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Optical Imaging Systems - Program A

DAMON Pallet Experiment

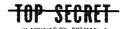
- o Objectives
 - Establish precedent for reconnaissance from Shuttle
 - Develop experience and technical data base with STS
 - Acquire useful intelligence to augment search
 - Evaluate utility of man in mission enhancement
 - Evaluate benefits/impacts of orbiter services
- o Hardware: Lockheed Prime/Perkin-Elmer Camera Subcontractor
 - HEXAGON two camera assembly (TCA)
 - Orbiter independent command, control, telemetry operation
 - Support assembly for structure and orbiter bay interface
- o Lockheed/P-E selection minimizes cost/technical risk
 - Known and reliable camera system
 - Existing operational software/procedures
 - Substantial levels of GFE manpower and hardware are provided from on-going programs (G&H)
- o Performance
 - NIIRS 3-5 range, 45" GRD average at 150 NM
 - 12-15 million square nautical miles gross in six-day mission (80K Ft SO-315 film)
 - 57° inclination orbit, 110-150 NM perigee expected
- o First flight mid-1982/second early 1983 Refurbish/refly on limited basis through 1984

Perceived Needs in the Post-85 Approved NRP Program

- o Post-85 program has less capability than present
- o Perceived needs include:
 - Synoptic collection capability
 - MC&G exploitation economy
 - ·
 - Surge collection capability

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- Back-up/alternate imaging capability
- Survivable imaging capability

Technical	Alternatives	to	Fulfill	Perceived	Needs
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0	DAMON Based Concepts	
	 Minor modifications permit partial MC&G and additional reflights Major modifications permit full MC&G capability, quick reaction capability, 	
0	General Pallet Concepts	
	- Specialized mission pallets for extended experiments - Multi-mission pallet capable of reconfiguration to supplement Eroc Elver Concepts	

- o Free Flyer Concepts
 - STS launched on demand for supplement/backup to continuous surveillance missions
 - STS launched for quick reaction back-up and surge search capability
 - ELV launched on demand for crisis response and survivability/reconstitution of imaging capability

Program Review and Decision Milestones

- o FY 80 Program
 - \$16.5M for DAMON hardware acquisition
 - \$0M for supplement/backup systems study
- o FY 81 Program
 - \$21.7M requested for DAMON hardware and NASA flight cost reimbursement
 - \$4M requested for supplement/backup concept development and mission definition
- o FY 82 Program
 - \$25.8M requested for DAMON flight operations and pallet refurbishment
 - \$36M requested for initiation of competitive design contracts for required supplement/backup systems





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