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DEPARTMENT OF ENERGY DECLASSIFICATION REVIEW	
1ST REVIEWER DATE 9/16/94	DETERMINATION (CIRCLE NUMBER(S))
AUTHORITY: DACC WAC 1000	1. CLASSIFICATION RETAINED
NAME: W. M. Matheson	2. CLASSIFICATION CHANGED TO:
2ND REVIEWER DATE 6-12-94	3. CONTAINS NO DOE CLASSIFIED INFO
AUTHORITY: WJ	4. COORDINATE WITH:
NAME: J. L. Co	5. CLASSIFICATION CANCELLED
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HEADQUARTERS
 TASK GROUP 7.1
 Joint Task Force SEVEN
 P. O. Box 1643
 Los Alamos, New Mexico

LES REDMAN
 2. MAIL & RECORDS

15 February 1957

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Hardtack

J3-H-58

SUBJECT: Major Military Support Items for Operation HARDTACK

TO: Commander
 Joint Task Force SEVEN
 Washington 25, D. C.
 ATTN: Brig Gen Perry B. Griffith

~~This material contains information affecting the national defense of the United States within the meaning of the espionage laws Title 18, U. S. Code, Sections 793 and 794, the transmission or revelation of which in any manner to an unauthorized person is prohibited by law.~~

1. Reference is made to the following letters which have been issued previously and are pertinent to subject of military support for Operation HARDTACK.

a. Confidential letter, Headquarters JTF SEVEN, file J-3/300.6, 3608, subject: Conference on HARDTACK Military Support Requirements, dated 21 December 1956. This letter announced the 20 February 1957 major military support conference.

b. Secret letter, Headquarters JTF SEVEN, file J-3/300.6, S-20-57W, subject: Visit of Colonel E. A. Lucke, USA, and Colonel Robert H. Gattis, USAF, to JTF SEVEN Headquarters, dated 28 January 1957. This letter established the agreed policy that Headquarters AFSWP would be responsible for determining the items of military support required for the DOD effects and scientific programs of Operation HARDTACK and would present these requirements at the 20 February conference. At such time as the AFSWP programs are passed to Field Command for implementation, requirements will then be processed through Headquarters, Task Group 7.1.

c. Confidential letter, Headquarters Task Group 7.1, file LS-401, SP-DO 1012, subject: Vehicles, Operation HARDTACK, dated 1 January 1957. This letter forwarded TG 7.1 vehicle requirements for Operation HARDTACK.

d. Confidential letter, Headquarters Task Group 7.1, file J-150-188, subject: Sampling Requirements for HARDTACK, dated 4 February 1957. This letter from Dr. Felt to RAD: Hanlon forwarded and referred to copies of correspondence concerning TG 7.1's requirement for sampler aircraft.

e. Confidential letter, Headquarters Task Group 7.1, file J3-H-25, subject: Service Craft Requirements for Fiscal Year 1958, dated 26 December 1956.

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f. Secret ED letter, UCRL, file COPAA-311, subject: Modification of Support Requirements, dated 11 February 1957. This letter concerning nuclear cloud radiochemical sampling technique by utilizing rockets, from Dr. Johnson to RADM Hanlon through Dr. Felt, set forth the requirement for a fast ship to be used in support of the project. Ship to be employed in the post-shot location and retrieving of the nose cones from the sampling rockets.

2. In evaluating and determining the major military support items required for Operation HARDTACK, this Task Group's recommendations are based on the following assumptions:

a. Operationally, HARDTACK will be similar to REDWING but it is expected that the scope, both in numbers of weapons and devices to be fired and the range of yields, will be greater.

b. The capability of conducting operations from afloat at BIKINI must be maintained.

c. The dual capability of simultaneous firings at both atolls is planned.

d. The evacuation of Task Group 7.1 personnel from the ENIWETOK Atoll on an emergency basis must be provided for.

e. Off-atoll sites and participation may be equal to or greater than on REDWING.

f. For planning purposes, Task Group 7.1 participation and numbers of personnel at both atolls will be approximately the same as on REDWING.

3. The following is a discussion which includes the proposed utilization and justification for certain major items of military support which are required by Task Group 7.1:

a. A requirement exists for a ship which will serve as Task Group 7.1 Command Ship while conducting operations afloat at BIKINI. Adequate space such as shops or large staterooms must be available which can be converted to serve as offices for approximately twelve staff sections and task units. It should have quartering capability for an estimated 70 cabin class TG 7.1 personnel and a lesser number of troop class accommodations. Suitable space, both as to size and location, must be available to install the timing and firing equipment required aboard. Power requirements for the Control Station for Operation REDWING were 10 KW, 115 volts AC single phase. So that EG&G could guarantee the equipments' operation, this power came directly from the ship's generating plant and was independent of the ships distribution system. Air-conditioning was required, and will be again, whereby the temperature of the Control Room was reduced to 80° F and 60 percent relative humidity. Also the ship must serve as the TG 7.5 Communication Center and Coding Center afloat.

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For Operation REDWING, the above and other requirements necessitated extensive modifications and installations shipboard. As a result, the USS CURTISS (AV-4) received these alterations and served as the TG 7.1 Command Ship for REDWING. Considerable time and funds were expended to fit her out which undoubtedly will have to be accomplished again in the event another ship is supplied. Therefore, in the interest of economies, it is the recommendation of this Task Group that the USS CURTISS be obtained for this same purpose for Operation HARDTACK.

b. The Task Group has a requirement for a ship for the purpose of moving HARDTACK classified devices to and from the EPG. Suitable booms, elevators, and storage space for this classified material must be available. A detailed stowage requirement can not be made at this time as the cubages and tonnages of the material to be moved are not known at this time. For REDWING the USS CURTISS (AV-4), also filled this requirement and from what is presently known would also be entirely adequate for HARDTACK. Some past modifications and alterations have been made on the USS CURTISS to facilitate this mission.

c. Also there must be a ship present at BIKINI Atoll on which to base the Marine helicopter squadron and from which during afloat operations, conduct evacuation and re-entry-recovery helicopter activities. For Operation HARDTACK no extensive modifications or permanent installation are visualized at this time. It will require, however, a personnel decontamination facility. This includes outside showers (salt water) with overside drains and a clothing change station. TG 7.1 peak population quartered aboard the CVE during REDWING was 68 cabin class and 17 troop class spaces.

d. A ship is requested by TG 7.1 for the movement of shot barges between atolls. For REDWING the USS CATAMOUNT (LSD-17) was assigned. Due to the suitability and configuration of an LSD it is considered that again this type of ship be assigned for Operation HARDTACK.

e. In all probability the ship assigned as TG 7.1 Command Ship will not be able to accommodate the bulk of the TG 7.1 and other Task Force personnel at BIKINI during periods afloat. For that reason, a ship of the T-AP type is required. For REDWING, the peak number of TG 7.1 personnel who were quartered aboard the USNS AINSWORTH (T-AP-181) was 225. The AINSWORTH was entirely satisfactory and would be highly desirable for Operation HARDTACK. This ship also served as the TG 7.5 Command Ship.

f. At ENIWETOK Atoll provision must be made for the emergency evacuation of TG 7.1 personnel from the atoll in the event of natural disaster or contamination from fallout. Unlike Operation REDWING, the necessity to have the capability of firing medium and large yield devices at both atolls restricts the use that can be made of the ships stationed at BIKINI. From discussions on this subject it would appear that a ship of the APA type, on a rotational basis, would adequately satisfy this requirement. For Operation REDWING, TG 7.1 population at ENIWETOK reached a maximum of 1000.

g. During REDWING, in contrast to the CASTLE operation, the commander TG 7.1 and certain of his key scientific personnel were required to do extensive traveling between ENIWETOK and BIKINI Atolls as shots were readied and as problems developed which required their immediate and personal attention. The

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scheduled inter-atoll airlift was used for their movement the majority of the time, and such airlift would be used again to the maximum extent. However, with the increased number of shots scheduled for HARDTACK, it is believed that the requirement for expeditious movement of key TG 7.1 personnel will be increased. Therefore, though maximum use of the routine airlift will be made, access to some suitable aircraft should be granted CTG 7.1 when the scheduled inter-atoll airlift can not satisfy his movement requirements.

h. Other requirements which are of vital concern to this Task Group, but are the responsibility of other Task Groups have in part been covered in the reference letters. Nevertheless, for completeness, these are reiterated in the inclosed summary of military support items for Operation HARDTACK.

4. More detailed support requirements, which will be necessary for the various scientific programs and projects, will be forwarded as more firm planning information becomes available. However, currently proposed firing series, even at this time, indicates that some auxiliary fields of support requirements will be greater than on REDWING. Examples are:

a. The requirements for sample return flights.

b. The requirements for MATS and MSTs support for both the build-up and operational phases.

5. Shown in Section IV of Inclosure 1 are the support items required by the DOD projects. As stated in paragraph 1.b. above, these requirements have been assembled by Headquarters, AFSWP for presentation at the 20 February 1957 requirements conference. Headquarters, AFSWP pointed out that no detailed evaluation had been made of the requested support. cursory examination leads one to believe duplication or over-lap may be present. Examples of such are particularly helicopters and boat pool craft. Undoubtedly, some of these requirements can be satisfied by support provided TG 7.1 as a whole. As soon as the program support can be examined, over-all requirements will be adjusted where possible.

6. Attached as Inclosure 1 is the summary of military support items for HARDTACK which are required for the support of TG 7.1. It is requested that this Headquarters be kept informed on the status and action taken in regard to these items.

FOR THE COMMANDER:

E. A. Lucke

E. A. LUCKE

J-3

Plans & Operations

1 Incl

Summary of Military Support
Items for Operation HARDTACK

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MAJOR MILITARY SUPPORT ITEMS - OPERATION HARDTACK

I Ship Support

<u>Type</u>	<u>Number</u>	<u>Purpose</u>
AV (USC CURTISS)	1	TG 7.1 Command Ship, afloat Timing and Firing Station, TG 7.5 Communication Center, support certain experimental programs and projects, to house key TG 7.1 personnel afloat, and as a Weather Station.
---	1	Transportation of classified devices and materials to and from the LPG.
CV	1	Helicopter base, base and housing for early Re-entry- Recovery personnel, RadSafe control point for personnel decontamination facility.
T-AP-161 (USNS AINSWORTH)	1	TG 7.5 Command Ship, RadSafe Laboratory and Center, housing for TG 7.1 and other Task Force personnel.
LSD	1	Barge lift, Boat Pool base and possible Telemetering Station.
APD	1	Inter-Atoll water transport of personnel and cargo and possible Telemetering Station.
LST	2	Inter-Atoll personnel and cargo transport.
LST	1	Off-atoll scientific, weather and RadSafe personnel and cargo transport.
ATF	1	Towing of support craft (YCV, BC, YC) at BIKINI Atoll.
DD	1	Recovery vessel for Nose Cons of Rocket Samplers. If vessel is rotated, provision must be made to install shipboard equipment on another DD. Reference paragraph 1.f. of basic letter.
APA	1	Emergency evacuation of personnel at ENIWETOK.

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Ship Support (Cont'd)~~SECRET~~

<u>Type</u>	<u>Number</u>	<u>Purpose</u>
YCV	2	Serve as helicopter platform at shot barge sites. Reference paragraph 1.e., basic letter.
WC	1	Radioactive sample packaging facility. Reference paragraph 1.e., basic letter.
BC	1	RadSafe Barge - BIKINI. Reference paragraph 1.e., basic letter.
Boat Pool (M&N)	2	To provide surface transportation at ENIWETOK and BIKINI.
Boat Pool (Navy)	1	To provide joint (M&N & Navy) surface transportation at BIKINI.
DUMs	15	Support scientific projects.
LCUs	10	Houseboats. Reference paragraph 1.e., basic letter. This requirement is subject to revision when shot schedule and shot distribution is firmed up.

II Air Support

Helicopters-BIKINI	15	Inter-Island airlift, re-entry-recovery, evacuation, RadSafe surveys.
Helicopters-ENIWETOK	10	Inter-Island airlift, re-entry-recovery, evacuation, RadSafe surveys.
L-20	8	Inter-Island air transportation. Based on traffic load, three may be utilized at BIKINI prior to required evacuation.
C-54	3	Inter-Atoll air personnel and cargo transportation. Based on traffic load, C-123 aircraft on TDY from TAC will be used to augment cargo capability.
SA-2-120 equivalent	3	High priority cargo and personnel air lift to Off-Atoll sites and at BIKINI Atoll if required. This is in addition to SAR requirements.

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Air Support (Cont'd)

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<u>Type</u>	<u>Number</u>	<u>Purpose</u>
B-57	10 B-57E 4 B-57D	Radioactive cloud sampling aircraft. Reference paragraph 1.d., basic letter
Staff Aircraft	1	Support aircraft to meet requirement of CTG 7.1 and key personnel for rapid and unscheduled inter-atoll transportation. Would be on "As Required" basis and not assigned exclusively to this mission.

III Vehicular Support

Truck, 1/4 ton M38A1	148	TC 7.1 Motor Pool at ENLWETOK and BIKINI. Vehicles are to be ready for issue to TC 7.1 no later than 1 January 1958. Reference paragraph 1.c., basic letter.
Truck, 3/4 ton, M-37 w/o winch	76	
Truck, 3/4 ton, M-37 w/winch	28	
Truck, 2 1/2 ton, M-211, w/o winch	12	
Truck, 2 1/2 ton, M-211, w/winch	12	
Trailer, 1/4 ton, M-100	3	
Trailer, water, 1 1/2 ton	6	
Truck, tractor, 5 ton, 6x6	3	
Truck, apparatus, decontamination 2 1/2 ton, 6x6	4	
Truck, 1/2 ton pick up (Commercial Type)	28	

IV DDO Support

Army

YFIS

1

Required as a maintenance and support barge for the Army Bubble Screen project.

Helicopters

6

The breakdown of these are as follows:

2-radiochemistry and fallout
2-neutron flux results
2-mine fuses

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DOD Support (Cont'd)

<u>Type</u>	<u>Number</u>	<u>Purpose</u>
<u>Navy</u>		
DD	3	Target Ships
YC	3	" "
LCM	3	" "
YFNB	6	" "
EC-2 (Liberty Ship)-	1	" "
SQUAW	2	" "
Additional Ships of Unspecified Type	2	" "
LCU	3	Target ship and air net support requirements
LCM	12	" " "
APL	1 or 2	" " "
YFB	3	" " "
YFNB	3	" " "
YC (Deep water moorings)	12	" " "
LSD	1	" " "
ATF (3 full and 3 part-time)	6	" " "
LST (mine field array)	1	" " "
ARAD, ARA, or ARL	1	" " "
AN	1	" " "
Helicopters	8	" " "

Air Force

Normal courier of post-shot samples. Up to 10 helicopters per shot for instrument and sample recovery.

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DOD Support (Cont'd)

VHA Shot

A ship is required for the telemeter receiver station. It must have space on or below deck for four vans, each $3\frac{1}{4}$ feet by 8 feet by 12 feet, weighing 15,000 pounds each. Also space to mount 12 foot radar dish with 360° clear overhead from 30° to 90° elevation.

UHA Shot

Not too much is developed on this shot as yet. However, it is estimated that it will undoubtedly require:

2 to 3 DD's for instrument recovery and radar tracking.

4 to 6 HRS helicopters for instrument search.

1 ship to lift helium

and may need two aircraft carriers if it planned to launch instrument balloons. If balloons are not used, the helicopters will not be required.

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