



DEPARTMENT OF THE NAVY

USS CANOPUS AS 34 ✓
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22 MAY 1986

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), 1985; 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 1985.

M. J. Lees
M. J. LEES

BASIC HISTORY

COMMAND ORGANIZATION

USS CANOPUS (AS 34) was under the operational control of Submarine Group 6 until 12 August 1985, Rear Admiral S. E. Bump, Commander. On 16 January 1985 CANOPUS departed Charleston, SC for six weeks of Refresher Training in Guantanamo Bay, Cuba. Upon her return CANOPUS, while still under the operational control of COMSUBGRUSIX, did repair work for Destroyer Group Four in Charleston. On 12 August 1985 CANOPUS became the Command Ship for Commander Submarine Squadron 16, Captain Harry P. Salmon, Jr. CANOPUS Commanding Officer is Captain Michael J. Lees, USN, and the Executive Officer is Commander Victor J. Bankston, USN. Key personnel changes which occurred during 1985 are as follows:

<u>BILLET</u>	<u>DATE</u>
Chaplain	August 1985
Administrative Assistant	November 1985
Personnel Officer	July 1985
Operations/Navigation Officer	April 1985
Engineer Officer	August 1985
Electrical Officer	April 1985
Auxiliary Machinery Officer	February 1985
Damage Control Assistant	August 1985
Assistant Repair Officer	April 1985
Machinery Repair Officer	November 1985
Electrical Repair Officer	August 1985
Assistant Radcon Officer	November 1985
Weapons Repair Officer	May 1985
Navigation Repair Officer	November 1985
First Lieutenant	September 1985
Supply Officer	July 1985
Stores Officer	August 1985
Stock Control Officer	May 1985
Ship's Store Officer	September 1985
Food Service Officer	July 1985
General Attorney	August 1985
Diving Officer	November 1985
Medical Officer	July 1985
Dental Officer	June 1985

NARRATIVE

1. USS CANOPUS was moored and homeported at Naval Base Charleston, SC until 15 July 1985. USS CANOPUS then changed its homeport to Naval Submarine Base, Kings Bay, GA where it is the SITE VI Resident Tender.

Encl (1)

2. REPAIR DEPARTMENT HISTORY

a. 39A - The Photo Lab installed a new Film Processor, increasing the output, while at the same time, cutting down on the amount of time to complete any photographic job. The Photo Lab shot 312 jobs, used 1,500 rolls of film, and produced over 14,000 prints, both in color and B&W. This included a Cruise Book, shot while on REFTRA in Guantanamo Bay, Cuba. 37A - The Print Shop processed 1,474 print requests and 379 Photoengraving requests. Services were for SURFLANT, shore commands, and SUBLANT units. 64D - The Drafting Shop processed 695 work requests during the year. The Recompression Chamber Systems were completely re-drawn, also the Air System for the Dive Boat, which saved CANOPUS an excess of \$10,000.

b. During the calendar year 1985, the Hull Repair Division supported three (3) surface and seven (7) sub-surface units of COMSUBRON 16, 2 units of COMSUBRON 18, and 6 units of DESRON TWO. Work in support of these units included: Shop 11A replaced 1,976 Zinc Anodes on CSS-16 units, completed messenger bouy staple shipalts on SSBN's, completed a base metal repair to the lower bridge hatch of a SSBN, repaired a Main Ballast Tank Grate, made repairs to 3 stern Plane cracks and a rudder crack on SSBN's, designed an anti-terrorist hatch for units of CSS-16, and designed and manufactured a quarterdeck enclosure for AS-34. This quarterdeck enclosure is now being considered for a shipalt for tenders of this class due to its security features. Shop 17A manufactured an induction pipe for SSBN 655, constructed a 400 HZ cleaning station at a savings of \$4,900.00 as quoted from a commercial source, refurbished over 30 doors on board SSBN's, and constructed the female head aboard the ARDM 1 involving 16 feet of stainless steel sheeting and 150 feet of trim molding. Shops 56A and 26A replaced 800 feet of pipe, welded 300 joints, and replaced 20 main and auxiliary sea water valves. Base metal repairs were completed on 5 pump shafts, and 3 missile tubes. 10 ASW and MSW coolers and condensers were hydroblasted. Poppet seats were replaced on 3 main engines and SSTG turbines. In addition, welding and brazing repairs were completed on 130 miscellaneous system components. 3 jobs were completed on AS-34's pure demineralized water systems and associated equipment. Shop 56C replaced 800 flex hoses and repaired 50 EB risic couplings. Shop 57A accomplished numerous non-nuclear and nuclear lagging jobs totaling approximately 10,000 square feet of lagging. Several feet of asbestos lagging were replaced with non-asbestos material. The year was highlighted with a successful 1985 Proficiency and Readiness Evaluation and Quality Assurance inspection.

c. The Machinery Repair Division repaired 229 typewriters, 182 clocks, calibrated approximately 5,251 mechanical instruments, overhauled 102 MK 28 binoculars, overhauled and repaired 14 periscopes, manufactured numerous valve stems, nuts, bolts, blank flanges, test fittings, hydro fittings, 8 nuclear repair jobs, 35 ball valves, 5 main engines, 3 main steam valves, 35 shaft and end bells electroplated, 3 fire pumps overhauled, one condensate pump, recut a large babitt spring bearing.

d. The Electrical Repair Division supported refits of Fleet Ballistic Missile Submarines, one surface unit and all yard crafts of Site VI. In support of the refits over a mile and half of various cable was run, 25 electrical motors were reconditioned, 20 electrical motors were rewound, repairs to 15 welding machines, resurfaced 60 motor/generator sets, balanced 40 electrical motors, repaired/replaced 125 resilient mounts, 475 portsmouth plugs manufactured, 10 Ice Cap refurbishments, manufacture of a BRA-16 Ice Cap (first ever) eight mast repairs, 33 epoxy shim repairs, 20 epoxy cold patch repairs, 840 ships plaques manufactured, 1,300 portable meters calibrated, 700 in-place calibration completed, replaced ten underwater log rod meters, repaired three ships entertainment (SUNSTRAND) equipment, installed "E" call systems, rebuilt CANOPUS Quarterdeck, performed six shipalts on CAMS, repaired 6 MK-19 gyro's, and replaced eight electrical arcsoets. Within Repair Department R-3 Division installed 300 light fixtures, 100 each 115 volt receptacles, relamped 1,500 flourescent lamps, and expended over 2,000 man hours on electrical trouble calls.

e. The Electronic Division completed a smooth successful turnover with the SIMON LAKE after her overhaul period. Sonar Shop has completed 4 major Dry Dockings with extensive repair and replacing of BQR-7, BQA-8, BQN-13, BQR-15, WQC-2, and hydrophones to the SSBN's of CSS-16.

Electronic arrival inspection are conducted for each tended unit, consists of: Outboard, mast and antennas for mechanical discrepancies. ESM grooming is accomplished as well as an electronic systems review of the Radio Suite. Upon completion of the refit Departure Inspections are completed to ensure 100% operational readiness of all Site VI units, 2M and Micro repair station was certified by local MOTU. FECL was recertified by PARE/QA and CAPE Team. FECL received and installed major standards for Microwave Calibration capabilities. Level of technical expertise has been increased 100% since coming on-line by acquired formal training and OJT, utilizing local MOTU, NAVSESS, and NAVSEA Representatives to train on board Navy Technicians.

f. The Radiological Controls Division completed a refurbishment of all divisional spaces, conducted seven Portable Effluent Tank (PET) hookups, supplied two personnel for an emergency steam generator inspection by USS HUNLEY, completed two shipalts, conducted three extensive Radioactive Liquid Waste System valve repairs, and replaced two Radioactive Liquid Waste System valves. The Division overhauled the Air Particulate Sampling System, conducted extensive repairs to the division spaces wiring and upgraded ships plans, performed extensive repairs to the PET systems, assumed responsibility of Environmental Monitoring for Site VI, Kings Bay and Port Canaveral, calibrated over 1,000 Radiac Instruments and repaired over 200 Radiac Instruments. A Radiological Controls Practices Evaluation was conducted with an overall grade of Above Average.

g. Repair Services Division completed renovation of shop spaces at the conclusion of overhaul. The Foundry poured approximately 150 castings per month. R-6 installed over 1,000 square feet of tile as well as 20 terrazo decks and 25 lonmat flooring installations. The Sail Loft performed numerous upholstery jobs and manufactured in excess of 1,000 square feet of canvas cofferdams. The Rigging Locker rigged in excess of 100 large pumps and valves. The Carpenter Shop manufactured well over 250 plaques and awards.

The Diving Locker conducted hyperbaric treatments of six civilians for carbon monoxide poisoning and one hyperbaric treatment of a military aviator for high altitude bends. The Dive Locker has expended over 1,500 man hours under water. The training program of R-6 was thoroughly modernized to be a practical and useful program.

h. The Planning and Estimating Workcenter (10C) prepared 607 Controlled Work Procedures, accomplished 72 Shipalts, and 102 A&I's on tended units and CANOPUS. During this time, personnel assigned to Repair Technical Library (10E) updated all publications. Ten personnel completed qualifications as Planner and all division personnel continued their PQS qualification. Renovation and improvement of all spaces and material is underway. New retractable shelving has been installed in the Technical Library.

i. The Quality Assurance Division reviewed over 600 non-nuclear procedures and performed over 4,900 of the following examinations: Visual, Dimensional, Liquid Penetrant, Magnetic Particle, Eddy Current, Ultrasonic, Radiographic, Acid Spot Test, and Chemical Analysis. In August a test program of assigning all Quality Assurance Inspectors to this division was implemented.

j. Outside Machinery Division completed the following jobs: 38A; 1 Fairwater Plains Tiller Pin replacement, 1 screw change, 1 shaft seal replacement, 3 Rudder Tiller Pins replacement, 6 AC/ASW pumps overhauled, 1 lead hydraulic pump overhauled, 3 MSW pumps overhauled, 1 Snorkel Mast removal with barings replaced, 4 Main Engine Throttle Valves overhauled, 2 SSTG Throttle Valves overhauled, 2 SSTG Balance Pistons repaired, 5 BRA-24's overhauled, 10 Missile Tube Window Mods Alts completed, 1 Dry Dock Dewatering Pumps overhauled, 1 Trim Pump Bearing replacement, 1 Auxiliary Condinsat Pump overhauled, 1 Fuel Oil Stripping Pump overhauled, replaced 1 Butler Box Compressor, overhauled 2 Industrial Waste Pumps, 1 CHT pump overhauled, 1 bushing replacement on 3 W/T hatches, replaced 3 trash compactors, overhauled Antenna Test Tank Haskel Pump, accomplished 6 RFT cover modifications, overhauled one fire pump. 31F; overhauled 15 Marotta valves, overhauled 1 Snorkel Mast Hoisting Cyl., overhauled 1 BRA-24, worked 5 IMO Hydraulic Pumps, overhauled 4 hydraulic accumulators, overhauled 18 hydraulic actuators, worked 24 oxygen valves, overhauled 17 reducers of various kinds, overhauled 6 hoisting cylinders, worked 3 snorkel head valves, rebuilt 7 dashpots. 31D; overhauled 5 diesel sea water valves, overhauled 23 auxiliary sea water valves, ball valve replacement, 1 fwd and 3 aft signal ejectors, replaced one TDU Stem, worked 5 ventilation valves, worked 4 ABT blow valves, overhauled 7 main sea water valves, overhauled 6 motor generator cooling valves, overhauled 9 Main Steam Stop Valves, overhauled 6 plumbing valves, overhauled 10 trim and drain valves, repaired 4 feed system valves, overhauled 2 BFV missile ballast valves. 31E; overhauled 2 Diesel Engines, rebuilt and calibrated 50 fuel oil pumps for diesel engines, poptested 25 unit injectors, rebuilt 2 gas engines for welding machines, made repairs on 2 outboard motors, 1 75 HP and 1 35 HP.

k. The Nuclear Planning/Repair Division prepared procedures for and completed 49 nuclear repairs/alterations on tended units and the Nuclear Support Facility. In addition, the newly formed division accomplished initial outfitting and a move to and renovation of new work spaces. In addition, Nuclear Planning functioned as the lead work center and provided material support and technical liasion for accomplishment of more than 42 alterations performed by the ships force of tended units.

3. SUPPLY DEPARTMENT

During 1985 the Supply Department completed regular overhaul and resumed on-line operations. Noteworthy accomplishments include:

- Completed regular overhaul
- Successfully assumed Submarine Refit Site VI Supply Support Operations
- Implemented Bar Code Inventory System-First FBM Tender
- Implemented SUADPS Real-Time processing-First FBM Tender
- Reactivated and upgraded SUBMART
- Completed major consolidation of Depot Level Repairables and SSPO material
- Renovated Enlisted Mess Decks and Fast Food Facility
- Renovated Ship's Store
- Reactivated Repair of other Vessel Supply Support (ROVSS) operations

4. ENGINEERING DEPARTMENT

a. The Engineering Department completed regular overhaul and adjusted to on-line operations at the Naval SUBASE in Kings Bay, Ga with ease. The Engineering Department provides the SITE VI submarine with nitrogen and oxygen charges, shore power, CHT hoses, chill wate etc. During 1985 the Engineering Department underwent a number of significant inspections including: 3M Inspection, Training Readiness Evaluation, Operational Propulsion Plant Exam, Nuclear Weapons Acceptance Inspection, in which the Damage Control locker rated outstanding; and a Radiological Control Practice Exam.

b. Other major accomplishments made with Engineering Department were: Complete overhaul (ROH), Engineering Training (GITMO), LANTFLT PEB (OPPE), overhaul fire pumps 2 and 3, Bilge stripping pumps 3 and 4 MACALT installed, replaced numerous HP/LP Drain Valves, replaced all HP/LP Drain trap with breakdown orfices, Emergency Feed Pump (Steam end), F.OQCV MACALT installed #1 and #2 BLR Overhauled #1 and #2 FW Pumps (Orig obselete), Weld repair to 8-49-3-F and top piping penetrations, Provided 276 gallons of Nitrogen liquid to Repair Department, Provided 940 gallons of nitrogen gas to Ship Nitrogen Service, Accomplished 1600 seaming hours on O2N2 production, Overhauled #1 and #2 elevators and forklift elevators, Completed overhaul of #4 conveyor, Completed replacement of coupling on forward anchor windlass, Completed overhaul of #1 main A/C Unit, Completed overhaul of #1 A/C Saltwater Pump and Provided 672 steaming hours on portable trane A/C Unit to submarines. Additionally, CANOPUS was the only submarine tender in the Atlantic Fleet to complete an entire Full Power run in 1985.

5. WEAPONS REPAIR DEPARTMENT

The Weapons Department resumed on-line operations in July 1985. There have been no new equipment installations or significant changes to weapons systems. The Weapons Department underwent the following inspections in 1985: Nuclear Weapons Acceptance Inspection (Nwai)--Satisfactory, Preliminary Logistics Evaluation (PLE)--Satisfactory and Tactical Weapons Capabilities Review (TWCR)--Satisfactory. Ammunition expenditures for 1985 are as follow:

A011--12 GA Shotgun, 00 Buckl--1640 rounds
A017--12 GA Shotgun, 9 Chill Skeet--225 rounds
A130--7.62 mm Ball (M-14)--2760 rounds
A131--7.62 mm Linked--(M-60)--1700 rounds
A475--.45 cal Ball--11,481 rounds
A576--.50 cal Linked--2,220 rounds
A862--20 mm HEI Linked--1024 rounds
B577--40mm Practice (M-79)--24 rounds

Total ammunition expenditures for 1985 were 21,074 rounds.

6. ADMINISTRATIVE DEPARTMENT

All compartments within the Administrative Department were upgraded during overhaul. Productivity and quantity increased during and after the overhaul period due to increased paperwork, i.e. required reports, etc.. The Administrative Department provided top notch Administrative/Personnel assistance in returning the ship to on-line status and stabilization of the crew to support an arduous homeport shift. 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 ~~Commander Squadron Group 6~~ Silver Anchor Award for 1985, citing superior enlisted retention.

7. OPERATIONS DEPARTMENT

The Operations Department consists of Communications, Electronics and Navigation Divisions, with personnel from the RM, ET, QM and SM rates assigned. During this year, the ship completed shipyard overhaul at Naval Shipyard, Charleston, South Carolina; Refresher Training at Guantanamo Bay, Cuba; shifted homeports from Charleston, SC to Kings Bay, GA in July 1985; assumed all Communications Guard and monitoring requirements for the Commander, Submarine Squadron 16 on 6 August 1985; and the repair and maintenance of cryptographic and teletype equipment of tended submarines. In

addition to the standard mission responsibilities outlined in current directives which include all standard navigation and external communications functions, the department is also responsible for the repair and maintenance of all communications radar and own ship's navigational equipment.

b. The following communication equipment was installed subsequent to ROH: KL-51 offline encryption/decryption system, AUTOSEVOCOM, and a new state-of-the-art MODEM for enhanced landline AUTODIN connectivity. The UHF DAMA system was successfully operated in the air in December 1985.

c. Upon completion of ROH, CANOPUS successfully completed post overhaul shakedown and sea trials. The Navigation Division demonstrated its ability to safely navigate in restricted waters of the Cooper River, and during open ocean transit to Guantanamo Bay, Cuba; FT Lauderdale, FL, and Kings Bay, GA.

d. During Refresher Training in GTMO, the Operations Department performed well in every area. The Communications Division obtained a final grade of 97, which was the highest grade obtained out of all ships simultaneously conducting REFTRA. This was also one of the highest grades earned by a Submarine Tender. The Navigation Division demonstrated its ability to navigate in restricted waters with low visibility and danger areas; conduct precision anchoring; clear mine fields and maneuvers in close quarters with accompanying ships. The close aboard maneuvers included underway replenishment, high line transfers, and towing.

e. Successfully assumed the duties as COMSUBRON 16 Flag Ship at Submarine Refit Site VI. These duties included communications guardship support for the site. Shortly after relieving USS SIMON LAKE, CANOPUS achieved a high state of reliability in TACAMO ground monitoring and communications support.

f. The communications Division successfully completed a Communications Readiness Evaluation with little or no time for preparation due to a short lead time after assuming COMSUBRON 16 guardship responsibilities. This is a particularly noteworthy accomplishment since the division did not have any experience in submarine or flagship communications responsibilities.

g. CANOPUS successfully operated with joint forces in a first of its kind Port Egress Exercise (PEGREX 1-86). CANOPUS provided direct assistance in writing the OPORDER, planning and execution of the operation, and in providing outstanding communications support.

h. During the post overhaul period, REFTRA, and while at Site VI, the Electronics Division assumed greater levels of maintenance/repair responsibilities for cryptographic and teletypewriter equipment. The Electronics Division has installed two new navigations systems, a MERIDAN Satellite Navigation System and a RAYTHEON 750 MK II Loran-C Receiver. A new MOTOROLA PLS-2000 Radio Paging System was also installed. Upgrade to the new AN/SPA-25E were installed to improve operational efficiency and reliability.

New PRC decking was installed on the 03 level to improve appearances and reduce the number of man hours required for the preservation of weatherdeck spaces.

i. In addition to the accomplishments at sea, the Navigation Division personnel maintains navigation spaces, conducts training, and computes environmental data. New PRC decking was installed on the 04 and 05 levels to improve appearances and to support military ceremonies.

8. DECK DEPARTMENT

In 1985 the Deck Department has continued to excel in all endeavors. Once through the demanding working schedule of the ship yard, CANOPUS departed for refresher training in Guantanamo Bay, Cuba. Deck Department personnel spent many long and tiring hours in preparation for hi-line, helo-ups, anchoring, towing and un-rep procedures. It should be noted that Deck Department received a 90 percent grade or higher on each evolution. In July of 1985 CANOPUS changed homeports to Kings Bay, Ga. This required much planning and preparation in order for CANOPUS to moor into a three point moor with ease and seamanship expertise. This the Deck Department has mastered from the start. Once on line, the Deck Department has provided and continues to provide the following services; crane lifts, tool issue, paint, brushes, rollers, trash removal, small boat services, seamanship lectures and training. Our motto continues to be "Can do, will do, glad to."

9. DENTAL DEPARTMENT

The Dental Department evaluated and treated 5,623 dental patients seeking routine and emergency care. Beneficiaries included ship's company, CSS-4 and attached units, CSS-16 Staff, USS OAK RIDGE, Site VI personnel, oncoming SSBN crews, and tended units in the absence of USS SIERRA (AD-18). Department personnel completed an extended postoverhaul refurbishment of all dental spaces including the relocation of the Preventive Dentistry Operator and the Dental Office. These changes were necessitated by the increase of dental treatment rendered and the increases computer capabilities for records, recall, reports and supply functions. During REFTRA, dental personnel were cited by the Medical Officer for their outstanding support at Battle Dressing Stations and in the treatment of sea sick personnel. 1985 highlighted a major effort by dental personnel in completing the SUBLANT Dental Administrative Inspection with a grade of outstanding and maintaining a very high degree of dental health for all eligible personnel.

10. MEDICAL DEPARTMENT

The Medical Department evaluated 4,532 patients seeking both routine and emergency care. In support of sick call, the pharmacy filled over 5,348 prescriptions and the laboratory performed 4,652 procedures. The Medical Department routinely monitors over 674 personnel in the hearing conservation program and conducted 651 audiograms. The Radiation Health Officer monitors

more than 500 personnel in the Radiation Health Program. Additionally, 528 complete physical examinations were performed, 98 spectacle prescriptions were submitted, 143 radiographic exposures were made and 583 immunizations were given. The Medical Department participated in the following inspections: LOE, RCPE, NWAI, OPPE and underway heat, noise and ventilation surveys. Medical Readiness Inspection was conducted in January 1985. Refresher Training was held in Guantanamo Bay, Cuba.