

DEPARTMENT OF THE NAVY  
NAVAL SECURITY GROUP COMMAND HEADQUARTERS

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WASHINGTON, D.C. 20390



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NSG/G54/mlh  
BYE- 38416/73  
23 August 1973

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MEMORANDUM FOR DIRECTOR, COMMAND SUPPORT PROGRAMS

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Subj: POPPY Ocean Surveillance

1. Software Improvements

a. As you will recall, we began a number of coordinated to improve the ocean surveillance output of the POPPY system and these were collectively described as the "POPPY Ocean Surveillance Augmentation Program". This program was concerned primarily with improving the POPPY field station digital geolocation processing and reporting capability and included significant revision of both hardware and software techniques.

b. Soon after the approval of the POPPY Augmentation Program, a second SEL-810 (mini) computer was deployed to [redacted] to improve our capability there. A new piece of hardware, the HRB Singer developed Priority Data Extractor, was deployed to all the POPPY field stations in late 1971 and this device made it possible to isolate the ocean surveillance related data more quickly and pre-condition it for geolocation processing. These two actions alone significantly enhanced the field stations' ocean surveillance [redacted] output but we were still unable to locate all collected ocean surveillance targets in a timely manner. To solve this, the SEL-86 system (a third generation computer system) was deployed to [redacted] in 1972 along with the first POPPY Automated Processing System (PAPS I). This system was much faster than the previous geolocation software but was still not fully automatic. In June 1973, the second generation automated software (PAPS II) was deployed to [redacted]. The system has been in operation for approximately one month and has resulted in the following:

(b)(1)  
(b)(3)

1. PAPS II is a fully automated, on-line software system which partially processes burst data as the data is being received from the satellites. Geolocations are then processed as soon as the satellite pass has ended. In addition to being considerably faster than previous geolocation processing software, PAPS II has provided the capability to automatically sort up to 32 selectable emitter types for subsequent geolocation which is twice what was previously possible.

2. PAPS II has impacted significantly upon both output volume and report timeliness. It has improved processing in high signal

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density bands, thereby making it possible to process considerably more emitter locations per unit time. In the first week of operation, approximately 1000 [ ] reports were forwarded by [ ] This compares to a previous weekly average of 475.

(b)(1)

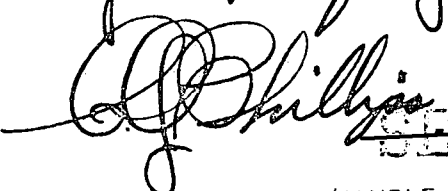
(b)(3)

3. High priority ocean surveillance target emitters such as the [ ] have been reported in as short a time as [ ] from intercept since PAPS II has been operating. The DIN/DSSCS communications system has also had a considerable impact and [ ] reports are now reaching Navy users with an average delay of approximately [ ] from message date time group.

c. With the POPPY system at [ ] functioning as indicated above, we find that the most significant reporting delays are being introduced by such factors as manual typing and handling of communications paper tapes. In November 1973, the PAPS III system will be deployed to [ ] and this system will incorporate automatic generation of [ ] report formats and communications tapes. This will further enhance [ ] timeliness but may make it necessary to develop automatic categorization (HULTEC) subroutines. We are already doing preliminary work in this area and the initial results appear to be promising.

## 2. POPPY Tasking

a. On 18 May 1973, USIB(SORS) rewrote the mission guidance for POPPY. The revised guidance allowed more ocean surveillance tasking than the previous guidance, but this allowance still fell short of the amount of ocean surveillance tasking actually taking place. The NRO(SOC) stated that they would strictly adhere to the new mission guidance in tasking POPPY, and proposed a tasking plan which would reflect the guidance revisions and which would effectively reduce the POPPY Ocean Surveillance output by fifty per cent. Because of this, we conducted negotiations with NRO(SOC) which resulted in a significant increase in the level of Ocean Surveillance tasking; however this level is still slightly (about 5%) less than previously but is at least 100% greater than specifically provided for in the revised USIB(SORS) mission guidance. The tasking as now levied provides for good Ocean Surveillance coverage without detracting from the other missions of the system.

Very respectfully,  


Copy to:  
 ADM MOFFIT  
 ADM RECTANUS  
 ADM EMERSON

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