~~SECRET~~

1 AFDDC Coord
2 AFCIN Coord
3 AFAMF Coord
4 AFCCS Approval
5 SAFUS Signature

AFLAI 71754 24 Jan 59

per

Captain Donald S. Floyd

(U) Management of Space Vehicle Tracking and Surveillance Stations in Pacific Area

1. By a memorandum to the Commander Pacific Missile Range and the Commander, Air Force Ballistic Missile Division, the Director, ARPA requested transfer of management responsibility from the Air Force to the Navy of the South Point, Hawaii and Kaena Point, Oahu satellite and space vehicle data acquisition and tracking station to be effective 1 February 1959.

2. In a message (CAP IN 86529) from the Commander, AFBMD, dated 22 Jan 1959 the following points were made against this action at this time:

a. South Point, Hawaii
   1. Now scheduled for two programs being conducted by the BMD for BMEWS.
   2. Operation thereof under BMD contract with STL. A transfer to PMR would set a precedent re: BMD management and contracting arrangements with STL.
   3. Operation of station phase lock equipment requires uniquely experienced operating personnel presently only available at STL.
   4. BMD responsible for both BMEWS and ARPA programs--anticipate difficulties in compliance with these responsibilities if management and scheduling of South Point station transferred to PMR.
   5. 60' antennas is Air Force equipment which cost $300,000.

b. Kaena Point, Oahu
   1. Sited, designed and constructed with FY58 Air Force funds to fulfill present R&D and future operational requirements of WS117L.
   2. An integral part of the tracking station network of WS117L. All communications converge at the Development Control Center at Palo Alto. This station is as necessary to success of the WS117L system as the vehicle on orbit.
   3. Design, construction, equipping, and technical operation of the station now being accomplished as an integral part of an existing Air Force contract with Lockheed for the WS117L.

DS 59-0250 - A2

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Staff Summary Sheet, Subject: (U) Management of Space Vehicle Tracking and Surveillance Stations in Pacific Area (Cont'd)

3. The memorandum to Mr. Johnson requests he consider this matter more completely during a briefing which could be given at his convenience and that the Commander, AFSSD be relieved of the requirement for compliance with transfer of these stations by 1 February 1959.

RECOMMENDATION:

4. The attached memorandum be signed.

1 Incl
Proposed memo to
ARPA

H. A. BOUSHEY
Brigadier General, USAF
Director of Advanced Technology
DCS/Development

~~SECRET~~

AFDAT/Capt Lloyd/...-7...-2... Jan 59

MEMORANDUM FOR THE DIRECTOR, ADVANCED RESEARCH PROJECTS AGENCY, OSD

SUBJECT: (U) Management of Space Vehicle Tracking and Surveillance Stations in Pacific Area

Reference your memorandum to the Commander, Pacific Missile Range and the Commander, Air Force Ballistic Missile Division, subject as above, dated 16 January 1959.

Many complex management problems which would seriously effect national space programs are involved in the attempt to effect a early transfer of management responsibility for the South Point, Hawaii and Kaena Point, Oahu satellite and space vehicle data acquisition and tracking station from the administrative control of the Air Force Ballistic Missile Division to the Pacific Missile Range. It is considered desirable that you and your staff be apprised of the scope and complexity of these problems as they relate to this early transfer of authority.

It is recommended that you set aside a time when it would be convenient for you to be briefed on this matter and that the Commander, Air Force Ballistic Missile Division be relieved of the responsibility for compliance with the transfer to the Pacific Missile Range of the Hawaiian tracking stations by 1 February 1959.

Signed

AFDAT-coord cy
AFDDC
AFCVC
SAFRD Info cy
SAFRD Ofc sig

AFCIN
Col Main
Hopkinson

ABL-10

DS 59-0250 - B3

SECRET

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ADVANCED RECONNAISSANCE SYSTEM [redacted]

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
GCR #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	19.2	10.0	35.0	52.0
P-100	3.9	41.6	89.3	170.5
P-200	0	7.6	50.2	60.0
P-300	0	7.1	23.4	10.8
P-400	0	0	0	3.7

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 ferret 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, $108 million for Discoverer-THOR and $107 million to Sentry 117L; in FY 60, $60 million for Discoverer-THOR and $100 million 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.

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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	Jun 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.

DEPUTY CHIEF OF STAFF, DEVELOPMENT
ROUTING SLIP

DATE 17 Feb 59

TO:			FOR:
AFDDC-ND		✓	Appropriate Action
AFDDC-NS			Direct Reply
AFDDC-PA			Coordination
AFDDC-ES			Note and Return
AFDFD			Information
AFDRD			Action Has Gone To:
AFDRQ			Return to DCS/D for File
AFDAP			File or Destroy
AFDAT	✓		Coordinate With:
AFDDP			Prepare Reply for Signature Of:
AFDDS			Repare Staff Summary Sheet for Signature Of:
AFMDC-3E			Approval Of:
Copies Furnished: DDC			

COMMENTS:
DDC(Has) ✓ (Has Not) _____ Seen

~~1cy 6y~~
~~1cy~~ DAT
1cy XPD - [illegible]

WILLIAM H. STREET
Major, USAF
Assistant Executive
DCS/Development

HEADQUARTERS UNITED STATES AIR [redacted]

OFFICE OF THE VICE CHIEF OF STAFF

REFERRAL SLIP

DATE 13 Feb 59

TO:

	AFCSS		AFCAD		AFPDC		AFDDC		AFXDC		AFNDC		AFDDC
	AFCAG		SAFIS		AFPMP		AFDOP		AFXSC		AFMPP		AFDRD
	AFCIG		SAFLL		AFPTR		AFOMO		AFXWX		AFRMP		AFDOS
	AFCIN		AFAAC		AFPCP		AFOIE		AFXLR		AFRMS		AFDOP
	AFCJA		AFABF		AFPDP		AFOAC		AFXPD		AFMRS		AFBAP
	AFCRF		AFASC		AFPOS		AFOAT		AFXPR		AFMTP		AFDRO
	AFCSG		AFAMA		AFPDW		AFOOA				AFRLP		
	AFCSA		AFAAF		AFPGH						AFRME		
	AFCSM		AFAUD										

ATTENTION:

FOR:

- ✓ APPROPRIATE ACTION
- DIRECT REPLY
- COMMENT AND/OR RECOMMENDATION
- COORDINATION
- CVC AND CAV HAVE/HAS NOT SEEN
- PREPARATION OF REPLY TO SAF
- PREPARATION OF REPLY FOR SIGNATURE OF SAF
- PREPARATION OF REPLY FOR SIGNATURE AFCCS
- PREPARATION OF REPLY FOR SIGNATURE AFCVC
- PREPARATION OF REPLY FOR SIGNATURE AFCAV
- PREPARATION OF REPLY FOR SIGNATURE
- COPY OF REPLY FOR
- NOTE AND RETURN
- INFORMATION AND/OR FILE
- ✓ INFORMATION COPIES HAVE GONE TO CSAF, CVC, AAC, ADC
- ACTION HAS GONE TO
- SUSPENSE DATE

COMMENTS:

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[redacted]
Lt. Col., U. S. Air Force
Deputy Executive to the Vice
Chief of Staff

AFHQ FORM AUG 57 0-160 PREVIOUS EDITIONS OF THIS FORM ARE OBSOLETE GPO 920214

OFFICE OF THE SECRETARY OF THE AIR FORCE
ROUTING SLIP

DATE: FEB 12 1959

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✓	CHIEF OF STAFF ONLY			ADMINISTRATIVE ASSISTANT	
	UNDER SECRETARY	✓		GENERAL COUNSEL	
	ASSISTANT SECRETARY FINANCIAL MANAGEMENT	✓		OFFICE OF LEGISLATIVE LIAISON	
	ASSISTANT SECRETARY MATERIEL	✓		OFFICE OF INFORMATION SERVICES	✓
	ASST SECTY MANPOWER, PERSONNEL & RESERVE FORCES			Mr Jackson	✓
	ASSISTANT SECRETARY RESEARCH & DEVELOPMENT	✓			

TYPE OF ACTION

✓	APPROPRIATE ACTION	ACTION ASSIGNED TO
	REMARKS AND RECOMMENDATIONS	
	DIRECT REPLY	ATTENTION
	INFO ON WHICH TO BASE REPLY	
	INFORMATION	
	COORDINATION	COORDINATE WITH
	NOTE AND RETURN	
	NOTE AND FORWARD	
	FILE	
	PREPARE REPLY FOR SIGNATURE OF	SUSPENSE DATE

REMARKS

BY DIRECTION OF:

✓	THE SECRETARY
	THE UNDER SECRETARY
	THE ASSISTANT SECRETARY

Charles A. Grandy
Chief, Policy Branch
Control Gen. Div., SAFS

AFHQ FORM 0-98
8 DEC 58

U. S. GOVERNMENT PRINTING OFFICE: 1958 O—370284

ADVANCED RESEARCH PROJECTS AGENCY
WASHINGTON 25 D C

12 Feb 59

MEMORANDUM FOR THE SECRETARY OF THE AIR FORCE

SUBJECT: Policy Relating to the Official Identification of Projects DISCOVERER, SENTRY, and MIDAS.

Reference is made to the series of briefings, conferences, and other discussions relating to the reorientation of the subject projects as a result of which it has been agreed that the several elements of WS-117L should be separately identified and development continued on the basis of individual missions as distinguished from blanket priority assigned to WS-117L.

There is continuing evidence that the nature of these arrangements is not fully understood throughout the departments concerned. This has resulted in some confusion and a tendency, both in public and classified correspondence, to associate the several projects with each other.

It is considered that a separate identification of the projects is essential to our space effort and that the facts relating to these several projects should be disseminated within appropriate channels throughout the several departments and agencies having an interest therein.

It would be appreciated if the contents of this memorandum could be so disseminated in order that the projects identified as DISCOVERER and MIDAS may stand alone and without further reference to SENTRY, or WS-117L.

Program definitions are as follows:

DISCOVERER

Project DISCOVERER is an open-ended series of satellite launchings utilizing initially the Thor IRBM as a basic booster, intended to carry out certain vehicle tests, bio-medical flights, and recovery experiments. Initial flights involve the development of engineering techniques, components, and systems. Upper stages will be used along with the boosters for these flights. The orbital life will vary from short periods to long periods, the orbits will vary in altitude, and the initial satellite in orbit will weigh approximately 1,300 pounds. The DISCOVERER series will be launched initially from the Pacific Missile Range, California, into near polar orbits. A number of these

satellites are intended to be directed out of orbit for recovery on the earth. Initial recovery operations will be conducted in air or at sea north of the Hawaiian Islands. Tracking and/or data acquisition stations will be located in California, Alaska, Hawaii, and on shipboard south of the Pacific Missile Range.

SENTRY

Project SENTRY involves a series of satellite launchings, utilizing initially the Atlas ICBM with an upper stage that will employ both film recovery and film readout techniques for the purpose of conducting visual and ferret reconnaissance. The SENTRY satellites will be launched initially from the Pacific Missile Range, California, into near polar orbits. This series of firings is mission-oriented, even during its R&D phase, with boosters and upper stages designed to provide orbits at various altitudes, orbital life, and trajectories, depending upon the specific intelligence objective to be met. Both recovery readout and electronic techniques are under development in this program.

MIDAS

Project MIDAS involves the priority development of a satellite-based, infra-red sensing system designed to provide maximum warning of missile launchings or other strategic attacks against the United States.

Roy W. Johnson
Director

Copies furnished:
Maj. Gen. B. A. Schriever, USAF, AFBMD
Col. R. F. Shaefer, USAF, JCS