USS ARLINGTON (AGMR2)

C/O FLEET POST OFFICE
SAN FRANCISCO, CALIFORNIA 96601

IN REPLY REFER TO
AGMR2/ 03:wn
3000
Ser: 2846
30 DEC 1968

From: Commanding Officer, USS ARLINGTON (AGMR-2)
To: Commanding Officer, USS YORKTOWN (CVS-10) (CTG 130.1)

Subj: Ship's SUMREP of the Apollo 8 recovery

Ref: (a) COMHAWSEAFRON OP PLAN 305-67, Annex R, Appendix II
(b) CTG ONE THREE ZERO PT ONE 260356Z DEC 68

1. As listed in reference (a) the following items were accurately determined during the Apollo 8 recovery:

a. Ship name: USS ARLINGTON (AGMR-2)

b. Location of ship at predicted land time: 8°-22.2'N latitude and 165°-03'W longitude.

c. Time and range of first radar contact with CM: No radar contact.

d. Time of first contact with VHF voice transceiver (296.8 or 259.7 MHz): 271547Z.

e. Time of CM landing: 271551Z.

f. Time swimmers or pararescue men deployed to CM: 261636Z.

g. Time of first visual contact with CM: 261600Z.

h. Wind direction/velocity at pickup: 025/18 KTS.

i. Cloud cover: Broken at 9/10 - Stratus at 2000 feet.

j. Air temperature: 77°.

k. Water temperature: 83°.

l. Wet bulb temperature or relative humidity: 74.

2. Items not listed could not be accurately determined.

3. In accordance with reference (b) the following specific information relative to Communications performance is submitted: Communications performance during Apollo 8 recovery (18 Dec - 27 Dec) was initially very marginal; however, by splashdown time, after extensive testing and selection

ENCLOSURE(2)

of the best Communication arrangement available, Communications for the "Big THREE" voice circuits, primary command and control, NASA coordination, and Communication coordination, were excellent to outstanding. The primary command and control and Communication coordination circuits were in continuous use throughout the recovery period and no problems were encountered. Difficulties began on the NASA coordination circuit after the splashdown and the capsule was approximately 4600 yards from YORKTOWN. This circuit was later restored and continuous progress reports made via this circuit. One important problem experienced throughout the operation was coordination. The ground rules established for the operation of all the circuits were sometimes not fully understood, and at times ARLINGTON was called on circuits which were patched directly through and could not answer up without breaking the patch. The Teletype Communication coordination circuit did not provide the immediate response of stations which was needed to maintain maximum circuit continuity. Trouble-shooting procedure could have been improved to determine by fastest means where circuit difficulties were located. ARLINGTON continuously employed one man on each voice circuit to monitor transmissions and immediately report any difficulty to control. He also reported whenever a station did not answer a call so the station could be informed. However, a voice circuit for this would have been preferable to the Teletype circuit. Illustrating this, a UHF voice orderwire was established between YORKTOWN and ARLINGTON to facilitate coordination between the two ships. This circuit remained in effect throughout the recovery and was an invaluable assist in maintaining circuit continuity. The problem of end users not always answering up on circuits was often traced to the circuit not being continuously manned. Although it may not have been feasible to have one man for each circuit, this would have significantly assisted in maintaining circuit continuity and lessening confusion. Another initial problem was noise on the voice circuits extended from YORKTOWN through ARLINGTON. The trouble was isolated in the H-F transmissions from the YORKTOWN. UHF links were therefore substituted on two of the three voice circuits and the problem was eliminated. Although even in the final days of the recovery operation Communications were still sometimes troubled by the end users not answering on the circuits and also by noise on the circuits, these problems were at least minimized after the above mentioned steps were taken. Communications with the USS COCHRANE were usually good, even though the COCHRANE was at times almost 500 miles from the ARLINGTON. There would have been less outage if the COCHRANE-ARLINGTON circuit had been full duplex vice simple however, COCHRANE's heavy equipment commitments for other circuits did not permit this. Another problem was frequency coordination which had to be accomplished over the task group common tactical circuit whenever negative contact was experienced. It would have been a great assist if COCHRANE could have been made a subscriber to Hi-Com; however, once again, equipment limitations precluded. On the most important day of the recovery operation, the splashdown day, Communications were excellent. All the previous testing and trouble-shooting obviously paid off. One factor contributing to the success on the day of the splashdown was that the ATCU 100A on the YORKTOWN was put in standby, thus allowing the Communicators

both on the YORKTOWN and at NAVCOMSTA HONO to concentrate full attention on the AGMR circuits. Even though maximum reliability may have been assured by the planned simultaneous operation of the ARLINGTON and the ATCU, the added attention to the AGMR circuits at the time of the splash-down certainly cannot be discounted as an important factor contributing to the excellent quality of the circuits. At times, Communications during this period were frustrating for the ARLINGTON when problems which were experienced during this critical time were traced to end users. It was frustrating to know that a good circuit was being relayed through ARLINGTON and that only minor troubles at the end stations made the circuit unusable. The Apollo 8 recovery Teletype circuits were usually excellent; however, the Press Teletype channel seemed to suffer more than the ship's traffic channels. Reason for this is unknown; however, it would have been a great assist if additional channels had been available for Press, including the ship's traffic channels. ARLINGTON's GPT-10KLF low frequency transmitter was utilized a great deal and NAVCOMMSTA HONO often relied upon the 436 KHZ frequency during night-time hours when the high frequencies were troublesome. The ARLINGTON's SYNCOM terminal was not used during recovery operations. It was fully operational both send and receive, and was in a ready-to-use condition at all times should it have been needed. The fact that it was not utilized should speak well for the quality of the other voice circuits.

A. P. CARPENTER