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COMMAND HISTORY

of

USS BROOKE (DEG-1)

1966

Downgraded at 3-year intervals;  
Declassified after 12 years.

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CHRONOLOGY OF HIGHLIGHTS

19 DEC 1962 Keel laying of BROOKE at Lockheed Shipbuilding and Construction Company, Seattle, Washington.

19 JUL 1963 Launching of BROOKE.

13-17 DEC 1965 Builders Trials.

4 FEB 1966 Preliminary Acceptance Trials.

7 MAR 1966 Delivery of BROOKE to the Navy. Accepting BROOKE for the Navy was Rear Admiral William E. FARRALL, USN, Commandant, Thirteenth Naval District.

12 MAR 1966 Commissioning of USS BROOKE (DEG1) at the Puget Sound Naval Shipyard, Bremerton, Washington.

14 MAR 1966 Commencement of Fitting Out Availability at the Puget Sound Naval Shipyard.

27 APR 1966 Completion of Fitting Out Availability, change of status to in commission "active" and reporting to Commander-in-Chief, U.S. Pacific Fleet for duty.

MAY 1966 Participation in CNO Project D/S-316 (Evaluation of the MK 48 torpedo).

JUN 1966 Satisfactory demonstration of the ship's Surface Missile System (Ships Qualification Test).

JUN 1966 Satisfactory demonstration of the ship's Anti-Submarine Warfare System (Ships Qualification Test).

6-8 JUL 1966 Final Acceptance Trials.

JUL 1966 Participation in HOLDEX 3-66.

AUG 1966 Participation in HOLDEX 4-66.

SEP-OCT 1966 Installation of the Tartar Weapon System Improved Data Converter.

13 OCT 1966 Demonstration of UH-2 Helicopter/DEG class ship compatibility.

OCT-NOV 1966 Participation in CNO Project D/S 416 (Tartar Weapon System Improved Data Converter).

NOV-DEC 1966 Participation in CNO Project C/S 47 (AN/SPG-51C Tartar Radar Improved Data Converter).

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II

BASIC NARRATIVE

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A. INTRODUCTION

USS BROOKE (DEG1) is the first of a new class ship, the Guided Missile Ocean Escort. She is also the first ship of the Navy to bear the name of Lieutenant John Mercer BROOKE, USN, a noted naval officer in the fields of Ordnance and Hydrography during the 19th century.

BROOKE was built by the Lockheed Shipbuilding and Construction Company, Seattle, Washington, under the Contract Number 4516 with the U. S. Navy Bureau of Ships. The keel was laid on 19 December 1962 and BROOKE was launched on 19 July 1963. Co-sponsors launching BROOKE were Mrs. Bruce R. DAY and Mrs. Cambell HOOTEN, both granddaughters of John Mercer BROOKE.

BROOKE was placed in commission "special" on 12 March 1966 with Commander Robert L. WALTERS, USN, Commanding. The Honorable Robert W. MORSE, Assistant Secretary of the Navy for Research and Development, delivered the Commissioning Address.

B. GENERAL INFORMATION

The day of Commissioning for BROOKE had been eagerly awaited by both the nucleus crew, which had been assigned to the building yard, and the balance crew, which had formed at the Fleet Training Center, San Diego, California.

The nucleus crew, about 100 men, had reported to the building yard as early as July 1964. Throughout the long period of construction, the crew conducted an internal training program, attended both fleet and special schools, and monitored construction of the ship. A member of the nucleus crew was present for all

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tests and demonstrations of equipment, insuring that building specifications were met or that any deviation or discrepancy was noted and reported.

The balance crew, about 150 men, formed in July 1965 for eight weeks of pre-commissioning training. At the completion of this eight week period, the delivery date for BROOKE was still unknown due to delays in the shipyard. While awaiting delivery, an intensive "school of the ship" training program utilizing leading petty officers as instructors was conducted. This program continued until 27 January 1966, when the balance crew was transferred to the Naval Air Station, Seattle to await delivery of the ship. When the delivery of the ship was scheduled for early March, the "school of the ship" training program was set up using nucleus crew personnel to train the balance crew.

Due to construction delays, personnel assigned to BROOKE spent more time in a pre-commissioning status than is normal. The long pre-commissioning time is not recommended; however, it does have value. The training aspects alone had better prepared the crew to cope with the intricacies of a new ship and new equipment. Additional benefits of training is reflected in advancement in rate results. For example, from 12 March to 31 December, ten men were recommended for advancement in the Boatswain's Mate rating. All ten men were advanced as follows; one BMC, one BM1, one BM2 and seven BM3's. Advancement in other ratings, although not 100%, was very high.

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Personnel assigned to new construction normally serve one year on-board after commissioning. Due to the many delays in delivery of BROOKE, enlistments expired for 22 crew members. Twenty-one of this group reenlisted. In addition, five personnel were transferred to BROOKE from ships which were deploying. Enlistments expired for these five men with no reenlistments. Thus, of 27 personnel, 21 men reenlisted for a reenlistment rate of 77.7%. Eleven of the personnel reenlisting, were eligible for the new variable reenlistment bonus. These eleven men received a total of \$31,117.40.

C. MONTHLY SUMMARIES

BROOKE operated on a tight schedule which was continuously adjusted, modified and changed. The many changes made advance planning very difficult. The "can-do" spirit of the entire crew permitted the ship to meet all commitments with the exception of HOLDEX 8-66 and T/S-52 (Towed ASW Target), which occurred while two superchargers were being replaced. Detailed monthly operations were as follows:

MARCH 1966

BROOKE was moved from the building yard, Lockheed Shipbuilding and Construction Co., Seattle, Washington, to Puget Sound Naval Shipyard on 7 March 1966. The period 7 through 11 March was spent preparing the ship for Commissioning. On 12 March 1966, USS BROOKE was placed in commission, "special", Commander Robert L. WALTERS, USN, Commanding. Now a commissioned ship, BROOKE was assigned to Commandant, Thirteenth Naval District for operational and administrative control until the completion

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of Fitting Out Availability. The 45 day fitting out availability started on 14 March. This availability afforded the crew an excellent opportunity to become familiar with the ship and to get settled aboard.

The Supply Department loaded aboard all consumables, spare parts and equipage and other departments concentrated on the many post construction jobs to be accomplished by Puget Sound Naval Shipyard. The major jobs to be accomplished were re-vamping the Tartar Transfer Fixture and Fast Kingpost for FAST capability in Tartar Missile replenishments, complete re-wiring of the Secure Teletype Space and installation of on-line cryptographic equipment, Field Changes 3 and 4 to the AN/SQS-26AX Sonar which added four new units, replacing 11 coaxial cables from the top of the mast to both Radio Central and Combat Information Center and the re-making of silver brazed pipe joints in the engineering spaces, which had been incorrectly accomplished by the builder. Many additional jobs were accomplished during this period; however, the above items became critical as the availability progressed

APRIL 1966

Fitting out availability continued with the completion of the secure teletype space becoming the controlling job. Security Inspection Certification was obtained at midnight on the final day of the availability which permitted the ship to officially assume its communication guard on the 27th of April. Lighting off the engineering plant was delayed 3 days. This delay was caused from plastic paint peeling from the inside of a drain tank.

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This problem was corrected by the ship's engineering personnel, and the plant was lighted off at midnight on 26 April for ships operation. With the fitting out availability completed, and as directed by Commandant Thirteenth Naval District, USS BROOKE reported to Commander in Chief, U.S. Pacific Fleet for duty and to Commander Cruiser-Destroyer Force, U.S. Pacific Fleet, for operational and administrative control.

During the final days of the fitting out availability it was determined that for upcoming sonar alignment tests and CNO Project D/S 377 a hydrophone would have to be mounted in the hull. No drydock could be made available in Puget Sound Naval Shipyard, but as arranged by the Industrial Manager, Seattle, the ship was scheduled for dry-docking at Todd Shipyard in Seattle on 27 April.

USS BROOKE got underway at 0600 on 27 April to Todd Shipyard with a Navy Pilot conning. Dry-docking proceeded as scheduled at 0800 with undocking scheduled for 0800 on the 28th. The command was informed at 2200 that dock flooding would commence at midnight with the ship clearing the dock by 0230 the 28th. Thus the ship's first independent underway evolution occurred with the ship steaming in busy Puget Sound area during the night. Because of the heavy schedule only 4 days had been allotted for a Ready for Sea (RFS) period, with one of the days programmed for loading ammunition at the Naval Ammunition Depot, Bangor, Washington. The night steam in Puget Sound provided our initial underway shakedown evolutions as a rather short period under other than desirable conditions. BROOKE proceeded to Bangor and loaded small arms,

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pyrotechnic, 5"/38 ammunition and torpedo loadout sufficient to commence CNO Project D/S 377 which required the firing of MK 48, MK 37, MK 44 torpedoes and MK 27 torpedo targets.

MAY 1966

A new concept was to be evaluated on BROOKE in that the Ship's Qualification Tests for both the Surface Missile System Missile System and the ASROC Anti-Submarine Warfare System would run simultaneously during the month of June. Aircraft tracking drills were conducted when feasible during the month with 12 hours of aircraft services scheduled and considerable tracking of "Targets of Opportunity." During the month, the ship participated in CNO Project D/S 377, firing a total of 3 MK 48 torpedoes, 3 MK 27 torpedo targets, 2 MK 37 and 3 MK 44 torpedoes on the three dimensional ranges in DABOB Bay and at Nanoose, B.C. A Weapons System Accuracy Test was conducted in the Daybobo Bay/Hood Canal areas, permitting alignment of all sensors and weapons systems. Some tactical data was obtained during stand-by periods on the three dimensional ranges at Daybob Bay and at Nanoose. The amount of tactical data obtained has been of great value in shiphandling while working with other ships. Eight days during the month were spent in Carr Inlet conducting ships noise and sonar noise accuracy tests. One additional project conducted during this period was the monitoring and measurements of the 400 cycle power system for the ship.

The month of May was extremely valuable in many respects for BROOKE. Normally only one MK 48 torpedo and one MK 27 torpedo

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target were loaded aboard at any one time, thus the ship was required to return to NAD Bangor for loading prior to each scheduled MK 48 and/or MK 27 firing. The ship transited to the Nanoose, B.C. range and returned on four occasions. This transit through the HARRO Straights and Boundary Pass provided invaluable training for the navigation and ship handling teams. The Special Sea and Anchor Detail was stationed on 34 occasions between the completion of Fitting Out on 27 April and arrival in Seattle on 1 June. The heavy schedule, berthing at relatively remote areas and considerable work required in meeting the monthly schedule, permitted little opportunity for the crew to relax. With a scheduled firing at the Nanoose, B.C. range on 27 May, a port visit to Vancouver, B.C. was requested for the Memorial Day Weekend. This visit was approved, and provided some most welcome R & R in a foreign port.

JUNE 1966

BROOKE arrived in Seattle on 1 June and departed on 2 June for San Diego with a short stop in San Francisco for fueling and loading of Tartar Missiles. Arriving in San Francisco on 4 June the ship was berthed at the Embarcadero and held General Visiting on 4 and 5 June. On 6 June the loading of TARTAR Missiles was conducted at the Mare Island Annex.

Underway on 7 June, BROOKE arrived in San Diego on 8 June and was berthed at the Broadway Navy Pier for General Visiting and Welcoming to her Home Port by the San Diego Chamber of Commerce. The next four days were spent completing instrumentation for missile blast tests and the missile system rapid fire test. On 13 June five

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Blast Test Vehicles were fired with only minor superficial damage.

On 14 June additional missiles were loaded at NAD Seal Beach, and on 15 June the system rapid fire test was conducted, firing 15 TARTAR missiles with no damage. The 16th of June at NAD Seal Beach TARTAR Missiles were again loaded, picking up both warhead missiles and telemeter head missiles which were to be used during the Ship's Qualifications Test. BROOKE returned to San Diego and during the period 17-20 June underwent the inport phase of the ASROC Ship's Qualification Test.

Underway the 21st through the 23rd the ship conducted the under-way portion of the Ship's Qualification Test. Unfortunately sonar conditions were unfavorable and the sea state made torpedo recovery hazardous. Accordingly, only one ASROC was fired. This shot was evaluated a hit and the Ship's Qualification Test adjudged successful. Returning to San Diego for the weekend, preparations were completed for the Surface Missile System Ship's Qualification Test. The Surface Missile System Ship Qualification Test was conducted at the Pacific Missile Range during the period 27 through 30 June. Again the elements posed problems and only 2 missiles were fired. One missile was declared a hit and the other evaluated as a missile failure.

#### JULY 1966

On 1 July the critique was conducted on board for the combined Ship's Qualification Trials conducted in June and both the ASW and Surface Missile Systems were certified at this time. The period 2-5 July was spent completing preparation for the Final Acceptance Trials by the Board of Inspection and Survey on 6, 7, and 8 July.

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resulting from the construction period, definitely caused the failure.

WEAPONS SYSTEMS - As with any complex weapons system, problems were encountered. The AN/SPG-51B ~~Taxstar~~ Radar System became reliable but in September was replaced with the AN/SPG-51C system. Some problems were encountered with this unit and reliability was hampered to a great degree due to lack of repair parts support. The system was so new that spares were difficult to obtain. Early problems were encountered in the Louis-Allis power supply for the Sonar. Continuous work by the ships force with some factory assistance finally corrected this problem. Procurement of fuses and crystals was often a problem. Continued communications with Naval Ordnance Systems Command has improved this problem area. In general, the AN/SQS-26AX Sonar has been one of the most reliable systems onboard. The greatest problem in the Weapons Department for reliability, has been the AN/SPS-39A Radar. This unit was originally used in the factory school and has seen long, hard use. This unit has been under constant repair or adjustment since commissioning.

OPERATIONS - The communications system has proven to be reliable in all respects but one. The installed teletype page printers have proved to be a constant problem area. The TT299 operates an average of four (4) hours before it must be repaired or re-aligned and adjusted in order to print readable copy. The down time normally exceeds the up time. Although the ship only copied one broadcast during most of the year, the requirement

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In preparing for the Final Acceptance Trials, the two previous inspections by the Board of Inspection & Survey had given considerable experience to the ship's personnel in what to expect. For example, after the Builders Trials many discrepancy items were completed by the builder prior to the Preliminary Acceptance Trials. Preliminary Acceptance Trials were conducted 31 JAN - 4 FEB resulting in 1,451 trial items.

At the completion of Final Acceptance Trials, 844 trial items were written. Only 362 of these items were carried over from the Preliminary Acceptance Trials. The Board of Inspection and Survey reported the ship not ready for war and directed that due to the seriousness of 9 of the trial items, these were to be CASREPT'ed until corrected. Of these 9 items only 4 remained at the end of the year for accomplishment during Post Shakedown Availability. Of interest is the fact that one of the 9 items was that the AN/SQS-26AX sonar performance was substandard. This item was considered to be invalid as a result of the performance of the sonar during HOLDEX 3-66 conducted during the month.

The period 9-12 July was spent preparing for HOLDEX 3-66, to be conducted the 13th through 16th. On 13 July the ship departed for rendezvous with Commander Destroyer Division 192 in USS MCKEAN (DD784) and USS BAUER (DE1025). On rendezvous, the three ships proceeded to the assigned operation area. The performance of the AN/SQS-26 sonar was considered outstanding during the exercise. BROOKE became the first ship to utilize the Convergence Mode of operation in a tactical situation, gaining contact at 27 and 30 mile

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ranges. These long range contacts were proved to be valid contacts during reconstruction of the HOLDEX. In addition to the Convergence Mode, the ship was extremely successful in Omni Direction Transmission Mode with contacts at ranges as great as 14,000 yards.

This exercise provided the first opportunity for BROOKE to operate in company with other units and the results were excellent. In general the performance of BROOKE was considered superior to that of the other units which were in final preparation phases for deployment. This knowledge of professional performance plus the participation of the ship in a project considered as important as the HOLDEX series, inspired an excellent crew to perform even better in the next scheduled HOLDEX in the month of August.

On completion of HOLDEX 3-66, BROOKE returned to San Diego for its first upkeep period since commissioning. During this upkeep period the ship started working on correcting as many of the Final Acceptance Trial items as possible.

#### AUGUST 1966

The month of August started well, with BROOKE participating in HOLDEX 4-66 during the period 2 through 5 August. Again BROOKE had an opportunity to work with other ships. Involved in this HOLDEX was Commander Destroyer Squadron THIRTEEN in USS ENGLAND (DLG22) and USS OBRIEN (DD725). During this exercise the AN/SQS-26AX sonar again proved itself in an operational situation, obtaining contact at ranges in the vicinity of 30 miles in the Convergence Zone Mode and at ranges greater than the other two ships in Omni Directional Transmission Mode of operation.

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The ship proved again that it could operate equally or superior to fleet ready units. In this exercise the BROOKE served as a Communications Relay unit between the ships of the force and the participating shore units and as guard ship for all extra frequencies required in the exercise. On completion of the HOLDEX, BROOKE returned to San Diego for Upkeep from 6 through 14 August.

The following week the BROOKE and USS MCKEAN (DD784) provided services to Commander Submarine Flotilla ONE who was conducting the first Prospective Commanding Officer school for submariners held in the San Diego area. No services were required from BROOKE on the 15th, so sled services were obtained and the ship conducted a gun shoot, exercise Z-24-G, self evaluated. The following three days, services were provided to the PCO school using USS DIODON (SS349) and USS CAIMAN (SS323) in the local area. Unfortunately, sonar conditions were extremely poor but many benefits were obtained by surface and sub-surface units.

On the 19th the AN/SQS-26AX sonar casualty (Final Acceptance Trial Item) was reported corrected. This was based on the results obtained during two HOLDEX exercises. These exercises had been assigned a high priority by the Chief of Naval Operations and BROOKE's sonar proved that it was not, in fact, sub-standard.

BROOKE was selected as the test unit for installation of the TARTAR Weapons System Improved Data Converter and was assigned Projects D/S 416 and C/S 47. This installation and check out was quite extensive, consisting of a new Data Converter, new Radar Console,

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and extensive Ordnance Alteration at the Naval Station, San Diego from 22 August through September 30.

Throughout the remainder of the month, work progressed on the installation of the Improved Data System. This period of time in port permitted numerous fleet schools to be scheduled for the crew and additional shipboard training was conducted. Work progressed on outstanding Final Acceptance Trial Items during this period.

SEPTEMBER 1966

The technical availability for installation of the Tartar Improved Data Converter continued throughout the month. Through shipboard programs and the use of the Fleet Schools, the training program continued. Additional progress was made in correcting Final Acceptance Trial Items. A tender availability for USS DIXIE (AD14) was assigned for the period 3-16 September. Almost all work requests for the tender were for Final Acceptance Trial items which were beyond the capability of ships force. Unfortunately work requests for Trial Items were not accepted by the tender because of the funding problem of correcting items considered construction deficiencies, or discrepancies. Accordingly, the work requests accepted were few, and work accomplished during the tender availability was minor. The installation of the Improved Data Converter was completed on 30 September, with ship's force having performed over 50% of the work involved. Hereafter the ship was equipped with an AN/SPG-51C radar.

OCTOBER 1966

With the completed installation of the Tartar Improved Data Converter the period 1-12 October was assigned for instrumentation

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and inport checkout of the complete installation. BROOKE had been previously designated by Commander Cruiser-Destroyer Force, Pacific to evaluate the DEG-1 class ship for landings of the UH-2 Helicopter. This evaluation was conducted on 13 and 14 October while the ship was at sea conducting final tests on the Tartar Improved Data Converter Installation. A total of 12 landing and launches were conducted on 13 October. BROOKE and the UH-2 helicopter proved compatible. The two day at sea test for the Tartar System indicated that the installation and instrumentation was satisfactory for the D/S-416 project. During the two day at sea period, the ship entered NAD Seal Beach and loaded six Tartar Missiles equipped with telemetering heads for use in the D/S-416 project. The remainder of the month's schedule consisted of aircraft tracking flights in evaluation of the new Weapons Systems Data Converter.

On 28 October vibrations were detected in the supercharger for 1B boiler. Preliminary indications were that one or more turbine blades had come loose and passed through the turbine stages. Upon returning to port on 28 October, inspection by the ship's force, type commander engineering representative and tender personnel, confirmed that a turbine blade or foreign matter had passed through the turbine stages. The decision concerning the repair of the turbine was dependent on several items; namely, the availability of a repair activity, the availability of repair parts or a replacement supercharger and the completion of D/S-416 with the ship operating on only one boiler. Only one week at sea remained for the completion

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of D/S-416 and the decision was to complete the project prior to repairs. It was determined that the San Francisco Bay Naval Shipyard, Hunters Point could handle the repair job on the supercharger commencing 5 November, after D/S-416 was completed. Accordingly the ship proceeded to the Pacific Missile Range on 31 October for one week.

NOVEMBER 1966

The period 1-4 November the ship was on the Pacific Missile Range for the completion of D/S-416. During this period the firing schedules were adjusted several times due to fog in the area, which was normal for the season. A total of 3 Tartar missiles were fired during the week. Of the three shots, one missile was determined to have failed, one was successful and one which was originally considered successful; however, later analysis determined the miss distance excessive and the shot was evaluated unsuccessful.

In conducting D/S-416 during the months of October and November, 78.5 hours of aircraft tracking were conducted of which 30 hours were in an active ECM environment. In addition 40 rounds of 5"/38 ammunition were expended as part of the D/S project. In conducting D/S-416 the equivalents for the following exercises for self-training were conducted: Z-21-G, Z-23-G, Z-17-AA and ECMEX "A".

On 5 November, with D/S-416 completed, the ship proceeded to NAD Concord, Mare Island Annex, and off-loaded all ammunition, then proceeded to San Francisco Bay Naval Shipyard, Hunters Point for a restricted availability on the supercharger. Upon detailed investigation by ship's force, shipyard representatives and factory

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representative from the Elliott Corporation, the decision was made to replace the entire supercharger. This decision was based on the fact that replacement blades were installed, the entire rotor unit would require balancing. Unfortunately, no replacement superchargers were available except from other new construction ships. NAVSHIPSYS-COMD when advised of the requirements, released a supercharger from the O'CALLAHAN (DE1051) under construction at DeFoe Shipbuilding Company, Bay City, Michigan. As a precautionary measure, the other supercharger was inspected at this time and the inspection revealed that this unit was also damaged. Again a new supercharger was removed from the O'CALLAHAN (DE1051) and flown to San Francisco for installation in BROOKE.

Conferences were held shortly after arrival in the San Francisco area concerning the results of the D/S project. The Improved Tartar Weapons System Data Converter was certified and accepted as a result of this conference and the equipment performance during D/S-416.

Originally the ship had requested to participate in HOLDEX 8-66, scheduled for the period 14-17 November. Due to the supercharger problems, the ship was unable to participate in this exercise.

The remainder of the month of November was spent in the Restricted Availability at San Francisco.

#### DECEMBER 1966

Work continued in completing the installation of two superchargers. BROOKE had been scheduled to participate in CNO Project T/S-52 on 5-9 December with USS MCKEAN (DD784). This project was

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the firing of an ASROC with MK 46 torpedo warhead. The time involved in the replacement of both superchargers cancelled BROOKE from this project, but the ship was fully configured to fire MK 46 torpedoes from ASROC launcher and torpedo tube MK 32.

On 12 December Dock Trials were conducted and when completed satisfactorily the ship proceeded on sea trials. Both trials were satisfactory with the superchargers performing normal at all speeds. With sea trials completed BROOKE returned to San Francisco Bay Naval Shipyard. On 13 December BROOKE proceeded to NAD Concord, Mare Island Annex, loaded ammunition and then proceeded to San Diego conducting preliminary aircraft tracking flights enroute for CNO Project C/S 47 (AN/SPG-51C Tartar Radar Improved Data Converter).

BROOKE arrived in San Diego on 17 December for scheduled holiday period extending until 3 January 1967.

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III  
SPECIAL TOPICS

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A. OPERATIONS.

Throughout the year, BROOKE was primarily employed in a test and evaluation category. Even so, of only 294 days in commission the ship was away from the Home Port 170 days. The ship was involved in only two fleet-type exercises. In these two HOLDEX exercises, the training of the crew and the readiness of the ship was successfully demonstrated.

BROOKE was the first AN/SQS-26 Sonar equipped ship to employ the convergence-zone mode of the sonar in an operational/tactical situation. BROOKE demonstrated that this is a reliable and very important new tool in the ASW field. No doctrine has yet been developed in employing this sensor in the convergence-zone or bottom-bounce modes. Knowledge of the equipment capabilities plus basic ASW concepts were used in BROOKE's employment of the sonar during these two HOLDEX exercises. Although success was obtained, definite effort should be expended in development of tactics utilizing this sensor.

B. EQUIPMENT PERFORMANCE.

Reliability of equipment in BROOKE was somewhat shaky during the early periods but improved as time went on.

ENGINEERING - The pressure fired steam generators with automatic combustion control has proved to be an exceptionally reliable propulsion system. With continued experience gained in operating the plant, the engineering crew became more proficient in maintaining the system. Although both supercharges required replacement, the amount of foreign matter found therein,

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lack of specific tactics for the long-range search modes and the lack of knowledge of equipment capabilities do not permit maximum utilization of this new sensor. "A

OPERATIONS - BROOKE had the opportunity to obtain some tactical data while operating on the three-dimensional ranges at Dabob Bay and Nanoose, B.C.. This tactical data has been very useful for shiphandling characteristics. For example, in operating with standard destroyers executing turns using 15<sup>0</sup> rudder at a speed of 15 knots, BROOKE obtains the same turning radius with 7-10<sup>0</sup> rudder. Additional tactical data for all speed ranges would be very helpful to shiphandlers.

MATERIAL - Final Acceptance Trials were held on BROOKE four months after commissioning, and after approximately two months of operation. Some material failures occurred after the Final Acceptance Trials were conducted, thus are not fully documented to appear within the six-month guarantee period required on new construction contracts.

E. RECOMMENDATIONS.

ASW - That effort be expanded in developing tactics for use with the long range sonar search capabilities and that more information be promulgated on capabilities and limitations of new equipments such as the AN/SQS-26 series sonar.

OPERATIONS - That at least one ship of each type be scheduled to obtain complete tactical data, to be provided to ships of the class. The use of the underwater three-dimensional range is recommended. These ranges will provide accurate data for all speeds.

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MATERIAL - That the Final Acceptance Trials for new ships be conducted as near the end of the six month guarantee period as possible. This would permit documentation of all material problems occurring within the guarantee period.

*[Faint handwritten signature]*

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<u>NAME</u>	<u>RANK</u>	<u>DATE OF RANK</u>	<u>SERIAL NUMBER</u>	<u>PRIMARY BILLET</u>
WALTERS, Robert Levi	CDR	July 1964	521947	Commanding Officer
*BLACKINGTON, Richard Nelson	CDR	January 1967	508681	Executive Officer
*BUELL, Thomas Bingham	LCDR	January 1967	621382	Weapons Officer
MORROW, Billy Raymond	LT	June 1962	625759	Operations Officer
WOLFE, John Terrence	LT	December 1965	659573	CIC/EMO Officer
TURNER, Delano Franklin	LT	March 1966	660621	ASW Officer
SMITHLIN, Michael James	LT	July 1966	666903	Engineer Officer
SULLIVAN, Kevin Fletcher	LT	December 1966	669580	DCA
APTER, Marc Theodore	LTJG	December 1965	681376	Asst. CIC/EMO
DILLEY, Charles William Jr.	LTJG	April 1966	683993	Supply Officer
ANDERSON, Russell Frederick	LTJG	June 1966	685319	Asst. ASW Officer
COOK, Roy Herbert III	LTJG	December 1966	599549	Missile Officer
HUNT, William Baile	LTJG	December 1966	690644	Communications Off.
CHRISTIANSON, John Alden	ENS	March 1966	699954	Disbursing Officer
HUNT, Andrew William Jr.	ENS	June 1966	701690	First Lieutenant
FREIBAND, James Michael	ENS	June 1966	705354	MPA

\*Promoted 1 January 1967



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DEPARTMENT OF THE NAVY  
USS BROOKE (DEG 1)  
FPO SAN FRANCISCO 96601

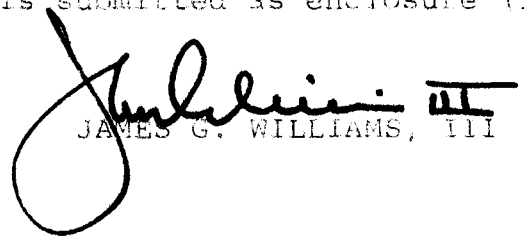
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Ser: 040  
20 May 1969

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(Unclassified upon removal of enclosure)

From: Commanding Officer, USS BROOKE (DEG 1)  
To: Director of Naval History (OP-09B9)  
Subj: Command History of USS BROOKE (DEG 1), 1968; submission of  
(Report Symbol OPNAV 5750-1)  
Ref: (a) OPNAVINST 5750.12A  
Encl: (1) Command History of USS BROOKE (DEG 1), 1968

1. In accordance with reference (a), the Command History of  
USS BROOKE (DEG 1) for 1968 is submitted as enclosure (1).

  
JAMES G. WILLIAMS, III

Copy to:  
CINCPACFLT  
COMCRUDESPEC  
COMCRUDESFLOT NINE  
COMDESRON THIRTY-ONE

Group-4  
Downgraded at 3 year intervals  
Declassified after 12 years

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COMMAND HISTORY  
OF  
USS BROOKE (DEG-1)  
1968

Downgraded at 3 year intervals;  
Declassified after 12 years.

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  - (16) MACKENZIE msg 092135 DEC 68

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I

CHRONOLOGY OF HIGHLIGHTS

1 - 8 JAN Enroute Pearl Harbor as a unit of ASWGROUP ONE

31 JAN - 8 FEB Operations in Sea of Japan with TF 70  
16 FEB - 1 MAR

1 FEB Assigned to DESRON THIRTY-ONE

13 MAR - 8 APR YANKEE Station Operations in the Tonkin  
Gulf with TF 77

20 APR Change of Command

10 - 25 MAY YANKEE Station Operations in the Tonkin  
Gulf with TF 77

28 MAY Crossing of the Equator

6 - 15 JUN YANKEE Station Operations in the Tonkin  
Gulf with TF 77

21 JUN - 5 JUL Enroute San Diego from Sasebo, Japan as  
a unit of ASWGROUP ONE

5 JUL - 4 SEP Inport San Diego for upkeep

1 SEP Reorganization of DESRON THIRTY-ONE

16 - 18 SEP Navy Technical Proficiency Inspection

25 OCT - 8 NOV Tender Availability, San Diego, with  
USS SAMUEL GOMPERS (AD-37)

9 - 18 NOV HOLDEX 6-68

22 NOV - 31 DEC Tender availability, San Diego with  
USS JASON (AR-8)

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II

BASIC NARRATIVE

JANUARY

1 January 1968 found BROOKE enroute to Pearl Harbor on the first leg of her deployment to the Western Pacific with Anti-Submarine Warfare Group ONE. ASWGROUP ONE was comprised of the flagship USS YORKTOWN (CVS-10), CVSG-55, and six escorts commanded by COMDESDIV TWO HUNDRED THIRTEEN, embarked in USS BRADLEY (DE-1041). The schedule of operations called for the ship to be involved in ASWGROUP ONE's Operational Readiness Evaluation for the first two week's of the month, but a casualty to 1B Boiler precluded participation in these exercises and forced BROOKE to proceed to Pearl Harbor for emergency repairs.

Repairs were completed on the 15th and sea trials were scheduled for the next two days. Further problems with the same boiler necessitated the return to Pearl Harbor on the 16th. BROOKE departed for Yokosuka, Japan with the rest of the task group on the 19th.

In Pearl Harbor the ship embarked a civilian management analyst with the Navy Personnel Research Laboratory who joined 8 men from the San Diego Fleet Work Study Group to conduct a study for a Ship Manning Document. These personnel were to remain with BROOKE for 4 weeks.

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The third week of January was devoted to extensive training - both external and internal - in preparation for the attachment to the Seventh Fleet and operations in the Tonkin Gulf. Numerous exercises were conducted, with the emphasis being placed on anti-air warfare.

On January 26th, however, in response to the capture of USS PUEBLO by North Korea, ASWGROUP ONE was ordered to proceed directly to the Sea of Japan and join other units of the Seventh Fleet in that area. As a unit of ASWGROUP ONE, BROOKE was to be responsible for surface sub-surface surveillance of the Sea of Japan and was assigned to TG 70.9. The ship had 4 days in which to make final preparations for what was expected to be a combat area, and thus night and day training was conducted on all aspects of naval warfare.

#### FEBRUARY

BROOKE arrived in the Sea of Japan on 31 January and was assigned duty as an Anti-air Warfare picket to protect YORKTOWN. Despite the extremely tense atmosphere of the PUEBLO crisis, the first week of February passed without incident.

On 1 February the ship was involved in an administrative reorganization of the Cruiser-Destroyer Force of the Pacific Fleet. BROOKE was transferred from Escort Squadron THREE to the newly-formed Destroyer Squadron THIRTY-ONE, a part of Cruiser-Destroyer Flotilla NINE, homeported in San Diego, California.

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On the 8th the ship suffered casualties to both 1A Boiler and the MK 73 Missile Fire Control Director and was directed to proceed to Sasebo, Japan for immediate repairs. With the aid of USS SAMUEL GOMPERS (AD-37), BROOKE completed repairs on the 15th and was back in the Sea of Japan the next day.

The remainder of the month of February was spent as a unit of TF 70, and the ship continued her duty as an AAW picket. On several occasions BROOKE was able to make the initial detection of Soviet surveillance aircraft. During the last week the civilian analyst and the members of the Fleet Work Study Group completed their study of BROOKE's manning level and departed the ship (enclosure 7).

### MARCH

On 1 March BROOKE departed the Sea of Japan and headed for Kaohsiung, Taiwan for an upkeep and rest period. ASWGROUP ONE was relieved as Surface Sub-surface Surveillance Coordinator (SSSC) by ASWGROUP FIVE, comprised of USS KEARSEARGE (CVS-33) and various escorts.

The ship was in Kaohsiung from the 3rd through the 11th and benefited greatly from the alongside services of USS JASON (AR-8).

On 13 March BROOKE arrived in the Tonkin Gulf with YORKTOWN and commenced her first duty in the Vietnam conflict.

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COMASWGROUPE ONE was assigned as CTG 77.9 (SSSC), and BROOKE, as the permanent planeguard for YORKTOWN, was designated as Alternate SSSC. On numerous occasions during this period BROOKE took full control of SSSC communications and tracking when YORKTOWN's operations precluded radio transmission. In addition, the ship maintained a constant readiness in anti-air warfare in order to insure the safety of YANKEE Station aircraft carriers. During this and subsequent tours on YANKEE Station, the Operations and Weapons departments were able to overcome the hardships of long watches and continuing readiness and insure BROOKE's ability to handle all combat situations.

APRIL

Prior to departing the Tonkin Gulf, BROOKE participated in two ASW Transit Exercises. The first exercise was with USS TICONDEROGA (CVA-14) and the second with USS BON HOMME RICHARD (CVA-31). The transits by the CVAs and their escorts were opposed by U. S. submarines, and they served as valuable training for the ship's ASW team.

The transit from YANKEE Station to Yokosuka, Japan with YORKTOWN and USS HERBERT J. THOMAS (DD-833) was devoted to further training. BROOKE played an important role in a Multi-Channel Jezebel Reception (MCJR) evaluation with YORKTOWN by controlling participating aircraft and making

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frequent communications relays (enclosure 6). Small scale anti-surface to surface missile exercises were also conducted, using the fire control radar of THOMAS to simulate the missile radars.

On 11 April, while still enroute to Yokosuka, the Commanding Officer, Commander Bruce G. STONE, USN, departed the ship and returned to San Diego on emergency leave. In his place, the Executive Officer successfully made the difficult transit through Tokyo Bay and acted as Screen Commander for the formation. The ship arrived in Yokosuka on the 12th.

Commander JAMES G. WILLIAMS, III, USN, assumed command of BROOKE in Yokosuka on 20 April, and the ship was underway for Hong Kong the next day.

The ship arrived in Hong Kong on 26 April and remained for 5 days of rest and recreation.

#### MAY

The schedule of operations called for BROOKE to return to the Tonkin Gulf for another month of duty, but a casualty to a superheater tube in 1B Boiler forced the ship to proceed to Subic Bay, Phillippines for repairs.

By 10 May BROOKE was back on YANKEE Station with YORKTOWN and was continuing her duty as plane guard destroyer and AAW picket. From the 10th through the 14th the ship's air controllers gave both positive and advisory control to

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YORKTOWN aircraft while the carrier's air search radar was inoperative.

All units of ASWGROUPE ONE departed the Tonkin Gulf on the 25th, and YORKTOWN, BROOKE and 3 others headed for Singapore. The formation swung south of Singapore in order to cross the Equator, and the day of the crossing, 28 May, was marked by the traditional initiation of all Pollywogs into the mysteries of the realm of King Neptune. All hands survived and welcomed the ship's arrival in Singapore the next day.

#### JUNE

BROOKE's stay in Singapore was distinguished by the warmth and friendliness of the British Navy who hosted the ship's visit. On the 3rd the ship departed Singapore and headed for the last tour on YANKEE Station. The growing threat of a North Vietnamese missile attack caused a vigorous training program in anti-missile defense to be implemented on the ship, and much of the transit time was devoted to this training.

The ship arrived in the Tonkin Gulf on 6 June and immediately assumed the familiar role of planeguard for YORKTOWN. A casualty to 1A Boiler the next day, however, caused BROOKE to be assigned as CTU 77.9.4, the YANKEE Station ASW Training Coordinator. This was BROOKE's first opportunity to exercise fully the ship's ASW capability since early

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January, and it was a welcome change from planeguard duties. The highlight of the week's work was the daily exchange of personnel with USS GUDGEON (SS-576), one of the exercise submarines assigned to the area. 14 June, the last day on station, was spent as an ASW escort for USS BON HOMME RICHARD (CVA-31) during a Transit Exercise.

On 15 June BROOKE was detached from YANKEE Station and ordered to proceed to Sasebo, Japan to be relieved by units of ASWGROUPE THREE. A missile shoot off the coast of Okinawa was scheduled enroute. On the night of the 16th, however, the ship was forced to reverse course to effect an emergency medical transfer and the loss of time caused the cancellation of the missile exercise. The ship thus proceeded directly to Sasebo, and departed there on the 21st for San Diego. The return cruise with ASWGROUPE ONE was uneventful. Anti-missile defense and ECM exercises were conducted frequently and, as usual, they proved to be extremely educational.

JULY - AUGUST

BROOKE arrived home in San Diego on the 5th of July and immediately commenced an availability with the Development and Training Center (DATC), San Diego. This availability period lasted through the first week in September and gave the Engineering Department a much-needed opportunity to work

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on the boilers. Tubes in both boilers were X-rayed carefully and welding was performed where necessary.

Fleet Work Study Group, Pacific conducted an inspection and evaluation of the Planned Maintenance System and provided schooling for a number of the ship's personnel in PMS procedures. Examinations of the ship's manning level were conducted in response to the proposed early release of reservists and the ship's Manning Document Study (conducted earlier in the year).

SEPTEMBER

BROOKE was underway for local operations and engineering trials on 4 September. Early that evening the ship received an urgent request from USS SCHOFIELD (DEG-3) for a coolant pump for her missile fire control radar. Rendezvousing at midnight off the coast of Southern California, the pump was transferred by highline and SCHOFIELD was able to continue her operations successfully (enclosure 9).

On 1 September BROOKE was involved in another administrative reorganization of CRUDESPEC. DESRON THIRTY-THREE was decommissioned, and the Squadron Commodore and some of the ships were assigned to DESRON THIRTY-ONE. BROOKE remained in DESRON THIRTY-ONE. Later in the month both COMDESRON THIRTY-ONE and COMCRUDESFLOR NINE and their staffs deployed to the Western Pacific. Temporary administrative control of the ship was assigned to COMDESRON SEVEN and COMCRUDESFLOR ELEVEN.

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After returning from sea on the 5th, the ship remained in San Diego for normal upkeep and in-port training until 23 September. The annual Naval Technical Proficiency Inspection was held the 16th - 18th. As a result of the inspection BROOKE was declared nuclear-capable, and the comments of the inspection team indicated that the ship's nuclear weapons team was well-trained and highly motivated. (enclosure 10).

The week of 23-27 September was spent at sea in the local operating areas. The ship spent one day making test firings of the MK 46-1 Torpedo, 2 days as a submarine target vessel for USS ROCK (AGSS-274) and USS DIODON (SS-349), and the last day in various gun shoots. The last week of September was spent in-port.

#### OCTOBER

The month of October was devoted mainly to inport upkeep and training. BROOKE was underway from the 7th to the 10th and from the 14th to 16th. During these two periods the emphasis in training was on ASW. The ship again served as a submarine target vessel, and this proved to be a valuable refresher for the ASW Team. In addition, an ECM jamming demonstration by an EB-47 aircraft and a two day period as planeguard for USS KEARSARGE (CVS-33) added to the variety of training accomplished.

On the 25th the ship commenced a two week Tender Availability period with USS SAMUEL GOMPERS (AD-37).

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NOVEMBER

The TAV with GOMPERS was completed on 8 November. The major project was repairs to the boiler tubes, but a number of smaller jobs were also done.

On the 9th BROOKE departed San Diego to participate in HOLDEX 6-68 as flagship of COMDESDIV NINETY-TWO, the OTC (CTU 31.5.2). Other participating units were USS BLUE (DD-744), USS COLLETT (DD-730), aircraft from Patrol Squadrons NINE and NINETEEN, USS POMFRET (SS-391), and USS PERMIT (SS(N)-594)- the opposing submarine. The Officer in Charge of the exercise was Commander Western Sea Frontier (CTF-31).

The exercise proved to be a great success. Despite engineering problems and exercise restrictions that limited POMFRET maneuverability, the surface units and aircraft maintained almost continuous contact on the submarine. BROOKE's SQS-26AX sonar gained the initial contact and several times throughout the exercise regained contact at extremely long ranges. In addition, the ship's two anti-submarine air controllers logged nearly 140 hours in close control of the P-3 aircraft. Enclosures (11) through (15) are commendatory comments concerning BROOKE's performance in HOLDEX 6-68.

The ship returned to San Diego immediately and commenced a Tender Availability period with USS JASON (AR-8) on the 23rd of November.

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DECEMBER

The TAV with JASON was extended until 17 December in order to complete an overhaul to one of the main feed booster pumps. The other major project completed during this period was an extensive replacement of tubing in #1 evaporator.

BROOKE hosted the San Diego visit of HMCS MACKENZIE during the second weekend of December. The ship's hospitality was greatly appreciated by the Canadians, as evidenced by their message (enclosure 1b).

The last 2 weeks in December were devoted to a leave period and general upkeep. BROOKE's complement on 31 December was comprised of 17 officer and 215 enlisted personnel. (enclosures (4) and (5)).

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III

SPECIAL TOPICS

A. OPERATIONS

During 1968, BROOKE's Operations Department was able to demonstrate its skills and equipment capability in a combat environment for the first time. The two years following commissioning were devoted to improvements in equipment and personnel training, and the WESTPAC deployment during the first half of 1968 served as the ultimate test of this preparation.

By all measures the Operations Department enjoyed an extremely successful deployment. Equipment performance was outstanding. The electronics technicians maintained the communications, radar, and ECM gear at near 100 percent operability not only during the deployment but also throughout the remainder of the year. Their task was made much more difficult by the extreme temperature fluctuations of various areas of the Western Pacific and by supply problems inherent in long, isolated periods at sea.

Communications proved to be one of BROOKE's fortes. Despite personnel turnovers that had a junior Second Class in charge at one point, the Radiomen consistently worked at near-capacity while the ship was acting as planeguard for USS YORKTOWN. BROOKE was continually involved in UHF/MF relays and net control for ORESTES circuits, as well as handling an average load of 1500-1600 messages each month. Perhaps the

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most grueling test of the year came during HOLDEX 6-68 in November, when the Radiomen and Signalmen handled close to 1000 messages in a nine-day period. The embarked unit commander, COMDESDIV 92, made special mention of their performance during this operation.

The Combat Information Center was a center of activity and information throughout the ship's deployment. Although BROOKE's primary mission is Anti-submarine warfare, the major threat during the cruise was from hostile aircraft and missiles. Thus, CIC's orientation was towards Anti-air warfare. The Radarmen were on "port and starboard" watches almost continually in an effort to maintain an up-to-date AAW picture, to ensure rapid response to hostile electronic emissions, and, in addition, to aid YORKTOWN in correlating information concerning surface and sub-surface contacts. The endurance and consistent performance of CIC personnel insured that BROOKE was always well-informed and able to react quickly to any situation.

The year 1968 served as a demonstration that Operations Departments in DEG class ships had the equipment capability and personnel potential to perform in an outstanding manner in all areas of operations.

#### B. WEAPONS

1968 was a prove-in year for the BROOKE weapons system, and, equipment performance surpassed all expectations. The first seven months of the year were spent in a WESTPAC

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deployment (the first for a DEG), and the remainder of the year was spent in San Diego with monthly operations in the Southern California operation area.

The WESTPAC deployment provided an extensive test of the BROOKE weapons system in a variety of environments. Although the primary mission of BROOKE is Anti-Submarine Warfare, Anti-Air Warfare was BROOKE's major task in WESTPAC. Of great significance were the severe climatic conditions that were experienced during the cruise. BROOKE spent nearly two months in the Sea of Japan in the middle of winter during which time below freezing temperatures were encountered daily. This was followed by four months in the Gulf of Tonkin with its tropical climate. This dramatic change in operating conditions, along with the nearly steady pounding during at sea periods, was a harsh but successful test for all weapons equipment.

For the statistician, there were several notable items worthy of mention. The AN/SPS-52 Radar and the AN/SPG-51C Radar proved to be the leaders in operational proficiency during the cruise. The deployment was the first time a ship equipped with a 52 radar had operated in WESTPAC. A 98.8% figure of "UP TIME" was obtained for the 52 during the cruise, and needless to say, this exceeded all expectations. The 51C radar obtained a figure of 96% which is indeed impressive, considering that spare parts support is significantly

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weaker during periods of deployment. All other equipment performed admirably with little or no down time encountered. The deck force was kept busy conducting 177 helo transfers, 11 helo refuelings, 3 VERTREPS, and over 50 refueling/replenishment operations during the cruise.

The period following BROOKE's return to CONUS was primarily concerned with upkeep. Aside from routine maintenance and the addition of ten new ordalts to the missile and ASW systems, no significant changes occurred in weapons equipment. The most notable event involving weapons systems during the period was the participation of BROOKE in HOLDEX 6-68. BROOKE was able to hold contact for nearly 80% of the exercise's six day period, and contact was held once at 45,000 yards. This exercise proved the worth of the AN/SQS-26AX sonar and provided extensive personnel training.

BROOKE's weapons systems proved themselves capable of meeting all demands during 1968.

C. ENGINEERING

During the past year, BROOKE completed a WESTPAC cruise. It was the first real test of her ability to stay at sea for many days at a time. Much of the time was a high speed planeguarding for YORKTOWN. As would be expected from a "first of a class" ship, there were some problems,

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and the engineers spent some long hours correcting them. However, in spite of excessive maintenance requirements, the main propulsion plant proved itself all in all to be effective.

Throughout the deployment one principal material deficiency plagued the fireroom, in the form of defective superheater welds. The first one failed near Pearl Harbor, before the ship reached the war zone. SRF Pearl was able to repair the weld successfully. Making a weld would usually be a simple repair but when it is a bimetallic one, on a 1200 psi system, with almost no room to work, it becomes exceedingly difficult. After this repair, it was hoped that this weld failure was an unusual casualty.

Later in the cruise another superheater weld failed. This necessitated a visit to SRF Subic Bay for repairs. The failure was thus proved not an unusual one, but one that might occur at any time. Fortunately the ship was able to complete the deployment without further weld failure.

When BROOKE returned to San Diego, Development and Training Center undertook to X-ray all of the superheater stub tube welds. It was found that only the outer headers (both failures had been in the outer header) were sufficiently accessible to permit X-raying. The few tubes that were found to be questionable were repaired, thus restoring confidence in the boilers.

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