



DEPARTMENT OF THE NAVY
USS CANOPUS AS 34
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From: Commanding Officer, USS CANOPUS (AS 34)
To: Director, Naval History (Op-09BH) Washington Navy Yard, Washington, DC 20474
Subj: Command History of USS CANOPUS (AS 34), 1983; Report Symbol 5750-1
Ref: (a) OPNAVINST 5750.12C
Encl: (1) Basic History
(2) List of VIP's and Visitors
(3) List of Ships and Submarines Tended

1. In accordance with reference (a), enclosures (1) through (3) are submitted as the Command History for USS CANOPUS (AS 34) for calendar year 1983.


C. C. HOLCOMB

COMMAND ORGANIZATION

USS CANOPUS (AS 34), was under the operational control of Submarine Squadron EIGHTEEN SITE IV, Charleston Naval Weapons Station, Captain John M. KERSH, USN and Captain William F. CAMPBELL, USN Squadron Commanders until 25 November 1983. USS CANOPUS (AS 34) changed homeports on 25 November 1983 coming under the operational control of Submarine Squadron FOUR, Naval Station Charleston Captain James E. COLLINS, USN Squadron Commanders. CANOPUS' Commanding Officer was Captain Charles C. HOLCOMB, USN and Executive Officer was Commander John B. FIELD, USN. Additional key personnel changes which occurred during 1983 are as follows:

<u>BILLET</u>	<u>DATE</u>
Supply Officer	March 1983
Ships Store Officer	March 1983
Assistant Weapons Officer	May 1983
Navigation Repair Officer	May 1983
Disbursing Officer	May 1983
Assistant Supply Officer	June 1983
Dental Officer	June 1983
Command Chaplain	June 1983
Auxiliary Engineer	June 1983
Assistant Communications Officer	July 1983
Food Service Officer	July 1983
Medical Officer	August 1983
RADCON Officer	August 1983
Operations Officer	August 1983
Administrative Assistant	August 1983
General Attorney	August 1983
FC Repair Officer	September 1983
Sub Sat Officer	October 1983
First Lieutenant	October 1983
Personnel Officer	October 1983
Production Management Assistant	December 1983

1983 CHRONOLOGY OF EVENTS

10-14 January 1983	Underway Material Inspection
14-18 February 1983	Supply Management Inspection
14-18 March 1983	PARE
14-18 March 1983	Repair QA
3-4 May 1983	DNSI
3-5 May 1983	NTPI
12-22 July 1983	3M
8-12 August 1983	PMEE
27-29 September 1983	RCPE

NARRATIVE:

1. USS CANOPUS was moored and homeported at FBM Replenishment SITE IV, Charleston, South Carolina until 25 November 1983. CANOPUS was then homeported at Naval Station Charleston, South Carolina.

2. Repair Department:

a. During 1983, CANOPUS completed 13 SSBN refits, 36 submarine voyage repairs, 8 fast attack refits, and 2 extended refits (ERP). In addition, CANOPUS provided services and repairs to various surface units including four (4) refits to TWR 682, one (1) refit to ARDM 2, one refit to USS PETREL (ASR 14), one refit to USS ORTOLON (ASR 22) and numerous repairs on CANOPUS. Over 943,398 production manhours were directed to the maintenance effort. Each refit of hundreds of various jobs ranging from photo services to the repair and certification of subsafe systems. The Repair Admin Division processed over 1,939 work requests consisting of an average of 97,000 impressions printed and 165 signs photo engraved per month. Over 35,000 prints were developed in both color or black and white.

b. The Hull Repair Division completed three (3) 300KW MG set rotor replacements with two (2) of those being on the same unit at the same time. In addition, they support various nuclear jobs ranging from base metal repairs to whole valve replacements including a canopy seal on a main coolant cutout valve. The Mechanical Repair Division produced hundreds of repair parts that were unobtainable in the supply system or required modifications. Additionally, 40 submarine ball valves were shim repaired, over 11,000 pieces of quantitative measuring gear were calibrated, 35 periscopes were overhauled and two units received periscope optical alignments.

c. The Electrical Repair Division completed the replacement of three (3) 300KW MG set rotors and three (3) 64KW MG set rotors, refurbishment of five (5) 64KW MG sets and rewound 121 various size motors. Additionally, they plastisolized 10,592 various pieces of gear, calibrated 21,629 electrical meters, performed numerous hull pin inserts and small boat hull refurbishments, and repaired various MK-19 and MK-23 gyro compasses.

d. The Electronic Division aligned 132 ESM tuners, 180 radio receivers and three (3) AN/URA-17 converters, repaired 59 ESM tuners, 11 ESM antenna stacks, 115 radio receivers, 10 AN/URA-17 converters, three (WSC-3) receivers, 8 URT-23 radio transceivers, 14 WRR-7 transceiver systems, eight (8) micro-wave intercept receivers, six (6) BRA-16 power supplies, 12 BPS-15/BPS-11 radarsystems, four (4) SPA-25 repeaters, two (2) AIMS-MK12 IFF transponder systems, 27 ESM antenna control units and associated wiring, one BRA-34 antenna control unit, 12 type 151/8B periscope E&E adaptors, three (3) micro-wave ovens, one dental oven, two (2) digital depth indicators, five (5) radiac test sets and over 505 miscellaneous pieces of electronic test equipment. They calibrated over 4000 pieces of

special and general purpose electronic test equipment. They replaced three (3) fathometer transducers and cables, three (3) AN/BQR-15 towed arrays and cable, four (4) AN/BQR-15 towed arrays, four (4) TB-16 fast attack towed arrays, three (3) gnats units, five (5) waterborn and one drydock AN/BQH-1 lower sound heads, 15 AN/BQA-8 sound head and cable, five (5) AN/BQH-1 upper sound heads, 7 AN/WLR-9 lower Hi-freq head and cable, four (4) AN/WLR-9 upper lo and hi freq. heads and cables, 7 AN/BQC-1 heads and cables, 7 AN/BQN-13 transducers and cables, 3 AN/WQC-2 upper and one lower transducer and cable, 4 AN/BQR-19 arrays, and 3 AN/BQR-19 W-1 cables. They removed various SSBN and SSN arrays. Additionally, they supported two trips to Cape Canaveral, FL for repairs to a AN/BRA-15, AN/BRA-18, AN/BRA-16, verdin and AN/BRA-8 buoy replacement.

e. The Radiological Controls Division conducted two complex nuclear propulsion plant ion exchanger resin discharges, 67 nuclear repair procedures, requiring receipt of over 1500 radioactive material transfers, 21 Portable Effluent Tank (PET) hookups including six for primary relief valve testing, and calibrated over 500 radiac instruments.

f. The Repair Services Division layed approximately 3,500 square feet of terrazo, 5000 square feet of tile, produced and average of 300 castings per month and manufactured radiological containment constructed tents. Podiums and platforms for several change of command ceremonies and retirements. They rigged four 300KW MG rotors, two 64KW MG rotors, two main engines on the torpedo retriever, to SSBN screws during replacements, three trash disposal units, ten main seawater pumps, and numerous auxiliary pumps and valves. In addition, boat beading and hull patch repairs were conducted on 10 small boats.

g. The Diving Locker conducted arrival and departure swims on all tended units, as well as numerous security swims, flange and hull fitting replacements, underwater repairs and installation of testing gear. They performed pressure and oxygen testing for the Charleston area on a weekly basis and successfully treated two civilian divers in the recompression chamber and a gaseous gangerine treatment.

h. The Planning and Estimating Division prepared over 2,150 controlled work procedures, accomplished 269 ship alterations and 171 A&I's, validated three consolidated uniform repair procedures (CURP) and provided numerous inputs to Tracor INC. for the development of new procedures.

i. Nuclear Repair completed 67 nuclear repairs including 10 primary valve replacements, 2 resin discharges, pre-overhaul testing of four sets of primary relief valves, of which two failed and required major repairs, replacement of major segments of steam generator sediment pot piping on three units, and replacement of a canopy seal on a main coolant cut-out valve.

j. The Quality Assurance Division reviewed over 1,080 non-nuclear procedures, performed 9,369 visual/dimensional, liquid penetrant, magnetic particle, eddy current, ultrasonic, radiographic, acid spot test, and chemical analysis inspections.

k. The Machinery Repair Division repaired 4 trash disposal units, 8 main steam stop valves, 8 signal ejectors, 11 caterpillar diesel cylinder heads, and numerous additional valves, overhauled 3 radar hoisting cylinders, 7 hydraulic motors, 1 snorkel mast and mast head valve, 3 stern plane rams, 3 accumulators, 1 BRN-3, 12 hydraulic actuators, 4 BQR-19 hoisting cylinders, 3 ECM mast hoisting cylinders, 9 main engine poppets and seats, 2 main engine astern throttle poppets and seats, 2 SSTG poppets and seats, 4 HP air compressors, 7 AC/ASW and ASW pumps, 4 main seawater pumps, 16 BRA-24's and 2 main lube oil pumps, 2 main condensate pumps, 5 trash compactors, 2 bromide pumps, and the change out of one screw, 2 snorkel masts, and 2 TWR shaft replacements.

3. Supply Department:

a. The CANOPUS Supply Department was inspected by Commander Submarine Force U.S. Atlantic Fleet under the standard format for annual Supply Management Inspection (SMI). Based on the findings of the Chief Inspector, CAPT Walter DRAPER, SC, USN the CANOPUS Supply Department was assigned a grade of "Above Average", the highest grade attainable. They were awarded the "Blue E" by Commander Submarine Force signifying the best FBM tender Supply Department in the Force for Fiscal Year 1983. In November the Supply Department transferred all site materials and facilities to USS HOLLAND Supply Department upon relief of USS CANOPUS by USS HOLLAND (AS 32) at FBM Replenishment Site IV Naval Weapons Station, Charleston, SC. CANOPUS then commenced temporary support of SUBRON FOUR units at Naval Station Charleston. 70,000 line items were off-loaded of repair parts and consumables in preparation for entering overhaul while simultaneously continuing normal supply support operations to the Intermediate Maintenance Activity (IMA). The ship was still tending 13 Fast Attack Submarines of Submarine Squadron FOUR. All Automated Data processing equipment was off-loaded to an ashore site in order to enhance ADP support during overhaul. The off-load was completed and ADP services resumed at 100% capacity.

4. Engineering Department:

a. In addition to providing electrical power, low pressure (LP) air, potable water, pure water, and fire and flushing water to CANOPUS, the Engineering Department provided the following services to 13 refits and 2 extended refits, 36 voyage repairs, and 8 fast attack selected refit availability units: 19,560 gallons liquid nitrogen, 270 air charges, 674 sewage transferes, 36 hours of chill water, 25 waste oil transfers, 523,849 gallons diesel fuel (marine), 2,619 gallons of 9250 lubricating oil, and 6,196 gallons of 2190 lubricating oil.

b. Major maintenance actions performed on the ship included; installation of the Dimension 2000 Telephone Exchange and more than 25,000 feet of associated telephone cable, which provided a 200% growth of internal phone capabilities, a greater flexibility of limited shore telephone service through automated routing, and numerous new telephone features, thereby providing a telephone system far superior to that previously installed on CANOPUS. Rehabilitated over 70 office telephone lines to provide officers throughout the ship with their separate extensions, completely removed and re-wired the ship's entertainment system, off loaded 199,241 gallons of fuel oil, 20,458 gallons of 2190 lube oil, 600,00 gallons of ballast, and 800,000 gallons of waste oil prior to ROH, kept the O2N2 plant operational providing our submarines with all nitrogen requested.

c. Other major accomplishments made within the Engineering Department were; the successful completion of four (4) major inspection, i.e., Engineering Light Off Examination (LOE), Readiness Assessment and Training, conducted by the CINCLANTFLT Propulsion Examination Board (PEB), Pre-overhaul Test Inspection (POTI), and Underway Material Inspection, conducted by the Sub Board of Inspection and Survey (INSURV). Due to the level of sustained superior engineering support, and overall performance, the Engineering Department was awarded the Battle Efficiency Engineering Red "E" Award for FY83, and was a major contributor to CANOPUS being selected for the Battle Efficiency Award, by COMSUBLANT, for FY83. The CANOPUS Damage Control Team demonstrated their outstanding knowledge and ability by placing first, for the second consecutive year, in the 1983 Annual COMNAVBASE Charleston, SC Damage Control Olympics, in which 19 ships participated.

5. Weapons Department:

a. During this period the Weapons Repair Department completed a significant number of complex evolutions involving interface with other departments and commands.

(1). The Torpedo/Gunnery Repair (W-1) Division handled a total of 390 warshots at SITE IV, 200 warshots at COMSUBRON FOUR and 60 exercise torpedoes. The removal of the 3" 50 Gun Mounts (SHIPALT 1284) and all associated equipment was completed as well as the installation of the 20 MM and .50 caliber Gun Mounts. Twenty-five torpedo tube inspections were accomplished on tended submarines. Limited capability of the Mobile Operational Submarine Simulator (MOSS) was completed. Twenty-five (25) MOSS were been successfully handled. The Department has extended its training to both crews of all tended SSBN submarines to include ammunition transaction reporting and "A" cable installation. As a result of this training, errors noted in previous ammunition transaction reports and faulty "A" cable installations have been substantially reduced. W-1 Division coordinated the firing for familiarization for over 900 personnel on the .45 caliber pistol, M14 rifle and M870 riot shotgun. Over 400 personnel were qualified on the .45 caliber pistol on a Class "B" range. Training lectures continued on a regular basis for appropriate personnel. Approximately 3000 rounds of various pyrotechnics, 63,000 of small arms ammunition and 1875 3" 50 ammunition were transferred from the ship without mishap or loss of accountability. Buoy Submarine Transmitter/Countermeasures Submarine Acoustic (BST/CSA) work was extensive including two annual inspections and 56 quarterly inspections in addition to the normal corrective and preventative maintenance required. The Department installed/handled 110 CSA's and gas generators. A total of 6,250 manhours was expended in BST/CSA support.

(2). In direct support of MK 88 and MK 113 Fire Control Systems, the Fire Control Repair Division (W-2) completed Optical Alignment Checks and Bdaim Gradient Verifications and Adjustments on 25 tended units. Eighteen other units received Photo Electric Auto Collimator (PEAC) tactical alignments. Complete Fire Control System arrival checks were conducted on 19 units. Five MK 78 Displays and MK 75 Attack Directors, which are normally refurbished by the manufacturer, were completely rebuilt in the Fire Control Shop and successfully tested aboard submarines. Over 2,300 Fire Control modules were tested and Weapons System Inspection and Recertification Teams completed tests and adjustments on 28 submarines. Shipyard proportional repairs were completed on the Missile Fire Control System of an SSBN which suffered a major flooding casualty. A total of 6,865 manhours were expended in Fire Control support.

(3). Maintenance by Nuclear Weapons Repair (W-3) and Missile/Launcher Repair (W-4) Divisions of the Poseidon (C-3) and Trident (C-4) missiles and warheads continued to be extensive in 1983 as demonstrated by the successful completion of one C-3 and two C-4 Operational Tests as well as two Extended Refit Periods (ERP) and five Post Overhaul Upkeep Periods (POUP). Fifty-three missiles were transferred to and from SSBN's while forty others were transferred to and from the tender resupply shop. Thirty-eight missile receipt inspections were performed and twenty missile tests were completed satisfactorily. Maintenance on the warheads included processing, inspection and the mating/demating of 336 strategic reentry vehicles (REV). Additionally, corrective maintenance was performed on 49 tactical warheads. A total of 544 REV's were transferred to/from the resupply ship. Support of the Poseidon Operational Test included the receiving and processing of twenty inert REV's and mating two replacement missiles. The Stockpile Laboratory Test and the Limited Life Component Exchange programs were supported utilizing the H3520 transfer unit to replace four REV's. In support of the Stockpile Administration, 57 Weapons Status Reports (WSR) for CANOPUS and 44 tended units were prepared and caused to be transmitted. A total of 15 Unsatisfactory Reports were generated to identify major and minor discrepancies within the Nuclear Weapons program.

(4). Navigation Repair (W-5) Division provided system repair support of 24 SSBNs and three SSNs which continued to be at a high standard. A total of 462 submarine repair jobs were completed requiring 26,776 manhours. The Navigation Repair Shop completed two ERPs, three POUPs and three Pre-DASO Upkeeps as well as replacing 3 AN/BRN-3 antennas, 4 Base Support Assembly bolt torquings on 6 Inertial Navigation Systems and performed 5 Electro Optical Inductosyn Linearity checks. 112 Multi-Speed Repeater Gear Train assemblies were groomed or repaired. Shipyard proportional repairs were completed on the Navigation System of an SSBN which suffered a major flooding casualty.

(5). Weapons Quality Assurance (W-6) Division coverage for the CANOPUS increased in 1983. Over 7,200 inspections of ordnance handling, fire control and navigation system repair, publications, supply and all other phases of Weight Test Handling production were made. The installation and operation of a Weight Proof Testing machine greatly improved the weight test capabilities of CANOPUS allowing all portable handling equipment to be tested not only from Weapons, but the entire ship as well as all the tended units.

(6). The Weapons Repair Department continued to excel in all phases of ordnance handling, storage, security and administration and received very high marks from inspection teams of the Tactical Weapons Capability and Explosive Reviews, Defense Nuclear Surety Inspection, Nuclear Technical Proficiency Inspection and the Quality Assurance Audit. In addition, the Department provided valuable support for other shipwide inspections including the Proficiency and Readiness Examination, Operational Propulsion Plant Examination, Radiological Control Proficiency Examination and the Supply Management Inspection. A complete off load of all ordnance, repair parts and support equipment was accomplished in preparation for entering shipyard for a complete conversion and repair overhaul.

(7). The Departments retention levels continued to exceed the CNO and SUBLANT goals. Three of three eligible "second termers" and 16 of 17 "third/fourth termers" reenlisted. Sixty-seven were advanced to the higher pay grade as well as having three Sailors of the Month for the Weapons Department being selected as CANOPUS "Sailor of the Month". Four Weapons Department sailors were selected to be command advanced.

6. Administrative Department

All functions within this department continued to be upgraded. The Administrative Office had a Xerox 860 installed. This has increased the productivity and quality of administrative correspondence. The Educational Services Offices administered Navy-Wide Advancement in rate exams and provided crew members with Navy Correspondence Courses, and on and off-base PACE Courses. The Legal Office handled 286 Captains' Mast and 24 Courts Martials, 20 Special Court Martials and 4 Summary Court Martials. Forty-four Administrative Discharge cases were held which resulted in 30 OTH Discharges, eight received General Discharges and six are still pending. The Command Chaplain expanded its Command Religious Programs to include Bible Study Groups; Outreach Ministries; Marriage Enrichment Sessions; Christian Film Presentations; Pastoral Care and Counseling; and "After Hours" visits.

7. Operations Department:

a. The Operations Department consists of the Communications, Electronics and Navigation Divisions, with personnel from the RM, ET, QM and SM rates being assigned. As a result of a coordinated effort by all members of the Operations Department, the ship was awarded the COMSUBLANT communications Green "C" for FY83 (second consecutive award) for AS-FBM communications excellence.

b. In addition to the standard mission responsibilities outlined in current directives, which include all standard navigation and external communications functions, Operations Department is also responsible for the repair and maintenance of all communications, radar and own ship's navigational equipment; communications guard for Commander Submarine Squadron EIGHTEEN, Naval Weapons Station, USS Alamogordo, all assigned Site IV Units (1 January 1983 - 25 November 1983) and Commander Submarine Squadron FOUR, Naval Base, Charleston and units assigned commencing 2 December 1983.

c. Operations Department also maintained the Site IV ARFCOS, CMS, and Intelligence Library. Repaired and Maintained all assigned SSBN Cryptographic and Teletype Equipment; and provided training in all modes of visual signaling and in CW Communications.

The Operations Department has consistently supported the mission of USS CANOPUS and provided reliable, professional support to the embarked staff and tended units as the SITE IV/CSS-4 guardship. In this capacity USS CANOPUS handled an average of over 6000 messages per month, or 200 messages per day. USS CANOPUS maintained the guard for the embarked squadron commander, Commander Submarine Squadron EIGHTEEN, assigned Fleet Ballistic Missile Submarines, various service craft, two AE's (USS SANTA BARBARA and USS MOUNT BAKER) homeported at Naval Weapons Station, Charleston and surface units of CINCLANTFLT inport at the Naval Weapons Station, Charleston. In December, to support an interim dry docking of USS FRANK CABLE (AS-40), and in preparation of CANOPUS ROH, CANOPUS assumed the guard for CSS-4 and her assigned units, turning SITE IV responsibilities over to USS HOLLAND (AS-32). Overall 66,000 narrative and data messages were processed with an average error rate of less than .4%. Up to 15 radio and line circuits, and broadcast channels were maintained with an average of fifteen ET's and two RM teletype repairmen. Electronics Division maintained over 220 individual pieces of CANOPUS Electronic Communications, Radar and Navigation Equipment, and over a hundred pieces of cryptographic and teletype equipment. In addition to own ship's maintenance requirements, 40 SSBN's tended resulted in 40 crypto and teletype inspections with 350 pieces of crypto equipment and 320 pieces of teletype equipment being overhauled and/or repaired as well as providing all electronic repair and maintenance services for the SVC CRAYFISH (TWR 682).

d. As Communications Center for COMUSBRON EIGHTEEN the department was tasked with quality control monitoring of the submarine broadcasts, provided support to

Commander Submarine Group SIX maintenance of an HF radio circuit at his headquarters and provided installation and maintenance services for a secure full-duplex teletype circuit directly linking CINCLANT and Charleston Air Force Base in support of the repositioning of the TACAMO Alert Aircraft at Charleston Air Force Base.

e. Under CINCLANT/COMSUBLANT tasking, USS CANOPUS provides direct input to the Applied Physics Laboratory of John Hopkins University for Fleet Ballistic Missile Communications Continuing Evaluation Program by monitoring and evaluating data from various transmitting platforms to test survivability and reliability of submarine communications. These platforms include the VLF/LF transmitter facilities of Cutler, Maine; Annapolis, Maryland; Airborne Command Post and the National Airborne Command Aircraft. The monitoring environment included both peacetime and hostile (jamming) operations. USS CANOPUS has been cited with several "attaboys" for the input provided, and based on this sustained level of superior performance, USS CANOPUS was selected as the test platform for the enhanced VERDIN processor.

f. As the SITE IV Tender, USS CANOPUS maintained the Armed Forces Courier Service (ARFCOS), substituted for the redistribution of COMSEC material to tended units in which approximately 223 faultless CMS transactions 104 two-man control and 279 ARFCOS transactions (involving 695 pieces of material) were completed during the year. This CMS office functioned as the area distribution center for SAS and CINCUSNAVEUR and SACEUR. All inspections required and conducted by NAVSECGRUACT, Charleston, were discrepancy free and favorably noted USS CANOPUS' obvious attention to detail as part of the ROH preparations USS CANOPUS transferred 2,409 pieces of CMS material and equipment. CANOPUS actively participates in COMSUBLANT exercise "ESTEEM HIGHLY" which includes proficiency in CW, HF Orestes, Satellite Secure Voice and offline encryption training of SSBNs and tender communications personnel. CANOPUS, because of proficiency, has been tasked by other squadrons to participate in subject exercises with their assigned units.

g. CW training is conducted for arriving and inport units and average of 17 hours a week for communications personnel to maintain proficiency and for those who are just learning the Morse Code. All communications personnel are required to learn and demonstrate CW proficiency and are made aware that satellite, and computer systems although convenient, can be rendered useless during "real time" communications requirements.

h. Visual signaling training is conducted by Navigation Division personnel daily for all units berthed at SITE IV. This consists of flashing light and is graded by SUBRON EIGHTEEN Operations personnel. Flaghoist and semaphore training are also made available on request. Navigation personnel provide charts/publications to tended units and provides PQS training for OOD's, JOOD and personnel qualifying Surface Warfare specialist.

i. During this reporting period USS CANOPUS underwent a large number of major inspections all with consistently superior results. Each underway period demonstrated the seamanship skills of the crew, successfully performing an number of precision anchorages, small boat personnel transfers and safely executed departure/returns to port. USS CANOPUS without fail has met every underway commitment, including participation in one TORPEX exercise, and navigated the ships during periods of dense fog, heavy rain and hours of darkness.

j. USS CANOPUS conducted four underway periods during 1983 which included:

11 January - INSURV,

5 - 11 April - Transit to Port Everglades Florida and returned and

18 - 21 September - Local operations.

8. Deck Department:

a. Labor was completed on the Contracted Polyurethane Deck Covering (PRC). This surface now covers the Helo Deck, port and starboard main weatherdecks, port and starboard 01 level and port and starboard 02 level. The PRC coupled with the endless structural maintenance, continued to keep CANOPUS in top physical shape.

b. Crane Division maintained it's impressive track record. Four rams were replaced and two cranes were slushed; all without outside assistance. Throughout the year, there was never a case where a crane was out of commission for more than 48 hours. Twenty-nine crane operator, 23 signalman and 89 safety observers were qualified in 1983.

c. The newly formed Small Boat Division also kept busy. The Seaman and Engineman combined their efforts to keep all 12 boats up and operational. They supported numerous weapons handling evolutions as well as two extended refit periods for SSBN's.

d. Deck Department, as a whole, also conducted innumerable mooring and unmooring evolution for tended units and CANOPUS herself at both Site IV and Pier "Mike" Naval Station Charleston.

e. Finally, CANOPUS Deck Department finished runner up at the Charleston Naval Station Seamanship Olympics.

9. Dental Department:

In 1983 over 29,735 emergency and routine procedures were performed by Dental Department personnel. This comprehensive treatment included 2,833 diagnostic and preventive procedures, 11,727 restorative procedures, 2,896 periodontal procedures, 1,408 prosthetic procedures, 1,376 oral surgery procedures, and 9,495 adjunctive services. Beneficiaries included personnel of ships company, COMSUBRON 18 staff and SSBN's, USS Alamagordo, and assistance to USS MOUNT BAKER and USS SANTA BARBARA at Site IV. In addition, the Dental Department assumed the responsibility for all CSS-4 SSN's and staff personnel, USS ORTOLAN, and USS PETREL while CANOPUS temporarily replaced USS FRANK CABLE at Naval Station, Charleston. Department personnel volunteered off-duty hours for participation in a preventive dentistry program for dependent children.

10. Medical Department:

The Medical Department evaluated 4932 patients seeking both routine and emergency care. In support of sick-call, the Pharmacy filled over 7,300 prescriptions and the Laboratory performed 9,489 procedures. The Medical Department routinely monitors over 500 personnel in the hearing conservation program and conducted 661 Audiograms. The Radiation Health Officer monitors more than 700 personnel in the Radiation Health Program. Additionally, 397 complete physical examinations were performed, 149 eyeware prescriptions were submitted, 1,725 Radiographic Exposures were made and over 2,000 immunizations were given. A total of 1,232 test and controls were completed utilizing the EMIT Porta-Kit in support of the drug screening urinalysis program. The Medical Department participated in the following inspections: DNSI, LOE, RCPE and the Medical Readiness Inspection (MRI). CANOPUS Medical Department was cited by SUBLANT for the second consecutive year "as the Best Tender Inspected".

11. Habitability Department:

. . .Ships force started conducting a Habitability self-help project to completely refurbish 16 berthing compartments, and 12 sanitary spaces. This project was started on 1 December 1983 with eleven personnel, to date five berthing and three sanitary spaces have been disassembled. Reinstallation has commenced in one berthing area and a total of 455 man days were expended.

List of VIPs and Visitors 1983

5 April	Air War College Delegation
12 April	VADM BONNEMAISON
23 April	Honorable James J. GOODRICH, Under Secretary of the Navy
25 April	VADM WHITE, Commander, U.S. Submarine Forces Atlantic
7 June	Defense Industrial Supply Center Delegation
9 June	BGEN DKEEN, Commander Defense Industrial Supply Center
23 June	Mr. Schriber, Director of Supply Management and Policies for the Assistant Secretary of Defense for Manpower, Reserve Affairs and Logistics
29 June	Mr. Troy WADE, Principle Deputy Assistant Secretary for Defense Programs and Mr. William M. LAMP, Executive Director for Defense Programs of the Department of Energy
19 July	VADM KAUDER, Commander, U.S. Submarine Forces Atlantic
1 August	Major General BURPEE, Assistant Deputy Chief of Staff for Plans and Operations Headquarters
3 August	RADM BACIOCCO, COMSUBGRU SIX and RADM CATOLA, Prospective COMSUBGRU SIX
2 September	Mr. Eli JACOBS, Member of Presidential Advisory Commission on Arms Control
8 September	National Airborne Command Post Delegation
27 October	Frank KACHO, NAS and Dan HAVILLA, NOIC both Soviet Submarine Analysts
11 November	National War College Delegation

List of Ships and Submarines Tended During 1983

SURFACE UNITS TENDED

USS ALAMOGORDO	ARDM-2
ERP BARGE	YRBM-4
USS CRAYFISH	TWR-682
USS CANOPUS	AS-34
USS HOLLAND	AS-32
USS PETREL	ASR-14
USS FRANK CABLE	AS-40
USS TURNER	CG-20
USS ORTOLAN	ASR-22

SUBMARINE REFITS

USS WOODROW WILSON	SSBN-624
USS JOHN ADAMS	SSBN-620
USS NATHAN HALE	SSBN-623
USS HENRY CLAY	SSBN-625
USS TECUMSEH	SSBN-628
USS DANIEL BOONE	SSBN-629
USS JAMES K. POLK	SSBN-645
USS STURGEON	SSN-637
USS THOMAS JEFFERSON	SSN-618
USS SUNFISH	SSN-649
USS SANDLANCE	SSN-660
USS GRAYLING	SSN-646
USS SEA DEVIL	SSN664
USS NARWHAL	SSN-671
USS BATFISH	SSN-681
USS SEAHORSE	SSN-669
USS JOHN C. CALHOUN	SSBN-630
USS KAMEHAMEHA	SSBN-642

SUBMARINE UNITS TENDED

USS CASIMIR PULASKI	SSBN-633
USS STONEWALL JACKSON	SSBN-634
USS GEORGE BANCROFT	SSBN-643
USS SAM RAYBURN	SSBN-635
USS JAMES MONROE	SSBN-622
USS JAMES MADISON	SSBN-627
USS VON STEUBEN	SSBN-632
USS LEWIS AND CLARK	SSBN-644
USS GEORGE C. MARSHALL	SSBN-654
USS HENRY L. STIMSON	SSBN-655
USS GEORGE WASHINGTON CARVER	SSBN-656
USS FRANCIS SCOTT KEY	SSBN-657
USS MARIANO G. VALLEJO	SSBN-658
USS MICHIGAN	SSBN-727
USS W. ROGERS	SSBN-659
USS LAFAYETTE	SSBN-616
USS D. WEBSTER	SSBN-626
USS CALHOUN	SSBN-630
USS ALEXANDER HAMILTON	SSBN-617
USS JOHN ADAMS	SSBN-620
USS NATHAN HALE	SSBN-623
USS TECUMSEH	SSBN-628