

(U) Appendix G - POPPY ELINT Satellite

(Effective 12 September 2005)¹¹²

(U) The following general information can be released concerning facts of and about the POPPY ELINT reconnaissance satellite system: that the U.S. Navy began the project as a successor to the GRAB ELINT satellite system that collected emissions from Soviet air defense radars, and that its mission expanded to collect radar emissions from Soviet naval vessels on the high seas. In July 1962 this U.S. Navy reconnaissance satellite project and the organizations that supported it became a formal component of the National Reconnaissance Office (NRO), identified as "Program C," funded through the National Reconnaissance Program (NRP). The launch of POPPY 1 occurred five months later, in December 1962.

(U) The man appointed first director of NRO Program C, RADM Vernon L. Lowrance, USN, (who also served as the Director of Naval Intelligence), in January 1963 notified the director of the National Reconnaissance Office, Air Force Under Secretary Joseph V. Charyk, of the existing assignments and responsibilities shared among the organizations participating in Project POPPY. Within Program C, the Naval Research Laboratory designed, developed, and operated the POPPY satellites. The NRO's Air Force element, Program A, launched them, and the National Security Agency (NSA) received, analyzed, and reported findings derived from the intercepted radar signals. The Naval Security Group (NSG) coordinated field operations (which involved personnel from the Air Force Security Service [AFSS] and the Army Security Agency [ASA]), and maintained and operated POPPY ground sites (at various locations that changed over the years). Project coordination was effected through monthly meetings of a POPPY Technical Operations Group (TOG) made up of representatives from each of the participating organizations.

(U) In 1968, POPPY's demonstrated capabilities prompted the Chief of Naval Operations, Admiral Thomas Moorer, to request that these ELINT satellites be used experimentally to collect radar emissions from Soviet naval ships at sea. The success of that experiment led Secretary of the Navy John H. Chaffee to submit a formal operational requirement for that mission to the intelligence community in 1970. By the time that POPPY 7 ceased operating on orbit in August 1977, the project's mission emphasized ocean surveillance for operational naval commanders. GRAB and POPPY launch dates and results, released publicly on 12

September 2005, appear below. Each of the POPPY satellites averaged 34 months of useful life on orbit.

(U) GRAB and POPPY Launch Dates and Results

| <u>No.</u> | <u>Date</u> | <u>Site</u> | <u>Launch Vehicle/Result</u> | <u>Mission</u> |
|------------|-------------|-------------|------------------------------|----------------|
| 1 | 6/22/60 | CC | Thor Able Star | GRAB 1 |
| 2 | 11/30/60 | CC | Thor Able Star (failed) | GRAB |
| 3 | 6/29/61 | CC | Thor Able Star | GRAB 2 |
| 4 | 1/24/62 | CC | Thor Able Star (failed) | GRAB |
| 5 | 4/26/62 | PA | Scout (failed) | GRAB |
| 6 | 12/13/62 | VAFB | Thor Agena D | POPPY 1 |
| 7 | 6/15/63 | VAFB | Thor Agena D | POPPY 2 |
| 8 | 1/11/64 | VAFB | TAT Agena D | POPPY 3 |
| 9 | 3/9/65 | VAFB | Thor Agena D | POPPY 4 |
| 10 | 5/31/67 | VAFB | Thor Agena D | POPPY 5 |
| 11 | 9/30/69 | VAFB | Thorad Agena D | POPPY 6 |
| 12 | 12/14/71 | VAFB | Thorad Agena D | POPPY 7 |

(U) Photographs of POPPY satellites are also releasable; full-scale models of the various GRAB and POPPY satellites are on public display.

(U) GRAB and POPPY association with the following names and terms can be publicly revealed:

| | | | |
|------------|---------|-----------|------------|
| CANES | CANIS | CHARLIE | DOSIMETER |
| DYNO | ECM | EROS | GGSE |
| GRAB | GREB | HOLD | Navy ELINT |
| POPPY | REPTILE | SISS ZULU | SOLRAD |
| TATTLETALE | WALNUT | | |

~~(S//TK)~~ All other information relating to POPPY reconnaissance satellites remains classified, [REDACTED]

Note: the fact that U.S. SIGINT systems use the principle of signals time difference of arrival (TDOA) without any other specifics is not classified.¹³⁷

* (U) Launch Site: CC = Cape Canaveral FL; PA = Naval Missile Facility at Point Arguello, CA (later part of VAFB); VAFB = Vandenberg Air Force Base, CA.