DAMON

- SHUTTLE PALLETIZED PHOTO RECONNAISSANCE EXPERIMENT
  - SIMPLE AND INEXPENSIVE EXPERIMENT
  - USES EXISTING HARDWARE; E.G., HEXAGON CAMERA SYSTEM
  - FIRST FLIGHT MID-1982; SECOND FLIGHT MID-1983
- PATHFINDER FOR TRANSITION OF NRP TO SHUTTLE
  - ESTABLISH PRECEDENT OF SHUTTLE UTILIZATION FOR RECONNAISSANCE MISSIONS
  - DEVELOP TECHNICAL DATA FOR INTEGRATION OF OPERATIONAL NRP SYSTEMS
  - EVALUATE MAN/SHUTTLE INTERACTION
  - EVALUATE BENEFITS OF ORBITER SUBSYSTEMS
- PROVIDES SUPPLEMENTARY SEARCH COVERAGE

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DAMON

- IS A SIMPLE AND INEXPENSIVE EXPERIMENT
- SOLVES ISSUE OF STS INVOLVEMENT IN INTELLIGENCE COLLECTION
- CAPABLE OF PROVIDING EARLY SIGNIFICANT PRACTICAL EXPERIENCE WITH THE STS
- CAPABLE OF PROVIDING CRITICAL DATA TO DOD AND NRO TO FACILITATE STS TRANSITIONS
- EVALUATION OF NEW CONCEPTS IN THE STS ERA WITHOUT RISK TO A VITAL, EXPENSIVE PROGRAM
  - MAN IN THE LOOP
  - USE OF ORBITER SUPPORT SYSTEMS
  - RECYCLING HARDWARE
  - NASA IN OPERATIONAL MODE

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DAMON

PRIME CONTRACTOR - LOCKHEED

WILL DESIGN AND FABRICATE SUPPORT ASSEMBLY

- o STRUCTURE
- o COMMAND AND CONTROL
- o COMMUNICATIONS AND TRACKING
- o ELECTRIC POWER AND DISTRIBUTION
- o INSTRUMENTATION AND TELEMETRY
- o ENVIRONMENTAL PROTECTION

WILL PROVIDE SUPPORT FOR FLIGHT PLANNING AND OPERATIONS

WILL BE RESPONSIBLE FOR PALLET INTEGRATION

WILL HELP DESIGN EXPERIMENTS TO DETERMINE ROLE PAYLOAD SPECIALIST COULD PLAY IN MISSION OPERATIONS

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Disc #6

DAMON

PAYLOAD SUBCONTRACTOR - PERKIN-ELMER

WILL PROVIDE CAMERA, FILM TRANSPORT EQUIPMENT, AND INSTRUMENTATION AND CONTROLS FOR THESE

CAMERA IS HEXAGON TWO-CAMERA ASSEMBLY

- o STEREO OR MONO COLLECTION CAPABILITY
- o BLACK/WHITE, COLOR, [redacted]
- o UP TO 80,000 FEET OF FILM
- o 12-15 MILLION SQUARE MILES OF COVERAGE
- o QUALITY IN NIIRS 3 TO 5 RANGE

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DAMON BUDGET RATIONALE

- o CONTINUES HARDARE DEVELOPMENT FOR FLIGHT IN MID-1982
- o FY 1981 BUDGET INCLUDES SHUTTLE LAUNCH AND ON-ORBIT COSTS FOR FIRST LAUNCH -- MUST BE BUDGETED ONE YEAR IN ADVANCE
    - o ASSUMES 36% LAUNCH SHARE AND 100% ON-ORBIT COSTS
- o "LESSONS LEARNED" WILL BE DOCUMENTED FOR OTHER NRO AND DOD PROGRAMS

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SUPPLEMENTARY IMAGING SYSTEM STUDY
STUDY PROPOSAL

- IN-HOUSE STUDY DURING FY 1980 TO ANSWER CONGRESSIONAL-DIRECTED STUDY
- IN-HOUSE STUDY TO CONTINUE DURING FY 1980
  - REFINE REQUIREMENTS
  - SURVEY TECHNOLOGY TO DEVELOP IMAGING SYSTEM CONCEPTS
- FY 1981 PLAN - REQUEST $4 MILLION
  - CONDUCT CONTRACTOR CONCEPT DEFINITION STUDIES
  - RESOLVE MISSION DEFINITION ISSUES
- COMPETITIVE SYSTEM DESIGN PLANNED IN FY 1982/POTENTIAL ACQUISITION START IN FY 1983/IOC FY 1986

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

SUPPLEMENTARY IMAGING SYSTEM STUDY RATIONALE

- [redacted]
- POTENTIAL NEEDS BEYOND PLANNED IMAGERY MIX
  - SUPPLEMENTARY
    - LARGE SYNOPTIC COLLECTION
    - [redacted]
    - SURGE CAPABILITY FOR SEARCH/SURVEILLANCE
    - BROAD AREA MC&G COLLECTION
      - INSURE MC&G REQUIREMENTS SATISFACTION
      - ECONOMY IN DMA EXPLOITATION
    - BACKUP
      - GAP FILLER IN CASE OF FAILURE (IMAGING SYSTEMS, SHUTTLE, OR BOTH)
      - SURVIVABLE CRISIS COLLECTION CAPABILITY
- STUDY OPTIONS
  - PALLETS
  - FREE FLYERS
  - ELV'S

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

SUPPLEMENTARY IMAGING SYSTEM STUDY
POTENTIAL TECHNICAL ALTERNATIVES

- PALLETS
  - DAMON BASED - MODIFICATION OF EXPERIMENTAL HARDWARE
  - SHUTTLE OPTIMIZED - MULTI-MISSION CAPABLE
- FREE FLYER
  - STS LAUNCH ON DEMAND
  - STS LAUNCHED - [redacted]
  - ELV LAUNCHED ON DEMAND
    - MX MOST LIKELY BOOSTER
    - LIMITED PAYLOAD (APPROXIMATELY 5,000 POUNDS)

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