

~~TOP SECRET~~

HANDLE VIA  
**BYEMAN**  
CONTROL SYSTEM

15 April 1980

Final

*Given to Herman*

11-2

POINT PAPER

ON

DAMON

o Reasons for DAMON

- STS Pathfinder (as discussed)
- Near term (pre-84) backup (as discussed)
- Keeps the film return technology alive until the need for a supplementary system is established
  - Color,  unique film characteristics
  - Broad area metric MC&G production

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

o Steps to an operational system

- Perform FY 81 concept and Mission Definition Study for a supplemental imaging system
- FY 81 study options
  - New STS pallet design
  - Gradual pallet evolution
  - New STS free flyer
  - MX (or other military ELV) based system
- Learn lessons from first DAMON flight (1982) and add to study

o DAMON gradual pallet evolution could follow these steps:

Desirable Characteristics

Needed Modification

- |  |   |
|--|---|
| 1. More clear imagery per mission Phase I            | 1. Fly STS longer - up to 30 days. Increase film load, if needed  |
| 2. Better image quality Phase I                      | 2. Fly orbiter lower as STS program matures; ultimately to 100 NM |
| 3. Ease of maintenance in the field/rapid turnaround | 3. Simplified, modularized electronics - new field checkout gear  |

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|---|--|
| 4. Lower yearly cost to maintain capability                                     | 4. Improved management systems, field maintenance streamlined less manpower  |
| 5. Greater reliability -- higher readiness rate, greater effectiveness on orbit | 5. Upgraded electronics (1982 versus 1966). More spare parts   |
| 6. Better image quality Phase II  | 6. Improved film   |
| 7. Better image quality Phase III   | 7. Optics upgrade over a period of years   |
| 8. Metric MC&G collection   | 8. Add measurement sensors to STS: star sensors, geodetic receivers for global positioning system, etc. Upgrade STS autopilot, if required |
| 9. More clear imagery per mission Phase II                                      | 9. Transition to VAFB launches and sun-synchronous orbits  |
| 10. Lower cost/more responsive ground environment                               | 10. Make compatibility with AFSCF's data system modernization (DSM)  |

[Redacted]

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

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