DAT

ADVANCED RECONNAISSANCE SYSTEM

WEAPON SYSTEM 117L

10 February 1959

GENERAL: ARS, known variously as Pied Piper, Sentry, Discoverer, etc., is designed to provide unmanned orbiting satellites that will gather and store intelligence data while passing over the Soviet Bloc and transmit the data to USAF installations. The first versions will provide the first photographic coverage of hitherto inaccessible areas of military interest. First photographs will permit 100 foot visual resolutions, advanced versions will provide resolutions of 20 feet or better and accuracy of location within one-half mile. Still later satellites will employ infra-red techniques for purposes of attack alarm. ARPA assumed development responsibility of 117L in February 1958, and now directs the program through Hq USAF. The prime contractor is Lockheed Missile Systems Division, Palo Alto, California.

MILESTONES:

RAND study indicated feasibility of satellite for reconnaissance	1947
GOR #80 published	March 1955
Design study proposals solicited	Spring 1955
Contract to develop & test 117L awarded to LAC	October 1956
AMC-ARDC WSPO established at AFBMD	July 1957
Program accelerated to maximum rate (Mr. Quarles)	Nov 1957
ARPA assumed development responsibility	Feb 1958
New development plan issued - no approval to date	Sep 1958
First firing-Vandenberg AFB (THOR Booster)	Feb 1959
First ATLAS boosted firing - Vandenberg AFB	Feb 1960

FUNDING ($ millions):

	FY 1957 & PRIOR	FY 1958	FY 1959	FY 1960
P-600	[redacted]			
P-100				
P-200				
P-300				
P-400				

STATUS AND PROBLEMS: The first portion of the program is virtually on schedule, however, funding by ARPA of the entire requirements is not assured and later phases of some of the advanced versions may be effected. If total funds are available a satellite test firing program of fifteen THOR boosted (Discoverer) satellites will be fired, including engineering tests and bio-medical recoveries, and 12 ATLAS-boosted firings (117L) which will conduct visual and [redacted] reconnaissance. In December 1958 ARPA directed a division of the program into a Discoverer-THOR program and the remainder of the WS-117L program. Separate development plans, activity and progress reports, will be required. An arbitrary division of monies has been made: for FY 1959, [redacted] for Discoverer-THOR and [redacted] to Sentry 117L; in FY 60, [redacted] for Discoverer-THOR and [redacted] to the Sentry Program. The ARDC has been assigned operational responsibility of the Sentry program and the tentative basic center to be established at or near Offutt AFB, will be operated by ARDC.

FORCE STRUCTURE: Nineteen THOR boosted firings and twelve ATLAS boosted firings to run from December 1958 through April 1961.

~~SECRET~~

DYNA SOAR

WEAPON SYSTEM 464L

10 February 1959

GENERAL: Being developed under GOR #(Draft) to provide an experimental prototype vehicle with aerodynamic and later space capability, with evolution from pure boost glide to eventual space follow-on by the late 1960's. The vehicle includes the whole boost glide regime but will also include speeds up to satelloid velocity (hypersonic high altitude and orbital flight regimes) with re-entry capability to the atmosphere to make normal landings at pre-selected spots. Present development of the military test system (DSI) is pointed toward speeds up to 17,500 mph with a range of up to 25000 miles.

MILESTONES:

Selection of Martin-Boeing competition announced	Jun 58
End of present competition	Apr 59
Final contractor selection	Jul 59 or Sep 59
Mock up	Jan 60
Operational dates (depending on funding)	1968-75

FUNDING ($ millions):

	FY 1957 & PRIOR	FY 1958	FY 1959	FY 1960
P-600 (RDT&E)	0	3.0	29.5	35.0

All funds utilized toward development, fabrication and testing of a military test system (Dyna Soar). FY 1960 funds will be applied to single contract after selection. OSD directed a total program for FY 1960 of $35.0 million.

STATUS AND PROBLEMS: Project is presently on schedule but progress may be jeopardized by lack of funds. Aerodynamic heating and structures is a prime problem in developing the boost glide vehicle. Ionization at required speeds may affect radio or radar transmission. Development of Dyna Soar I is a joint Air Force - NASA venture.

FORCE STRUCTURE: Not applicable.