the local MOTU, NAVSESS, and NAVSEA representatives to train on board technicians.

f. The Radiological Controls Division (R-5) accomplished the following evolutions during the year:

- Primary Filter Media Replacement.
- On board retention tank inspection.
- Portable effluent tank installations.
- Primary valve replacements/repairs.

- Steam Generator Inspections in support of Norfolk Naval Shipyard.
- Installation of Core Removal Cooling
- Repair of a primary to atmosphere leak.
- Support of Primary Relief Valve testing.

In addition, the division continued to maintain its spaces in an excellent material condition. The division packed and shipped 150 drums of radioactive waste material and processed for at sea disposal 15,000 gallons of radioactive liquid waste. A new level indicator was installed and tested on a portable tank. The radiac calibration facility successfully completed a recertification inspection and calibrated over 1000 instruments. Over 300 instruments were repaired by the facility. A Radiological Controls Practices Evaluation was conducted with an overall grade of Above Average.

g. Repair Services Division (R-6) laid approximately 3,500 square feet of terrazzo, 2,000 square feet of tile, 3,000 square feet of lon-mat and 1,000 square feet of levelite underlayment. It produced an average of 150 castings per month and manufactured six radiological containment constructed tents. The Repair Services Division repaired/replaced an average of 250 Naugahyde covers per month, and manufactured podiums and platforms for several Change of Command ceremonies. They performed rigging services on one 300 KW SSMG Rotor, six trash disposal units, 12 main seawater pumps, and numerous auxiliary pumps, valves and motors. In addition, boat beading and hullpatch repairs were conducted on five small boats, as well as performing all types of general carpentry services.

The Diving Locker conducted 411 working dives on tended units, performed 47 Pressure and Oxygen Tolerance tests for diving school candidates, conducted hyperbaric treatments for two civilian carbon monoxide poisoning cases, treated four Type II (Central Nervous System) bends cases, two gas embolism cases and three aviation bends cases. A total of 25,543 manhours were expended in diving and chamber operations. The LCM-3 diving boat went through an interim drydock period to upgrade its electrical system, for hull preservation, and main engine repairs. Fourteen TAD diving missions were accomplished during 1986 in support of deployed units.

h. The Planning and Estimating Division (R-7) accomplished the following during 1986. The Planning and Estimating Workcenter (10C) prepared 665 controlled work procedures, accomplished 151 Shipalts and 104 A&I's on tended units and CANOPUS. Personnel assigned to Repair Technical Library (10E) completed 300 technical manual updates, over 100,000 technical drawing updates, renovation of the Tech Library spaces, and performed two complete and accurate inventories of the ship's complement of over 20,000 tech manuals.

i. The Quality Assurance Division (R-8) reviewed over 667 non-nuclear procedures and performed over 28,000 of the following examinations: Visual, Dimensional, Liquid Penetrant, Magnetic Particle, Eddy Current, Ultrasonic, Radiographic, Acid Spot Test, and Chemical Analysis. A COMSUBLANT Quality Assurance Audit was conducted with no rework required on any job performed by this IMA.

j. The shops of the Outside Machinery Division (R-9) completed the following work in support of tended units:

(1) Shop 38A overhauled nine AC/ASW pumps, four MSW pumps, four ASW pumps, five AFW pumps, two HP brine pumps, two drain pumps, five SSTG throttle valves, four BRA-24's, two hovering valves, one missile heating and cooling pump, one MLO pump, one HP air compressor, six mainsteam valves, and ten auxiliary steam valves on board tended units. In addition, the shop replaced three Tiller Pins, one SSBN screw, one Tug Boat screw, and performed one shaft seal replacement and two AFW pump Shipalts. Six trash compactors were replaced along with bushings on ten water tight hatches. MRC/URO Inspections were conducted on three SSBN's during interim drydocking. Six missile tube window modifications were completed and three main engine indicators were repaired. Four snorkle mast removals, including bearing replacement, and one snorkle mast induction tube removal and reinstallation were also accomplished.

(2) Shop 31F overhauled 30 Marrota Valves, one After Signal Ejector Impulse Tank, four BRA-24's, three Lead Hydraulic Accumulators, six Steam Kettle Relief Valves, 10 Oxygen Valves, seven VACCO Reducers, two BRA-8 Control Valves, six Hoisting Cylinders, three Snorkle Mast Hoisting Cylinders, six Snorkle Head Valves, 25 Hydraulic Control Valves, and 35 Reducer Head Valves. The shop also set 150 relief valves of various kinds, repaired three Hydraulic Accumulator Filter Blocks, and replaced four hydraulic pump seals. One BRA-24 reel was also repaired.

(3) Shop 31D repaired five Main Steam Valves and overhauled the following equipment: Five Diesel Seawater Valves, 60 Auxiliary Seawater Valves, three TDU's, one FWD and six AFT Signal Ejectors, six Hovering System Valves, 30 Trim and Drain Valves, eight Ventilation Valves, eight Plumbing Valves, one Auxiliary Fresh Water Valve, three Salvage Valves, and eight BFV Valves with stud replacements.

(4) Shop 31E repaired two SPM binding problems and performed one 671 Diesel, and one 471 Diesel overhaul. They poptested 50 units injectors, calibrated 40 fuel oil pumps, and repaired five 2-K compressors. The shop also overhauled five P-250 pumps, two 671 diesel blowers, three ABT Blow Valves and one low pressure air compressor along with the replacement of one SPM during an SSBN ERP.

(5) Shop 56B reworked 14 Pantry Reefer Boxes, and overhauled 20 packingless valves. The shop also installed eight 7½ ton A/C units, repaired 10 salad bar cooling units, worked six chill box, six freezer box TXV's, 14 ice machines and six ice cream machines. A compressor on three 7½ ton A/C units was replaced, along with five condensers on 7½ ton A/C units. Twelve soda machines, three R-11 units, and eight temperature control switches were also replaced.

(6) The Outside Machinery Division has obtained a level of Personnel Qualifications second to none and set up the T-Shed area for off-ship work.

k. The Nuclear Planning/Repair Division (R-10) prepared procedures for and completed 129 nuclear repairs/alterations on tended units and the Nuclear Support Facility. The newly formed division continued the outfitting and renovation of new work spaces. In addition, Nuclear Planning functioned as the lead work center and provided material support and technical liaison for accomplishment of more than 40 alterations performed by the ship's force of tended units.

3. SUPPLY DEPARTMENT

During Calendar Year 1986 the Supply Department made many major improvements which were instrumental in its ability to significantly enhance the support provided to all customers and earn the FY-86 COMSUBLANT Supply Blue "E". Noteworthy accomplishments included:

- a. Ranked number one tender by COMSUBLANT from April through December based on seventeen key management indices.
- b. Consistently maintained a supply effectiveness which exceeded ninety percent.
- c. Attained for the first time in five fiscal years COMSUBLANT'S Force SAC-207 unmatched C, H, and J Listing goals.
- d. Implemented a proto-type Annual Tender Load Improvement System (ATLIS)
- e. Implemented VITRO upgraded Bar Code Inventory System.
- f. Established a dedicated Q-Cosal Storeroom.
- g. Implemented Intermediate Maintenance Management System Real Time (IMMS-RT) release 2.0 and 2.1
- h. Implemented Administrative Data Management (ADM) Real Time subsystem.
- i. Fully implemented the Uniform Micro Disbursing System (UMIDS)
- j. Successfully completed all major command inspections with no major discrepancies noted. Especially worthy of note was an overall above average grade for the FY-86 Supply Management Inspection (SMI).
- k. Completed major renovations and material condition improvements in Food Service, Retail Sales, SUBSAT/ROVSS, Stores, and Berthing Compartment spaces.

4. ENGINEERING DEPARTMENT

The Engineering Department is continuing to provide support operations at Naval Subbase Kings Bay, Ga. The Engineering Department provides the SITE VI Submarines with nitrogen and oxygen charges, shore power, CHT hoses, chilled water, etc. During 1986 the Engineering Department underwent a number of significant inspections including: 3M Inspection, Training Readiness Evaluation, Operational Propulsion Plant Exam, a Nuclear Weapons Acceptance Inspection, in which the Damage Control Locker rated Outstanding; a Radiological Control Practice Exam; and a Tactical Weapons Certification Inspection.

Other major accomplishments made in the Engineering Department were: Overhauled #2 main condensate pump, #2 auxiliary circulating pump and the #3 auxiliary condensate pump. Completed overhaul of #2 and #3 main A/C unit and overhauled #3 R-12 reefer unit. Completed overhaul of lube oil purifier. Completed 8 tank cleansing operations. Overhauled #1/LPAC. Replaced low pressure drain cooler, overspeed trip assembly and the #3 ship's service generator. Cleaned and inspected entire ship's ventilation system and installed more than 200 access covers to facilitate future cleaning.

5. WEAPONS REPAIR DEPARTMENT

The Weapons Department continued on-line operations through 1986. The Weapons White "E" for Fiscal Year 1986 was awarded by COMSUBLANT based on the results of the following inspections, exercises and reviews: Operational Capability Review Period (OCRP), Tactical Weapons Capability Review (TWCR), Short Notice Navy Technical Proficiency Inspection (NTPI), Weapons Quality Assurance Audit, and two Physical Security Exercises.

6. ADMINISTRATIVE DEPARTMENT

Productivity and quantity has steadily increased throughout the year. The Administrative Department provided top notch Administrative/Personnel assistance in every area of responsibility. The Educational Services Office administered Navy-Wide Advancement in Rate exams and provided crew members with Navy Correspondence Courses and arranged to administer local college courses on a recurring basis. The Legal Office handled Captain's Mast, Courts-Martials and Administrative Boards. The Command Chaplain continued Bible Study Groups; Outreach Ministries; Marriage Enrichment Sessions; Christian Film Presentations; Pastoral Care and Counselling; and "After Hours" visits. USS CANOPUS won the Commander Submarine Force, U.S. Atlantic Fleet Silver Anchor Award for 1986, citing superior enlisted retention and also received the FY86 Battle Efficiency "E" Award for the best FBM Tender in Submarine Force, U.S. Atlantic Fleet.

7. OPERATIONS DEPARTMENT

a. The Communications Division's manning saw an increase in the assignment of junior female personnel. Manning is at 67% female mostly E-4 and below.

b. Communications Division received a Communications Readiness Evaluation (CRE) in July from Commander Submarine Force Atlantic. The division received an overall grade of 96%, the highest of any FBM Tender in the Force.

c. The Communications Division was awarded the Communications Green "C" for FY86 for excellence in Communications.

d. New PRC decking was installed on the 04 level weather decks.

e. CANOPUS successfully operated with joint forces in a first of its kind PORT EGRESS Exercise in March 1986 (PEGREX 1-86). CANOPUS provided direct

assistance in writing the OPORD, planning, execution of the operation and provided outstanding Communications support.

f. The VERDIN equipment racks were relocated from the off-line area to crypto area to improve accessibility for BCST, TACAMO & AAP operations, and to provide maintenance accessibility and ventilation.

g. The Enhanced VERDIN processor was installed in September 1986.

h. Communications Division received recognition from FACSFAC Jacksonville for the quick response to a Military Air Distress Call which enabled a military aircraft to land safely.

i. The OMS account received a training visit and an inspection and both visits were highly successful. During the CRE the inspectors noted that Two Person Integrity (TPI) in Communications was the best they have seen throughout the Force.

j. Two XEROX 1090 copiers were installed in Radio Central in December 1986. These XEROX copiers replaced the XEROX 1075 copiers under the new Standardization Shipboard Reproductive Equipment (SSRE) Program.

k. Navigation Division continued to demonstrate the ability to safely and successfully navigate in restricted waters of the St. Mary's river and during open ocean transit to Ft. Lauderdale, FL. and back to Kings Bay. Navigation Division remained ready to support tender underway operations at a moment's notice, including independent steaming exercises in February, March, April, May, and August, and the Operational Propulsion Plant Examination in May. Major projects for this year included refurbishment of running light wells, installation of new running lights on both 04 Level Bridge Wings, and the installation of a RAYNAV 750 MK II Loran receiver.

m. In the Electronic Division, technicians engineered the relocation of the VERDIN Communications System from off line to the secure teletype space. Also during this period technicians supervised EVP installation and relocated the beeper antenna to the port yardarm. In addition, one electronics technician attended XEROX 1090 Maintenance School in Norfolk, Virginia and now serves as the ship's 1090 maintenance expert.

n. Electronics Division continued to provide support in the area of cryptographic maintenance for tended units of Submarine Squadron SIXTEEN. Repair work included grooming and overhaul of KW-7 and KWR-37 equipment with additional work on KY-38 crypto gear and SPA-25 radar repeater equipment.

o. The Department received a visual TEMPEST inspection in February 1987.

8. DECK DEPARTMENT

CANOPUS' Deck Department's motto, "Can do, Will do, Glad to" has been proven to be true countless times during this past year. Support for Squadron and

other tended units as well as the superior material condition of CANOPUS has earned the deck force the distinction of being the finest in SUBLANT. Among their significant accomplishment, the most noteworthy were:

a. The maintenance, repair and readiness of the fifty-seven and a half ton Boat and Missile cranes and the traveling cranes have provided over 3600 hours of operations that have supported all required Site VI evolutions without interruption and a minimum of schedule disruption. Crane Repair Technicians have proven themselves to be the most competent in the Fleet as evidenced by the following:

(1) Crane Repair Technicians expended in excess of 1000 manhours in support of Charleston Naval Shipyard (CNSY) during the troubleshooting, repair and recertification of both fifty-seven and a half ton boat and missile cranes due to a design defect. The main hoist block on the starboard crane was fully disassembled with all bearings, races, and wire rope replaced. When the problem persisted, a design modification was approved requiring the single right lay wire to be replaced by separate right and left lay wires as well as a sleeve modification to the main hoist block. In order to effect these changes in a timely manner, Crane Repair along with other deck Department personnel worked around the clock to complete intermediate steps required to be prepared to support CNSY when their shift began each morning. All other crane maintenance and repairs continued uninterrupted for continuous site support.

(2) Redesigned topping rams for all four traveling cranes were replaced by Crane Repair Technicians. This job is normally completed by a shipyard. Crane Repair personnel obtained and rigged their own scaffolding for these jobs and, through diligent planning and adherence to a tight work affecting support to tended units.

(3) Above and beyond the many hundreds of hours spent in scheduled maintenance, over 1830, man-hours were expended by Crane Repair Technicians alone in repair of the six ship's cranes. These figures do not reflect other Deck Department personnel, such as departmental supply support necessary to facilitate these repairs.

b. Crane lifts to tended units and for other departments internal to CANOPUS have been second to none. Second Division received a Letter of Appreciation for a job well done from the Repair Officer, Electronic Repair (R-4) Division and Torpedo and Gunnery (W-1) Division.

c. During a NTPI Technical Assist conducted by SUBLANT and FLTAC personnel, the Crane Division qualification and training records were noted as being the "best they had seen." These comments were substantiated during a short notice NTPI where zero deficiencies were noted.

d. Workcenter 72-C (After Boatswain's Locker) completed over 200 controlled work packages, which included fabricating torpedo handling, ship's mooring and life lines for each submarine, as well as wire slings to meet the needs of CANOPUS.

e. When a shortage of repair parts in support of the ship's cranes was identified, Deck Department reviewed the technical documentation and identified approximately 1400 parts needed for an effective COSAL support package. The parts have been received on board and have dramatically increased Deck Department's overall readiness.

f. The challenge of keeping CANOPUS a showplace for visiting dignitaries, meeting the needs of the Squadron 16 SSBNs, and to do so with practically no off-ship storage facilities, has been a monumental task.

(1) The gentle balance of keeping enough paint to do the job and not too much to be stored is one that requires continuous scrutiny and expert management. Paint-packs are delivered topside to each arriving unit and around-the-clock services provided to support any additional jobs which arise.

g. Deck Department maintains and operates ten boats in support of CANOPUS, Squadron 16 and the SSBNs. Third Division has accomplished the following with respect to support of Site VI small boat activity:

(1) Completed overhaul and preservation of one LCM 6. This was accomplished on site and greatly extended the useful service life beyond normal expectations. This is particularly noteworthy since this boat had been surveyed.

(2) Met every requirement to supply waterborne support for operational commitments, inspection of the wharf area and tours for visiting dignitaries.

(3) Provided small boat services for the officers and enlisted personnel of Site VI SSBNs to nearby Cumberland Island, which can only be reached by boat, and to Fernandina Beach. This has provided the SSBN crews with a tremendous morale boost during their arduous refits.

h. With 104 personnel assigned, Deck Department maintains a 90% reenlistment rate. Over two-thirds of the department has qualified in Damage Control and 3-M Maintenance PQS. The Departmental Training Officer conducts an aggressive training program bi-weekly for Crane Operations, Crane Maintenance, Small Boat Operations, General Deck Seamanship and Mooring Operations: These have also been presented to Site SSBNs. The quality of training is readily apparent by the amount of work output and degree of excellence displayed by the Deck Department.

In summary, the CANOPUS Deck Department's "Customer" always comes first. From the marathon crane job to the paint brushes needed in the early morning hours to complete a refit, the Deck Department's "Will do" attitude has been outstanding.

9. DENTAL DEPARTMENT

The performance of CANOPUS Dental Department throughout 1986 has been outstanding. Dental service to Site VI personnel has been superior and the dental health of deploying SSBN personnel has never been better. CANOPUS

Dental Department is considered the best in SUBLANT and was awarded the FY86 Dental Yellow "D" for excellence in the AS (FBM) Category. The Dental Department serves nearly 2,000 personnel, not including tended units, in a fast paced submarine refit environment.

a. Over 6000 appointments were given to personnel seeking routine and emergency dental treatment.

b. A formal submarine independent duty corpsman dental treatment program, including a treatment protocol guide, was initiated to provide improved service to SSBN personnel.

c. During 1986, CANOPUS crew members received individual oral hygiene instructions and flouride treatments in conjunction with their annual dental examination which proved to be more effective than group instruction.

d. Computerization of dental treatment records provided immediate, present time dental health status of Site VI personnel, minimized administrative work, provided strict confidentiality and permitted effective monitoring of patient treatment. A PQS for Dental Technicians was established to provide post-"A" School standardization of training for all newly reporting dental personnel.

e. A productive Quality Assurance Program was established to ensure the utmost in disease control, sterilization procedures, radiographic clarity, accountability for hypodermic needles and dental equipment, recovery of precious and special dental metals and to provide for the best dental care available.

f. Major equipment installation included a new standard x-ray machine, an in line automatic radiographic film processor, x-ray film duplicator, beryllium heptafilter system and a microcomputer system.

g. The Dental Department received a Letter of Appreciation from the Commanding Officer, USS VALLEJO (SSBN-658) GOLD for outstanding dental treatment rendered to his crew.

h. The 1986 SUBLANT Dental Administration Inspection was successfully completed with an overall grade of Excellent.

i. 1986 highlighted a major effort by dental personnel to comply with the DOD directive of ensuring the duplication of panoramic radiographs for forensic purposes and completed this evolution ten months ahead of schedule.

10. MEDICAL DEPARTMENT

The Medical Department evaluated and treated 8,052 patients seeking both routine and emergency care.

a. In support of sick call the pharmacy filled over 9,924 prescriptions and the laboratory performed 4,807 procedures.

b. The Medical Department routinely monitored 653 personnel in the Hearing Conservation Program and conducted 1,535 audiograms.

c. The Radiation Health Officer monitored more than 410 personnel in the Radiation Health Program. Additionally, 1,250 physical examinations were performed, 256 spectacles were ordered, 1,264 radiographic exposures were made and 1,780 immunizations were given. The Medical Department participated in

the following inspections: LOE, RCPE, Nwai, PARE/QA, MTT twice and SMI.

d. The Industrial Hygienist from the Base Clinic at Naval Submarine Base, Kings Bay, GA. conducted underway heat stress, noise and ventilation surveys with the assistance of the Medical Department.

e. Medical Readiness Inspection was conducted in January 1986 with a score of Satisfactory.