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WASHINGTON, D.C.

THE NRO STAFF

1 September 1971

MEMORANDUM FOR DR. MCLUCAS

SUBJECT: Evaluation of Project TANGIBLE and Plans for Project
ROPEVALEvaluation of Project TANGIBLE

Our initial NRO evaluation of Proj TANGIBLE showed that satellite ELINT intercepts could be reported to the Navy Fleet Ocean Surveillance Information Facility (FOSIF) with an average time from observation to report of two hours and five minutes. After compiling this statistical data on the performance of the NRO satellites, we planned to make, in collaboration with First Fleet and other Navy staff elements, an operational evaluation of TANGIBLE. The satellite reports were to be compared with the actual locations of ships in the maneuver as compiled by the Navy. This operational evaluation has encountered difficulties. There is simply not enough fine structured data for rigorous correlation of the satellite reports with the ship locations. Neither is there sufficient data to permit comparisons of the timeliness and accuracy of the satellite inputs versus other sensors which participated in the exercises. For these reasons and after considerable effort by the NRO Staff, I believe we should discontinue our efforts at further evaluation of the TANGIBLE data.

Cdr Caswell's report on the evaluation work so far is at Tab A. Working with plots of the ship locations (about 20 out of 40 participating ships) provided by the First Fleet, we have made the following findings:

- a. Of 158 reports of Navy emitters made by the satellites 122 reports were correlated with ship locations.

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b. Individual ships were not successfully tracked from day to day. This was probably caused by the relatively low frequency of observations (about two per day over the 10-day period of the maneuver).

c. There were more ships in the area than were reported by the satellites; however, the Navy did not maintain detailed ship's logs of radar operating time, so there is no way to be sure whether we saw all the radars that were on the air.

d. Similarly we cannot account for emitters reported by the satellites but uncorrelated with the ship locations furnished by the Navy. These "extra" reports may be real ships in the maneuver which were not plotted by the Navy.

Plans for Operation ROPEVAL

The next First Fleet exercise, Operation ROPEVAL, begins the second week of September and lasts for two weeks. The maneuver area extends from Midway across the Pacific to the West Coast. Of interest to us, the Fleet Staff will be ashore in the FOSIF at Treasure Island. We have direct communications from to the FOSIF. Our expectations for this exercise are somewhat different from, and shaped by, our experience in TANGIBLE, as follows:

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a. TRIPOS/SOUSEA will cover the Pacific Coast portion of the maneuver area with wide-swath rapid reporting by direct transpond to Vandenberg Tracking Station. No TRIPOS/SOUSEA reports will be available farther West, because we have no rapid reporting capability from Hawaii or Guam for TRIPOS/SOUSEA. We will not be demonstrating the capabilities of URSALA, scheduled for launch next Spring, will have the wide swath with rapid reporting for the entire area.

b. STRAWMAN IV will participate, but its 200 mile wide swath will not give very comprehensive coverage of the large maneuver area. We can double the number of STRAWMAN accesses by calling up STRAWMAN III from caretaker status for the duration of Operation ROPEVAL at a budgetary increase of \$27,000 per month. Assuming we would need the equivalent of one month's

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