~~TOP SECRET~~

HANDLE VIA
BYEMAN
CONTROL SYSTEM

(S) NATIONAL RECONNAISSANCE OFFICE

WASHINGTON, D.C.

THE NRO STAFF

February 21, 1984

MEMORANDUM FOR THE ASSOCIATE ADMINISTRATOR FOR SPACE FLIGHT,
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

SUBJECT: NASA/NRO Meeting on STS Transition Issues, January 24, 1984

The meeting was held in the Pentagon, Room 4C956. Attendees were:

For NASA	For NRO
Lt Gen J. W. Abrahamson	BGen D. L. Cromer
Mr. L. M. Weeks	[redacted] (b)(1) (b)(3)
Mr. J. A. Saavedra	Col D. Raspet
Mr. T. Albert	Lt Col L. Roberts
Mr. L. G. Williams	[redacted]

Tom Albert opened the session with a discussion of the final results on how injection parameters affect spacecraft weight margins on 63.4-degree (final orbit) STS/CENTAUR missions. There does not appear to be any significant increase in final injected spacecraft weight for inclinations under consideration. This item is closed.

[redacted] discussed Aerospace Corporation involvement in studies of atomic oxygen surface contamination on past Shuttle flights, and noted that final assessments are still not available. This item will be closed out with the joint preparation of an interim summary from the on-going studies. This summary will be made available to program offices which have satellite systems in the design stage.

The Satellite Maintenance and Repair briefing has been provided to Headquarters NASA. This item is closed.

Bill Saavedra covered current manifesting status. There was considerable discussion regarding [redacted] scheduling due to continuing [redacted] (b)(1) (b)(3) problems. It now appears that [redacted] (b)(1) (b)(3)

[redacted] discussed the renewed interest in a payload canister due to the increased size of [redacted] Other programs discussed which could

[redacted]

HANDLE VIA
BYEMAN
CONTROL SYSTEM

~~TOP SECRET~~

CLASSIFIED BY BYEMAN - 1

DECL: OADR

NRO Staff Chron
CONTROL NO BYE-27808-84
COPY ___ OF 2 COPIES
PAGE 1 OF 3 PAGES

WORKING PAPER

benefit in the near-term from an increased cargo transportation capability are Space Telescope and CENTAUR assisted payloads. General Cromer recommended we follow these developments and make sure any new inputs are channeled through Dr. Cook's steering committee for resolution. General Abrahamson also mentioned that NASA needed to know the final AF decision on the configuration for the backup Shuttle Carrier Aircraft. This will be provided when available.

Bill Saavedra and [redacted] discussed the prospects for a Contingency Landing Site shelter. Currently, a tent concept is thought to be the most readily available and cost-effective solution. General Abrahamson believes we need to pursue more basic solutions before making an investment in a tent or inflatable structure. If in-flight refueling capability is attained with the current SCA, that will somewhat mitigate the concerns for contingency abort site retrieval.

[redacted] briefed the group on launch planning for the NRP. He focused upon specific and payload-unique definitions of spacecraft launch availability, including Launch on Need (LON) and Launch on Schedule (LOS) missions. The briefing concluded that [redacted] was a true LON mission, but that many, particularly firsts on a new block, exhibit the same launch planning characteristics and requirements.

Larry Williams from NASA/JSC briefly discussed progress being made on integration efforts related to [redacted] under two Air Force program numbers. They intend to use the same flight products to avoid a second LON planning and documentation cycle for [redacted] JSC will now plan to conduct Cargo Integration Reviews (CIRs) at nine months before ILC, which will allow the software maintenance problem to be significantly reduced. The action item to provide Launch on Need background and requirements by both the NRO and NASA was closed.

Copies of viewgraphs used during the meeting are attached. (b)(1) (b)(3)

ACTION ITEM STATUS

OPR	ACTION
NASA	Provide space qualified digitizer. Continuing.
NRO/NASA	Determine how changes in injection parameters affect spacecraft weight margins on 63.4 degree STS/CENTAUR missions. Closed.

NRO/NASA	Examine the results of tests conducted on several STS flights to understand effects of atomic oxygen impingement. Will be closed with preparation of an interim summary of the ongoing studies.

NRO	Review and evaluate the utility of providing NASA an SAF/SP briefing on Satellite Maintenance and Repair. Closed.
NRO/NASA	[redacted] and JSC will be tasked to present a briefing on LON requirements at a future meeting. Closed.

NEW ACTION ITEMS IDENTIFIED (b)(1) (b)(3)

OPR	ACTION
NRO/NASA	Jointly prepare an interim summary of on-going atomic oxygen impingement studies and provide to program offices which have satellite systems in the design stage.

The next meeting will be tentatively set for early April 1984.

DONALD L. CROMER
Brigadier General, USAF
Director

1 Attachment
Viewgraph Copies

~~SECRET~~

63.4° INJECTION PARAMETERS

- FINAL ORBIT
  - 12 HOUR/500nmi X 21,289nmi at 63.4°

- FINAL INJECTED WEIGHT ~ CONSTANT FOR RANGE i = 47° to i = 57° PARKING
  - CENTAUR PROPELLANT OFFLOADED ~10,000 LBS AT 57°
  - INCREASED Δ V REQUIRED FOR LOWER INCLINATIONS ~OFFSET BY INCREASED MECO CAPABILITY (i.e.,CENTAUR PROPELLANT LOADING)

    Δ (Δ V) per degree = 220 fps → 523 LBS PROPELLANT
    Δ MECO weight per degree ..... 578 LBS

- CURRENT PROJECTED RESERVES & MARGINS FOR [redacted] ~ +3,500 LBS (b)(1) (b)(3)
  - CARGO CONTROL WEIGHT = 44,659 LBS AT 57°
  - MIXED WEIGHT STEEL CASE SRM
  - SSME's AT 109%/109%

- PARTIAL: 1 LB S/C per 2.2 LBS CENTAUR PROPELLANT(FOR A GIVEN ORBIT)

- SPACECRAFT SYSTEM WEIGHT = 10,800 LBS

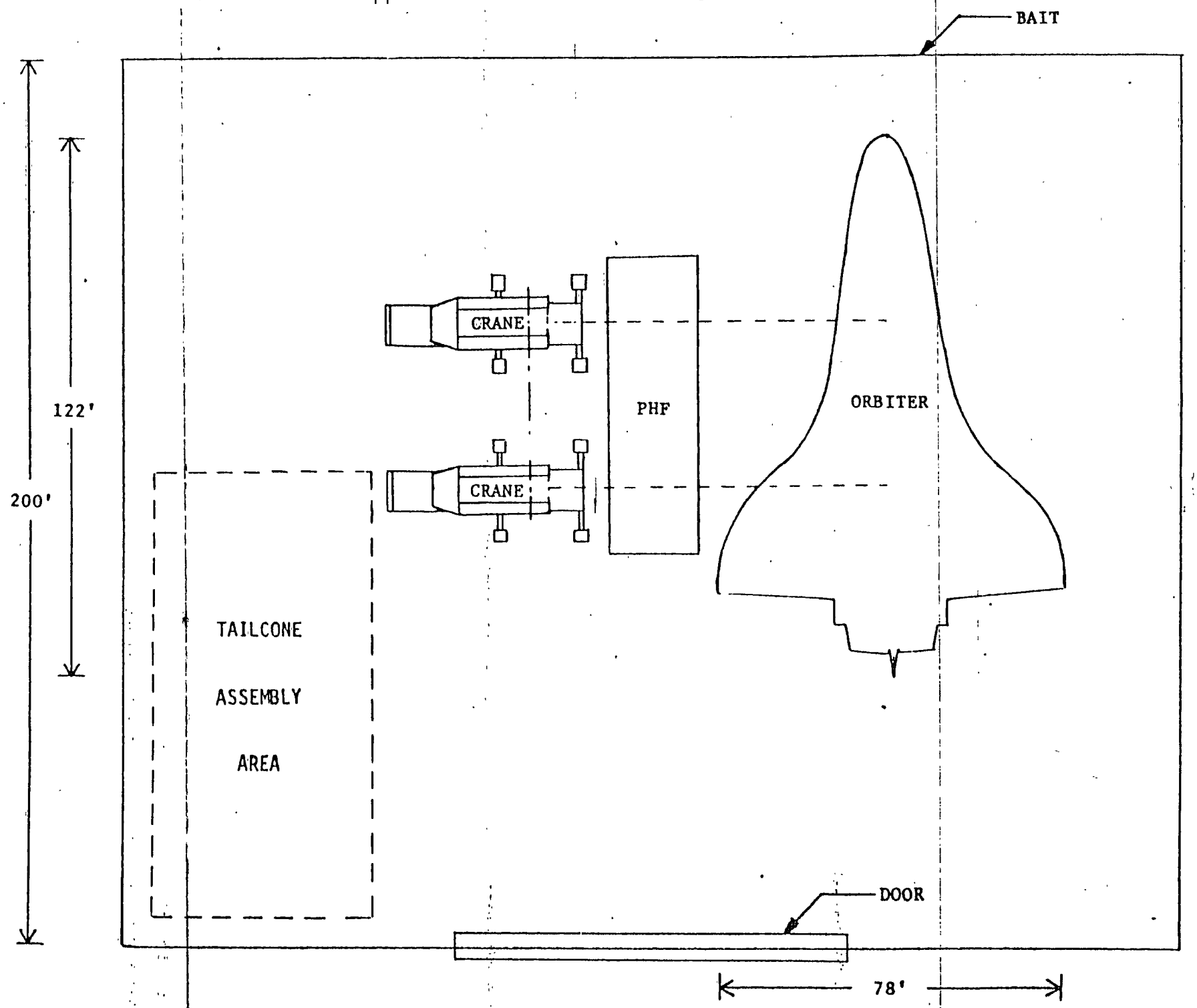
~~SECRET~~

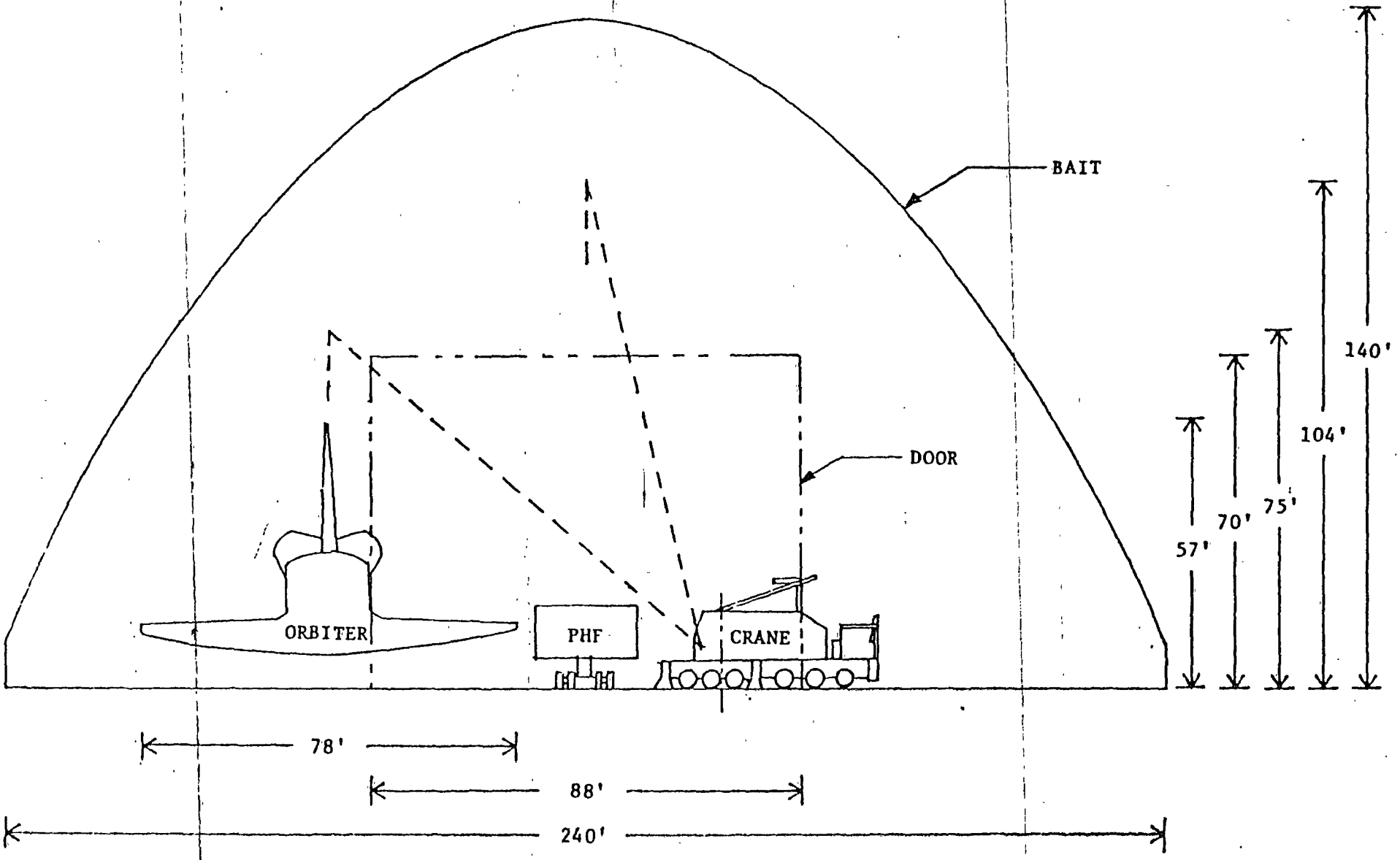
DOD STS FLIGHT RATES

DOCUMENT	CATEGORY	FLIGHTS - FISCAL YEAR 84	85	86	87	88	TOTAL
o NOV 83 MANIFEST BASELINE	- DEDICATED	2	1	5	5	7	20
	- PAM	0	0	0	7	10	17
o FY 1985 PRES' BUDGET	- DEDICATED	1	2	4	2	9	18
	- PAM	0	0	4	7	7	18
o JAN 84 PROPOSED MANIFEST BASELINE	- DEDICATED	2	1	4	2	7	16
	- PAM	0	0	0	7	10	17
o FY 1986 PROPOSED AF POM	- DEDICATED	1	2	3	2	8	16
	- PAM	0	0	1	8	8	17
	- SHARED					.67	.67

CONTINGENCY SITE SHELTER

- STUDIES & EVALUATION COMPLETE
  - ACCOMMODATE ORBITER & P/L REMOVAL SUPPORT EQUIPMENT
  - UP TO 150 FT HEIGHT NEEDED
  - HEMISPHERE WITH FOOTPRINT OF ~400 FT X 200 FT
- AVAILABLE OPTIONS
  - TENT DESIGNED FOR SPACELAB WITH MODS.....~ $700K TO BUILD
  - CIRCUS TENT FOR SALE..... $600K TO BUY
    (650 FT X 220 FT X 111 FT HIGH)
  - NEW DESIGN, BUILD .....≤ $ 1 M
- OPERATIONS
  - AIR TRANSPORTABLE
  - ERECT IN ~ 7 DAYS
- STATUS
  - NEED DECISION ON BEST APPROACH
  - NEED FUNDING ALLOCATION & SOURCE





PAYLOAD CANISTER ISSUE

- LARGE PAYLOAD REQUIRES TRANSPORT
  - NEW WIDE-BODY PAYLOAD DESIGN
  - AVAILABLE IN 1988/1989 TIMEFRAME
  - TOO LARGE FOR EXISTING MEANS

- OTHER KNOWN REQUIREMENTS
  - SPACE TELESCOPE
  - CENTAUR

PAYLOAD CANISTER OPTIONS

- STUDY IN PROGRESS
- RESULTS BY END OF JANUARY
- METHODS UNDER CONSIDERATION
  - ROAD TRANSPORTER
  - GUPPY OR SUPER GUPPY
  - CSA
  - SCA CANISTER

Approved for Release: 2017/02/27 C05094709

SAFSP

15019481

NRO LAUNCH PLANNING

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

24 JANUARY 1984

~~TOP SECRET~~

Handle Via BYEMAN Control System Only

S A F S P

NRO/STS LAUNCH SCHEDULING FACTORS

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

PROGRAM	CONSTELLATION SIZE	MEAN MISSION DURATION	BUILD/ LAUNCH STRATEGY	CALLUP TIME[1]	1ST LAUNCH

1 SATELLITE CALLUP FROM STORAGE

2

3

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

4 BASED ON MEAN MISSION DURATION OF ON-ORBIT SATELLITE

TOP SECRET

Handle Via BYEMAN Control System Only

Approved for Release: 2017/02/27 C05094709

SAFSP

[redacted] BASELINE

				FY	1984	1985	1986	1987	1988	1989	1990	1991	1992
				CY	1984	1985	1986	1987	1988	1989	1990	1991	1992
VEH	[redacted]	AVAIL	LAU										

LEGEND:
AVAILABLE
LAUNCH
DURATION

~~TOP SECRET~~ [redacted]

HANDLE VIA BYEMAN CONTROL SYSTEM ONLY

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

SAFSP

[redacted] BASELINE LAUNCH SCHEDULE

				FY	84	85	86	87	88	89	90	91	92	93	94
VEH	CONTR	AVAIL	LAU												

△ LAUNCH
▽ END OF MMD
AVAILABLE
DESIGN LIFE

TOP SECRET [redacted]

Handle Via BYEMAN Control System Only

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

S A F S P

[redacted] BASELINE PROGRAM

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

DESCRIPTION FY	1984	1985	1986	1987	1988	1989	1990	1991	1992
VEH CONTR AVAIL LAUNCH									

SHUTTLE LAUNCHES

LEGEND

AVAIL LAUNCH MISSION [redacted]

~~TOP SECRET~~ [redacted]

HANDLE VIA RYEMAN CONTROL SYSTEM ONLY

SAFSP

[redacted] BASELINE

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

FY	1984	1985	1986	1987	1988	1989	1990	1991	1992
CY	1984	1985	1986	1987	1988	1989	1990	1991	1992

VEH	AVAILABLE	LAUNCH

LEGEND

AVAILABLE

LAUNCH

MMD

TOP SECRET [redacted]

Handle Via BYEMAN Control System Only

SAFSP

[redacted] BASELINE

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

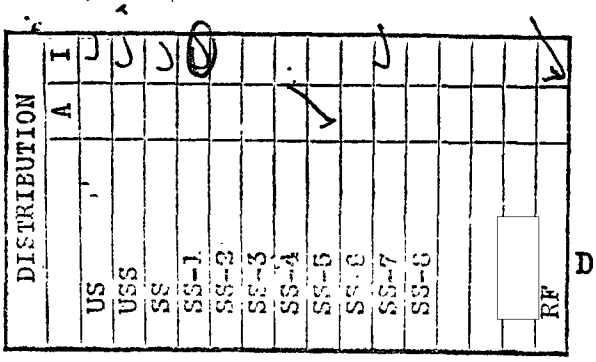
	FY	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
	CY	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993
VEH	AVAIL	LAU									

LEGEND:
AVAILABLE
LAUNCH
DURATION

SECRET [redacted]

HANDLE VIA BYEMAN CONTROL SYSTEM ONLY

~~SECRET~~



ADDR: [redacted]
Date 8 Jan 84 Initials [redacted]
~~BYE-10946/84~~
Copy 5
5 January 1984

DCI VISIT TO [redacted]

23 January 1984
1330-1530

TIME	SUBJECT	LOCATION	PRESENTOR
1330	Arrive		
1330-1335	Welcome & Introduction	CSC	E. Hineman
1335-1355	System Tasking - What happens internally at [redacted] after requirements come in. Use the color display and demo. Discusses system limitation in terms of conflict regions/imaging time/etc. Factor in how military requirements are included in tasking process. Concentrate on how tasking will be in [redacted]	CSC	[redacted] (b)(1) (b)(3)
1355-1415	Image Processing - "How [redacted] pictures are made." 3-D briefing cleaned up in non-technical terms; use the "pictures" from the briefing, but clean up word charts. Include timelines of processing & steps in process. Include PPF process.	CSC	R. Kohler
1415-1435	DPF-PPF Tour	Ops Floor	[redacted]
1435-1455	IDEX Demo	IDEX Area	
1455-1525	PEG Function and Tour	PEG	
1525-1530	Summary	PEG	E. Hineman

~~SECRET~~

HANDLE VIA BYEMAN
CHANNELS ONLY