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7 May 74

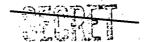
MEMO FOR THE RECORD

SUBJECT: Visit of Mr Leonard Sullivan Jr, Asst Sec Def for Program Analysis and Evaluation, 2 May 74

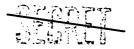
- 1. Mr Sullivan after receiving a briefing in the Pentagon on the AF
  Shuttle Program indicated his desire to hear results of specific studies
  of satellite payloads impacts. Mr Sullivan visited SAFSP on 2 May 74
  and was briefed on the results of our studies on SP payloads and cost
  data derived therefrom.
- 2. Questions, answers and comments.
- a. Q. Are all Hexagons and Gambits launched from VAFB due to polar orbit requirement?
- A. Yes, we must launch from VAFB to obtain polar orbit required for Hexagon and Gambit missions.
- b. Q. When you talk about optimizing payloads for shuttle, why must they always grow heavier?
- A. Given the performance of the shuttle, we optimized the payloads for shuttle capabilities.
- c. Q. Being skeptical of real requirements stated as far out as 1991 are requirements for that time period real or uncertain? Dr Hall feels that currently projected requirements will not stand up. Do we have another method of getting imagery passed in real time back to the ground?
- A. The Hexagon search mission will probably stand firm. Gambit could be cancelled in favor of a new real time imaging system. However, the new system is faster but not clearer. Gambit has the resolution not the new system. All uncertainties however show a trend for fewer launches rather than an increase.

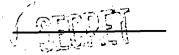
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- d. Mr Sullivan said he favors a presentation where uncertainties are bounded by a band rather than black lining future requirements so far out in the future.
- e. Q. What does the shuttle abort mode require in add-ons to the Hexagon vehicle?
- A. Mostly beef-up. The structural tranverse loading needs strengthening. Safety requirements require add-ons such as propellant dump, safing of arm devices, etc.
- f. Q. Has any thought been given to just how bad the situation would get if you dog-leg your missions from ETR to achieve polar orbit? Is there any reasoning to support a decrease in weight rather than increase payload weights i.e., reverse the method of looking at the task?
- A. Current payloads are too heavy to dog-leg out of ETR due to safety requirements and propulsion energy requirements. Our payloads are optimized for mission performance with expendables and film loading. If we decrease our weight significantly we cannot do our mission as efficiently and effectively IAW USIB requirements. It would be a very difficult, if not impossible, task to make our payloads smaller.
- g. Q. Have you considered launching polar orbit payloads out of WTR and have the ETR shuttle just to return payloads for refurbishment? Also launch NASA payloads that require polar orbit from VAFB with unmanned boosters and recover by shuttle. Being very frank, the Sec Def is looking for a reason to defer the cost of a second shuttle launch base for a few years so as to solve the budget situation.
- A. No, we have not studied this nor costed such a proposal. It sounds like it is worthwhile to look at.
- h. Mr Sullivan showed a great deal of interest in our payload refurbishment estimate as opposed to NASA estimates on the shuttle.
- i. Q. Can we return, or have you looked at the return of the Hexagon vehicle from orbit alone for recovery and refurbishment purposes?





- A. No. It is too large a satellite to consider such an operation. We have looked at small recoverable and refurbishable satellites and the price tag is quite significant.
- 3. Mr Sullivan was pleased with the briefings and candid discussion. He said he understood better our problems and reasoning and apparent reluctance to venture into such a scheme. He added that we needed more studies, more cost data and more options for problem solution. He felt his primary job now was to get to the Sec Def and provide the Air Force guidance on the investment costs projected for VAFB.
- 4. An updated and repackaged version of the briefing provided to Mr Sullivan will be presented to Mr Plummer on 9 May 74 for his information and future use.

DAVIS P. PARRISH

Colonel, USAF Vice Director Copy to: Gen Kulpa

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