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JOINT TASK FORCE SEVEN

COMMANDER TASK GROUP 7.3

COMMANDER TASK GROUP 7.3

HISTORY OF OPERATION CASTLE

INSTALLMENT NUMBER 4

(Final Installment)

RCS-JTF SEVEN H-1

Period 8 April through 15 May

1954

CLASSIFICATION CANCELLED
BY AUTHORITY OF DOE/OC
Reg G Vaggard 5/28/86
REVIEWED BY DATE
DNA-DoE 8/15/85
Case closed 6/4/86

[redacted]

COPY No. 5 of 9

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SWC 54-3-10,975

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COMMANDER TASK GROUP 7.3

HISTORY OF OPERATION CASTLE

INSTALLMENT NUMBER 4

(Final Installment)

Period 8 April through 15 May 1954

Submitted

R. F. HADDEN
Lieutenant Commander, USNR

Approved:

H. C. BENSON
Rear Admiral, U.S. Navy
Commander, Task Group 7.3

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OUTLINE

I. Deployment

II. UNION - YANKEE - NECTAR

III. Effect of delays

IV. Security

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I

DEPLOYMENT

1. The last ship of Task Group 7.3 to arrive in the the forward area, USS RECLAIMER (ARS-42)(LCDR H. K. Smith, USN), reached Bikini on 8 April, the day following the KOON shot. She had arrived at Kwajalein on the morning of 7 April and was held there until after the KOON RadSafe picture had cleared. At Bikini she joined SHEA and LST 1157 in support of the Bureau of Ordnance's Project 3.4.

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II

UNION - YANKEE - NECTAR

1. Task Group ships made two sorties from Bikini Lagoon for UNION, the fourth shot fired. The first took place on 15 April, 8 days after the KOON shot, in more or less routine fashion. Notice had been received early on minus-one day that an attempt would be made to fire the shot, permitting ship movements to begin on schedule. By 1500 the lagoon was clear of shipping, except for moored small craft and two manned Navy LCMs standing by at the shot barge to remove the firing party. At 1515 all ships reported their positions at a safe distance from the zero point, including PC 1546, stationed at Rongerik Atoll with Air Force weather observers aboard. The firing party armed the device and boarded the LCMs for Aomoen Island where they were picked up by helicopter and flown to Enyu to connect the firing circuit. After disembarking the firing party, the LCMs ran down the lagoon, moored to buoys off Enyu, the crews launched a DUKW carried in one LCM and proceeded to Enyu for helicopter transportation to BAIROKO. During the arming operation ESTES, BAIROKO, MERSHAM (as plane guard) and BELLE GROVE remained within ten miles of Enyu to shorten the helicopter flights and to be easily available in case an emergency developed. At 1615 the LCM crews arrived on board BAIROKO. At 1630 the firing party helicopter reached ESTES, BAIROKO recovered her helicopters, and the four ships headed out to sea to join the rest of the formation.

2. At 1915 CURTISS departed her station at sea and headed

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up-wind preparatory to launching a high altitude balloon. She completed her up-wind run, reversed course and at 2150 launched the balloon and returned to her station. A little over an hour later word was received from the Joint Task Force command post in ESTES that the shot had been delayed for twenty-four hours. All ships were notified of the delay and directed to remain at sea through the night. At 0600 ESTES, BAIROKO and KENSHAW closed on Enyu to transport the firing party in by helicopter to disconnect the firing circuit and disarm the device, but this action was delayed in the hope that a better weather situation might be developing. By 1500 it had become apparent that the weather would not permit firing next day, and the disarming process was begun. Word was received at 1730 that disarming was completed when the ships headed into the lagoon. By 2000 all were anchored.

3. A sortie for UNION was not again attempted until 25 April. Throughout the period between sorties the task group remained in an advanced state of readiness, prepared to move out again on short notice, with each day designated as minus-two or minus-three depending on the weather outlook. It became apparent that to fire the remainder of the CASTLE series, the Joint Task Force had to be prepared to take advantage of favorable weather based on short range forecasts. To meet the situation the alert status of the Navy Task Group was further increased so that all ships were required to be ready to commence their minus-one day events at noon on any day. Plans were made for carrying out the sortie after dark, in case such

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a movement should become necessary to take advantage of a sudden weather change. News was received of the cancellation from the schedule of the shot designated KOKO. To clean up the remaining three shots it had been decided to fire one shot, NECTAR, at Eniwetok, and two, UNION and YANKEE, at Bikini. While the Joint Task Force waited for the weather to permit them to fire UNION at Bikini, scientific personnel made preparations for NECTAR at Eniwetok. When it began to appear that NECTAR would be ready before UNION could be fired, an alternate firing plan was made, under which either shot would be fired whenever the weather permitted. To fire at Bikini the winds had to be from a quarter that would not deposit fall-out on Eniwetok to the west, or the atolls to the east and southeast. NECTAR could be fired at Eniwetok only when the winds would prevent any appreciable fall-out on the two heavily populated islands at the southern end of the atoll, Parry and Eniwetok, and on Ujelang Atoll, 125 miles to the southwest. Either shot would be fired when the weather first permitted it, with UNION receiving priority should the weather be favorable for both shots on the same day, to clear the way for YANKEE, the remaining Bikini shot.

4. On 22 April, with UNION still unfired, NECTAR was ready, and the task group was prepared to commence execution on the schedule of events for either shot with minimum warning. APACHE and SIOUX were sent to their initial stations off Eniwetok to lay fallout collectors for Project 2.5a. On the morning of 23 April APACHE experienced a serious casualty to her electrical control boards for

main propulsion. She was returned to Eniwetok to offload project personnel and equipment and was then sent to Kwajalein to effect repairs.

5. On Sunday, 23 April, at about noon, word was received from CJTF SEVEN at Eniwetok that, with a break in the weather imminent, the detonation of UNION next morning would again be attempted. Ships prepared to sortie and awaited the arrival of the Eniwetok staffs. Boats in the lagoon with fishing and diving parties were recalled. A decision had been made that morning that the DuOrd project would plant all its mines on UNION rather than spread its participation over two shots; RECLAIMER and SHEA were planting the two strings of mines that had been intended for a later shot. By 1700 they had laid all mines in the previously designated pattern and proceeded out of the lagoon. The firing party arrived from Eniwetok at 1300. CJTF SEVEN and his staff landed on the Eninman airstrip and were flown to ESTES by helicopter. At 1730 the firing party reached the shot barge, and CURTISS got underway for the Enyu anchorage. As they received their passengers, ships hoisted anchor and left the lagoon. The sortie was accomplished by changing event times as necessary to meet the situations which resulted from late arrival of the Eniwetok groups. Despite the late start all preparations were completed by 2240 when ESTES, with the firing party aboard, got underway and proceeded to sea, leaving the lagoon empty except for moored boats and barges. BELLE GROVE and BAIROKO, with PHILIP

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as plane guard, left their temporary stations close in to seaward of Enyu and, with ESTES, joined the formation at sea. At 2300 NICHOLAS reported on station as aircraft control ship, and a half hour later, all ships were on station at a safe range from the shot barge, with embarked personnel keeping a wary but hopeful eye on the weather.

6. Events throughout the night continued without a hitch. CURTISS launched her weather balloon at 2250. Aircraft No. 1 of VP-29, on patrol, reported sighting a Japanese fishing boat and a freighter, but their location did not place them in any danger from fall-out. At 0220, following a weather briefing, the Task Force Commander directed that all ships except ESTES be moved south to a position 50 miles from the shot barge, with ESTES to open the range immediately after the shot. PC 1546 at Bongerik was alerted to have all her passengers on board and be ready to get underway by noon. At 0300 ships began their southward movement. The last VP-29 patrol aircraft landed at Kwajalein, with no additional contacts reported. The sea area in the fall-out path was clear of itinerant shipping. At 0410 MOLALA reported that she was underway out of the expected fall-out area with the crew of YAG 40 aboard, leaving YAG 39 manned with a minimum crew in a wall-shielded location, and in control of the YAG 40 drone. SIOUX was not at Bikini; during this period Project 2.5a had committed themselves to participate on HECTAR rather than on UNION. By 0530 the ships had completed their move to the southward with CURTISS in an intermediate position to maintain UHF communications with ESTES and with the remainder of the task group. MOLALA reported well clear of the danger sector,

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proceeding toward the formation at 15 knots. The two project aircraft reported on station. Ships took up their shot time headings as the final phase of the voice time broadcast was piped out over voice circuits. Personnel assembled topside to view the shot. There was still a feeling of doubt among them; a last minute delay would not have come as a surprise. But at 0610 on 26 April UNION was detonated. Shot number four was finished, with only two to go.

7. The shock wave passed without harmful effect; the formation was well clear of the radioactive cloud. ESTES left her shot station and headed south. At 1000, with the cloud dispersed to the northward, the ships moved in toward Bikini and BAIROKO prepared to launch helicopters for the initial RadSafe survey. The survey was completed in the early afternoon. By 1500 the lagoon was declared safe for re-entry and the ships entered and anchored. The airstrip was debris-ridden to such an extent that flight operations could not be resumed, so at 1800 ESTES sailed for Eniwetok with CJTF SEVEN and staff on board. The other task group units remained behind to resume work next morning to recover UNION data and prepare for YANKEE.

8. With UNION fired, HECTAR was scheduled for detonation two days later, on 28 April. ESTES arrived at Eniwetok the morning of 27 April and disembarked the Task Force Commander and headquarters staffs. The weather held, and when the 27th. was confirmed as HECTAR minus-one day, CTG 7.3 with a small operational staff left Bikini by PBM and flew to Eniwetok, moved aboard ESTES, established

a watch and commenced the HECTAR schedule. Few task group units were present. The plan for HECTAR did not call for a pre-shot personnel evacuation; Eniwetok based personnel would view the shot from Parry and Eniwetok Islands, with the actual firing done from the control room on Parry. It was necessary only that ESTES be present to assist CTG 7.4 in aircraft positioning, that a DDE be near Ujelang Atoll at shot time should evacuation there become necessary, and that sufficient vessels be in the vicinity to carry out an emergency personnel evacuation of Eniwetok Atoll should the need develop after the shot. Only SIOUX and YAG 39 were required in support of a scientific project, laying fall-out buoys for Project 2.5a. One itinerant vessel, USS LEO (T-AKA-60), was present at Eniwetok unloading cargo. To provide the necessary evacuation potential, it was planned to use ESTES, LEO, YAG 39, PHILIP (enroute from Bikini on a scheduled ferry trip) and the small craft present in the area. Since additional capacity was required, AINSWORTH was ordered to Eniwetok. She departed from Bikini at 1600 with orders to join the formation at sea.

9. All ships sorties from the lagoon before dark and took up stations southeast of the atoll. At midnight EPPERSON departed her patrol off Wide Entrance and set a course for Ujelang. The first VP-29 patrol aircraft reported negative search results and landed at Kwajalein. At 0200 NICHOLAS reported on station as aircraft control ship, 50 miles southeast of the shot atoll. By 0330 all five VP-29 aircraft had completed their searches of the area and

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reported no contacts. SIOUX and YAG 39 finished laying buoys and reported on their shot stations. The task group was ready for the shot, but to no avail, for the weather was deteriorating. At 0542 word was received from the Task Force headquarters on Parry that NECTAR had been cancelled for the day. Thus began a series of five sorties in all before NECTAR was detonated, three before YANKEE, and two afterward, with NECTAR the final shot despite its early readiness.

10. EPPERSON was recalled from Ujelang. AINSWORTH was ordered back to Bikini. After daylight the ships re-entered the lagoon and anchored. CTG 7.3 and his staff left ESTES and, after conferences on Parry Island, boarded an aircraft for return to Bikini. Just prior to take-off word was received that the weather forecast had improved, and an attempt would be made again to fire NECTAR next morning. The TG 7.3 operations center in ESTES was reopened, AINSWORTH ordered to turn around and steam for Eniwetok again and the NECTAR schedule repeated. SIOUX and YAG 39 laid another string of fall-out buoys to windward of those laid the day before, still unrecovered. By 2000 all ships were again clear of the lagoon. PHILIP had sailed for Bikini on the ferry run and RENSHAW was now making the westbound trip from Bikini to Eniwetok. Again VP-29's aircraft searched the area. Shortly after midnight EPPERSON had barely taken her departure for Ujelang, when the word came "NECTAR delayed 48 hours". AINSWORTH was again turned around and sent back to Bikini, and EPPERSON recalled. Patrol aircraft were or-

dered to return to base where the last one landed at 0522. At daylight SIOUX and EPPERSON commenced to search for fall-out buoys, to be joined later by TANAKOMI when she had returned the "hot" drone ship, YAG 40, to her mooring in the lagoon. At daylight other units re-entered and anchored. CTG 7.3 and his partial staff returned to the CURTISS at Bikini, where preparations for YANKEE were continuing. It was now 30 April and YANKEE was scheduled to be ready on 5 May.

11. On 3 May a third sortie for REGTAR was carried out. This time ESTES was required at Bikini for tests in connection with readying YANKEE, so CTG 7.3 set up a temporary command post ashore on Parry Island. Two of ESTES' air controllers were transferred to the TG 7.4 AOC on Eniwetok Island to assist in control of the TG 7.4 aircraft from that point rather than ESTES. USS LEO was still in the area, and had been joined by two other itinerants, USS AREQUIPA (AF-31) and USS NAVASOTA (AO-106). These, coupled with LST 551, were considered capable of carrying out the emergency evacuation of Eniwetok should it become necessary. No fall-out buoys were laid; Project 2.5a had exhausted its supply on the two previous REGTAR attempts and efforts to recover the buoys had not been successful. The ships departed the lagoon by 2000 and proceeded to their shot time stations, except EPPERSON who took up her patrol of Wide Entrance. Patrol aircraft searches were underway. At 2100 it was learned that two LCMs, manned by naval personnel attached to TG 7.2 and under control of the Army Task Group, were missing. LCM 46 had

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failed to return from a sweep of the chain of islands begun earlier in the day, and was long overdue. She was still afloat; her coxswain could be heard repeatedly broadcasting requests for a radio check, but his radio receiver apparently was not functioning, and he did not give his position. Because of a report that a vessel, possibly an LCM, had been observed in Wide Entrance, LCM 48 had been dispatched by the Army to search there for the 46. It in turn got into difficulties and radio contact with it was lost. An all hands effort to locate the two boats was begun. At 2300 EPPERSON, ordered in for her patrol to search the Wide Entrance, found LCM 48 and towed it to its mooring. At midnight an Air Force helicopter passed over LCM 46 and the boat coxswain reported the fact on his radio and finally gave his approximate position. The helicopter was advised and orbited over the boat until another TG 7.2 LCM took it in tow. Two VC-3 aircraft, scrambled to aid in the search, returned to base, and EPPERSON left the lagoon and headed for Ujelang. A few minutes later HECTAR was again postponed when the weather forecast became unfavorable. All units were directed to discontinue the schedule for the night. The ships remained at sea and returned to the lagoon after daylight. It was now 4 May, YANKEE minus-one day, and the weather, while not favorable for a shot at Eniwetok, appeared suitable for one at Bikini. Plans were made for an early trip to Bikini and the Task Group Commander and his HECTAR staff left Eniwetok at 0800 to return to CURTISS for YANKEE.

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II

12. The YANKEE sortie was conducted without untoward incident, but on a delayed basis. By 1830 4 May all ships except ESTES were at sea and on their shot time stations. ESTES was anchored off Enya awaiting the arrival of the LCMs carrying the firing party from the shot barge. They were experiencing difficulties with the firing circuit to ESTES and delayed their departure to remedy the trouble. MOLALA was in position to the northeast of the atoll with the two YAGs, preparing to debark the YAG 40 crew and leave YAG 39 manned and in control. VP-29 aircraft were airborne and carrying out the pre-shot search plan. By 1930 the firing party was aboard ESTES, the LCMs moored to buoys off Enya and their crews picked up. ESTES' sailing was still delayed while work continued on the firing circuit; at 2100 she was underway, and left the lagoon. By midnight all patrol aircraft had landed at Kwajalein, reporting the search sector clear of shipping. At 0140 two C-97s, ordered to VP-29 for a special fall-out raft laying project for the AEC, took off at Kwajalein. About an hour later CJTF SEVEN requested that ships move out to 50 miles from the detonation point, with a change of bearing to the westward, except for ESTES, who was to remain in her assigned station and move after the shot. NICHOLAS, acting as aircraft control ship 50 miles from Bikini and slightly north of west, was shifted south to a westerly bearing and moved out to a range of 90 miles. At 0330 the YAG debarkation was completed and MOLALA headed south to join the task group. The formation steamed

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on station, the weather remained favorable, and at 0610 5 May, YANKEE was fired.

13. At about 0900, when the danger of immediate fall-out had passed, the ships were ordered to close their range to Bikini and stand by for re-entry. When BAIROKO reached a point ten miles from Enya she launched helicopters and the initial RadSafe survey began. When reports of the survey were in it appeared that the lagoon water was too "hot" to permit a general return of the ships that night and a conference was called in ESTES to discuss the situation. The Task Group Commander and his Operations Officer transferred to ESTES by highline for the conference. There it was decided that ESTES would return to Eniwetok that night, first making an exchange of passengers with the other major ships, and that other units would spend the night at sea. At 1600 BAIROKO, CURTISS, ESTES and BELLE GROVE entered the lagoon and anchored off Enya. BELLE GROVE put boats in the water and completed the passenger transfer. At 1930 ESTES was underway and left the lagoon, followed by the other units. By 2040 the lagoon was again empty. The ships remained at sea until daylight, when they closed the atoll and carried out the re-entry plan. By 0615 the last ship was in. The day was spent in conferring with commanding officers on their roll-up responsibilities, and that night CURTISS sailed for Eniwetok. Upon her arrival there next morning, the Task Group Commander and his staff moved ashore to Parry Island and reopened the headquarters there for the final phase of CASTLE.

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II

14. There followed a week of roll-up planning and activity while the Task Force again waited for the weather to permit firing NECTAR. On 11 May the fourth NECTAR sortie was made. CTG 7.3 and a partial staff returned aboard CURTISS in the late afternoon. The sortie began a few minutes later, and by 2130 all ships had cleared the lagoon. They had no pre-shot scientific support tasks, so all proceeded directly to their shot time stations. USS MANATAGON (AOG-53), present as an itinerant, was assigned a station well clear of the atoll. ALLEGHENY and BELLE GROVE, enroute from Bikini, were ordered to join the formation at sea upon their arrival. At 2400 EPPERSON departed for Ujelang. At 0045 the last search aircraft landed at Kwajalein and the expected fall-out area was reported clear. At 0100 CJTF SEVEN advised that the weather outlook was poor. At 0500 he announced that the shot had been delayed. The ships returned to the lagoon at daylight. On 13 May NECTAR events were again begun, and carried out on substantially the same schedule. MANATAGON had departed for Kwajalein that day. This time the favorable weather held, and at 0620 on 14 May, NECTAR, the final shot in the CASTLE series, was detonated. When the shock wave had passed, units closed Eniwetok, re-entered and by 0745 had anchored in their evacuation stations. Before nightfall all danger of heavy fal-out had passed and CURTISS and ESTES, released from Operation CASTLE, departed Eniwetok for San Francisco. SIOUX and WELALA put to sea that afternoon and, with VP-29 aircraft, engaged in a special water survey and sampling program for the AEC.

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The rest of the task group was diligently clearing up its roll-up tasks with a view to early departure.

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III

EFFECTS OF DELAYS

1. The last shot in the CASTLE schedule as it was contemplated at the commencement of the operational period was to be detonated on 22 April. NECTAR, the last shot actually fired, was detonated approximately three weeks after that date, on 14 May. In retrospect the extension of the operation for three weeks beyond its planned length was not a considerable delay. A delay approaching that length of time was not entirely unexpected. Perhaps the most significant effects that the element of delay had upon the Navy Task Group were attributable more to the lack of any firm knowledge as to when the Operation would end, than to the delay that actually occurred. The added factor of the delays on individual shots contributed substantially to the Navy's problems during CASTLE.

2. As the Operation continued on with its end not in sight, and shots were postponed again and again because of unsatisfactory weather, apprehensions were felt for a number of reasons. Many task group ships were due for shipyard overhaul in late May or early June. Some were scheduled for other employment, notably the four DDEs of Escort Destroyer Division Twelve who were to deploy to the Far East in June. The material condition of all units was deteriorating. Lack of repair facilities and the impossibility of scheduling adequate periods of upkeep, due in part to the many shot postponements, began to be felt in April and had an increasing effect as time went on. Ships began to suffer mechanical failures: LST 762 was released from CASTLE

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and limped home for repairs; the ATFs and DDEs began to report difficulties. Many had minor gear that was inoperative and not repairable until spares could be obtained. Aircraft engine hours built up and approached allowable operating limits. Stores laid on for a 120 day operating period began running low. Logistics problems multiplied. Enlistments and obligated active duty periods for a substantial number of essential task group personnel were close to running out. The lack of recreation for the large numbers of naval personnel whose ships seldom left Bikini except to go to sea had an adverse effect on morale which, though slight, threatened to become a major problem.

3. As it turned out most of the difficulties that the delay brought into sight were never actually realized. The weather permitted the shots to be fired before the problems reached a serious magnitude. Most ships were able to sail in time to meet their commitments; by utilization of the delay periods for partial roll-up the majority of them were able to leave for their home bases much sooner after the final shot than had been planned. All were in need of extended periods of continuous upkeep upon arrival at their bases. A few personnel were flown to the United States for discharge; the numbers due for release did not become significant until June and most ships had completed redeployment early that month. The lack of recreation ceased to be felt on 14 May with NECTAR fired and the prospect in sight of a quick departure from the forward area.

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4. The delays on individual shots, accompanied as they were by frequent sorties followed by postponement, multiplied the tasks of many task group units. A considerable number of them had to commence scheduled operations on minus two day or early on minus one to permit completion before shot time, notably the ATFs supporting scientific projects, and the patrol squadron at Kwajalein. All ships had to prepare early on minus one day for sortie from the lagoon. Fourteen actual sorties were carried out in getting off the six CASTLE shots; preparations were carried out to a considerable extent on several other occasions. To meet the situation the task group was maintained in a state of constant readiness, and preparatory operations originally scheduled for minus two day were modified so that they could be commenced on minus one. The constantly changing situation required extreme flexibility of the task group. Logistics were complicated. Supply ships and tankers carrying task force cargoes had to put in at Kwajalein to await a break in the schedule to permit them to proceed to Eniwetok without getting involved in shot operations. Unloading at Bikini had to be carried out hurriedly; complicated fueling plans were necessary to keep ships supplied and ample stocks on hand. Proper upkeep became impossible. The task group successfully accomplished its CASTLE mission only by virtue of long hours of hard labor, and the determination, reflected throughout all units, that no CASTLE shot would be delayed on account of the Navy.

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IV

SECURITY

BADGES

1. The security badges system for controlling the entry of personnel to sensitive areas at Eniwetok and Bikini went into effect on 23 January 1954. The areas of particular interest to Task Group 7.3 where badges were required for admission were Parry Island at Eniwetok Atoll and Enimman Island (and the smaller islands joined to it by a causeway and forming the airstrip) at Bikini Atoll.

2. Ideally, no one was to be permitted entry to either of these islands without a badge. Actually, since the Task Group 7.5 security office where the badges were made and issued was located on Parry Island, Task Group security officers were authorized to issue temporary permits to personnel without badges permitting them to land on the island and proceed under escort to the badge office. There a temporary badge, good for a maximum of five days, was issued to an eligible individual pending completion of his permanent CASTLE badge. To be eligible for a badge an individual had to hold a valid AEC "Queen" clearance, or have been granted an interim military clearance for access to Top Secret material, pending processing of his "Queen" clearance application. Military Police personnel of Task Group 7.2 enforced the badge system, controlling the movements of personnel to and from sensitive areas.

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3. The number of Task Group 7.3 personnel who would require continuous or frequent access to Parry or Eniwetok Islands was estimated before the deployment of naval units. To the extent that time permitted arrangements were made for them to receive their badges prior to departure from the United States, or immediately after their arrival at Eniwetok. In many cases however, such advance arrangements were not possible, due largely to the late nomination of some ships and units for CASTLE, and to the delays inherent in the task of assembling and mailing clearance applications and clearances, badge requests, photographs and badges, at a time when many task force units were in the process of departing for the forward area. As a result a substantial number of naval personnel arrived in the forward area with "Queen" clearances not yet completed, and their badges not yet requested. In most cases the lack of a "Queen" clearance was remedied temporarily by granting an interim military Top Secret clearance. But the lack of badges placed a heavy workload on the Task Group 7.5 Badge Office, in issuing both temporary and permanent badges to the same individuals. As the Operation progressed it became apparent that too many "Queen" clearances had been requested for task group personnel, and that there was much inconsistency in the number requested by ships of the same type. Recommendations to remedy this situation have been incorporated in the CTG 7.3 Final Report.

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4. A number of incidents arose during the early operation of the badge system in which the necessary movement of naval personnel in the forward area was severely, and unnecessarily, hindered. One affected the operation of the Bikini fighter aircraft detachment, three aircraft and personnel of VC-3, attached to BAIROKO. The three aircraft were flown off BAIROKO as she was arriving at Bikini. They landed on the Bikini airstrip, where the pilots were met by security Military Police. VC-3 was one of the units nominated too late to complete all security requirements, and the pilots did not have badges. They were placed under restraint and, after interrogation, escorted from the island and returned by boat to BAIROKO, which had by then entered and anchored in the lagoon. The pilots and squadron maintenance personnel were then denied access to their aircraft. This stringent enforcement of the security system was due to a local interpretation of Commander Joint Task Force SEVEN security regulations by military police personnel at Bikini. Since the personnel involved had been granted interim Top Secret clearances pending processing of their "Queen" clearances, the Task Group Security Officer, CDR R. A. Klare, USNR, obtained badges for them at Parry, flew with them to Bikini and resolved the situation by issuing the badges.

5. A similar situation developed with respect to transient naval personnel attempting to rejoin or report to their units at Bikini. They arrived in the area, usually by air, on Eniwetok Island. From

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there they travelled by ship, or on the C-47 air shuttle, to Bikini. If they travelled by ship, there was no problem, since they could reach their ships without any need to land on Eninman Island. However, many of them rode the C-47 shuttle to Bikini. Most were not badged, nor were they eligible for badges, since they held only Secret military clearances. Again, when the first unbadged transient personnel began arriving at Bikini airstrip they were placed under restraint, interrogated, and finally escorted, under guard, to the boat landing. This situation was resolved by mutual agreement between the headquarters concerned that transient naval personnel travelling under orders, but without badges, would as a routine matter be escorted between Bikini airstrip and the boat landing without being viewed with suspicion.

WAIVERS

6. Several Task Group 7.3 units were nominated for CASTLE so late as to render futile any attempt to obtain "Queen" clearances for their essential personnel. These were the relief LSTs, 825 and 1146, ordered up as temporary replacements for the two regularly assigned LSTs when they were laid up for repairs, and the units connected with Project 3.4, the Bureau of Ordnance mining project, a late addition to the CASTLE program. These latter were USS SHEA, USS RECLAIMER, LST 1157, Explosive Ordnance Disposal Unit One (EODU-1), and a detachment of Naval Beach Group One. All were ordered to participate in CASTLE well after deployment of the task group had begun. Since it was recognized that "Queen" clearance processing normally requires a

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minimum of 90 days, and usually 120 days, CTG 7.3 decided, with concurrence by CJTF SEVEN, to waive the "Queen" clearance requirements for personnel of these units. Secret clearances were issued, and for those who qualified and required badges, interim or de facto Top Secret clearances were granted. No attempt was made to process them for "Queen" clearances.

7. After the operation was well under way, CJTF SEVEN requested that Task Group Commanders cause still pending "Queen" clearance requests from their personnel be reviewed with a view to possible cancellation, on the possible premise that it might now have become evident that some of the individuals did not require "Queen" clearances. The Task Group was canvassed and some twenty-five such persons were located. However, before agreeing to cancellation of their requests, CTG 7.3 stipulated that the initial investigation, consisting of the agency record check, first be completed in each case, and the individual's command notified of the result. If this were not done the cancellation would leave the individual present in the area in violation of the Task Force requirement that all personnel be cleared at least through Secret. His Commanding Officer would not have a favorable National Agency Check on which to base the required Secret clearance.

SECURITY RISKS

8. As clearance requests which were still pending when their subjects arrived in the forward area were processed, a small number of personnel considered to be potential security risks were discovered and transferred from the Task Force. An unfortunate and important instance of this type occurred in the case of the Commanding Officer

of one of the ships. After operations had commenced a report was received from the ANC indicating possible suspect activity on the part of a relative, together with indications that a "Queen" clearance would not be granted. Due to the highly sensitive nature of the ship's mission, CTG 7.3 had no alternative but to request the Chief of Naval Personnel to order the Commanding Officer's immediate transfer from his command and from the area. This was done, and the ship's Executive Officer assumed command until the arrival of the ship's new Commanding Officer. In a later case of a similar nature, involving an Assistant Communication Officer of another ship, the situation was resolved by his transfer to less sensitive duties in his ship, rather than from the area.

9. The discovery of a diary belonging to an enlisted man attached to one of the ships brought about his prompt removal from the area. While diaries were not specifically banned by CJTF SEVEN directives, the entry in them of data of a classified nature was prohibited, at least implicitly. The diary in question was discovered in a crews' compartment and turned in to the Commanding Officer. While the diary as yet contained no prohibited statements beyond the projected date for the first thermonuclear shot, its owner had stated in it his intention to record whatever events of Operation CASTLE he would witness or otherwise learn about. Basing his action on this expressed intention, his Commanding Officer transferred him immediately upon arrival at Eniwetok, as a poor security risk, after

revoking his Secret clearance and obtaining a signed termination statement. The man departed the area under orders to report to the nearest Naval Receiving Station in the continental United States. Since he had been certified as a good security risk earlier to Commander in Chief, U.S. Pacific Fleet, CinCPacFlt was notified of his changed status and transfer. CinCPac directed that the man be transferred to a station remote from the U.S. until the end of CASTLE, to guard against any possible security violation. The man reached Receiving Station, San Francisco before he could be intercepted, but was immediately moved again, this time to a Naval activity on Guam.

10. Because of alleged homosexual tendencies of five enlisted personnel, it became necessary to revoke their security clearances and transfer them to Naval Station, Kwajalein, pending completion of the operational phase and review of the investigations.

SECURITY VIOLATIONS

11. Early in February a member of CURTISS' ships company, on temporary duty with CTG 7.5, reported that during the fueling of a DDE by CURTISS in Bikini Lagoon he had observed two individuals on the DDE photographing the operation. When a check revealed that no photographing had been authorized at this time, CTG 7.3 reported the alleged incident to ComCortDesDiv 12 and requested an investigation. A board was convened on USS JEFFERSON. The findings of the board were that there was no basis in fact for the charge, no evidence could be found to substantiate the report of unauthorized photography. Inci-

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dent to the investigation a surprise locker inspection was conducted on EPPERSON and some film, exposed and unexposed, was found in an enlisted man's locker. The film was delivered to CJTF SEVEN developed and found to contain no classified information.

12. Transient vessels entering the area to supply the Task Force were briefed on security requirements before arrival. Two minor security incidents arose aboard them early in the operation, both involving the sale of cameras in ships' stores. On one ship a camera was actually sold to a crew member of a task group ship. When the man turned in the camera to his Commanding Officer for custody until the end of CASTLE, the sale was reported to the Task Group Commander. Another transient ship entered the area with cameras on display in its ships store. Arrangements were made to supplement the pre-arrival briefings by a briefing by the Boarding Officer upon each transient vessel's arrival at Eniwetok, and no further incidents of this kind occurred.

13. The security program within the task group was most successful. Only one letter was referred to in the press. It was written by a Corporal Don Whitaker of the Marine Corps. Whitaker viewed shot BRAVO from Kwajalein and the subsequent arrival there of natives evacuated from Rongelap, Utirik and Ailingnae. Since he was at no time a member of Task Group 7.3; his letter cannot be attributed to any failure in the security indoctrination program.

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OPERATIONS

SECURITY FORCES

1. A primary mission of Task Group 7.3 was to provide for the security of the Eniwetok/Bikini Danger Area. Forces assigned to accomplish this mission were the four DDEs of Escort Destroyer Division Twelve augmented by PC 1546, Patrol Squadron Twenty-Nine, a six fighter aircraft detachment of Composite Squadron Three, and the Eniwetok Underwater Detection Unit.

2. CTG 7.3's ability to perform the security mission was limited by the strength of the forces provided for the purpose, and was still further reduced by the frequent diversion of security units to other duties as the Operation progressed. Within these limits, effective security measures were carried out on very nearly the level planned for the Operation, although often at the expense of adequate upkeep and training.

Surface Security Forces

3. EPPERSON, NICHOLAS, PHILIP, RENSHAW and PC 1546, under Commander Escort Destroyer Division Twelve, formed the Surface Security Unit. It was this unit's mission to prevent unfriendly forces from gaining intelligence of Operation CASTLE and to detect and counter hostile action against any unit of Joint Task Force SEVEN. Patrol and escort were the basic means by which the mission was accomplished. The surface craft were responsible for conducting

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patrols in the ocean area near the two atolls against any submarine or surface penetration. Continuous patrol coverage around both atolls was not possible with the number of ships available. As the most effective alternative the ships conducted intermittent patrols, varying the pattern of their movements so that hostile forces, if any were present, could not take advantage of an established but incomplete patrol pattern. The patrols were centered about the more sensitive areas at each atoll, i.e., near shot sites and off lagoon entrances. Whenever possible an in-port vessel was stationed as a sonar picket inside a lagoon entrance. The frequent absence of one or more ships on other missions made this practice irregular. In addition to their own patrols close inshore, the DDEs and PC were available to develop contacts farther out in the danger area when reported by patrolling aircraft of VP-29. Early in the Operation a DDE intercepted and diverted a Japanese fishing vessel approaching Eniwetok. Other than this, no unauthorized surface vessels were detected in the surface patrol area during the Operation. Several sonar contacts were made; all were classified, after investigation, as non-submarine.

4. Surface escorts were provided in all inter-atoll movements of AEC devices, utilizing one or two screening ships, depending upon the number available. The escort destroyer division's initial task in CASTLE had been to screen CURTISS on her January voyage into the forward area, from a position off Hawaii to Eniwetok. No other ship movements were escorted.

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5. The surface security ships regularly performed a variety of minor functions concurrently with their patrol and escort tasks. They furnished the primary Search and Rescue surface potential at both atolls, although never called upon to effect any rescues. On each shot one DDE, usually KENSHAW, was stationed approximately midway between the two atolls with Air Force Task Group personnel and a homing device aboard, to act as control ship for Task Group 7.3 aircraft, and as a communications relay. One DDE served as plane guard for RAINROD at sea during shot periods. Fighter aircraft at Eniwetok were controlled in flight from one of the DDEs stationed there.

6. The Surface Security Unit experienced a loss in effective strength throughout the Operation of about 25 percent due to the necessity of diverting its ships to duties unrelated to security. The first such incident took place when NICHOLAS was dispatched on 25 February, just prior to BRAVO, to assist in the search for a Canberra bomber lost between Kwajalein and Los Negros. She was returned to CTG 7.3 operational control on 3 March. For a considerable period after BRAVO some of the DDEs were temporarily relieved of their security duties and assigned a variety of tasks necessitated by the extensive post-BRAVO contamination in the area. PHILIP evacuated the natives from Rongelap and Ailinginae. KENSHAW was sent to Utirik where she performed the same task, and then was returned to the contaminated atolls to conduct a radiological survey at locations where seaplane landings were impracticable. All DDEs, in their turn,

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were utilized as ferry craft, carrying passengers and light cargo between Eniwetok and Bikini during the several weeks the Bikini airstrip was closed or operating on a restricted basis after BRAVO. NICHOLAS was sent into the contaminationed atoll area east of Bikini on a special survey mission. After the BRAVO effects had lessened, surface security operations were returned to a nearly normal basis, except for the occasional employment of a DDE to assist in the search for Project 2.5a fallout collector buoys. As noted earlier, PC 1546 spent considerable time at Ailinginae and Rongerik on KOON, UNION and YANKEE performing duties not connected with security. On all five NECTAR sorties, HEPBURN was assigned the duty of standing by near Ujelang Atoll to evacuate the natives there if severe radioactive fallout was received. The effects of over-employment of the DDEs during the period following BRAVO was felt throughout the remainder of the Operation. The time lost from planned upkeep and maintenance schedules was never made up, and as operations continued over a longer period than had been planned originally the ships began to suffer engineering derangements of a serious nature. All were repaired, however, without outside assistance, and little operational time loss resulted.

Fighter Aircraft

7. Six F4U-5N day and night fighter aircraft were assigned to the task group for intercept duties. The aircraft with operating and support personnel were a part of Composite Squadron Three and tem-

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porarily attached to BAIROKO for CASTLE. To provide intercept capabilities at both atolls three aircraft were assigned to each. The Eniwetok element was based on the airstrip there with a DDE at that atoll performing fighter control duties. Until BRAVO the Bikini element was based on the Bikini airstrip under control of BAIROKO's CIC. CIC officer personnel from both BAIROKO and CURTISS were assigned temporary duty throughout the Operation in the Task Group 7.4 Air Operations Center at Eniwetok, with the function of providing to BAIROKO and the Eniwetok fighter control DDE up-to-date information on flights transiting the area.

5. For BRAVO the Bikini element was moved back aboard BAIROKO, and prepared to conduct flight operations from the CVE during the period the ship was outside the lagoon for the shot. This element was never returned to Bikini. After BRAVO it was impossible for the aircraft to operate from the heavily contaminated airstrip. BAIROKO was needed inside the lagoon to conduct helicopter operations that were absolutely essential to continuation of the tests. It was concluded that the intercept capability at Bikini could not be maintained without seriously hindering the CASTLE program, and the three Bikini aircraft with their personnel were placed ashore at Eniwetok and joined with the three aircraft originally based there. The probable ineffectiveness of these propeller driven aircraft had modern enemy planes entered the area contributed to this decision. After BRAVO all six fighters continued to operate from Eniwetok.

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9. Fighters were scrambled on four occasions, all in February, to identify air contacts that could not be readily identified as friendly. In each case the unidentified aircraft was on a prescribed flight path, but no flight plan information was available at the time of scramble. Two on the prescribed air route from Eniwetok to Hawaii faded before intercept could be made. One was identified as friendly almost immediately after the scramble. One was intercepted and proved to be a VP-29 aircraft on patrol.

Patrol Aircraft

10. VP-29, with its 12 P2V-6 patrol aircraft, was deployed to Kwajalein for a dual mission, as the Pacific ready duty mining squadron, and as part of the CASTLE security forces. Under this arrangement CTG 7.3 was to have operational control of 6 of the aircraft at all times, and of all 12 during the 48 hours preceding CASTLE shots. The 6 aircraft thus freed from CASTLE periodically were to train at Guam for their mining mission. This was done until BRAVO when intensified CASTLE duties placed upon the squadron precluded continuation of the training at Guam.

11. VP-29's primary mission in CASTLE was to conduct search and anti-submarine patrols in the Eniwetok/Bikini Danger Area to detect and assist in denying entry to any unauthorized vessels or aircraft. Added to this mission, and supplanting it to some extent in relative importance after BRAVO, was the one to conduct reconnaissance flights to detect shipping in expected or actual radioactive fallout areas during shot periods and warn it out of danger.

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12. To meet this combined requirement standard armed ASW patrols were flown in the Danger Area throughout the Operation averaging one patrol every other night. In addition reconnaissance flights were flown preceding and following shots. The reconnaissance patrols covered two sectors; the Danger Area, and the sector along the bearing of the predicted path of the radioactive cloud, i.e. the significant sector. Initially the first reconnaissance flights took off from Kwajalein early on shot day minus two. One aircraft searched the Danger Area continuously, relieving on station, until a few hours before shot time. One aircraft searched the significant sector on minus two day, returning to base upon completion of the search. This flight was repeated on minus one day. A third significant sector search was made by one aircraft on shot day, after the shot, if it was requested by CJTF SEVEN. This was the general pattern of flights conducted for the first shot.

13. As a result of the contamination of the Japanese fishing vessel Lucky Dragon which was caught in the widespread REACO fallout despite its position outside the predicted fallout area, the VP-29 reconnaissance task was greatly increased on subsequent shots. The Eniwetok Danger Area, which before CASTLE had been enlarged to include Bikini Atoll, was further expanded, with a different area prescribed depending upon whether the shot was to occur at Bikini or Eniwetok. The number of aircraft to search the new areas was increased to three. The significant sector was now to be searched by two aircraft, bringing to a total of five the number of planes VP-29 had to put in the

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air for each shot time reconnaissance. The frequent delays and postponement of shots and the short notice on which they were so often fired made searches on minus two day impractical; the task force sometimes remained in minus two day status continually for days while awaiting a break in the weather. Consequently the five plane intensified searches were made on minus one day only, and after a shot if required. Even then aircraft commenced many searches that were called off after late shot postponements. To reduce unnecessary flights to the greatest possible extent reconnaissance takeoffs were deferred until about 1330 on minus one day. No further contamination of itinerant vessels near the danger area occurred during CASTLE. As a precautionary measure CTG 7.3 was authorized to assume operational control of naval vessels passing through the fallout area to divert them if necessary before or after a shot.

14. Along with the increase in reconnaissance flights BRAVO effects brought additional employment to the patrol squadron in the form of three radiological survey flights over the atoll area to the eastward on BRAVO plus one day and a similar flight through the Gilbert Islands on BRAVO plus five days. These flights, combined with a shot day significant sector search employing two aircraft, a flight in support of Project 2.5a on shot day plus two and the task of furnishing aerial escort for a device movement from Eniwetok to Bikini on BRAVO plus two days required that CTG 7.3 retain control of more than the six aircraft originally intended for full time CASTLE employment.

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Continued greater employment of the squadron after BRAVO led to abandonment of the 6 plane concept, and all 12 aircraft were operated thereafter in support of CASTLE.

15. As an additional phase of its security mission the patrol squadron provided continuous aerial escort of all AEC device movements between Eniwetok and Bikini. VP-29 aircraft escorted CURTISS on the last leg of her January voyage to Eniwetok.

16. A special mission was assigned the squadron in support of the AEC World Wide Fallout monitoring program. It required extended flights over the downwind atoll areas both before and after each shot for airborne monitoring purposes. In addition eight special flights were made in support of an AEC Health and Safety Laboratory project instituted after the BRAVO fallout experience.

Underwater Detection Unit

17. Harbor entrance protection in the form of an underwater hydrophone installation was provided only at Eniwetok Atoll. The high cost of time guarding the two Bikini entrances plus shortage of equipment and trained personnel led to a decision not to establish such a system at Bikini. The Eniwetok installation functioned efficiently throughout the Operation with no attempts at unauthorized entry into the lagoon detected. The frequent diversion of surface security vessels to other employment somewhat vitiated the UDU's effectiveness, since such a system can only detect and partially evaluate suspect contacts. At times no surface vessel with ASW capabilities was available to support the UDU.

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SCIENTIFIC SUPPORT

18. Seven scientific projects included in the Task Group 7.1 effects test program received individual support from units of the Navy Task Group in addition to the general support rendered by the Boat Pool, the helicopter squadron and all ships. Four projects required substantial support involving the almost exclusive use of specific task group units and often intermittent support from others; three were supported only by minor forces. All the projects requiring major support were Navy sponsored, included in the Department of Defense effects test program.

Project 1.4

19. Project 1.4 was an Office of Naval Research sponsored study of the behavior of a shock wave in water by means of underwater pressure vs. time measurements. It participated in every shot except KOON. Navy Task Group assistance was required to lay buoys, moor, service and recover instrument cans and record data telemetered to an aircraft at shot time. GYPSY, a salvage lifting vessel constructed on an LSM hull, a Navy manned P4Y-2 aircraft equipped with telemetering devices, one of the five task group ATFs and a barge, YC 1081, were assigned to the task group to support this project. A Boat Pool LCM was modified for the Project's use by addition of wooden decking, a guard rail and a small crane. By a special effort ShipAlt ARSD-45 was completed to improve GYPSY's lifting capability before the operation.

Project personnel requested that a barge be made available for their use, after they had conducted preliminary mooring and recovery tests in Chesapeake Bay in October 1954. YC 1061 was assigned to the task group for this purpose. COCOPA was the ATF usually assigned to the Project, although SIOUX, APACHE and TAWAKONI assisted upon occasions. RECLAIMER, whose primary function was support of Project 3.4, rendered some last minute assistance when it became necessary for the Project to make an all out effort on UNION.

20. Soon after her arrival in the forward area GYPSY reported that she was developing severe and extensive cracks in hull and bulkheads with the result that she had only one fresh water tank still capable of carrying potable water. She continued working with the Project while her difficulties were studied. A representative of Pearl Harbor Naval Shipyard flew to the forward area to inspect GYPSY. It was finally decided that she should be replaced, and another ARSD, the HEADER, was ordered in to relieve her. HEADER arrived on 23 March and GYPSY departed the 26th. for shipyard repairs. Ironically, it was considered likely that the ShipAlt installation was partially responsible for her difficulties.

21. In the rough lagoon waters supporting units experienced considerable difficulty in handling the moorings and five ton instrument cans and in working alongside the cans in small boats. HEADER's lack of the lift capability that the shipalt provided to GYPSY was partially responsible, and the design of the moors made them difficult to handle.

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Project 2.5a

22. Project 2.5a, involving radioactive fallout studies conducted by the U.S. Naval Radiological Defense Laboratory, received heavy and exacting support from the task group. Two ATFs, APACHE and SIOUX, were employed almost full time in the Project. It was their task to lay free floating dan buoys equipped as fallout collectors downwind from the detonation point outside the lagoon, then relocate them after the shot and recover them. In case of a shot postponement it was necessary that the buoys be recovered, serviced and replanted, immediately if the postponement was a brief one. With the great number of postponements that occurred in CASTLE this task became a heavy one. Even though the buoys were equipped with special radio transmitters, and the ATFs with special radio direction finder equipment, the buoys were hard to locate. The radio signal emitted by the buoys weakened greatly after several hours in the water, and was not of very great assistance in the hunt. VP-29 aircraft and the security DDEs were often called upon to help in the search when they could be spared from other, more pressing duties. Once located, the buoys were hard to handle in the rough seas. The handling problem was made more difficult by the design of the antennae that projected from the tops of the buoys; shaped like short umbrella spokes the antennae endangered the eyes of personnel handling the buoys and were themselves easily damaged. Fallout studies inside the lagoon were made by means of raft-borne collectors. A crane-equipped LCU handled the rafts. Despite the difficulties involved every effort

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was made to assist this Project in the successful accomplishment of its mission. It was considered the most vital of those sponsored by the Department of Defense.

23. An interesting development involving this Project was the discovery by buoy hunting ships as the operation progressed that sharply defined patterns of low level radioactive contamination existed in the ocean area far downwind after a shot, in the water itself. On the NECTAR shot, with all their fallout buoys expended, personnel of this Project assisted AEC Health and Safety Laboratory personnel in a study of the phenomenon, with the aid of SIOUX, MOLALA and VP-29 aircraft, monitoring and plotting the contaminated areas and obtaining water samples for analysis.

Project 3.4

24. The Navy Bureau of Ordnance had obtained approval late in the CASTLE planning period for inclusion of a program to test the neutralizing effect of high yield detonations on naval mines, - Project 3.4. The ships SHEA, a light minelayer; RECLAIMER a salvage vessel; and LST 1157, with two LCMs from Naval Beach Group One, and Explosive Ordnance Disposal Unit One were assigned to the task group specifically to support the Project. Arriving late in the Operation, the project participated in only one shot, UNION. The initial intention was to make a preliminary test by planting a few mines on one shot with the main effort on a later one. Uncertainty over the shot schedule led to the decision to dispense with the initial test, and on UNION the

ships laid inside the lagoon seven strings of mines (123 in all), plaster filled but with complete mechanisms. One hundred mines were recovered after the shot, many of them contaminated. All obviously damaged mines were jettisoned after careful examination and photography; forty-eight in good condition were returned to Pearl Harbor for study. All recovery work was completed before YANKEE.

25. Project 6.4, the Navy Bureau of Ships sponsored project for proof testing atomic warfare countermeasures, has received extensive coverage in CTG 7.3 Final Report, and some in the Radiological Safety chapter of this installment, so a description of the Project is omitted here. The drone ships, YAG-39 and YAG-40, especially reactivated from the Maritime Administration "mothball" fleet, were necessarily devoted nearly exclusively to this Project. They were however used for another purpose, at least in planning, when their evacuation potential was depended upon in some of the earlier NECTAR sorties, thereby permitting other units to continue essential work at Bikini. YAG 39 was actually employed in an early NECTAR sortie laying fallout buoys for Project 2.5a. As tender to the YAGs, MOLALA was employed almost exclusively on Project 6.4, assisted at shot times by TAHAKONI. A P2V5 especially equipped to control the drones was used entirely on this Project. Two helicopters of HMR-362 were also fitted with drone control gear to back up the P2V5 if necessary.

Minor Support

26. Boat Pool boats assisted two of the three projects requiring minor support. Project 1.6, a study of water waves sponsored by the

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Scripps Institution of Oceanography, required an LCM especially equipped with decking, davits, a stern anchor and a fathometer to lay pressure-time guages on submerged coral heads in Bikini Lagoon. Stanford Research Institute's Project 3.2 used an LCU modified by installation of a portable fathometer, a gyro-compass with three repeaters and a taut wire sounding reel to make accurate fathometer surveys of the BRAVO, UNION and KOON craters. This LCU was also used in routine duties with the portable special equipment emporarily removed. A Project 6.6 station at Rongerik Atoll was operated during UNION and YANKEE by Project personnel who lived on PC 1546 and serviced the station during brief periods ashore on contaminated Eniaetok Island. PC 1546 was stationed at Rongerik on these two shots with personnel of this Evans Signal Laboratory Project aboard, together with Air Force personnel who operated the Rongerik weather station in the same manner.

INTER-ATOLL DEVICE MOVEMENTS

27. BELLE GROVE moved three barge loaded devices from Eniwetok to Bikini: those for ROMEO, UNION and YANKEE. LST 762 moved the device for BRAVO, and LST 551 portions of the one for KOON, since they were not mounted on a barge and, as equipped, could be better transported by LST. CURTISS, especially modified to transport and store material of this sort, carried portions of several devices between the two atolls.

LSD

28. A study of the shot barges' configuration as compared to BELLE GROVE's well dimensions conducted long before the operational

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period began had led to the conclusion that movement of the barges in BELLE GROVE was practicable. Some adaptation was necessary, and since the design of the barges was already fixed, the adaptations were made in BELLE GROVE. Prior to her departure from San Diego the aftersection of her super-deck (over the well), was removed and left behind. Two more sections of this deck were taken off at Eniwetok and stored on Parry Island until the end of the Operation. By retaining these two sections until her arrival in the forward area BELLE GROVE was able to carry a larger portion of the Boat Pool's spares and equipment. A special cribbing and shoring had to be installed in the well before each barge was loaded, and removed after the barge was discharged. The removal of the superdeck throughout most of the Operation handicapped personnel based on BELLE GROVE, since by its removal she lost her helicopter landing platform.

29. Before BELLE GROVE loaded a barge for actual detonation purposes she had benefitted by the experience gained in rehearsals described in an earlier installment. As a result of this experience a standard pattern was evolved for device movements in BELLE GROVE. On a typical movement mission she transferred her Boat Pool personnel and boats to BAIROKO at Bikini, received cargo laden LCUs in her well and left for Eniwetok during the afternoon two days before the device was required at Bikini. Upon arrival at Eniwetok next morning she anchored off Parry Island on a berth close in and well sheltered, flooded down and discharged her LCUs, pumped up and installed the

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special cribbing, assisted by TG 7.5 personnel. When the cribbing was complete she again flooded down, took aboard up to two LCUs loaded with cargo, and then was ready to receive the barge. Shortly after noon the device barge was brought out, placed in position astern, and warped into place over the special cribbing. BELLE GROVE then pumped up, installing shores, chains and cables meanwhile to secure the barge in the well. She was then ready for the movement to Bikini.

30. On arrival at Bikini BELLE GROVE proceeded to the only satisfactory lee the atoll afforded, that of Bikini Island. Once inside the lagoon she commenced flooding down. When she was anchored and ready to discharge the barge, securing cables were cast loose and the barge was started out of the well by LCMs. It was then taken in tow by an ATF and delivered to the shot site where LCMs secured it in moorings prepared earlier.

LST

31. On a typical LST device movement the assigned vessel beached on Parry Island two days before the device was required at Bikini, and commenced loading cargo to be carried in addition to the device. With this loading completed next day about noon the device, loaded in its special trailer, was towed to the LST by tractor. The complete equipage, device, trailer and tractor, was taken aboard the LST, secured for the voyage with specially fabricated cables and chains and screened from observation by canvas awnings. The LST then retracted and sailed that afternoon for Bikini. There the LST beached on Enjuman Island and

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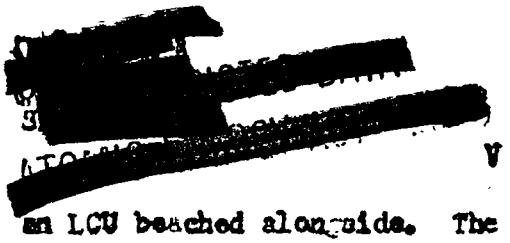
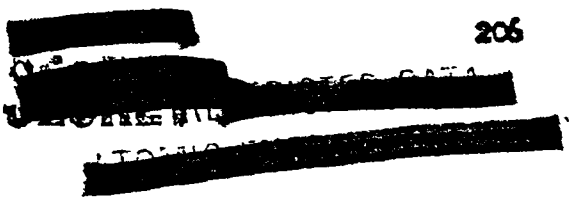


an LCU beached alongside. The entire device unit then was taken from the LST, loaded in the LCU, transported to the shot island and there disembarked.

Security During Movement

32. All device movements between atolls were escorted. In each case a Task Unit was formed, commanded by the senior officer in the vessels involved, composed of the ship transporting the devices, one or more escort vessels, and a VP-29 patrol aircraft. The LST or LSD received its surface escort prior to the commencement of loading, and retained it until the device had been discharged. In the case of LSD movements the escorting vessel remained until the barge had left the LSD, after which the normal security measures in effect at Bikini prevailed. For the LST the escort was terminated when the device was off-loaded at Eniumen. Security guards for the device within the LSD or LST were provided from CURTISS' Marine detachment. It had originally been planned that this be a responsibility of the Task Group 7.2 Military Police detachment, but use of Marine Corps personnel, since they were available, was considered more appropriate. The Marine guard relinquished the watch to Military Police personnel when the device was discharged at Eniumen Island by an LST, but continued guarding barge-loaded devices until the pre-shot evacuation on shot day minus-one. Enroute to Bikini the LSD or LST steamed at maximum speed under conditions of darken ship and radio silence, without resort to weaving or zig-zagging. All ships in the Task Unit had full boiler



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or engine power available for use in emergencies. Movement reports were made by Operational Immediate classified message. The Task Unit Commander and Commanding Officer of the transporting ship had the usual instructions for jettisoning the device should circumstances require it. Scientific personnel accompanied the device to tend it and act in an advisory capacity. All device movements were completed in a satisfactory manner.

LST BEACHINGS

33. During the operational period the shortcomings of the LST beach at Eninman Island, Bikini continued to present a major problem. Every LST that beached there during the operation - four vessels in all - were used at various times - was damaged on this beach. Despite the hazard involved the LSTs beached and retracted at Eninman 17 times between 24 January and the detonation of KOON on 7 April, moving over 6500 measurement tons of cargo between the two atolls.

34. There was no remedy for the difficulties presented by the condition of this beach. The coral bottom with its unsuitable gradient, the short pier, the strong winds from the port quarter and the undesirable movement of sand and coral fragments on the lagoon bottom by wave action and currents were a combination that could only be endured out of operational necessity, not corrected. The change in the shot schedule that moved KOON ahead to 7 April in effect solved the problem, at least as far as Operation CASTLE was concerned. The shot, fired on the western end of Eninman near the LST landing, obliterated the pier and eliminated any further need for beaching on the island.

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35. Fortunately, no ship incurred damage on Eninman sufficient to put it out of commission. The only severe bottom damage incurred by an LST beaching was received by LST 551 at Rongerik early in the operation. LST 762 was placed in upkeep status for 20 days to replace an inoperative main generator and for other repairs, and concluded the operation with a broken main shaft, but these casualties were not directly attributable to her repeated beachings at Eninman. But all LSTs had their operating efficiency impaired by sprung bows, holed hulls, and bent screws. The most significant beaching accident at Bikini occurred on BRAVO plus three days, when LST 825, beached and fully laden with cargo being evacuated from Eninman, was unable to get off the beach. Efforts to assist her to retract were unsuccessful until 36 hours later, at 1000 on B-2, when on a high tide, will all cargo unloaded, the concerted efforts of two ATFs, 15 LCMs and her engines backing full freed her from the beach. The action of the currents had built up a sand bar under her, just forward of the stern, while she was loading. This same sandbar continued to add to the LSTs' troubles throughout the period.

RADIOLOGICAL SAFETY

36. During the latter half of the CASTLE test series, radiological safety in the task group became a relatively minimum problem. The task group's experiences with radioactive contamination in BRAVO made all subsequent contacts with this phenomenon appear minor, as they actually were in comparison. No ships received any significant

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contamination from fallout on either UNION, YANKEE or NECTAR. Occasional operations in slightly contaminated water were conducted but without ill effect on either ships or personnel. Some VP-29 aircraft received slight contamination in their post-shot flights, as did some of the HMR-362 helicopters.

Small Craft

97. The Boat Pool LCUs, and the two barges, YCV 9 and YC 1061, that were customarily moored or anchored in Bikini Lagoon during shots were again contaminated on UNION and YANKEE. The intensities after UNION averaged between 100 and 200 mr/hr, but the contamination was particularly tenacious and was not materially reduced by salt water flushing. Repeated scrub-downs with strong solutions of detergents and lye and wire brushing of "hot" spots brought the levels down sufficiently to permit operation of the craft on UNION plus three days. The intensities after YANKEE were much higher, with average readings of about 3 R/hr and some as high as 7 R/hr. Initial decontamination measures reduced the levels to a 350 mr/hr average, but thereafter intensive efforts reduced them only very slowly. Complete decontamination at this time would have required extensive removal of the surface paint or rust with rotary powered wire brushes. This was not attempted; the future employment of the craft made such an extensive operation unnecessary. Further use of the two barges was not contemplated. By the time they reached Pearl Harbor under tow it was expected that the combined action of radioactive decay and constant

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washing by breaking seas would reduce the radiation levels to a point where little or no shipyard decontamination would be necessary. The LCUs were required only for roll-up of Bikini and Rongerik. They were decontaminated to an average reading of about 30 mr/hr, permitting their crews to operate them for short periods of time without acquiring too great dosages. The crews did not again move back and live aboard. By YANKEE plus ten days the LCUs were reading an average of 10 mr/hr. Decay during the period from their release from CASTLE to their resumption of operations elsewhere was expected to reduce their contamination sufficiently to preclude shipyard decontamination. One was loaded aboard BELLE GROVE for shipment to Pearl Harbor, three were left at Eniwetok to await lift to the Western Pacific.

YAGs

38. The biggest decontaminstion problem presented to the task group was that of the YAGs. For experimental purposes they were purposely exposed to heavy fallout on three shots, ROMEO, UNION and YANKEE. YAG 39 was equipped with washdown gear, YAG 40 was not. By keeping the two ships in close company and operating the YAG 39 washdown gear, comparison of contamination levels on the two ships served to show the washdown gear's effectiveness. Decontamination after each shot was necessary to permit manned operation of the craft up to shot time minus a few hours on the subsequent shot, and to get a true picture of new contamination received. Initially both ships were operated as drones maneuvered from an airborne control station

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while in a fallout area. Difficulty was experienced in manouvering the two ships close enough together to obtain a true comparison. YAG 39's washdown gear was effective enough in holding down her contamination levels to permit her to be manned by a skeleton crew during the latter shots. This was done successfully on both UNION and YANKEE.

39. Decontamination of the YAGs was a wholesale effort supported by large numbers of personnal from other task group ships. The operations were carried on with the YAGs at moorings in Eniwetok lagoon and were essentially a large scale application of the methods employed in decontaminating the Boat Pool boats. After YANKEE an intensive decontamination was carried out to permit the YAG crews to live aboard on the return voyage to the United States. By 25 May average topside readings on YAG 39 were down to 7 mr/hr with average interior and below deck readings of 2 mr/hr. It was expected that these levels would be down to 4 mr/hr and 1 mr/hr respectively upon arrival in Pearl Harbor, and to 3 mr/hr and 0.5 mr/hr upon arrival in San Francisco. YAG 40's intensities were considerably higher: 40 mr/hr topside and 8 mr/hr inside and below decks on 25 May. Intensities in these locations were expected to be 25 mr/hr and 4 mr/hr respectively at Pearl Harbor, 15 mr/hr and 2 mr/hr at San Francisco. Many YAG personnel had already received dosages in excess of 3.9 R; CJTF SEVEN granted permission for them to accumulate larger dosages in order that the voyage could be made. YAG 39 personnel were expected

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to receive between 0.5 and 1 R on the trip to Pearl Harbor, YAG 40 personnel between 3 R and 5 R. Their total dosages after the trip, while high compared to the Task Force Maximum Permissible Exposure of 3.9 R, would be well below 15 R and would represent no health hazard. Two men with high dosages were transferred from the YAGs to the MOLALA before departure from Eniwetok. Additional transfers were to be made at Pearl Harbor where replacements could be obtained, if actual accumulated dosages warranted such action. Stringent radiological safety precautions were prescribed for the voyage. MOLALA and the YAGs departed Eniwetok 26 May.

Radiological Clearances

40. All other task group units left the forward area with radiological contamination no substantial problem. They were all granted operational or final radiological clearances prior to or shortly after their departure. A few had "hot" spots acquiring handling radioactive equipment during the roll-up; these were to be decontaminated enroute. It was not expected that any would require shipyard decontamination. Personnel dosages, while they had continued to increase slightly after BRAVO, generally remained well within the Task Force MPE, except in the case of personnel who had approached or exceeded this limit early in the operation.

BOAT POOL OPERATIONS

41. The Navy Boat Pool operated a total of 29 boats; 5 LCU; 19 LCM; 1 LCPL; 2 LCPR; 1 AVR; 1 MWR. 1 LCM was assigned to the Underwater Detection Unit at Eniwetok, and 2 LCMs and the 1 LCPL

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were stationed there also, supported by the Task Group 7.2 Navy detachment, and operated at various times by the Navy staff ashore on Parry Island, Eniwetok Harbor Control, and SOPA Eniwetok. The remaining boats formed the main body of the Boat Pool, based at Bikini. The Boat Pool was under an Officer-in-Charge, LT B. R. Watkins, USN, with three officer assistants, and approximately 225 enlisted personnel manning and maintaining the boats.

42. Primary support for the Boat Pool was furnished by BELLE GROVE. To provide additional work and stowage space a covered barge (YFN) had been brought to Bikini, and was fitted out by Boat Pool personnel. During periods when BELLE GROVE had to be absent from Bikini, BAIROKO usually took over her boat pool support duties. Upon occasions CURTISS and LST 762 performed this task.

43. The last Boat Pool boats and personnel arrived in the area in BELLE GROVE, on 20 January 1954. Advance groups of boats and personnel had arrived in November and December 1953. The Boat Pool had overhauled its boats completely before departure from Coronado; all were expected to be one hundred percent operational two days after arrival in the forward area. A few minor mechanical difficulties occurred the first few days, but all boating requirements were met. Boat crews were briefed on Bikini atoll conditions, and sent out on jobs with the civilian contractor's boats, already operating at Bikini for some time, in order to acquaint them with the landings on various islands, and the courses, time and distances and navigational

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data pertaining to the atoll.

44. The contractor's Boat Pool and the Navy Boat Pool provided a coordinated boating service to all task groups at Bikini. Boat assignments were made by a joint scheduling panel which met nightly on Eninman Island and allotted boats, based on users' requests for service. The Navy boat dispatcher's headquarters was on the YFN. In addition a Navy dispatcher was stationed with the contractor's boat dispatcher on Eninman to coordinate the use of Navy boats by the civilian task groups. All boats were radio-equipped. In time all major ships were furnished boat pool radios as well to facilitate contact between boats and quarterdeck personnel. After BRAVO the contractor's boat dispatcher moved aboard AINSWORTH, and the scheduling panel met there. This joint operation functioned very smoothly, despite some early misgivings on the part of both participants.

45. Boat operations at Bikini were complicated greatly by the normal choppy state of the lagoon. The location of the base of operations in the southern end of the lagoon, with shot sites generally in the northern end, caused the ship anchorage and principal boating area to be almost an open roadstead. While the reef did break up the ocean swell, the lagoon was so large that the southern anchorage had no shelter whatsoever from the prevailing northeast tradewinds. The winds were seldom below 17 knots and were frequently in excess of 20, with the lagoon in a constantly choppy state. Whenever the winds exceeded 20 knots the lagoon waters were rough, with a swell that

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made boating hazardous. Ships at anchor could not stren their boats to booms without danger of lines parting or cleats carrying away, and in any event their boats were too small to carry more than a few passengers safely except on unusually calm days. As a consequence ships depended on the Boat Pool for a great deal of their boating requirements.

46. The LCMs were the "work horses" at Bikini. They made a total of over 14000 trips, carrying 4400 tons of cargo and over 47000 passengers. While many of the trips were short ones, from ship to nearby ship or island landings, these figures represent noteworthy accomplishment by the Boat Pool.

47. The Boat Pool's LCUs, except for LCU 1348, performed a variety of services, of which about 75% involved carrying cargo between Eniwetok and other islands, and to ships. LCUs also laid and picked up buoys, carried recreation parties and launched and picked up DUKWs. LCU 1348 was employed almost exclusively in support of Project 3.2. On several occasions LCUs loaded with equipment were lifted in HELE GROVE and carried to Eniwetok and back. On 1 February 1954, LCU 1225, towed by an ATF, carried Air Force equipment to Rongerik Atoll to complete the job of establishing a weather station there, began in January by LST 551. Navy LCUs assisted in rolling up this station after REDTAB was fired.

48. The two LCPRs and motor whale boat were used to transport boat crews between ships and the boat moorings, and for a variety

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of odd jobs in the anchorage off Kwajalein. The AVR was turned over to [redacted] for SAR duties, and occasionally made special runs in the lagoon, although the waters were usually too rough for her to be considered as a comfortable means of transportation.

49. The Boat Pool was able to maintain its boats in full operational condition only because it had come to the forward area with a complete supply of spares, adequate maintenance personnel and the equipment necessary to effect extensive boat repairs. The boats' employment in rough seas with frequent landings on rough coral beaches resulted in recurring minor hull damage. To keep the boats available for daytime use the maintenance and repair work was normally done at night. Each boat received an inspection before securing for the night, and necessary repairs were accomplished before its first scheduled run next morning. Maintenance and repair personnel logged a total of over 10,000 hours work on the boats during the Operation. At Bikini they performed considerable maintenance and repair on Holmes and Marver boats, a service Holmes and Marver reciprocated by repair of Navy boats at Eniwetok.

HELICOPTER OPERATIONS

50. The 12 HMR 362 helicopters, 20 pilots and 100 ground personnel assigned to CASTLE from MCAS El Toro, California, with temporary assistance from 3 Air Force helicopters prior to BRAVO, effectively carried out the Navy Task Group's mission to operate a ship to shore and inter-island helicopter lift system at Bikini to support

pre-shot operations and post-shot flights for damage survey and recovery of scientific data.

51. The helicopter squadron was attached to BAIROKO for the operation. Prior to BRAVO, 6 aircraft were based ashore on Eninman Island with pilots and minimum ground crews. Assisted by the Air Force planes they flew two continuous omnibus schedules during daylight hours, one clockwise, one counter-clockwise, around the atoll, with stops on islands where work camps were established. Passenger space for personnel of TG 7.1 and TG 7.5 was controlled by a civilian dispatcher employed by Task Group 7.5 who worked in close coordination with the HMR-362 duty officer at the Eninman Island helicopter pad. The remaining aircraft were retained aboard BAIROKO and used for ship-to-shore flights and special flights coordinated through CTG 7.1 operations representative on Eninman. The aircraft were rotated between ship and shore for maintenance which was all performed aboard BAIROKO. In addition to the CVE only one ship, ESTES, had a helicopter platform in place. Since she was seldom at Bikini during this period the ship-board terminal of most ship-shore flights was BAIROKO. ICV-9, a barge provided for use as a helicopter landing platform, was anchored near CURTISS, tending the shot site, to provide helicopter service to personnel based aboard. On later barge shots the ICV served the shot barge in a similar manner.

52. After BRAVO the Air Force helicopters were returned to Eniwetok, and all local air transportation at Bikini was provided by

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the Marine aircraft, operating off BAIROKO. Operations were directed by the CVE's Air Operations Section in close liaison with CTG 7.1 operations representatives now based aboard BAIROKO to coordinate TG 7.1 and TG 7.5 lift requirements.

53. The helicopter airlift was conducted without a serious personnel casualty. One major accident occurred on 28 January when an aircraft crashed on deck upon take off from the BAIROKO, due to a mechanical failure. Passengers and crew escaped with minor bruises. The landing signal officer was slightly injured when he was struck by a fragment of the rotor blade. One aircraft made a forced landing on a sandspit at Bikini Island on a BORED minus one day while evacuation for the shot was in progress. No one was injured; the aircraft was repaired and returned to BAIROKO without any significant delay. With most flights conducted over water, and many over extremely radioactive areas, BAIROKO exercised close control during all flights, with helicopters making frequent position reports. Escort helicopters often accompanied aircraft on missions over "hot" areas.

AIDS TO NAVIGATION

54. Prior to arrival of the task group in the forward area a navigational buoyage system had been installed at Bikini and channels and turning basins wiredragged and marked. A special limited edition of the HO Chart for Bikini Atoll had been prepared and issued to task group ships. Arrangements had been completed with CTG 7.5 for retention of structures on islands of the atoll for use as navigational

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aids. Even before the first shot of the series two buoys were missing, presumably due to the high winds and rough seas that prevailed at Bikini. Thereafter, wind, weather and the blast and water wave effect of the shots severely crippled the buoyage system and eliminated many of the shore structures that ships had been using for landmarks. The blast and water waves following shots had no appreciable effect on unlighted buoys at all distant from the zero point, but deranged many of the lighted buoy mechanisms even at relatively great distances from the detonation. Lighted buoys close to the shots usually had their upper structures blown away, and often sank several days after the damage was received, presumably from slow leaks. The lack of lighted buoys made night movements in the lagoon and through the entrances particularly hazardous. For this reason night movements were held to an absolute minimum. The absence of good landmarks made offshore navigation difficult.

55. There was no arrangement for repair or replacement of buoys by the Coast Guard as the operation progressed, nor was there a supply of replacement buoys available. Limited repairs were undertaken by BAIROKO, CURTISS and the Boat Pool under the Bikini Harbor Unit, using buoys recovered after they sank or went adrift. When night movements were planned as they were in sorties for some of the later shots at Bikini, seadrome marker lights were placed on essential but inoperative lighted buoys.

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56. CTG 7.3 has made a detailed report of the condition of the Bikini buoyage system to the Navy Hydrographic Office for reference use in preparing the lagoon for future operations.

MOORING BUOYS

57. Considerable time and expense went into the provision of adequate mooring buoys at both atolls, particularly at Bikini. There a full set of small craft moorings was planted before the operation began, along with three telephone equipped large ship mooring buoys. During the operational period the small craft moorings were put to full use, in fact more of them would not have been amiss. Up until the first shot the large buoys at Bikini were used regularly by BELLE GROVE and BAIROKO, and by ESTES when she was at Bikini. After BRAVO little use was made of the telephone buoys. The telephone equipment was rendered inoperative by the shot, and the frequent sorties and unscheduled movements to which the large ships were subject made anchoring more practical than mooring. AN/TRC radio telephone equipment and other voice radio circuits effectively substituted for the loss of the telephone system, except that they lacked the security of the telephone system. The large ship moorings at Eniwetok were little used since after BRAVO the ships were seldom there long enough to warrant mooring. The in-port DDE at Eniwetok was the principal user of the telephone buoys there, regularly mooring to one off Eniwetok Island.

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VI

LOGISTICS

1. In preparation for CASTLE all ships and units had been directed to prepare for a 120 day operational period at a location remote from supply points. All units were to be self supporting to the greatest extent practicable, with the large ships assigned responsibility for the support of smaller ships whose capabilities for self support were limited.

2. CINCPACFLT exercised his responsibility for logistic support of Joint Task Force Seven through his principal logistic agent, COMSERVPAC. Supply of aeronautical material for naval air units was the responsibility of COMAIRPAC. COMWESTSEAFRON was assigned responsibility for coordinating the logistic support provided by West Coast activities.

RESUPPLY

3. All refrigerated provisions were ordered through COMWESTSEAFRON and shipped by Naval Supply Center, Oakland in regularly scheduled COMSERVPAC refrigerator vessels as cargo consigned to the individual requisitioning ships. "Reefer" schedules were adequate, the larger ships with adequate stowage space seldom lacked fresh or frozen provisions in good condition. Smaller ships with insufficient stowage space to maintain stocks between supply ship schedules had to depend upon the larger ships for assistance they were not always able to give, and as a consequence were not always as well supplied.

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4. Requirements for dry provisions, clothing, small stores, ships store stocks, general supply materials and spare parts were submitted to Naval Supply Center, Oakland and shipped as consigned cargo in regularly scheduled cargo ships. Their schedules too, were adequate, but an abnormal length of time was required to obtain delivery, often from 30 to 60 days after submission of requisitions. Unusually high usage rates on many items led to heavy requisitioning despite the 120 day supplies stocked for the Operation. Unexpected developments such as the full-time presence of large numbers of excess personnel aboard ship at Bikini after BRAVO contributed to this high usage. Loss of the recreation area placed a heavy drain on ships store stocks of recreational gear. Decontamination operations consumed huge stocks of supplies. Unable to foresee a definite ending date to the operation, ships were forced to continue ordering to keep adequate supplies on hand.

5. A number of problems arose concerning delivery of supplies and refrigerated cargo. The frequent scheduling and postponements of shots complicated the entry of supply ships into the area and their movements between the two atolls and on to their next ports, requiring careful monitoring of their operating schedules. At Bikini the frequent movements of ships on short notice made it difficult to schedule supply ships into that atoll with sufficient time to unload. Since Boat Pool assistance was needed in the unloading process, care had to be taken that the unloading did not interfere with essential boat schedules in support of the test operations. Loading consigned

cargo without knowledge of consignees' operational commitments at the time of unloading inevitably resulted in the necessity of tunneling for stores, overcarriage of cargo and unnecessary handling. Transhipment of cargo between atolls was a normal occurrence. There were no adequate and secure facilities ashore at Eniwetok for temporary stowage of Navy stores offloaded for transshipment. Losses due to misplacement, pilferage and exposure to the elements resulted. Occasionally supply ships carried two scheduled assignments of provisions for a single ship, beyond the capacity of the consignee to receive. Adequate shore storage would have benefitted the task group greatly.

FUEL REPLENISHMENT

6. Replenishment of fuel presented equal difficulty. The complications arising from shot postponements and frequent ship movements at Bikini affected refueling even more than they did the other supply vessels, since it was usually necessary for the larger ships to get underway and remain at sea for several hours to receive fuel. Wind and the lagoon currents caused ships at anchor to yaw over a wide arc, and a frequent swell made lying alongside undesirable. Fueling schedules were developed to meet the situation prevailing upon the arrival of a tanker, and by judicious topping off of smaller ships by larger ones prior to the tanker's arrival the number of ships refueling directly from SERVPAC tankers was held to a minimum. ALNILAM, the MSTS transport, presented a particular problem, for she had never fueled at sea, and one refueling was essential before her

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departure. Eventually an opportunity was found to send her to Eniwetok where she was fueled at anchor by YO 120.

7. At Eniwetok the lack of shore storage for Navy special fuel oil presented a problem. Storage afloat was provided by YO 120 with a capacity of only 6000 barrels. Between monthly SERVPAC oilers the DDEs at Eniwetok could soon exhaust the YO's fuel supply. With CURTISS, ESTES and BAIROKO at Bikini after BRAVO the DDEs were left without a source of fuel short of a trip to Bikini to fuel from one of the larger ships. Considerable planning to take advantage of scheduled inter-atoll movements and careful expenditure of the YO's supply were necessary to keep the Eniwetok DDEs fueled.

AVIATION SUPPLY

8. VP-29 encountered an unforeseen supply problem that was solved with the assistance of Naval Station Kwajalein and Naval Air Station, Barber's Point supply activities. The P2V6 was a new aircraft; the usage data from which allowance lists for the Operation were derived was based on estimates, and experience with similar type aircraft. As soon as operations commenced it became obvious that stocks of many items were inadequate. Within the first 60 days the squadron had to submit almost 1500 APA requisitions. Seventy percent of the requisitioned items were furnished on a ready issue basis by the Kwajalein base supply department, backed up by Barber's Point. The remainder were furnished through regular supply channels. As the Operation progressed the squadron procured material through regular channels on a priority basis and built up its own supply stocks.

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MAINTENANCE AND REPAIR

9. Repairs to ships, boats and aircraft in the forward area were accomplished without the facilities of a repair ship or base ashore. The principle of self-sufficiency applied here as well. When maintenance and repairs in small ships were beyond the capacity of the ship's force, BELLE GROVE, ESTES, BAIROKO or CURTISS furnished assistance. The Boat Pool had its own repair section, supported by BELLE GROVE. They assisted Holmes and Harver in effecting repairs to the contractor's boats at Bikini, and in return received some assistance from Holmes and Harver in the repair of Boat Pool boats at Eniwetok. The aviation units had their own maintenance organizations. In most cases ships were able to effect repairs successfully without outside assistance. Holmes and Harver aided LST 762 in installing a generator at Navy expense. LST 762, LST 551 and GIPSY were forced to return to Pearl Harbor for major repairs. APACHE obtained repair assistance at Naval Station, Kwajalein. The biggest problem in maintenance and repair was the impossibility of ships observing proper upkeep schedules. All suffered to some extent from this lack, with the busy smaller ships, the LSTs, ATFs and DDEs suffering the most.

RECREATION

10. A highly successful and well organized recreational area for the task group was established early in the Operation on Bikini Island. Task group personnel built the recreational facility under the direction of Commanding Officer, USS BAIROKO. Funds, equipment

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and athletic gear were borrowed from COMSERVPAC. Bikini afforded a swimming area, baseball and softball diamonds, horseshoe pits and facilities for other games. Buildings left from Operation CROSSROADS were repaired and used as clubs, where beer, liquor and soft drinks were available. Ships held barbecues and picnics; on several of these the hill-billy band from CURTISS provided music.

11. When BRAVO contaminated Bikini use of the area had to be discontinued. After radiation intensities had decayed enough to permit work on the island for short periods the equipment installed there was recovered, and later returned to COMSERVPAC along with the funds borrowed to finance the venture. Profits from liquor, beer and soft drink sales were more than enough to repay the loan, the excess was distributed among task group units' recreation funds.

12. After the loss of the Bikini recreation area no shore-based recreational facilities on such a scale were again available at Bikini. A small island across the lagoon "cool" enough for occupancy was used briefly for beer and swimming parties. It was heavily contaminated on the third shot. Late in the Operation contamination on the desolate tip of Enyu Island was found to be low enough to permit its use by recreation parties. Three tents, and a refrigerator recovered from Bikini Island were installed there. One drowning occurred in the lagoon off this island. Shipboard recreational activity substituted, not too effectively, for the lack of a suitable land area.

13. For the few ships at Eniwetok, CTG 7.2 recreation facilities were made available. Japtan Island at Eniwetok, where the Navy rec-

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reation area was located during Operation IVY, was used occasionally by ships' recreation parties. Although no attempt was made to install any facilities there it provided a good location for swimming and shell hunting.

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VII

COMMUNICATIONS

1. The communications facilities of the task group headquarters ashore were fully activated by 24 January 1954, when CTG 7.3 and the remainder of his staff arrived on Parry Island. In addition to the all-Navy CW and UHF voice circuits operated by flag personnel, the facilities of the CJTF SEVEN teletype message center were made available to CTG 7.3, for use in handling inter-atoll and out of the area traffic.

2. The major communications training aims during the period CTG 7.3 was ashore were to familiarise Navy communication personnel with both the task group and task force organizations; to attain efficient operation of Navy manned CW and voice circuits, and to accustom naval personnel to the joint communications procedures prescribed for inter task force communications.

3. Good communications between such widely separated but interdependent units of the task group as the security forces, which included VP-29 on Kwajalein (served by joint Navy-Air Force facilities), fighter elements on Eniwetok and Bikini (served respectfully by Air Force and Army facilities), surface security elements afloat in DDEs, and the 7.3 Underwater Detection Unit at Eniwetok (served by Army facilities), required a practical knowledge of traffic routing and local procedures on the part of supervisory and operating personnel. A growing familiarity with task force call signs, an increased understanding of alternate means of communications, and the establishment

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of standard procedures for the handling of routine task group operations, enabled the headquarters and afloat communications centers to carry the rapidly increasing volume of traffic prior to BRAVO.

4. Essential to CTG 7.3 was continuous CW contact with all units afloat, including those with a limited number of communications personnel and equipment. Normal fleet operations did not provide Navy operators with the experience they needed to operate and control successfully, high speed CW circuits like the Task Group CW Common, with from 15 to 23 stations on the net. Dispersal of task group units between atolls, which precluded extensive use of visual and voice communications, and a reluctance to utilize fully joint ship-shore teletype facilities, resulted in an overload on CW circuits which threatened to break down effective communications between CTG 7.3 and units outside of visual and UHF range. Marked improvement in operator proficiency as a result of experience on the circuits, combined with strict circuit discipline exercised by net control, pooling of the best qualified operators on large ships, and indoctrination of communication officers upon arrival of ships in the area, greatly increased the efficiency of Navy CW circuits.

5. Task Group 7.3 personnel, accustomed to Navy teletype and radio telegraph procedures, encountered some difficulty in using the facilities of other task groups, and with the joint teletype procedures prescribed by CJTF SEVEN. Basic differences in service operating practices, such as the use of predetermined routing and transfer of traffic from CW to teletype circuits by the Navy, or the use of codress

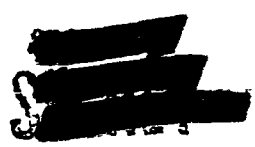
headings and procedures adapted to strictly "point-to-point" communications employed by Army activities, required both experience and resolution on a command level before maximum Navy use of the extensive teletype facilities of the Task Force was effective. Promulgation by CJTF SEVEN and CTG 7.3 of a standard routing for teletype traffic, reduction in the use of codress headings by JTF SEVEN activities, and increased familiarity with joint procedures and the operating practices of the Eniwetok Relay Center, increased the efficiency of Navy use of the joint ship-shore teletype nets.

6. The tape scrambling crypto devices (Sigtot and Samson systems) installed for joint use at Parry, Eniwetok, Kwajalein, Bikini, and aboard ESTES and BAIROKO, proved to have limited use in TG 7.3 communications. Used successfully by staffs embarked in ESTES for "point to point" communication, they appreciably reduced the crypto load at the shipboard terminal. However, messages originated by shore-based commands, addressed to task group units afloat and encrypted by these devices, placed a recncryption responsibility on shipboard relay centers, and thereby increased the workload and overall delivery time. Sigtot equipment was not used by CTG 7.3 after he moved to USS CURTISS on 6 March.

7. A heavy requirement was placed on the Navy crypto facilities ashore and afloat, by the differences in cryptographic allowances of units under CTG 7.3 operational control. In anticipation of a high percentage of encrypted traffic during CASTLE, Navy Class III

(machine crypto system) allowances had been obtained for all TG 7.3 ships except the USNS FRED C. AINSWORTH, and YAG's 39 and 40. AINSWORTH did not arrive in the area until just prior to BRAVO. Employment of the YAG's prior to BRAVO was such that mail or guard mail delivery of classified messages was an acceptable alternative to multiple encryptions. After BRAVO the Project 6.4 headquarters on Parry Island accepted communication responsibility for the YAGs when they were in port at Eniwetok, and MOLALA acted as guardship for them when they were operating at sea during shots. After BRAVO, a class III allowance was placed aboard the AINSWORTH. At no time was CTG 7.3 able to send urgent classified matter simultaneously to all ships in the task group by means of a single machine encrypted message. Unscheduled replacements and additions to the task group continued the necessity of multiple encryption of all messages addressed to "T.G. 7.3". Incorrect use of Class II cryptosystems by task group units resulted in nine reported incidents involving practices dangerous to security.

8. The passage of time, during which communications procedures for routine TG activities were standardized, the movement of CTG 7.3 afloat, and the concentration of ships within visual and voice communication range at Bikini, all served to increase the efficiency of Navy communications. The proximity of ESTES, BAIROKO, and CURTISS at Bikini after BRAVO permitted the establishment of AN/TRC telephone and teletype nets to serve staffs embarked, which materially reduced requirements placed on CW and ship-shore facilities. Use of UHF voice nets, and



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authorization by CTG 7.3 for the transmission of confidential messages in the clear by visual means lessened traffic on CW circuits. The centralization of the ship-shore relay function and net control of the task group CW common aboard the flagship further reduced relays, and increased ship-shore flexibility.

COMMUNICATION REHEARSALS

9. A Task Force communicators conference was held at CJTF SEVEN Headquarters on 9 February in preparation for the first full scale shot rehearsal. Included in the agenda was a discussion on the handling of high precedence "must" traffic to be originated during shot time, and destined for addressees outside of the JTF SEVEN operating area. It was concluded that all such traffic would be originated on board ESTES by staffs embarked, and processed through an officer watch established by CJTF SEVEN. As a result of this conference, a list was made of all persons throughout the task force authorized to release traffic aboard task group ships. CTG 7.3 promulgated this list and established the policy that commanding officers were "not responsible for messages released by passengers or staffs embarked, and sent over circuits officially operated or controlled by such passengers and staffs, or for the classification or contents of messages released by individuals whose names were listed."[1]

10. On 16 February a communications rehearsal involving ESTES, BAIROKO, CURTISS and RENSHAW was conducted by CJTF SEVEN concurrently

1. CTG 7.3 Instruction 02300.2

with the TG 7.4 air rehearsal in the Bikini area. Air control and ship-shore circuits were activated, in addition to all normal underway circuits. The voice-time announcements originated by the firing party in the Enyu Island bunker were received and rebroadcast on the UHF administrative net from minus 3 hours to the simulated shot time. These announcements were rebroadcast over ships' public address systems to insure that all participants and observers were prepared for the detonation. REMSHAW's and CURTISS' homing devices were tested. The Eniwetok-ESTES MUX circuit was unsatisfactory due to inoperative transmitters at Eniwetok, and the ESTES-Enyu ciphony circuit was activated late due to defective crystals. Aircraft communications proved satisfactory. CTG 7.1 desired to conduct further tests of the ciphony and time signals operations, and they were satisfactorily completed on 17-18 February.

11. On 20 February 1954, before the rehearsal of BRAVO, CTG 7.3 had shifted his flag from Parry Island to BAIROKO. The communications shift was accomplished smoothly, and the task group communications activities on Parry were reduced to one operator manning the task group CW Common, maintained primarily to facilitate contact with CTG 7.3 Liaison Officer at Parry Island.

12. Communications during the BRAVO rehearsal, conducted on 22-23 February, were generally satisfactory. All shipboard circuit terminals were manned continuously for 48 hours while tests were conducted. A heavy load was placed in the task group CW common due to

the fact that UHF communications were impaired both by unfamiliarity of some units with task force calls and the location of certain ships beyond UHF range at the time. These ships were employed in continued preparations for the actual event, and simulated participation in the rehearsal by transmitting necessary reports. As a result of this rehearsal the shot-time positioning of ships was reexamined with a view towards improving communications where possible. Ships that had to be outside of UHF range during actual shot operations were directed to maintain voice communications on the ship-shore HF voice frequency. Daily circuit drills on all voice circuits were conducted for several days.

SHOT TIME COMMUNICATIONS

13. Shot time conditions involved the rapid delivery of high precedence traffic, the reduction of traffic to the absolute minimum required to execute the event, and the provision of maximum flexibility in case of equipment failure or unexpected deployment of task group units. In addition, operations required that the Task Group Commander maintain direct control of individual units and ships rather than exercise control through task unit commanders. Rapid and direct communications with logistics and itinerant ships within range of fallout was also essential. To meet these requirements, supplementary communications instructions were issued before each shot. The BRAVO instructions directed:

a. All ships to test all equipment at least 36 hours prior

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to shot time and notify CTG 7.3 of any inability to carry out shot time requirements.

b. All ships to provide continuous guard on the primary tactical and UHF administrative nets, and all ships with two or more operators to guard the TG CW common continuously, commencing at 0800 on shot day minus two.

c. Activation of all aircraft control circuits by ships involved.

d. Activation of a direct ship-shore CW circuit between ESTES and Radio Pearl.

14. At 1200 on BRAVO minus three a final check of all circuits was made by all ships. All underway and shot time circuits were manned continuously commencing on schedule at 0800 on BRAVO minus two. Final tests of voice time broadcasts were received on BRAVO minus two at 1415, and tests of whistle, siren and signal light shot time warnings were completed. At 0800 on BRAVO minus one traffic on task group circuits was restricted to that which was absolutely essential and related to the execution of BRAVO. These restrictions remained in effect until about 1800 on shot day.

15. Communications during BRAVO were very successful, due primarily to the experience gained during the rehearsal, and the circuit drills conducted subsequently. Excellent propagation conduction contributed to the success of UHF communications. Use of previously designated code words, and of an abbreviated plain language system for

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muster, position, and fallout reports reduced the length of these frequently recurring messages over voice circuit. On the flagship, the primary tactical and administrative voice circuits terminated in Flag Plot, under the control of the staff watch officer, and were immediately accessible to the Task Group Commander. Considerable use of visual communications was made during the hours when the ships remained in formation, on station outside the lagoon. However, traffic on the task group CW Common became seriously backlogged. No messages of routine precedence or below were passed for approximately 48 hours, and priority traffic was delayed for several hours.

16. Communications for subsequent shots in general followed the pattern established during BRAVO. There was no necessity for further pre-shot drills and rehearsals of time broadcast and other special signals; the frequent sorties provided sufficient drill. Activation of shot time circuits was deferred until 0700 on minus one day. This shortened the period from 70 to approximately 36 hours when most ships were forced to maintain a watch-in-two among communicators. CURTISS, now the flagship, met all the communication requirements imposed by CTG 7.3, but the number of control lines between Main Comm and Radio II (4 audio and 5 CW) was a limiting factor in activating any additional circuits.

17. A considerable decrease in traffic during the later shots was evident. In part this was attributable to the teamwork within the task group prior to these shots, and to previous resolution of problems and promulgation of directives. Originators were directed

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to reduce addressees on shot time messages to an absolute "need to know" basis which reduced relays considerably. Use of a radio controlled firing mechanism aboard ESTES necessitated a period of radio silence on all circuits below 275 mcs from shot minus 20 minuted until detonation. The only exceptions to this requirement permitted were essential telemetering signals, voice time broadcasts, traffic on aircraft control circuits and emergency traffic.

MOVEMENT REPORTS

18. Encrypted reports of movements of ships and units within the area constituted a large percentage of traffic during CASTLE. To expedite handling of movement reports, CJTF SEVEN proposed that they be made unclassified. CINCPACFLT did not concur. On 30 March, CTG 7.3 promulgated a series of classified code words for use in movement reports which satisfied the requirement for classified reports, but permitted movement report messages to be transmitted unencrypted. Designated code words, classified Confidential, were substituted for "Eniwetok" and "Bikini" in messages reporting movements between these atolls, in which no other classified information was included. Special movements continued to be reported in encrypted reports of higher classification. Incorrect usage of several of the code words, especially by linkage with identifying navigational information, compromised the original series of code words. Temporarily, movement reports were again classified Confidential and encrypted until the promulgation of more detailed instructions and a new series of code words which was used successfully thereafter.

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VII

MAIL

19. Delivery of mail to Task Group 7.3 was a continuing problem throughout the operation. Navy mail for the Eniwetok-Bikini area was normally forwarded from the United States via Navy Post Office 824 at Kwajalein. Mail so routed was often over-flown to Eniwetok by MATS aircraft not stopping at Kwajalein. It then had to be returned to Kwajalein for accounting and sorting purposes and then returned to APO 187 at Eniwetok for local delivery to TG 7.3 units. The delay caused by this procedure, combined with adverse weather conditions during February which repeatedly held up flights departing from the United States to Hawaii, greatly delayed mail deliveries and created a serious morale problem.

20. In conjunction with an investigation of the situation and a directive to LNOs to expedite mail loadings instituted by CJTF SEVEN, CTG 7.3 notified COMSERVPAC of the situation, forwarded a revised list of TG 7.3 units in the area, and requested that mail leaving the U.S. be routed by FPO, San Francisco direct to APO 187 at Eniwetok. COMSERVPAC concurred in this request, although first class, parcel post, and air mail originated in Hawaii continued to be routed via Kwajalein. While more direct, the revised mail routing plan placed a heavy burden on the limited facilities of APO 187. TG 7.3 furnished one Navy mail clerk and two seamen to APO 187 to assist in handling of TG 7.3 mail.

21. Ships at Eniwetok drew their mail directly from APO 187. Mail for Bikini units was moved by air from Eniwetok to Bikini and

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thence to BAIKOKU for distribution to ships. After BRAVO and the temporary closing of the Bikini airstrip, BAIKOKU continued to act as the receiving and distribution point for units at Bikini, but mail was carried between Eniwetok and Bikini by ship. When the Bikini airstrip reopened, mail was moved by both air and surface lift. Delivery time of air mail from the United States varied from 7 to 14 days, with occasional delays up to a month from the postmark date.

22. On several occasions during April, it was necessary for CTG 7.3 to exercise command in the ESTES or at Parry Island for a day or two. In each instance, CTG 7.3 Administration remained in CURTISS. During these periods, all units were directed to address all messages to both CTG 7.3 and CTG 7.3 Admin. Both ESTES and CURTISS copied all traffic so addressed, thus insuring that all staff members and the Commander would have complete message files at all times. This procedure resulted in some duplication of messages but was considered necessary in view of the rapidly changing situation prior to the detonation of YANKEE.

23. The Parry Island communication facility was reactivated on a full time basis on 6 May concurrent with the shifting of the CTG 7.3 flag ashore from CURTISS. Although shot-time communications were handled aboard CURTISS when NECTAR was fired, the shore station remained fully manned until 161430M May when the last official message was sent.

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VIII

ROLL-UP

BIKINI

1. It had been anticipated that the Task Force roll-up would require the presence of several task group ships for a considerable period after the final shot. However the delays in getting off the shots, the early abandonment and roll-up of shore based activities at Bikini, and the location of the last shot at Eniwetok Atoll all combined to reduce and in effect practically eliminate this requirement. The base at Enimman Island, Bikini, was rolled-up before the third shot. Equipment on the other Bikini islands was removed as the operation progressed and it was no longer needed there, until there was very little roll-up left to accomplish after YANKEE. When the task group headquarters moved to Eniwetok for the last shot, BAIROKO, BELLE GROVE and AINSWORTH remained behind to support the final roll-up, assisted by other task group units. Before the weather permitted NECTAR to be fired the Bikini roll-up was substantially complete, with the Boat Pool standing by to be loaded aboard BELLE GROVE. Some non-Navy material was left at Bikini for recovery in future months after radioactive contamination levels decayed sufficiently to permit extended work on the "hot" islands.

ENIWETOK

2. The Task Force and other task groups required little Navy assistance in support of roll-up activities at Eniwetok, since the base there is a permanent one. In general ships returned to the

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United States with the same non-consumable material they brought to the area. CURTISS carried the AEC test material and device spares for return to the AEC. BAIROKO lifted short range Air Force aircraft and TG 7.1 trailers. AINSWORTH carried a small number of personnel; her passenger capacity was only partially used since most personnel of other groups returned to the United States by air.

WEATHER STATIONS

3. The roll-up of the Air Force Task Group's outlying weather stations was accomplished by LST 551 and BELLE GROVE. BELLE GROVE rolled-up the Rongerik station. In establishing this station in January LST 551 had received serious damage in beaching, and the LST's experience, plus a naval survey conducted after YANKEE led to the conclusion that beaching there by an LST was impractical. Accomplishment of the task by LCUs escorted by an ATF was contemplated, but, as the shot schedule worked out, BELLE GROVE became available to do the job. Air Force material on the base island at Rongerik included an eleven ton trailer, an inoperative DUKW, radio equipment and other instruments, a fresh water distillation unit, refrigerator, a forklift truck and a number of helium cylinders. There also was a Project 6.6 ionospheric recording station with another eleven ton trailer, a two and a half ton power unit and miscellaneous equipment. Much of the island surface was soft sand, making the moving job difficult. BELLE GROVE took aboard two Navy LCUs, one Holmes and Narver LCU, trucks and moving and lifting equipment, and with Air Force and Scientific personnel aboard to assist in the task, left for Rongerick on 14 May.

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There the equipment was moved to the beach, loaded in the LCUs which were in turn loaded in BELLE GROVE's well, and returned to Eniwetok for decontamination and further shipment. Roll-up of the other three weather stations, at Majuro, Kusaie and Ponape, was accomplished by LST 551 enroute to Pearl Harbor. The LST beached at these atolls without difficulty.

TASK GROUP

4. The Task Group 7.3 roll-up was largely a self-contained operation. The only material left in the forward area was the underwater detection installation at Eniwetok. The underwater system and hydrophones were left in place; equipment above water was mothballed and left in caretaker status. Underwater Detection Unit supplies and spare parts were loaded in BELLE GROVE with the Boat Pool equipment. Special equipment that had been installed in ships in the forward area, including much voice radio equipment that had been loaned to the Navy by other task groups or installed in ships for use by scientific or base facility's personnel, was removed and returned to its owners before ships left the area. Special equipment installations that had been made in naval shipyards prior to CASTLE, including the extensive communication installation in ESTES, were scheduled for removal when ships reached their home yards. The only ship to retain her special equipment was CURTISS, since she was already slated for employment in Operation WIGWAM. Ships were instructed to remove their BUSHIPS designed washdown gear, recondition it, survey unusable articles

and ship it to Naval Radiological Defense Laboratory in San Francisco for return to BUSHIPS custody

5. The return of ships and aircraft to their bases accomplished almost all of the task group personnel redeployment, since most of the over 6000 naval personnel who participated in CASTLE were members of ships' companies. BAIROKO returned with her assigned Marine helicopter squadron and fighter detachment aboard. BELLE GROVE transported Boat Pool personnel. Flag enlisted personnel who remained aboard ship throughout the Operation returned to the West Coast in CURTISS. Staff personnel who were transferred ashore to Parry Island when the headquarters was reestablished there after YANKEE were redeployed by air, along with UDU personnel. VP-29 flight crews returned to the United States with their aircraft; ground personnel and squadron gear were returned by fleet logistics flights and MSTS scheduled surface lift.

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IX

REDEPLOYMENT

1. The redeployment of task group units was accomplished very expeditiously. The last shot in the CASTLE series, NECTAR, was fired at Eniwetok on 14 May. On 18 May, NECTAR plus four days, the last ships sailed for home, with the exception of the Atomic Warfare Countermeasures Unit, YAGs 39 and 40, and MOLALA. They remained at Eniwetok an additional week, working to reduce the contamination on YAG 40 to levels low enough to permit her to sail for Pearl Harbor with a crew aboard.

EARLY DEPARTURES

2. Three units had left the task group early in the Operation. On 28 February, prior to the first shot, LST 825 completed approximately two weeks duty in CASTLE as a temporary replacement for LST 551 and sailed for the Far East. On 26 March, GYPSY, relieved by USS MENDER because of her urgent need for hull repairs, sailed for Pearl Harbor. LST 1146, temporary relief for LST 762 while the 762 effected repairs at Eniwetok, departed for Pearl Harbor on 4 April.

3. The next ship to be released was LST 762. She reported in the forward area early in the CASTLE buildup period on 13 July 1953 and under the operational control of CTG 7.2, supported the establishment of the Bikini site. On 12 April shortly after completion of the period of upkeep provided by the temporary assignment of LST 1146 she suffered a major casualty, fracture of a main propulsion shaft.

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Repairs could not be effected in the forward area. The resultant loss of speed and maneuverability virtually eliminated her further usefulness to the task group. For a few days prior to UNION she tended the HECTAR site at Eniwetok, supporting the scientific personnel engaged there in preparing for the HECTAR shot. By the time UNION was fired work on HECTAR had progressed to the point where an LCU could take over the shot site support duties. CTG 7.5 provided and LCU for the purpose, and arrangements were completed to release LST 762 from the Operation and assist her to Pearl Harbor. On one engine she could make a maximum speed of only 4.6 knots; at that speed she had difficulty holding her bow into a head sea. Since she would have to head into the seas during the entire voyage, another LST, enroute from the Western Pacific, was ordered by COMPHIBPAC to rendezvous with 762 between Eniwetok and Pearl Harbor and serve as escort. The rendezvous was effected, LST 975 joined 762, took her in tow to assist in holding her head into the seas, and the slow voyage to Hawaii continued. On 6 May, approximately 700 miles east of Bikini, both LSTs were slightly contaminated by radioactive fallout from YANKEE, averaging about 20 mr/hr. Both ships effected decontamination before their arrival at Pearl Harbor.

4. Next to leave were the RECLAIMER and SHEA. They had been ordered to the task group for the specific purpose of supporting the Bureau of Ordnance's mining project, 3.4. Since they had placed all their experimental mines in position on UNION, their mission was accomplished when they had completed recovery of the mines after the

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blast. All strings except the first one, nearest the zero point, were recovered by 3 May, and the two ships were released from the task group. RECLAIMER's early departure was desirable because she was due in the Far East to relieve a ship scheduled for rotation. She sailed from Bikini 4 May for Guam. At COMPHIBPAC's request she was diverted from a stop at Guam, but for three days followed the original routing assigned at the request of CTG 7.3 to keep clear of radioactive fallout from YANKEE. SHEA departed Bikini the afternoon of 3 May with her first scheduled stop at Kwajalein for fuel. While there she was assigned briefly to an SAR mission, joining the successful search for another missing British aircraft on 5 May, and then proceeded on to her base at Pearl Harbor. LST 1157, the third ship in this task element, remained behind to assist in the rollup.

5. PC 1546 completed her participation in Operation CASTLE at Rongerik Atoll on 5 May, with YANKEE the last shot in which she took part. Commencing with the third shot, KOON, the PC had been stationed in the atoll area to the east of Bikini at shot time, on varying missions. On both UNION and YANKEE she was at Rongerik with Air Force weather station and scientific project personnel aboard. This atoll, evacuated because of radioactive contamination after BRAVO, was still too "hot" for personnel to live ashore. Since weather data from Rongerik was vital, the station was operated by personnel who lived aboard the PC and went ashore periodically to take readings. On YANKEE, personnel of Project 6.6, operating an ionospheric recording

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station ashore, were also aboard. After YANKEE was fired on 5 May, PC 1546 proceeded to Kwajalein where CTG 7.3 relinquished her operational control. She disembarked her Air Force and Project 6.6 passengers there. After participating with SHEA in the search for the missing British aircraft she departed for her base at Pearl Harbor.

AFTER YANKEE

6. With YANKEE fired, test operations at Bikini Atoll were ended, and ships not required for rollup or for NECTAR were released. On 3 May TAWAKONI, her mission completed, took the now superfluous helicopter landing barge, YCV 9, in tow and departed Bikini for Pearl Harbor, where she was overdue for shipyard overhaul commencing 15 May. She was followed four days later on 12 May, by MENDER. On 13 May APACHE left Bikini for Pearl Harbor with YC 1061 in tow.

AFTER NECTAR

7. There were no further departures prior to the detonation of NECTAR at Eniwetok 14 May. Starting on that date, ships left daily until by 19 May the only ships remaining in the forward area were the YAGs and MOLALA. Six ships sailed from Eniwetok the day the last shot was fired. ESTES and CURTISS departed for San Francisco in company. It had been decided by CINCPAC that the security measures taken on CURTISS' outward voyage in January, anti-submarine escort, partial air cover and conditions of radio silence and darkened ship, were not required for her return. With her partial cargo of AEC

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material it was required only that she be accompanied to San Francisco by another surface vessel. ESTES was assigned. The two ships were formed into a task unit with Commanding Officer, ESTES the officer in tactical command, and completed the voyage without incident. CURTISS discharged her AEC cargo at the Naval Magazine, Port Chicago and at Naval Supply Center, Oakland, while ESTES continued on to San Diego to prepare for deployment to the Far East. AINSWORTH arrived at Eniwetok from Bikini on 13 May, embarked 9 cabin and 197 troop class passengers and departed on the 14th. for San Francisco. She was routed via Pearl Harbor where she reverted to normal MSTS employment for the remainder of the voyage. Three DDEs of Escort Destroyer Division TWELVE, EPPERSON, NICHOLAS and RENSHAW with the Division Commander in EPPERSON, sailed from Eniwetok the 14th. They rendezvoused next morning off Bikini with the fourth ship of the division, PHILIP, and sailed for Pearl Harbor to prepare for deployment to the Far East.

8. On 15 May LST 1157 completed her tasks at Eniwetok and Bikini and sailed for Kwajalein. Prior to her departure she loaded two boat pool LCMs for return to San Diego, the equipment from the navy recreation island at Bikini for return to COMSERVPAC, and building material provided by CJTF SEVEN for the construction of living quarters for the natives who had been evacuated from Rongerlap. The natives were to be re-settled temporarily on another atoll since Rongelap

was expected to remain uninhabitable for several months. Upon her arrival at Kwajalein LST 1157 reported to Commander, Naval Station Kwajalein to return the Utirik natives to their homes and transport the Rongelap natives to their new atoll.

9. On 16 May BAIROKO completed loading her VC-3 detachment, the Air Force fighter planes, helicopters and L-13s, and with 7 cabin and 46 troop class passengers, considerable Air Force cargo and TC 7.1 trailers aboard, sailed for San Diego. On 17 May LST 551 departed for Pearl Harbor via Kusaie, Ponape and Majuro, where she rolled up the JTF SEVEN weather stations. From Pearl Harbor she was routed to Oakland. At Oakland she offloaded weather station personnel and gear, then sailed for San Diego, the Panama Canal, Norfolk and her return to the Atlantic Fleet.

10. On 18 May BELLE GROVE took her departure. After YANKEE she had remained at Bikini with the Boat Pool until operations there were very nearly rolled up. On 12 May she turned the Boat Pool over to LST 1157 temporarily, loaded 2 LCUs, and cargo for Holmes and Narver and proceeded to Eniwetok. Arriving there on the 13th. she offloaded her cargo, took aboard an additional LCU plus a caterpillar tractor, crane and truck and left for Rongerik to rollup the weather station and ionospheric observation equipment there. She returned to Eniwetok on the 6th. of May, offloaded the Rongerik equipment, took aboard the Boat Pool boats, gear and personnel at both Bikini and Eniwetok, the Underwater Detection Unit equipment not left in place or in caretaker

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status and sailed for home on the 18th. Three Boat Pool LCUs were lifted by USS [redacted] (LSD-4) on 15 May for transportation to the Philippines.

11. Also on 18 May two more ATFs left the area, each with a tow. SIOUX picked up the Boat Pool covered barge, YFN 934, at Bikini and departed for Pearl Harbor. COCOPA departed from Eniwetok for Guam, towing the YO 120.

12. VP-29 completed its CASTLE mission 16 May with a final ocean area water survey flight for the ASC. The squadron redeployed to its base at Whidbey Island, Washington, commencing 21 May, with ground personnel and equipment returning by VR-5 special flights and by surface vessel. The two special project aircraft returned to the United States separately, the Project 6.4 P2V5 departing after YANKEE, on 7 May, and the Project 1.4 P4Y2 on 14 May. The PBM stranded at Ponape was turned over to CO, NavStaKwaj for disposition, the remaining PBM remained at Eniwetok under the operational control of CTG 7.4 until rollup was completed at the Ponape and Kusaie weather stations.

TU 7.3.6

13. This left CTG 7.3 with operational control of only three vessels, YAG 39, YAG 40 and their tender, MOLALA. Before their departure it was necessary to decontaminate YAG 40 sufficiently to permit her crew to man her for the voyage to Pearl Harbor where decontamination would be completed at the Naval Shipyard. Most YAG personnel had already received radiation dosages in excess of the

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3.9 R MPE; it was necessary to hold the accumulation of additional dosage to a minimum figure. Decontamination continued until on 26 May, with radiation readings in spaces the TG crews would occupy reduced low enough to permit sailing, the Task Unit departed Eniwetok.

STAFF

14. CTG 7.3 departed the forward area by air on 16 May. At Pearl Harbor he conferred with CINCPACFLT and staff personnel, then completed the flight to his Washington headquarters in the CJTF SEVEN staff aircraft. To provide continuity of command during the return period, the Chief of Staff and an advance party left Eniwetok by air early on 15 May on a Task Force special flight to Washington, where he reopened the headquarters and established CTG 7.3 administration pending the Task Group Commander's arrival. Remaining staff personnel returned to Washington on various flights, with the Liaison Officer the last to leave. He concluded the final staff business in the forward area and left Eniwetok on 23 May. Upon arrival of the staff in Washington work was begun immediately on the Task Group Final Report for Operation CASTLE.

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STATISTICS

Personnel Clearance Status

Helicopter Operations

Fighter Aircraft Operations

Patrol Squadron Twenty-Nine Operations

Boat Pool LCM Operations

Radiological Contamination of ships

Radiological Contamination of aircraft

Dosage Tables

Inter-Atoll Surface Lift

Communications Traffic Analysis

Costs

Status of Allotments

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PERSONNEL CLEARANCE STATUS OF SHIPS AND UNITS OF TASK GROUP 7.3 AS OF 1 MAY 1954

SHIP OR UNIT	"Q" GRANTED	"Q" PENDING	NAC COMPLETED	NAC PENDING	TOTAL
YAG 39	16	3	24	3	46
YAG 40	15	10	24	0	49
USS PHILIP (DDE-498)	13	1	256	0	270
USS EPPERSON (DDE-719)	11	1	380	0	392
USS RENSHAW (DDE-499)	10	0	259	0	269
USS NICHOLAS (DDE-449)	12	2	258	0	272
USS TAWAKONI (ATF-114)	9	4	66	0	79
USS MOLALA (ATF-106)	16	4	66	0	86
USS APACHE (ATF-67)	0	0	71	0	71
USS SIOUX (ATF-76)	7	4	74	0	85
USS BAIROKO (CVE-115)	63	13	781	26*	883
USS CURTISS (AV-4)	65	8	565	0	638
USS ESTES (AGC-12)	113	24	476	0	613
USS BELLE GROVE (LSD-2)	29	9	298	0	336
COMCORTDESDIV TWELVE	3	1	3	0	7
PATROL SQUADRON TWENTY-NINE	6	0	350	50*	406
COMPOSITE SQUADRON THREE	4	4	0	0	8
HMR-362	39	13	62	0	114
USNS AINSWORTH (TAP-181)	2	2	166	21*	191
MARINE DETACHMENT	37	7	22	0	66
UNDERWATER DETECTION UNIT	19	3	0	0	22
TG 7.3 BOAT POOL	32	16	169	0	217
USS MENDER (ARS-2)	0	0	17	50	67
TG 7.3 STAFF	48	5	0	0	53
USS PC 1596	6	2	49	0	57
USS SHEA (DM-30)	0	0	14	214	228
USS COCOPA (ATF-101)	6	4	71	0	81
USS LST 1157	5	0	175	0	180
USS LST 1146	0	0	99	0	99
USS LST 762	26	3	96	0	125
USS LST 551	17	3	85	0	105
YO	0	0	8	0	8
YOG	0	0	7	0	7
YOGN	0	0	12	0	12
TOTAL	629	146	5003	364	6142

* All personnel hold Interim Secret Clearance or Access to Secret pending results of National Agency Checks

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	JAN/FEB	MARCH	APR/MAY	TOTAL/AVERAGE
Aircraft assigned	12	11	11	11.3
Average in commission	11.7	10.3	9.4	10.4
Percent aircraft available	97.5	93.6	94.9	95.3
Flights	1123	730	825	2678
Hours flown	915	733.6	800.6	2449.2
Passengers carried	6062	4769	6862	17693
Cargo (pounds)	74555	24395	48555	147505
Accidents	1	0	0	1
Casualties	1	0	0	1

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FLYING SAFETY RECORD

	Jan/Feb	March	April/May	Total/Average
Aircraft assigned	6	6	6	6
Aircraft available	4.62	5	4.17	4.5
Percent aircraft available	77 %	83 %	69.5 %	75 %
Flights	150	81	74	305
Hours	159.9	119	110.7	389.6
Accidents	0	1*	0	1
Scrambles	4	0	0	4

* One F4D-5N made a one wheel landing under MVFR conditions as the result of two fractured hydraulic lines. Class "C" damage resulted with no injuries to the pilot.

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PATROL SQUADRON TWENTY-NINE OPERATIONS

TYPE FLIGHT	NO. OF FLIGHTS	HOURS FLOWN	NIGHT HOURS	DAY HOURS
CARGO & ADMIN	22	50.6	4.2	46.4
ASW	53	579.3	326.4	252.9
SURVEY	27	197.5	1.9	195.6
ESCORT	28	266.1	154.9	111.2
RECON	72	712.5	274.0	438.5
BUOY RECOVERY	4	36.6	1.7	34.9
BUOY EVALUATION	2	12.7	0.0	12.7
AEC HEALTH AND SAFETY LABORATORY SPECIAL PROJECT	8	86.3	3.8	82.5
TOTAL	216	1941.6	766.9	1174.7

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COMPOSITE SUMMARY OF TASK GROUP 7.3 BOAT POOL LCM OPERATIONS BIKINI ATOLL

Boat	Total Trips	Trips 7.1	Cargo/tons	Pass	Trips 7.3	Cargo/tons	Pass	Trips 7.5	Cargo/tons	Pass
33	1145	107	54.00	191	817	100.60	3510	219	295.0	723
34	840	208	78.00	538	540	115.50	2081	92	82.0	338
35	951	132	100.5	186	692	87.00	1779	127	83.5	135
36	1240	134	31.0	380	986	127.00	2940	120	118.5	158
37	474	296	2.0	388	174	1.00	237	4		14
38	1029	209	58.5	522	683	134.25	2045	141	224.0	245
39	754	113	21.00	302	489	36.50	3582	151	75.5	410
40	560	108	1.50	227	359	81.00	2189	93	140.0	93
41	937	176	80.50	421	640	80.50	3342	121	175.0	211
42	1339	224	75.50	700	870	172.25	3160	245	298.5	323
43	875	146	48.00	461	521	121.00	2215	208	322.5	477
44	1038	7		8	927	117.00	2570	104	88.5	101
45	752	62	33.25	109	614	13.00	1847	76	100.0	111
46	760	336	22.00	932	280	35.00	1247	144	227.5	207
47	863	116	9.70	268	442	48.30	2072	305	273.5	1093
49	608	62	14.00	112	417	43.50	2196	129	153.0	253
TOTALS	14164	2436	629.45	5745	9451	1313.40	37012	2279	2504.00	4842

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RADIOLOGICAL CONTAMINATION OF SHIPS

Contamination of ships at about time of release from Operation CASTLE

SHIP	HIGHEST mr/hr	AVERAGE mr/hr	DATE OF REPORT	DATE OF RELEASE
ESTES	1.5	1.0	14 May	14 May
CURTISS	1.8		21 May	14 May
BAIROKO	2.5		21 May	17 May
BELLS GROVE	6		16 May	18 May
AINSWORTH	.04	.01	20 May	19 May
EVERSON	3	Less than 1	14 May	15 May
PHILIP	1.1	.6	14 May	15 May
NICHOLAS	0	0	14 May	15 May
RENSHAW	.4	.06	14 May	15 May
PC 1546	.3		7 May	9 May
MENDER	1.5	1.0	16 May	16 May
COCOPA	20	Less than 1	Est. 16 May	17 May
SIOUX	15	1	16 May	17 May
APACHE	30	.2	14 May	16 May
TAWAKONI	.2		18 May	11 May
MOLALA	17	1	16 May	26 May
SUZA	1.2	.2	14 May	8 May
RACCLAIMER		Less than 1	Est. 16 May	7 May
LST 552	0	0	16 May	16 May
LST 762			Contaminated after being released from TG 7.3 enroute Pearl	4 May
LST 1157		Less than 1	Est. 16 May	17 May
LCU 637	200	6	16 May	14 May
LCU 638	110	35	15 May	15 May
LCU 1224	130	35	15 May	15 May
LCU 1225	110	30	15 May	15 May
LCU 1348	35	12	16 May	14 May
YFN 934	0	0	16 May	18 May
YC 1081		30	16 May	16 May
YCV 9	90		18 May	11 May
YO 120	0	0	16 May	15 May
YOG 61	0	0	16 May	16 May
YOGN 82	0	0	16 May	16 May

[redacted]

RADIOLOGICAL [illegible]

CONTAMINATION OF VP-29 PLANES AS OF 18 MAY 1954

PLANE NUMBER	HIGHEST GAMMA (MR/HR)	HIGHEST BETA + GAMMA (MR/HR)	AVERAGE GAMMA (MR/HR)	AVERAGE BETA + GAMMA (MR/HR)
126544	1.4	4.2	.8	1.5
126534	1.5	3	.7	1.4
126537	.4	1.5	.2	.6
126539	0	1	0	.6
126541	1.5	1.9	.2	.7
126543	.6	1.3	.4	.6
126532	4.7	4.9	2.5	1.3
126535	.3	1	.16	.4
126538	.9	2	.4	.7
126540	.2	1.2	.15	.5
126542	.2	1.5	.15	.4
126522	.35	3	.15	1.5

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TABULATION OF ACCUMULATED RADIOLOGICAL EXPOSURES OF TASK GROUP 7.3 PERSONNEL BY SHIPS AND UNITS AS OF 12 MAY 1954

UNIT	EXPOSURE IN ROENTGENS								
	0.0 to 0.999	1.0 to 1.999	2.0 to 2.999	3.0 to 3.999	4.0 to 4.999	5.0 to 5.999	6.0 to 6.999	7.0 to 7.8	Over 7.8
TG 7.3 Staff	10	47		1					
BAIROKO	412(-44)	238(+19)	67(+22)	50(-1)	67(-1)	8	1		
HMR-362		73(-7)	10(+1)	15(-4)	11(+5)	2(+1)			
CURTISS	682(-6)								
VP-29	388(-25)								
ESTES	116(-29)	376	124(+9)	17(+14)	11(+6)	7			
BELLE GROVE	4(-1)	272(-2)	28	20					
TG 7.3 Boat Pool	34	77	50	31	13	6	1	1	4
LST 762	74	26	10	2					
LST 551	103(+2)								
LST 1157	124 (-49)								
EPPERSON	198 (-85)	80(+73)	7(+7)						
NICHOLAS	267 (+1		1						
RENSHAW	221 (-1)	30	6						
PHILIP		36	103	87	32	2	1		
SHEA	299 (+27)								
PC 1546	33 (-2)	13(-11)	1						
GYPSY	1	32	29	1					
MENDER	63 (-2)	9							
RECLAIMER	93								
MOLALA	28 (-56)	35(+33)	14(+14)	1(+1)	3(+3)	3(+3)		1(+1)	
APACHE	65	12							
SIOUX	60 (-2)	5							
TAWAKONI	76 (-1)	1							
COCOPA	13 (-24)	42(+7)	15(+8)	8(+8)					
AINSWORTH	157 (-39)	28(-10)							
YAG 39	12 (-26)	5(-4)	6	5(+3)	4(14)	1(+1)	5(+5)	5(+5)	8(+8)
YAG 40	7 (-5)	4 (-11)	9(-10)	7(+5)	14(+12)	6(+6)	1(+1)	2(+1	1(+1)
TG 7.3 UDU	22								
Proj 6.4 aircraft	8								
Proj 1.4 aircraft	8								
VC 3	44 (+24)	(-23)							
TOTAL	3584	1496	495	244	155	35	9	9	13
% Total	59.34	24.77	8.20	4.04	2.57	0.58	0.15	0.15	0.22

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[illegible]

SHIP	DATE	FROM	TO	PASSENGERS	M/T CARGO LIFTED
LST 762	1 Jan	Bikini	Eniwetok	-	582
LST 762	5 Jan	Eniwetok	Bikini	-	448
LST 762	7 Jan	Bikini	Eniwetok	-	474
LST 762	10 Jan	Eniwetok	Bikini	-	525
LST 762	13 Jan	Bikini	Eniwetok	-	423
LST 762	16 Jan	Eniwetok	Bikini	-	504
LST 762	21 Jan	Bikini	Eniwetok	-	291
LST 762	26 Jan	Eniwetok	Bikini	-	405
LST 762	4 Feb	Bikini	Eniwetok	-	438
LST 762	7 Feb	Eniwetok	Bikini	-	168
LST 762	9 Feb	Bikini	Eniwetok	-	662
LST 762	18 Feb	Eniwetok	Bikini	-	83
BELLE GROVE	20 Feb	Bikini	Eniwetok	-	125
LST 825	20 Feb	Eniwetok	Bikini	-	172
LST 762	21 Feb	Bikini	Eniwetok	-	748
BELLE GROVE	21 Feb	Eniwetok	Bikini	-	675
LST 762	23 Feb	Eniwetok	Bikini	-	54
LST 825	23 Feb	Bikini	Eniwetok	-	740
LST 762	25 Feb	Bikini	Eniwetok	-	394
LST 762	2 Mar	Eniwetok	Bikini	-	104
LST 551	3 Mar	Eniwetok	Bikini	31	37
[illegible]	4 Mar	Eniwetok	Bikini	167	5

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INTRA-ATOLL SURFACE LIFT (Continued)

SHIP	DATE	FROM	TO	PASSENGERS	M/T CARGO LIFTED
LST 762	5 Mar	Bikini	Eniwetok	9	112
NICHOLAS	5 Mar	Bikini	Eniwetok	20	-
CURTISS	5 Mar	Eniwetok	Bikini	99	20
BELLE GROVE	6 Mar	Bikini	Eniwetok	17	-
BELLE GROVE	7 Mar	Eniwetok	Bikini	13	-
[illegible]	8 Mar	Eniwetok	Bikini	46	-
RENSHAW	8 Mar	Bikini	Eniwetok	22	-
PHILIP	8 Mar	Eniwetok	Bikini	32	-
PHILIP	9 Mar	Bikini	Eniwetok	16	-
RENSHAW	10 Mar	Bikini	Eniwetok	17	-
PHILIP	10 Mar	Eniwetok	Bikini	20	-
LST 551	11 Mar	Eniwetok	Bikini	21	10
LST 762	11 Mar	Eniwetok	Bikini	55	3
EPPERSON	11 Mar	Eniwetok	Bikini	27	-
PHILIP	11 Mar	Bikini	Eniwetok	22	-
LST 762	13 Mar	Bikini	Eniwetok	6	746
LST 551	13 Mar	Bikini	Eniwetok	3	78
RENSHAW	13 Mar	Eniwetok	Bikini	48	3
LST 551	14 Mar	Eniwetok	Bikini	-	68
LST 1146	14 Mar	Bikini	Eniwetok	-	127
LST 762	15 Mar	Eniwetok	Bikini	6	-
LST 762	16 Mar	Bikini	Eniwetok	-	115
LST 551	17 Mar	Bikini	Eniwetok	9	109

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INTER-ATOLL SURFACE LIFT (continued)

SHIP	DATE	FROM	TO	PASSENGERS	M/T CARGO LIFTED
LST 1146	18 Mar	Bikini	Eniwetok	1	-
LST 1146	19 Mar	Eniwetok	Bikini	2	5
LST 551	19 Mar	Eniwetok	Bikini	1	141
LST 1146	20 Mar	Bikini	Eniwetok	-	120
NICHOLAS	23 Mar	Eniwetok	Bikini	-	2
LST 551	25 Mar	Bikini	Eniwetok	5	198
LST 1146	26 Mar	Eniwetok	Bikini	-	25
CURTISS	27 Mar	Bikini	Eniwetok	81	-
LST 1146	28 Mar	Bikini	Eniwetok	-	207
LST 1146	29 Mar	Eniwetok	Bikini	-	110
BELLE GROVE	29 Mar	Bikini	Eniwetok	12	500
LST 551	30 Mar	Eniwetok	Bikini	3	1
NICHOLAS	31 Mar	Eniwetok	Bikini	17	-
RENSHAW	31 Mar	Bikini	Eniwetok	10	-
BELLE GROVE	31 Mar	Eniwetok	Bikini	10	60
LST 551	2 Apr	Bikini	Eniwetok	-	155
LST 1146	2 Apr	Bikini	Eniwetok	7	153
TAWAKONI	3 Apr	Bikini	Eniwetok	4	-
LST 762	7 Apr	Eniwetok	Bikini	32	72
BELLE GROVE	8 Apr	Bikini	Eniwetok	7	375
CURTISS	8 Apr	Bikini	Eniwetok	90	-
SIOUX	9 Apr	Bikini	Eniwetok	4	1
CURTISS	9 Apr	Eniwetok	Bikini	20	31

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INTER-ATOLL SURFACE LIFT (continued)

SHIP	DATE	FROM	TO	PASSENGERS	M/T CARGO LIFTED
AINSWORTH	11 Apr	Bikini	Eniwetok	162	2
AINSWORTH	12 Apr	Eniwetok	Bikini	-	7
LST 762	12 Apr	Bikini	Eniwetok	1	99
YAG 39	14 Apr	Eniwetok	Bikini	13	-
YAG 40	14 Apr	Eniwetok	Bikini	5	-
[illegible]	14 Apr	Eniwetok	Bikini	-	1
BALALA	14 Apr	Eniwetok	Bikini	5	-
[illegible]EO	14 Apr	Eniwetok	Bikini	4	-
LST 551	15 Apr	Eniwetok	Bikini	18	9
LST 551	20 Apr	Bikini	Eniwetok	-	375
[illegible]	23 Apr	Bikini	Eniwetok	-	1
LST 551	26 Apr	Eniwetok	Bikini	24	22
PHILIP	28 Apr	Bikini	Eniwetok	42	2
RENSHAW	28 Apr	Eniwetok	Bikini	24	-
BELLE GROVE	30 Apr	Bikini	Eniwetok	14	103
LST 551	30 Apr	Bikini	Eniwetok	-	5
Belle Grove	1 May	Eniwetok	Bikini	-	89
CURTISS	7 May	Bikini	Eniwetok	3	81
RENSHAW	8 May	Bikini	Eniwetok	2	4
BELLE GROVE	11 May	Bikini	Eniwetok	9	-
TOTALS				1,359	12,560

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ELECTRONIC TIME TRAFFIC ANALYSIS

Incoming	2036
Outgoing	1219
TOTAL	3255
Daily Average Incoming	68
Daily Average Outgoing	46
Classified Messages	44 %
Emergency	00 %
Operational Immediate	18.4 %
Priority	41.3 %
Routine and Night Messages	40.3 %

AFWL/HO [redacted]

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COSTS

COST OF TASK GROUP 7.3 - PERIOD 7 APRIL 1954 THRU 15 MAY 1954

Travel and Per Diem	$23,915.00
Telephone and Utilities	none
Military Pay	1,543,714.00
Office Supplies	5,639.00
Alterations of Ships	30,000.00
Radiological Defense	400.00
Land Improvement	none
Buoy Project (Coast Guard)	none
Documentary Photography	none
Transportation of Baggage	325.00
General Stores Items for Ships	260,241.00
Fuel and AvGas	168,297.00
Provisions (Food), General Messes	312,289.00
Rehabilitation of VP-29 living quarters	17,000.00
	2,361,820.00

CUMULATIVE TOTAL COSTS TASK GROUP 7.3 - THRU 15 MAY 1954

Travel and Per Diem	59,289.00
Telephone and Utilities	3,500.00
Military Pay	4,903,955.00
Office Supplies	8,294.00
Alteration of Ships	115,230.00
Radiological Defense	12,000.00
Land Improvement	4,500.00
Buoy Project (Coast Guard)	12,000.00
Documentary Photography	2,700.00
Transportation of Baggage	700.00
General Stores for ships	459,111.00
Fuel and AvGas for Ships	823,555.00
Provisions (General Mess)	808,174.00
Rehabilitation of VP-29 living quarters	17,000.00
GRAND TOTAL	7,229,978.00

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AFWL/HO

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STATUS OF ALLOTMENTS RECEIVED FROM JOINT TASK FORCE SEVEN AS OF

15 MAY 1954

ARMY APPROPRIATION 2142020 M&OA 1954

DESCRIPTION	RECEIVED	OBLIGATED	EXPENDED	UNOBLIGATED
Travel	61,000.	59,289.87	21,049.63	1,710.13
Transportation of Things	1,000	700.		300.00
Communications	2,000			2,000.
Task Group Overhead	400	300.		100.
Modification of Ships	115,200	85,200.	80,200.	30,000.
Land Improvement	4,500	4,500		
Documentary Photography	3,000	2,700	185.25	300.
Radiological Defense	13,300	13,000	11,600.	300.
Buoy Project (Coast Guard)	12,000	12,000	12,000.	
TOTAL	212,400	177,689.87	125,034.88	34,710.13

Note 1 34,710.13 of the unobligated balance returned to CJTF SEVEN on 31 May 1954 as excess to Task Group 7.3 requirements.

STATUS OF BUSHIPS FLAG ALLOTMENT NUMBER 42299/54 HELD BY THE SUPPLY OFFICER, USS BAIROKO (CVE-115) AS OF 15 MAY 54

Received	4,800.
Obligated	200.
Expended	4,200.
Unobligated Balance	400.

STATUS OF THE BUREAU OF SHIPS BOAT POOL OUTFITTING ALLOTMENT HELD BY SUPPLY OFFICER, U.S. NAVAL AMPHIBIOUS BASE, CORONADO, SAN DIEGO, CALIFORNIA, AS OF 15 MAY 1954 (1954 ALLOTMENT NUMBER 44002)

Received	165,000.00
Obligated	1,825.00
Expended	162,449.55
Unobligated Balance	725.45

Note 2 This allotment will be reported to CJTF SEVEN by Bushipe and is not reflected in CTE 7.3 Cost Report

FWL/HO

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XI

PERSONNEL ROSTER

Commander and Staff of Task Group 7.3

RADM H. C. Bruton, USN	Commander
CAPT R. Rutherford, USN	Chief of Staff
LCDR R. F. Madden, USNR	Flag Lieutenant & Aide

N-1

LCDR A. C. Dragge, USN	Flag Secretary
YNC C. R. Howard, USNR	Personnel Officer

N-2

CDR R. A. Klare, USNR	Intelligence-Security

N-3

CDR M. S. Schmidling, USN	Plans & Operations
CDR W. A. Clark, USN	Asst. P & O (Air)
LCDR D. A. Pickler, USN	Asst. P & O (Atomic Defense)
LCDR L. I. Estep, USNR	Asst. P & O (Asst Atomic Defense)
LCDR C. P. Carlson, MC, USN	Medical Officer
Mr. Seymour Gordon	Civilian Consultant on Radiological Defense

N-4

CDR D. Bonteecu, USN	Logistics Officer
CDR F. D. Muir, Jr., SC, USN	Supply Officer

N-5

LCDR J. B. Johnson, Jr., USN	Communications Officer
LTJG B. O. Yelverton, Jr., USNR	Asst Comm Officer
LTJG A. W. Sears, USNR	Asst Comm Officer
LTJG J. D. Engels, USN	Asst Comm Officer

Flag Allowance, Task Group 7.3

N-1

SIMPSON, James D., YNSN	HANSEN, Alan C., YN2
PILARDI, George J., SN	JONES, Thurman D., SN
DOLL, Jack A., YNSN	THOMPSON, James M., YNSC
FRYDAK, Joseph F., YN2	WILLIAMS, Charles W., YN1

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XI

K-2

THOMPSON, Gene, YN2

K-3

BRASWELL, John D., Jr., BM1
METCALF, Edwin M., YN2
WOCK, James E., ET3
TEMPLETON, Edward J., YN2
THACKER, Noah D., Jr., ET1
WALTER, Martin L., QMC

K-4

TAYLOR, Carroll A., YN1
TIMMIS, Robert L., SKC

K-5

LAYHOFF, Paul R., BM1
GREENWOOD, Manford A., EMC

Admiral's Barge Crew

JONES, Francis E., BM1
SASS, Oren K., RM3
TORRES, Samuel (n), FN
VAN HOOKER, Bruce E., SF

Staff Gig Crew

FOX, Stanley W., RM3
GURNEY, Myron D., BM2
WRIGHT, David L., SN

Stewards

BROOKS, James D., TM
BROWN, Drue P., SN2
CEPEDA, Jose C., SD3
FLORES, Johnny C., SPC
FRANI, Canuto T., TM
MACSULE, Reynaldo M., SN2
PARTIN, Robert (n), TM
VERSOZA, Aurellano (n), SD3

Communications Personnel

BALDIZZONE, Joseph (n), TM3
BARRIFORD, George H., RM2
CHESNEY, George E., RMC
DALLMANN, Keith W., TM3N
FOLWELL, John H., Jr., RM2
HARDY, Howard J., TM2
HODGETTS, Ashmore S., TM2
NUCKOLS, Bobby J., RM3
RALSTON, Billy J., TM3
RUSSELL, Jack F., RM3
TERRY, Kenneth M., RMSN
VAN HORN, James R., TM3
VAN STONE, Charles C., RMSN
VORCE, Donald G., RM2
VOSHELL, George O., Jr., QM2
WEIMER, Robert E., RM2

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LT W. O. Wilson, USN	CO, USS COCOPA (ATF-101)
LT R. F. Reed, USN	CO, USS MOLALA (ATF-106)
LT K. V. Laughlin, USN	CO, USS LST 825
LT T. A. Casey, USN	CO, USS APACHE (ATF-67)
LT W. R. Brooks, USNR	OinC, MODU-One
LT T. B. Hurst, USN	CO, USS SIOUX (ATF-75)
LT R. O. Wilson, USN	CO, USS GYPSY (ARSD-1)
LT J. O. Bachert, USN	CO, USS LST 762
LT R. A. Bowrer, USN	CO, USS TAWAKONI (ATF-114)
LT R. G. Hansenbach, USN	CO, USS LST 551
LT B. B. Garlinghouse, USN	CO, USS PC 1546

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